Aurora One

Traffic Impact Study

Previous Versions: June 26, 2020; September 21, 2020

Updated Date: January 25, 2021

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FOX TUTTLE

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Updates from Previous Submittal – Change Log:

Preface: This report represents version #3 of the Aurora One Traffic Impact Study. The following is a log of updates that were incorporated into this report based on the comments received from the City of Aurora staff and updates to the site plan:

1. Updated land use types and sizes to match latest land plan. Note that the density has decreased in the traffic study. The analysis, tables, figures, and report were updated accordingly.
2. Updated the access plan to reflect the latest site plan. Removed three accesses on Valdai Street; removed one access on Stephen D. Hogan, and added two accesses on Stephen D. Hogan.
3. Added information for future bike facilities and transit corridors as identified in the *NEATS Refresh Study*.
4. Included a southbound channelized right-turn and acceleration lane at Stephen D. Hogan and Valdai Street. The appropriate design should provide safe crossing for pedestrians and bicyclists.
5. Included a northbound right-turn and a westbound right-turn at Stephen D. Hogan and Picadilly Road. The appropriate design should provide safe crossing for pedestrians and bicyclists.
6. The analysis, tables, figures, and report were updated accordingly.

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MASTER TRAFFIC IMPACT STUDY

1.0 Introduction

The Fox Tuttle Transportation Group has prepared this traffic impact study for the development of the Aurora One project in Aurora, Colorado. The 150-acre property is located on both sides of the newly construction Stephen D. Hogan Parkway extension between Picadilly Road and E-470. It is understood that this project will have a mix of land uses including commercial retail/service, medical office, single-family attached residential, and multi-family residential. The project area is bounded by Picadilly Road to the west, 6th Avenue to the north, Valdai Street to the east, and the Coal Creek to the south. The site is just south of the Horizon Uptown development that is currently under construction. The property will be developed over time with the anticipated buildout within 10 years. **Figure 1** provides a vicinity map for the proposed project.

The purpose of this study is to assist in identifying potential traffic impacts within the study area as a result of the Aurora One project. The traffic study addresses existing, short-term, and long-term peak hour intersection conditions in the study area with and without the project-generated traffic. The information contained in this study is anticipated to be used by the City of Aurora staff in identifying any intersection or roadway deficiencies and potential improvements for the build-out condition and long-term future scenarios. This study focused on the weekday AM and PM peak hours which represents the periods of highest trip generation for the proposed use and adjacent street traffic. The study is consistent with the requirements of the City of Aurora's *Traffic Impact Study Guidelines (June 2015)*.

2.0 Project Description

The Aurora One site is currently vacant, undeveloped agricultural land with the majority of the land zoned as Mixed-Use Regional Activity Center (MU-R) and a small portion zoned Airport District (AD). The intent of the MU-R zoning classification is to create gateways and provide high quality development with

medium to high density residential and commercial uses. The new development plans to have a main street and roadway network that is pedestrian and bicyclist friendly.

For the purpose of this traffic impact study, the following land use types and sizes were assumed:

- 23,200 square feet (sq. ft.) of medical office
- 142,000 sq. ft. of commercial/retail (including, but not limited to, shopping, gas station, fast-food restaurants, drive-in bank)
- 1,144 multi-family residential homes

Note that these land uses represent one of many scenarios that could occur based on market dynamics and represent a reasonable baseline assumption for determining traffic impacts of the site at a master plan level.

For the purpose of this traffic study, is was assumed that Aurora One will be completed by Year 2030. The project proposes multiple access locations along 6th Avenue, Stephen D. Hogan Parkway, and Valdai Street (proposed realignment). Internally local streets will be constructed to provide the most beneficial access into and around the site. The planning areas and access are provided on **Figure 2**.

3.0 Study Considerations

3.1 Data Collection

Intersection turning movement volumes were not able to be collected due to the construction closures on Picadilly Road, construction to extend Stephen D. Hogan Parkway, and the traffic conditions related to COVID-19 stay-at-home orders. The City of Aurora provided historic and recent traffic counts from the following traffic studies:

- *Traffic Analysis Report 6th Avenue Parkway Extension*. Felsburg Holt & Ullevig. November 2017.
- *Horizon Uptown Master Traffic Study*. Matrix Design Group, January 2018.
- *Northeast Area Transportation Study Refresh*. City of Aurora Planning & Development Services Department. October 2018.
- Stafford Logistics Center Counts from January 2020.

Due to the construction closures and detours in place during some of the traffic counts the volumes listed as "opening day" in the *Traffic Analysis Report 6th Avenue Parkway Extension* study was utilized as existing conditions for the weekday AM and PM peak hours. The Stephen D. Hogan Parkway extension has recently been completed and redirected traffic in the area is reflected in the "opening day" volumes. The existing traffic volumes are illustrated on **Figure 3**. The existing intersection geometry and traffic control are also shown on this figure, which includes the improvements made with the Stephen D Parkway extension.

Existing, historic, and future projections daily volumes within and near the project area were gathered from the *Horizon Uptown TIS*, the *Northeast Area Transportation Study (NEATS) Refresh*, and from the Colorado Department of Transportation's (CDOT) Transportation Data Management System (TDMS).

Signal-related information for the existing signalized intersection of 6th Parkway at Gun Club Road was provided by the City staff and utilized within the analysis. Data utilized from the history studies is provided in the **Appendix**.

3.2 Evaluation Methodology

The traffic operations analysis addressed the signalized and unsignalized intersection operations using the procedures and methodologies set forth by the *Highway Capacity Manual (HCM)*[1]. Existing peak hour factor were applied to the intersections for the existing scenarios and adjusted for future scenarios, as necessary. Study intersections were evaluated using Synchro software (v10). Note that the HCM 2000 version was utilized for the channelized T-intersection of SH 30 at Stephen D. Hogan Parkway since the 6th Edition cannot calculate the delay for this type of intersection configuration.

3.3 Level of Service Capacity Analysis

A Level of Service analysis was conducted to determine the existing and future performance of the study area intersections and accesses to determine the most appropriate intersection traffic controls and auxiliary lanes for future conditions.

To measure and describe the operational status of the study intersections, transportation engineers and planners commonly use a grading system referred to as "Level of Service" (LOS) that is defined by the *HCM*. LOS characterizes the operational conditions of an intersections traffic flow, ranging from LOS A

[1] Highway Capacity Manual, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 6th Edition (2016).

(indicating very good, free flow operations) and LOS F (indicating congested and sometimes oversaturated conditions). These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with traveling through the intersections. The intersection LOS is represented as a delay in seconds per vehicle for the intersection as a whole and for each turning movement.

Typically, LOS A through C is considered to be acceptable for the overall intersection operations and LOS D overall during peak hours is acceptable. Individual movements may be allowed to fall to LOS E at signalized intersections. Minor movements at unsignalized intersections, such as left turns onto a major arterial, may be allowed to fall below LOS D. Individual movements are allowed to fall to LOS E if traffic volume is low, or there is not a viable alternative. Criteria contained in the *HCM* was applied for these analyses in order to determine peak hour LOS for each scenario. A more detailed discussion of LOS methodology is contained in the **Appendix** for reference.

4.0 Existing Conditions

4.1 Roadways

The study area boundaries are based on the amount of traffic to be generated by the project and potential impact to the existing roadway network. The primary public roadways that serve the project site are discussed in the following text and illustrated on **Figure 1**.

E-470 is a four-lane divided toll highway that provides regional access around the eastern and northern Denver metro area. The toll road currently extends 47 miles from C-470 at I-25 in Douglas County to I-25 near 160th Avenue in Thornton (just west of the project site) where it becomes the Northwest Parkway. E-470/Northwest Parkway connects three counties, six municipalities, and Denver International Airport. This roadway has a posted speed limit of 75 miles per hour (mph). E-470 serves approximately 30,900 vehicles per day (vpd) north of the interchange with Colfax Avenue and 38,500 vpd south of Colfax Avenue.

Stephen D. Hogan / 6th Parkway is an east-west major arterial that currently has a two-lane cross section west of Gun Club Road and a six-lane section east of Gun Club Road. Stephen D. Hogan Parkway currently serves approximately 6,000 vpd west of E-470 (Year 2019). Prior to Year 2020, 6th Parkway ended at Valdai Street but has recently been extended by the City of Aurora to connect to SH 30 to the west with the new segment named Stephen D. Hogan Parkway. The posted speed limit is 45 mph within the study area. The *NEATS Refresh* study recommends that

6th/Stephen D. Hogan Parkway be widened to four lanes by Year 2030 and widened to six lanes (three per direction) by Year 2040.

Picadilly Road is a north-south, two-lane minor arterial that is parallel to E-470 and provides access through the north end of City of Aurora. This roadway currently serves approximately 3,100 vpd within the study area (Year 2017, *6th Avenue Parkway Extension Project*). The posted speed limit is 45 mph within the study area. The *NEATS Refresh* study recommends that Picadilly Road be widened to four lanes (two per direction) north of Stephen D. Hogan Parkway by Year 2030 and widen to six lanes (three per direction) by Year 2040. South of Stephen D. Hogan Parkway, it was recommended in the *NEATS Refresh* study that Picadilly Road be widened to four lanes in the long-term. It should be noted that Picadilly Road, north of the project site, is planned to have a new interchange at I-70 to provide additional connectivity to the regional roadway network.

State Highway (SH) 30 is an east-west, two-lane highway that provides access through the north end of the city. SH 30 is a CDOT facility that is classified as a Non-Rural Principal Arterial (NR-A). This roadway serves many residential communities, local and regional shopping centers, Buckley Airforce Base, and large employment areas. SH 30 provides connections to the local, regional and the interstate roadway network. SH 30 currently serves approximately 10,400 vpd west of Picadilly Road (Year 2017, CDOT database). The posted speed limit is 55 mph within the study area. The *NEATS Refresh* study recommends that SH 30 be widened to four lanes (two per direction) by Year 2040.

Gun Club Road is a north-south, two-lane minor arterial that is parallel to E-470 and provides access through the City of Aurora from I-70 to the Southland Mall area. On the south end, Gun Club Road becomes South Aurora Parkway and widens to two lanes per direction. This arterial roadway serves many residential communities, local and regional shopping centers, and provides connections to the local and regional roadway network. Gun Club Road currently serves approximately 8,400 vpd south of 6th Avenue (Year 2019, City database). The posted speed limit is 45 mph within the study area. The *NEATS Refresh* study recommends that Gun Club Road be widened to four lanes (two per direction) by Year 2040.

4.2 Intersections

The study area includes eight existing intersections that are listed below with the current traffic control and were analyzed for existing and future year traffic operations:

1. Stephen D. Hogan Parkway at SH 30 [signalized]
2. SH 30 at Picadilly Road [side-street stop controlled]
3. Stephen D. Hogan Parkway at Picadilly Road [side-street stop controlled]
4. Stephen D. Hogan Parkway at Valdai Street [side-street stop controlled]
5. E-470 SB Ramps at Stephen D. Hogan Parkway [side-street stop controlled]
6. E-470 NB Ramps at Stephen D. Hogan Parkway [side-street stop controlled]
7. Gun Club Road at 6th Parkway [signalized]
8. Picadilly Road at 6th Avenue [side-street stop controlled]

The existing lane configuration at each of the study locations is illustrated on **Figure 3**.

4.3 Adjustments to Existing Volumes

As discussed previously, new existing traffic volumes were not able to be collected due to the COVID-19 pandemic; therefore, the "opening day" intersection volumes from the *6th Avenue Parkway Extension Project* were utilized. These volumes were adjusted to balance between intersections and to match recently collected volumes at 6th Parkway and Gun Club Road

The existing daily volume on Gun Club Road was 12,300 vpd when collected in early 2020. This is 3,800 vpd greater than the existing data in the *NEATS Refresh* report and 7,300 vpd greater than the existing data in the *Horizon Uptown Traffic Impact Study*. The higher than usual volume is assumed to be the result of the detour that was in place for the closure of Picadilly Road during the count period. Therefore, the existing daily volume along Gun Club Road were reduced to account for the detour to match the data in the *NEATS Refresh* report. Approximately 3,800 vpd were removed from the existing daily volumes and adjustments were made to the peak hours to reflect the change. The adjusted volumes were utilized in this analysis for the existing conditions.

4.4 Pedestrian and Bicycle

Currently, there is very few sidewalks within the study area. Where development has occurred, sidewalks have been constructed and are anticipated to be connected as new development comes along. There are sidewalks on both sides of Valdai Street south of Stephen D. Hogan Parkway. The Sand Creek Greenway is near the site and can be accessed near the new intersection of SH 30 and Stephen D. Hogan. There are

no on-street bike facilities or designated bike routes within the project study area. The City plans to construct two new regional multi-use trails within the study area (Triple Creek Trail and High Plains Trail) that will be beneficial to the Aurora One residents, employees, and customers. *NEATS Refresh* identifies Picadilly Road as a "primary bike route" with separated bike lanes.

4.5 Transit

Currently, there are no bus routes that serve the study area. The City of Aurora is serviced by Regional Transportation District (RTD) and it is anticipated that as development occurs that the transit system will be extended and connect to the study area, as necessary. *NEATS Refresh* identifies Picadilly Road and 6th Avenue as future high frequency transit routes.

4.6 Existing Intersection Capacity Analysis

The existing volumes, lane configuration, and traffic control are illustrated on **Figure 3**. The results of the LOS calculations for the intersections are summarized in **Table 1**. The details of LOS for each movement are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**. **All of the side-street stop-controlled intersections operate overall at LOS D or better in both peak hours, while the signalized intersection of Gun Club Road at 6th Parkway operates at LOS F in one peak hour.**

Table 1: Existing Overall Level of Service Summary

No.	Intersection	Traffic Control	AM Peak Hour	PM Peak Hour
1	Stephen D. Hogan Parkway at SH 30	Signal	B	B
2	SH 30 at Picadilly Road	Stop	A	D
3	Stephen D. Hogan Parkway at Picadilly Road	Stop	A	D
4	Stephen D. Hogan Parkway at Valdai Street	Stop	A	A
5	E-470 SB Ramps at Stephen D. Hogan Parkway	Stop	C	A
6	E-470 NB Ramps at Stephen D. Hogan Parkway	Stop	C	A
7	Gun Club Road at 6th Parkway	Signal	**F**	D
8	Picadilly Road at 6th Avenue	Stop	A	A

The following study intersections operate at LOS E/F or have movements that operate at LOS E/F during the one of both peak hours:

- ***#2 – SH 30 at Picadilly Road:*** This side-street stop-controlled operates overall at LOS A in the AM peak hour and LOS D in the PM peak hour. However, the southbound approach operates at LOS E in the AM peak hour and LOS F in the PM peak hour due to the high left-turning volume and delays to get onto the highway. The 95th percentile queues during the AM peak hour was estimated to be approximately 100 feet (four vehicles) and during the PM peak hour was estimated to be approximately 265 feet (about 11 vehicles).

  Recommendations: No mitigation measures are recommended. Delay is expected on side-street approaches on highways.

- ***#3 – Stephen D. Hogan Parkway at Picadilly Road:*** This newly constructed intersection was calculated to operate overall at LOS A in the AM peak hour and LOS D in the PM peak hour. This side-street stop-controlled intersection was estimated to have several minor street movements operate at LOS E/F during one or both peak hours. This is consistent with the results reported in the *6th Avenue Parkway Extension Project.* During the morning peak hour, the northbound through/right-turn movement was estimated to have a 95th percentile queue up to 10 vehicles. The southbound through movement was estimated to have a 95th percentile queue of 11 vehicles.

  Recommendations: Monitor intersection as traffic continues to adjust to the new connection and verify forecasted "opening day" volumes are accurate. Based on "opening day" volumes, the intersection meets signal warrants (peak hour and 4-hour). Reevaluate the signal warrants once travel patterns in the area become predictable and have stabilized.

- ***#4 – Stephen D. Hogan Parkway at Valdai Street:*** With the recent extension of Stephen D. Hogan Parkway, this side-street stop-controlled intersection has been updated with a four-leg to the intersection (west leg). The new intersection was estimated to operate overall at LOS A in both peak hours. During the AM peak hour, the northbound and southbound left-turn movements were estimated to operate at LOS F with the 95th percentile queues up to four (4) vehicles. In the evening peak hour, the southbound left-turn was estimated to operate at LOS E with one vehicle or less in the queue.

  This analysis has higher delays than reported in the *6th Avenue Parkway Extension Project.*

Recommendations: No mitigation measures are recommended. Side-street volumes are not approaching signal warrant thresholds.

- ***#5 – Stephen D. Hogan Parkway at E-470 SB Ramps***: This side-street stop-controlled intersection operates overall at LOS C in the AM peak hour and LOS A in the PM peak hour; however, the southbound left-turn movement operates at LOS F during the AM peak hour and LOS E in the PM peak hour. The 95th percentile queue for this movement is calculated to be up to nine (9) vehicles which is maintained within the existing storage length.

  Recommendations: No mitigation measures are recommended. Side-street volumes are not approaching signal warrant thresholds.

- ***#6 – Stephen D. Hogan Parkway at E-470 NB Ramps***: This side-street stop-controlled intersection operates overall at LOS C in the AM peak hour and LOS A in the PM peak hour; however, the northbound left-turn movement operates at LOS F during the AM peak hour and LOS E in the PM peak hour. The 95th percentile queue for this movement is calculated to be up to 10 vehicles which is anticipated to be maintained on the off-ramp but potentially will block the right-turn lane on the off-ramp.

  Recommendations: No mitigation measures are recommended. Side-street volumes are not approaching signal warrant thresholds.

- ***#7 – Gun Club Road at 6th Parkway:*** This signalized intersection operates overall at LOS F in the AM peak hour and LOS D in the PM peak hour. During the morning peak period, the majority of the eastbound and westbound movements currently operate at LOS E or F. The analysis indicates that there may be cycle failure on the westbound approach with delays over two minutes. The 95th percentile queue for the westbound left-turn lane was estimated to be 207 feet (about nine vehicles) which will extend beyond the existing storage length. During the PM peak hour, the eastbound right-turn currently operates at LOS F with a queue of 151 feet (about six vehicles) that is greater than the existing storage length.

  Recommendations: Adjust the signal timing as necessary to reduce the delays. It is understood that both intersecting roadways will be widened with development and growth which will provide additional capacity through this intersection.

5.0 Future Conditions

5.1 Annual Growth Factor and Future Volume Methodology

The *6th Avenue Parkway Extension Project* provided forecasted traffic volumes for Year 2040 that was based on the City's *NEATS Refresh* report and travel demand modeling of the immediate area impacted by the extension of Parkway. It is anticipated that the Year 2040 volumes in the *6th Avenue Parkway Extension Project* and in the *NEATS Refresh* study incorporated the vehicular trips associated with the Aurora One project, as well as the nearby developments (Horizon Uptown, Stafford Logistics Center, and Aurora Crossroads). The *6th Avenue Parkway Extension Project* provided recommendations for roadway and intersection capacity and operational improvements to accommodate the future traffic within the area. The roadway recommendations are consistent with the *NEATS Refresh* report.

The following methodology was used to attain the Year 2030 and Year 2040 background peak hour traffic projections:

1. Year 2040 volumes from the *6th Avenue Parkway Extension Project* were assumed to include the Aurora One site-generated trips. These volumes represent the "Year 2040 background + project" scenario.
2. Estimated the site-generated trips for Aurora One and assign to the roadway network. Refer to **Section 6.0** for more details on trip generation, distribution, and assignment assumptions.
3. Subtracted the Aurora One trips from the Year 2040 background + project volumes. These volumes represent the "Year 2040 background" scenario.
4. Compared each turning movement volume for Year 2040 background and existing volumes to calculate the annual growth rate per movement, intersection, and peak hour. This yielded an average annual growth rate of 7% within the study area.
5. Multiply existing volumes by the turning movement annual growth rate to forecast Year 2030. Balance and adjust volumes between intersections, as necessary. These volumes represent the "Year 2030 background" scenario.

Using these assumptions, the Year 2030 background traffic is summarized on **Figure 4** and the Year 2040 background traffic is summarized on **Figure 5**.

5.2 Year 2030 Anticipated Transportation Network

For comparison purposes, this traffic study assumes that many of the planned roadways shown in the NEATS Refresh report will be completed by Year 2030 background. If the future scenario was evaluated with the existing roadway network, then it would be difficult to compare intersection operations when many of the roadways will be widened which impacts the volumes, capacity, and routing. The following roadway and intersection improvements were assumed to be completed by Year 2030:

- **Stephen D. Hogan / 6th Parkway** – Widen to a four-lane cross-section (two lanes per direction).
- **Picadilly Road** – Widen to a four-lane cross-section (two lanes per direction) north of Stephen D. Hogan Parkway. This includes the completion of the Picadilly Road realignment and interchange with I-70.
- **Gun Club Road** – Widen to a four-lane cross-section (two lanes per) direction.
- **SH 30 at Picadilly Road** – Add one left-turn lane on all four approaches. Add one right-turn lane on the eastbound and westbound approaches.
- **Picadilly Road at 6th Avenue** – With widening of Picadilly Road, provide one left-turn lane in the northbound and southbound directions.
- **Stephen D. Hogan Parkway at Picadilly Road** – Add one left-turn lane on all four approaches. Add one right-turn lane on the eastbound and westbound approaches.
- **6th Parkway at Gun Club Road** – With the widening of both roadways, this intersection will become much larger. Maintain left-turn lanes on all four approaches with extended storage lengths. Maintain right-turn lanes on the eastbound and northbound approaches. Add one right-turn lane on the southbound approach.
- **Stephen D. Hogan Parkway at Rome Street** – Add one right-turn lane on the westbound approach (based on volume >50vph).

These roadway and intersection improvements were assumed to be in place in the background condition for the short-term scenario for comparison purposes with the project trips and are shown on **Figure 4**.

5.3 Year 2030 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2030 background scenario and to identify any capacity constraints associated with background traffic (refer to **Section 5.1** for growth assumptions). It was assumed that the roadway and intersection improvements

listed in **Section 5.2** will be implemented by Year 2030 background. The background volumes, lane configuration, and traffic control are illustrated on **Figure 4**.

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the short-term background volumes. This analysis assumes signal timing throughout the network would be adjusted to accommodate the additional lanes and changes in traffic volumes. It should be noted that the peak hour factor was adjusted 0.92 (if the existing factor is less than 0.92) on the arterials and local streets since it is assumed that the peak periods will become longer with peak hour traffic spread more evenly over the hour as traffic increases than is experienced today.

The details of LOS for each movement are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**. This analysis assumed the signal timing at all signalized intersections would be adjusted to accommodate the additional lanes and change in traffic volumes. New traffic signals were assumed to have similar timing parameters to existing signals in the area and optimized for operations and progression. The results of the LOS calculations for the intersections are summarized in **Table 3**.

Table 3: Year 2030 Background Overall Level of Service Summary

No.	Intersection	Traffic Control	Baseline		With Improvements		
			AM	PM	Improv.	AM	PM
1	Stephen D. Hogan Pkwy at SH 30	Signal	B	B	-	-	-
2	SH 30 at Picadilly Rd	Stop	F	F	Signalize	C	C
3	Stephen D. Hogan Pkwy at Picadilly Rd	Stop	A	A	Signalize	C	C
4	Stephen D. Hogan Pkwy at Valdai St	Stop	A	D	Signalize	B	B
5	E-470 SB Ramps at Stephen D. Hogan Pkwy	Stop	F	F	Signalize	A	A
6	E-470 NB Ramps at Stephen D. Hogan Pkwy	Stop	A	D	Signalize	B	A
7	Gun Club Rd at 6th Pkwy	Signal	D	D	-	-	-
8	Picadilly Rd at 6th Ave	Stop	A	A	-	-	-

In summary, half of the study intersections are estimated to operate at LOS D or better in the short-term background scenario with the anticipated future roadway network. The following intersection has movements that were calculated to begin operating at LOS E/F in the peak hours in Year 2030 background as described below:

- ***#2 – SH 30 at Picadilly Road:*** This side-street stop-controlled was estimated to operate overall at LOS F in both peak hours due to the delays on the side-street approaches. The southbound left-turn was calculated to have a 95th percentile queue up to 24 vehicles during the AM peak hour and up to 34 vehicles during the PM peak hour.

  Recommendations: Signalize (based on 4-hour warrant). This will improve the overall operations to LOS C in both peak hours and the listed 95th percentile queues are expected to be reduced by 18 vehicles in the AM peak hour and by 22 vehicles in the PM peak hour.

- ***#3 – Stephen D. Hogan Parkway at Picadilly Road:*** This intersection was estimated to have several minor street movements operate at LOS E/F during one or both peak hour with significant queues.

  Recommendations: Signalize (based on 4-hour warrant). This will improve the overall operations to LOS C in both peak hours and queues are expected to be reduced significantly.

- ***#4 – Stephen D. Hogan Parkway at Valdai Street:*** This side-street stop-controlled was estimated to operate overall at LOS A in the AM peak hour and LOS D in the PM peak hour; however, there are several side-street movements estimated to operate at LOS E/F. The 95th percentile queue on the minor approaches was calculated to be between one (1) and 10 vehicles during a peak hour.

  Recommendations: Signalize (based on 4-hour warrant). This will improve the overall operations to LOS B in both peak hours and queues are expected to be reduced significantly.

- ***#5 – E-470 SB Ramps at Stephen D. Hogan Parkway:*** This side-street stop-controlled was estimated to operate overall at LOS F in both peak hours due to the delays on the side-street approaches. The southbound left-turn was calculated to have a 95th percentile queue up to 16 vehicles during a peak hour.

  Recommendations: Signalize (based on 4-hour warrant). This will improve the overall operations to LOS A in both peak hours and queues are expected to be reduced significantly.

- ***#6 – E-470 NB Ramps at Stephen D. Hogan Parkway:*** This intersection was estimated to operate overall at LOS D in the PM peak hour and the northbound left-turn/through movement was calculated to operate at LOS F during both peak hour. The northbound left-turn/through was calculated to have a 95th percentile queue up to 11 vehicles during a peak hour.

  Recommendations: Signalize (based on 4-hour warrant). This will improve the overall operations to LOS A in both peak hours.

5.4 Year 2040 Planned Transportation Network

In addition to the listed transportation improvements and recommended mitigation measures in Year 2030 background, there are assumed roadway and intersection improvements in Year 2040 background based on the City's *6th Avenue Parkway Extension Project* and *NEATS Refresh* reports, intersection movement volumes, evaluation, and signal warrant analysis. It was assumed the following improvements will be constructed prior to Year 2040 background:

- **Stephen D. Hogan / 6th Parkway** – Widen to a six-lane cross-section (three lanes per direction) plus auxiliary lanes were identified.
- **Picadilly Road** – Widen to a four-lane cross-section (two lanes per direction) south of Stephen D. Hogan Parkway and widen to a six-lane cross-section (three lanes per direction) north of Stephen D. Hogan Parkway.
- **SH 30** – Widen to a four-lane cross-section (two lanes per direction).
- **Stephen D. Hogan Parkway at Picadilly Road** – Add second left-turn lane on the eastbound approach.
- **6th Parkway at Gun Club Road** –Add one right-turn lane on the eastbound approach.
- **Stephen D. Hogan Parkway at Rome Street** – Signalize.
- **Stephen D. Hogan Parkway at E-470 SB Ramps** – Add second westbound left-turn lane.

These intersection improvements were assumed to be in place in the long-term background condition and shown on **Figure 5**.

5.5 Year 2040 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2040 background scenario and to identify any capacity constraints associated with background traffic in the long-term scenario (refer to **Section 5.1** for growth assumptions). The long-term background volumes, lane configuration, and traffic control are illustrated on **Figure 5**.

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the long-term background volumes. The analysis assumed the signal timing at all signalized intersections would be adjusted to accommodate the additional lanes and change in traffic volumes. As previously discussed, the peak hour factors were adjusted to 0.92 as necessary throughout the study area since it is assumed that the peak periods will become longer with peak hour traffic spread more evenly over the hour as traffic increases than is experienced today.

The results of the LOS calculations for the intersections are summarized in **Table 4**. The details of LOS for each movement are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

Table 4: Year 2040 Background Overall Level of Service Summary

No.	Intersection	Traffic Control	Baseline		With Improvements		
			AM	PM	Improv.	AM	PM
1	Stephen D. Hogan Pkwy at SH 30	Signal	B	B	-	-	-
2	SH 30 at Picadilly Rd	Signal	D	C	-	-	-
3	Stephen D. Hogan Pkwy at Picadilly Rd	Signal	C	C	-	-	-
4	Stephen D. Hogan Pkwy at Valdai St	Signal	B	C	Channelize SB Right & Accel. Lane	B	C
5	E-470 SB Ramps at Stephen D. Hogan Pkwy	Signal	B	C	-	-	-
6	E-470 NB Ramps at Stephen D. Hogan Pkwy	Signal	B	B	-	-	-
7	Gun Club Rd at 6th Pkwy	Signal	D	D	-	-	-
8	Picadilly Rd at 6th Ave	Stop	A	A	-	-	-

In summary, all of the of the study intersections are estimated to operate overall at LOS D or better in the long-term background scenario. The following intersections were calculated to have one or more movement operating at LOS E/F in one or both peak hour in Year 2040 background as described below:

- ***#2 – SH 30 at Picadilly Road:*** This future signalized intersection was estimated to operate overall at LOS D in the AM peak hour and LOS C in the PM peak hour. The northbound through and southbound left-turn movements were estimated to operate at LOS E in the AM peak hour. The 95th percentile queue was estimated to be 506 feet in the northbound through lane and 375 feet in the southbound left-turn lane.

  Recommendations: No mitigation measures are recommended.

- ***#4 – Stephen D. Hogan Parkway at Valdai Street:*** This future signalized intersection was estimated to operate overall at LOS B in the AM peak hour and LOS C in the PM peak hour; however, the southbound right-turn was estimated to operate at LOS E in both peak hours. The 95th percentile queue on this movement was calculated to be up to 135 feet (about six vehicles).

  Recommendations: Channelize the southbound right-turn lane and provide an acceleration lane. This improves the movement to LOS A and no delay since the drivers will be allowed to free flow.

- ***#7 – Gun Club Road at 6th Parkway***: This signalized intersection was estimated to operate overall at LOS D in both peak hours; however, a few of the movements are anticipated to operate at LOS E/F in one or both peak hours. During the AM peak hour, the eastbound left-turn was estimated to operate at LOS F and the westbound through/right-turn was estimated to operate at LOS E. The 95th percentile queues were calculated to be 350 feet in the eastbound left-turn and 590 feet in the westbound through/right-turn. During the PM peak hour, the westbound left-turn was estimated to operate at LOS F and the southbound left-turn was estimated to operate at LOS E. The 95th percentile queues were calculated to be 423 feet in the westbound left-turn and 211 feet in the southbound left-turn.

  Recommendations: Construct one westbound right-turn lane (225 feet) to reduce the queue length on the westbound through lanes by up to four (4) vehicles. The additional lane slightly reduces the delay on the majority of the movements and overall performance during the AM peak hour.

6.0 Future Conditions with the Aurora One Development

6.1 Trip Generation

A trip generation estimate was performed to determine the traffic characteristics of the proposed density and land uses of the Aurora One development. The trip rates contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*[2] were applied to estimate the traffic for the proposed land uses:

- #220 "Multi-Family Housing (Low-Rise)"
- #221 "Multi-Family Housing (Mid-Rise)"
- #720 "Medical-Dental Office Building"
- #820 "Shopping Center"
- #912 "Drive-In Bank"
- #934 "Fast-Food Restaurant with Drive-Thru Window"
- #945 "Gasoline/Service Station with Convenience Market"

Table 5 provides the detailed trip generation estimates for the Aurora One project (refer to the **Appendix**). The proposed project is expected to experience mostly new trips, also known as 'primary trips', as well as pass-by trips, multi-use trips, and non-auto trips which are discussed below:

Primary Trips. These trips are made specifically to visit the site and are considered "new" trips. Primary trips would not have been made if the proposed project did not exist. Therefore, this is the only trip type that increases the total number of trips made on a regional basis.

Pass-By Trips. Pass-by trips do not create any increase in the traffic volumes within the primary impact area. In fact, the only impact of the pass-by trips is at the site driveways and adjacent intersections where through movements become turning movements into and out of the site. Therefore, pass-by trips have no additional impact on the road system beyond the site's driveways or immediately adjacent intersections. With or without pass-by trips, the total trips to/from a project will remain the same. Pass-by was only applied to the retail portions of the Aurora One site. Per ITE data, the pass-by percentages by land use and peak hour were applied as shown trip generation tables.

[2] *Trip Generation Handbook, 10th Edition*, Institute of Transportation Engineers, 2017.

Multi-Use (Internal) Trips. These internal trips occur from one land use or building to another within the site boundaries. Multi-use or multi-purpose trips typically do not affect the exterior site access points, nor add any additional traffic volumes to the adjacent street network. Based on ITE's *Trip Generation Handbook*, the internal capture for the project was calculated to be 15%. For conservative purposes, 10% internal capture was applied to all land use types as shown in the fourth column of **Table 5** titled "internal capture".

Non-Auto Trips. These trips are those that are completed by walking, biking, or transit. The future pedestrian and bicycle amenities will encourage residents, employees, customers, and visitors to make non-auto trips to/from the Aurora One community. The non-auto trips are assumed to be a 5% for land uses as shown in the fifth column of **Table 5** titled "non-auto factor".

Table 6 summarizes the land uses that were assumed for the development. This mix of land use types may adjust as interested parties come forward; however, the trip estimate is assumed to be conservative. Aurora One was estimated to generate approximately 18,065 daily trips with 1,101 trips in the AM peak hour and 1,480 trips in the PM peak hour, with roughly 30% considered pass-by trips.

Table 6: Land Use Assumptions

Planning Area	Land Use Type	Size (rounded)	Planning Area	Land Use Type	Size (rounded)
PA-1	Medical Office	12,000 sq. ft.	**PA-9**	Medical Office	11,200 sq. ft.
	Commercial Retail	3,100 sq. ft.		Commercial Retail	6,200 sq. ft.
	Drive-In Bank	2,800 sq. ft.		Fast Food Restaurant	4,800 sq. ft.
	Fast Food Restaurant	3,000 sq. ft.		Gas Station / Car Wash	16 fueling positions
PA-2	Commercial Retail	21,000 sq. ft.	**PA-10**	Multi-Family Homes	400 dwelling units
	Fast Food Restaurant	2,400 sq. ft.			
PA-4	Multi-Family Homes	272 dwelling units	**PA-11**	Commercial Retail	24,600 sq. ft.
PA-5	Multi-Family Homes	150 dwelling units	**PA-13**	Multi-Family Homes	322 dwelling units
	Commercial Retail	20,000 sq. ft.	**PA-14**	Commercial Retail	12,200 sq. ft.
PA-8	Commercial Retail	36,000 sq. ft.			
Total Aurora One Development					
Residential Homes		1,144 dwelling units			
Commercial (Shopping and Service)		142,000 sq. ft.			
Medical Office		23,200 sq. ft.			

6.2 Trip Distribution and Assignment

The estimated trip volumes were distributed onto the study area street network based on existing traffic characteristics, land uses, and traffic patterns in the area, as well as regional growth and future roadway infrastructure. The trip distributions from *Horizon Uptown Traffic Impact Study* were assumed to be the same for Aurora One for all commercial and residential land uses.

The assumed distributions by land use type are listed below and presented in **Table 7** and on **Figure 6**:

Table 7: Distribution Summary per Land Use Type

To/From	Distribution
North E-470	7%
South E-470	14%
Southeast SH 30	6%
East Colfax Avenue	7%
West Colfax Avenue via Picadilly Road	23%
East 6th Parkway	13%
West Stephen D. Hogan Parkway / SH 30	15%
North Gun Club Road	6%
South Gun Club Road	9%

Using these distribution assumptions, the projected site traffic for each planning area was assigned to the study area roadway network and appropriate accesses for the weekday AM and PM peak hour periods during based on the most convenient route.

The site-generated volumes (new trips) for the existing study intersections are shown on **Figure 7A** and the pass-by trips are shown on **Figure 7B.** The access intersection locations are illustrated on **Figure 7C** and the site-generated volumes (new trips) for the access intersection are shown on **Figure 7D** and pass-by trips are shown on **Figure 7E**.

6.3 Proposed Roadway Network and Access

Access to the Aurora One site is planned via multiple driveways on Stephen D. Hogan Parkway, Valdai Street (future alignment), and 6th Avenue. The *Manual on Uniform Traffic Control Devices*[3] (MUTCD) signal warrants for the peak hour were utilized, for planning purposes, to determine if a signal should be considered as the traffic control at the proposed intersections. A left-turn deceleration lane was assumed to be provided if the volume was greater than 25 vph or if the opposing direction has two or more lanes per direction. A right-turn deceleration lane was assumed to be provided if the volume is greater than 50 vph unless there are three through lanes. The proposed accesses locations are mapped on **Figure 7C** and the proposed lane configurations and traffic control are shown on **Figure 7D**.

Internally, collector and local streets will be constructed to provide the most beneficial access into and around the site with pedestrian and bicycle friendly amenities. It should be noted that the internal accesses will be vetted in more detail during the design stages of specific parcels and adjustments to access will be made as necessary based on discussions with City staff, land use types, and traffic flow. This master traffic study will be updated if access changes significantly impact the trip generation, traffic flow, or infrastructure needs.

As identified by City of Aurora Traffic Engineers, pedestrian crossings at unsignalized locations shall comply with the recommendations found in the US Department of Transportation Federal Highway Administration's *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations* and shall be determined at later stages with Site Plans / Preliminary Plats.

6.4 Year 2030 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the addition of the Aurora One development trips in the short-term scenario. The site-generated volumes were added to the Year 2030 background volumes and are illustrated on **Figure 8A** (existing intersections) and **Figure 8B** (proposed accesses). These figures also illustrate the necessary traffic control and lane configurations for all of the study intersections and proposed accesses. The recommended improvements in the Year 2030 background scenario were assumed to be implemented. The analysis assumed the signal timing at all existing and future signalized intersections would be adjusted to accommodate future conditions, therefore, optimized timing was utilized.

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[3] Manual on Uniform Traffic Control Devices. Federal Highway Administration. Washington, D.C. 2009.

The results of the LOS calculations for the intersections are summarized in **Table 8**. The details of the LOS for each movement are listed in **Table 2** (existing intersections) and **Table 9** (proposed accesses). The intersection Level of Service worksheets are attached in the **Appendix**.

Table 8: Year 2030 Background + Project Overall Level of Service Summary

No.	Intersection (Planning Area)	Traffic Control	AM Peak Hour	PM Peak Hour
1	Stephen D. Hogan Parkway at SH 30	Signal	B	B
2	SH 30 at Picadilly Road	Signal	C	D
3	Stephen D. Hogan Parkway at Picadilly Road	Signal	D	D
4	Stephen D. Hogan Parkway at Valdai Street	Signal	B	C
5	E-470 SB Ramps at 6th Parkway	Signal	C	A
6	E-470 NB Ramps at 6th Parkway	Signal	B	B
7	Gun Club Road at 6th Parkway	Signal	D	C
8	Picadilly Road at 6th Avenue	Stop	A	A
101	Picadilly Road at Access 1 (PA 11) [3/4 mvmt]	Stop	A	A
102	Stephen D. Hogan Pkwy at Access 2 (PA 1 & 11) [Right-In, Right-Out]	Stop	A	A
103	Stephen D. Hogan Parkway at Rome Street/Access 3	Signal	C	B
104	Stephen D. Hogan Parkway at Access 4 (PA 2 & 8)	Stop	A	A
105	Stephen D. Hogan Pkwy at Access 5 (PA 8) [3/4 mvmt]	Stop	A	A
106	Stephen D. Hogan Parkway at Access 6 (PA 8 & 13)	Stop	B	**F**
107	Stephen D. Hogan Pkwy at Access 7 (PA 9) [Right-In, Right-Out]	Stop	A	A
108	Stephen D. Hogan Pkwy at Access 8 (PA 9 & 13) [3/4 mvmt]	Stop	A	A
109	Stephen D. Hogan Pkwy at Access 9 (PA 9) [Right-In, Right-Out]	Stop	A	A
110	Valdai Street at Access 10 (PA 9)	Stop	A	A
111	Valdai Street at Access 11/Old Valdai Street (PA 10)	Stop	A	A
112	Valdai Street at Access 12 (PA 4 & 5)	Stop	A	A
113	Valdai Street at Access 13 (PA 4 & 5)	Stop	A	A
114	Valdai Street at 6th Avenue	Stop	A	A

No.	Intersection (Planning Area)	Traffic Control	AM Peak Hour	PM Peak Hour
115	6th Avenue at Access 15 (PA 4)	Stop	A	A
116	6th Avenue at Access 16 (PA 4)	Stop	A	A
117	6th Avenue at Access 17 (PA 4)	Stop	A	A
118	6th Avenue at Access 18 (PA 2 & 4)	Stop	A	A
119	6th Avenue at Rome Street	Stop	A	A
120	6th Avenue at Access 19 (PA 1) [3/4 mvmt]	Stop	A	A
121	6th Avenue at Access 20 (PA 1) [Right-In, Right-Out]	Stop	A	A
122	Rome Street at Access 21 (PA 1 & 2)	Stop	A	A
123	Old Valdai Street at Access 22 (PA 5)	Stop	A	A
124	Old Valdai Street at Access 23 (PA 5)	Stop	A	A
125	Internal Road at PA 2 & PA 8	Stop	A	A

The existing study intersections are anticipated to operate overall at LOS D of better in the short-term scenario with the addition Aurora One trips. There are several left-turn movements and side-street movements that are anticipated to begin to operate at LOS E/F during one or both peak hours due to the added volumes. These delays are expected and are typical on arterial roadways, such as those within the study area. No mitigation measures are recommended since there is not an improvement that would achieve LOS D on these movements without compromising the operations on another movement. Further discussion for each intersection that continues to have movements with LOS E/F in one of both peak hours is listed below:

- ***#2 – SH 30 at Picadilly Road***: The southbound left-turn changes from LOS E to LOS F in the PM peak hour. Queues are maintained within the proposed left-turn lane storage. *No mitigation measures are recommended.*

- ***#3 – Stephen D. Hogan Parkway at Picadilly Road***: The northbound through movement begins to operate at LOS E in the AM peak hour and the southbound left-turn movement begins to operate at LOS F in the PM peak hour. Both movements have limited green time due to the high volumes and demand on the eastbound and westbound approaches. The southbound left-turn movement

is approaching the threshold for dual left-turns but has not exceed to typical 300 vph threshold. *No mitigation measures are recommended.*

- ***#4 – Stephen D. Hogan Parkway at Valdai Street***: The southbound through/right-turn movement begins to operate at LOS E in the AM peak hour and the southbound left-turn movement begins to operate at LOS F in the PM peak hour. The southbound movements have limited green time due to the high volumes and demand on the eastbound and westbound approaches. The southbound through/right-turn queue was estimated to be three (3) vehicles or less during the AM peak hour. The southbound left-turn movement in the PM peak hour has a queue of up to six (6) vehicles which is maintained within the storage length. *No mitigation measures are recommended.*

- ***#7 – Gun Club Road at 6th Parkway***: The eastbound left-turn and southbound left-turn begin to operate at LOS E in the AM peak hour and the westbound left-turn continues to operate at LOS E in the PM peak hour. The left-turns have limited green time and the volumes and queues do not warrant a second left-turn lane. It is typical for left-turn lanes on arterial roadways and at signalized intersections to operate below LOS D in peak periods. *No mitigation measures are recommended.*

- ***#8 – Picadilly Road at 6th Avenue***: The westbound left-turn was estimated to operate at LOS E in the PM peak hour. A signal is not warranted by volumes and is located to close to the signalized intersection of Picadilly Road and Stephen D. Hogan Parkway. Additional auxiliary lanes on the eastbound (gravel) approach are not warranted based on volumes and a left-turn or right-turn lane does not improve the estimated delay. *No mitigation measures are recommended.*

The majority of the proposed accesses are anticipated to operate overall at LOS C or better in both peak hours. There are two full movement accesses on Stephen D. Hogan Parkway that were estimated to experience high delays on the minor approaches; however, the volumes are not approaching signal warrants. No mitigation measures are recommended since the delays are typical on arterial roadways and the queues are one vehicle or less.

6.5 Year 2040 Background + Project Intersection Capacity Analysis

The site-generated volumes for Aurora One were added to the Year 2040 background volumes and are illustrated on **Figure 9A** (existing intersections) and **Figure 9B** (proposed accesses). These figures also illustrate the necessary traffic control and lane configurations for all of the study intersections and proposed accesses. The recommended improvements in the previous scenarios were assumed to be

implemented and signal timing was optimized. Based on the peak hour signal warrant thresholds, the intersection of #106 Stephen D. Hogan Parkway at Access 6 (Planning Areas 8 & 13) will need to be signalized.

The results of the LOS calculations for the intersections are summarized in **Table 10**. The details of the LOS for each movement are summarized in **Table 2** (existing intersections) and **Table 9** (proposed accesses). The intersection Level of Service worksheets are attached in the **Appendix**.

Table 10: Year 2040 Background + Project Overall Level of Service Summary

No.	Intersection (Planning Area)	Traffic Control	AM Peak Hour	PM Peak Hour
1	Stephen D. Hogan Parkway at SH 30	Signal	B	B
2	SH 30 at Picadilly Road	Signal	D	C
3	Stephen D. Hogan Parkway at Picadilly Road	Signal	C	C
4	Stephen D. Hogan Parkway at Valdai Street	Signal	C	C
5	E-470 SB Ramps at Stephen D. Hogan Parkway	Signal	A	C
6	E-470 NB Ramps at Stephen D. Hogan Parkway	Signal	A	C
7	Gun Club Road at 6th Parkway	Signal	D	D
8	Picadilly Road at 6th Avenue	Stop	A	A
101	Picadilly Road at Access 1 (PA 11) [3/4 mvmt]	Stop	A	A
102	Stephen D. Hogan Pkwy at Access 2 (PA 1 & 11) [Right-In, Right-Out]	Stop	A	A
103	Stephen D. Hogan Parkway at Rome Street/Access 3	Signal	C	B
104	Stephen D. Hogan Parkway at Access 4 (PA 2 & 8)	Stop	A	A
105	Stephen D. Hogan Pkwy at Access 5 (PA 8) [3/4 mvmt]	Stop	A	A
106	Stephen D. Hogan Parkway at Access 6 (PA 8 & 13)	Signal	C	C
107	Stephen D. Hogan Pkwy at Access 7 (PA 9) [Right-In, Right-Out]	Stop	A	A
108	Stephen D. Hogan Pkwy at Access 8 (PA 9 & 13) [3/4 mvmt]	Stop	A	A
109	Stephen D. Hogan Pkwy at Access 9 (PA 9) [Right-In, Right-Out]	Stop	A	A
110	Valdai Street at Access 10 (PA 9)	Stop	A	A
111	Valdai Street at Access 11/Old Valdai Street (PA 10)	Stop	A	A

No.	Intersection (Planning Area)	Traffic Control	AM Peak Hour	PM Peak Hour
112	Valdai Street at Access 12 (PA 4 & 5)	Stop	A	A
113	Valdai Street at Access 13 (PA 4 & 5)	Stop	A	A
114	Valdai Street at 6th Avenue	Stop	A	A
115	6th Avenue at Access 15 (PA 4)	Stop	A	A
116	6th Avenue at Access 16 (PA 4)	Stop	A	A
117	6th Avenue at Access 17 (PA 4)	Stop	A	A
118	6th Avenue at Access 18 (PA 2 & 4)	Stop	A	A
119	6th Avenue at Rome Street	Stop	B	B
120	6th Avenue at Access 19 (PA 1) [3/4 mvmt]	Stop	A	A
121	6th Avenue at Access 20 (PA 1) [Right-In, Right-Out]	Stop	A	A
122	Rome Street at Access 21 (PA 1 & 2)	Stop	A	A
123	Old Valdai Street at Access 22 (PA 5)	Stop	A	A
124	Old Valdai Street at Access 23 (PA 5)	Stop	A	A
125	Internal Road at PA 2 & PA 8	Stop	A	A

The existing study intersections are anticipated to operate overall at LOS D or better in the long-term scenario with the addition Aurora One trips. There are several left-turn movements and side-street movements that are anticipated to operate at LOS E/F during one or both peak hours due to the added volumes. These delays are expected and are typical on arterial roadways, such as those within the study area. No mitigation measures are recommended since there is not an improvement that would achieve LOS D on these movements. Further discussion for each intersection that continues to have movements with LOS E/F in one of both peak hours is listed below:

- ***#2 – SH 30 at Picadilly Road***: The southbound left-turn is anticipated to operate at LOS E/F in both peak hours. There is limited green time to serve the two arterial roadways and adjusted the signal phasing was unable to significantly decrease the anticipated delay. Queues are estimated to be contained within the proposed storage length. *No mitigation measures are recommended.*

- ***#3 – Stephen D. Hogan Parkway at Picadilly Road***: The northbound through/right-turn movement was estimated to operate at LOS E in both peak hours.

  Recommendations: Provide northbound right-turn lane and provide westbound right-turn lane (based on volume). The northbound through and right-turn movements improve to LOS D. The westbound through and right-turn movements improve from LOS B to LOS A.

- ***#4 – Stephen D. Hogan Parkway at Valdai Street***: The southbound right-turn movement begins to operate at LOS F in the AM peak hour, which is related to high right-turn volume.

  Recommendations: Channelize the southbound right-turn lane and provide an acceleration lane. This improves the movement to LOS A and no delay since the drivers will be allowed to free flow. Implement appropriate geometric design to mitigate pedestrians and cyclists concerns at channelized right-turns at signalized intersections. Note that this adjustment impacts the signal timing actuation and reduces the northbound right-turn movement to LOS E in the PM peak hour.

- ***#7 – Gun Club Road at 6th Parkway***: There are two movements per peak hour that were calculated to operate at LOS E/F, majority are left-turn movements. It is expected that left-turn movements will operate below LOS D in peak hours when they are protected only and on arterial roadways. There is not enough green time to decrease the delays and this intersection will be fully built out. *No mitigation measures are recommended.*

- ***#8 – Picadilly Road at 6th Avenue***: The eastbound approach is estimated to operate at LOS F in both peak hours and the westbound left-turn was estimated to operate at LOS E in the PM peak hour. A signal is not warranted by volumes and is located to close to the signalized intersection of Picadilly Road and Stephen D. Hogan Parkway. Separate lanes on the eastbound approach do not improve the delay. *No mitigation measures are recommended* for Picadilly Road at 6th Avenue since the volumes are minimal, there are geometry constraints, and there are other available routes for drivers that become uncomfortable with the delay of less than 90 seconds. Note that if a crash pattern develops, then this intersection may be converted to ¾ movement and prohibit left-turns onto Picadilly Road.

The majority of the proposed accesses are anticipated to operate overall at LOS C or better in both peak hours. There is one full movement access on Stephen D. Hogan Parkway that is estimated to experience high delays on the minor approaches; however, the volumes are not approaching signal warrants. No

mitigation measures are recommended since the delays are typical on arterial roadways and the queues are one vehicle or less.

For internal intersections not analyzed in this study, anticipated volumes are low and side-street stop-control shall be considered acceptable unless studied by a later Traffic Impact Study. All-way stop-control shall not be used unless an All-Way Stop warrant has been met per criteria set forth in the *Manual on Uniform Traffic Control Devices*.

7.0 Queuing Analysis

A queuing analysis was performed to determine if the average and 95th percentile queues would be accommodated by the existing storage length, to determine the storage lengths for future auxiliary lanes, and if any of the queues would impact an upstream intersection/access. **Table 11** provides the existing and proposed storage lengths, as well as the 95th percentile queues and required storage and tapers lengths from the *State Highway Access Code (March 2002)* for each existing and future scenario as calculated by Synchro (assuming each vehicle utilizes 25 feet of space). It should be noted that the 95th percentile queue length is a theoretical queue that is 1.65 standard deviations above the average queue length. In theory, the 95th percentile queue would be exceeded 5% of the time based on the average queue length, but it is also possible that a queue this long may not occur.

As shown in **Table 11**, majority of the queues are shorter than the provided storage length in all scenarios. There are a few intersections that have queues exceeding the storage length and cannot be accommodated based on limitations of upstream infrastructure. The project trips do not significantly increase queues at the existing study intersections. The study intersections that are at or near capacity will experience longer queues with any additional traffic.

Recommendations for turn lanes at the existing and access intersections were discussed in previous sections and are summarized on **Figure 10A** and **Figure 10B**. This figure includes the proposed storage lengths based on City of Aurora's design standards and projected queue lengths.

8.0 Conclusions

The Aurora One project proposes to develop up to 1,144 multi-family dwelling units, up to 142,000 sq. ft. of commercial space, and up to 23,200 sq. ft. medical offices. The project property is located on both sides of Stephen D. Hogan Parkway between Picadilly Street and E-470. The development will be phased over time and this traffic study assumes the full buildout to occur by Year 2030. The project includes multiple access locations along Stephen D. Hogan Parkway, Valdai Street (future alignment), and 6th Avenue. Internally, local streets will be constructed to provide the most beneficial access into and around the site for people driving, walking, and biking.

The project is estimated to generate approximately 18,100 daily trips with about 1,100 trips occurring in the AM peak hour and 1,480 trips occurring in the PM peak hour at full build-out (includes new and pass-by trips). **It was determined that the proposed roadway system can adequately accommodate the projected traffic volumes for buildout conditions.** The proposed background and project-related mitigation measures are shown on **Figure 10A** (existing intersections) and **Figure 10B** (access intersections). The proposed lengths of auxiliary lanes are listed on the figures and meet the City's design standards.

Note that the traffic study provides technical information and evaluates the need for transportation mitigation as traffic grows, but it does not address infrastructure commitments or obligations of Aurora One. That needs to be discussed and negotiated in the Public Improvement Plan for the project.

Tables and Figures:

Table 2 - Peak Hour Intersection Level of Service Summary

Intersection and Cricital Lane Groups	Existing				Year 2030 Background				2030 Background (with Improvements)				2030 Background + Project				Year 2040 Background				Year 2040 Background (with Improvements)				2040 Background + Project				Year 2040 Bkgrd + Project (with Improvements)			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
STOP SIGN CONTROL																																
#2. SH 30 at Picadilly Rd	**6**	**A**	**25**	**D**	**>120**	**F**	**>120**	**F**																								
South-Eastbound Left+Through+Right	*9*	*A*	*8*	*A*					*Refer to Signal Section*				*Refer to Signal Section*				*Refer to Signal Section*				*N/A*				*Refer to Signal Section*				*N/A*			
South-Eastbound Left					*11*	*B*	*9*	*A*																								
South-Eastbound Through					*0*	*A*	*0*	*A*																								
South-Eastbound Right					*0*	*A*	*0*	*A*																								
North-Westbound Left+Through+Right	*8*	*A*	*9*	*A*																												
North-Westbound Left					*8*	*A*	*9*	*A*																								
North-Westbound Through					*0*	*A*	*0*	*A*																								
North-Westbound Right					*0*	*A*	*0*	*A*																								
Northbound Left+Through+Right	*18*	*C*	*18*	*C*																												
Northbound Left					*85*	*F*	*>120*	*F*																								
Northbound Through+Right					*117*	*F*	*85*	*F*																								
Southbound Left+Through+Right	*44*	*E*	*>120*	*F*																												
Southbound Left					*>120*	*F*	*>120*	*F*																								
Southbound Through+Right					*38*	*E*	*118*	*F*																								
#3. Stephen D. Hogan Pkwy at Picadilly Rd	**19**	**C**	**28**	**D**	**0**	**A**	**1**	**A**																								
Eastbound Left	*0*	*A*	*8*	*A*	*12*	*B*	*10*	*B*	*Refer to Signal Section*				*Refer to Signal Section*				*Refer to Signal Section*				*N/A*				*Refer to Signal Section*				*Refer to Signal Section*			
Eastbound Through+Right	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*																								
Westbound Left	*0*	*A*	*9*	*A*	*9*	*A*	*11*	*B*																								
Westbound Through	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*																								
Westbound Right	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*																								
Northbound Left	*>120*	*F*	*0*	*A*	*>120*	*F*	*>120*	*F*																								
Northbound Through+Right	*>120*	*F*	*43*	*E*	*>120*	*F*	*>120*	*F*																								
Southbound Left	*59*	*F*	*116*	*F*	*>120*	*F*	*>120*	*F*																								
Southbound Through	*59*	*F*	*>120*	*F*	*>120*	*F*	*>120*	*F*																								
Southbound Right	*17*	*C*	*10*	*B*	*18*	*C*	*12*	*B*																								
#4. Stephen D. Pkwy at Valdai St	**8**	**A**	**4**	**A**	**7**	**A**	**55**	**F**																								
Eastbound Left	*10*	*A*	*8*	*A*	*9*	*A*	*8*	*A*	*Refer to Signal Section*				*Refer to Signal Section*				*Refer to Signal Section*				*Refer to Signal Section*				*Refer to Signal Section*				*Refer to Signal Section*			
Eastbound Through	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*																								
Eastbound Right	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*																								
Westbound Left	*8*	*A*	*9*	*A*	*9*	*A*	*11*	*B*																								
Westbound Through+Right	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*																								
Northbound Left	*74*	*F*	*31*	*D*	*30*	*D*	*>120*	*F*																								
Northbound Through+Right	*17*	*C*	*17*	*C*	*21*	*C*	*46*	*E*																								
Southbound Left	*91*	*F*	*38*	*E*	*115*	*F*	*>120*	*F*																								
Southbound Through+Right	*23*	*C*	*13*	*B*	*15*	*B*	*20*	*C*																								

Table 2 - Peak Hour Intersection Level of Service Summary

Intersection and Cricital Lane Groups	Existing				Year 2030 Background				2030 Background (with Improvements)				2030 Background + Project				Year 2040 Background				Year 2040 Background (with Improvements)				2040 Background + Project				Year 2040 Bkgrd + Project (with Improvements)			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
#5. Stephen D. Pkwy at E-470 SB Ramps	**20**	**C**	**3**	**A**	**62**	**F**	**66**	**F**																								
Eastbound Through	0	A	0	A	0	A	0	A	Refer to Signal Section				Refer to Signal Section				Refer to Signal Section				N/A				Refer to Signal Section				N/A			
Eastbound Right	0	A	0	A	0	A	0	A																								
Westbound Left	11	B	11	B	10	A	25	D																								
Westbound Through	0	A	0	A	0	A	0	A																								
Southbound Left+Through	>120	F	49	E	>120	F	>120	F																								
Southbound Right	16	C	10	B	16	C	11	B																								
#6. Stephen D. Pkwy at E-470 NB Ramps	**19**	**C**	**5**	**A**	**3**	**A**	**38**	**E**																								
Eastbound Left	10	A	8	A	10	A	9	A	Refer to Signal Section				Refer to Signal Section				Refer to Signal Section				N/A				Refer to Signal Section				N/A			
Eastbound Through	0	A	0	A	0	A	0	A																								
Westbound Through	0	A	0	A	0	A	0	A																								
Westbound Right	0	A	0	A	0	A	0	A																								
Northbound Left+Through	119	F	42	E	23	C	>120	F																								
Northbound Right	11	B	17	C	12	B	24	C																								
#8. Picadilly Rd at 6th Ave	**1**	**A**	**1**	**A**	**1**	**A**	**1**	**A**					**1**	**A**	**2**	**A**	**0**	**A**	**0**	**A**					**1**	**A**	**2**	**A**				
Eastbound Left+Through+Right	10	A	16	C	17	C	26	D	N/A				16	C	35	D	16	C	20	C	N/A				61	F	80	F	N/A			
Westbound Left+Through+Right	13	B	13	B																												
Westbound Left					18	C	28	D					16	C	35	E	12	B	12	B					24	C	39	E				
Westbound Through+Right					10	A	16	C					10	A	14	B	12	B	15	B					16	C	27	D				
Northbound Left+Through+Right	0	A	8	A																												
Northbound Left					8	A	9	A					9	A	10	A	13	B	16	C					14	B	18	C				
Northbound Through+Right					0	A	0	A					0	A	0	A	0	A	0	A					0	A	0	A				
Southbound Left+Through+Right	0	A	8	A																												
Southbound Left					9	A	9	A					8	A	9	A	9	A	9	A					10	A	11	B				
Southbound Through+Right					0	A	0	A					0	A	0	A	0	A	0	A					0	A	0	A				
SIGNAL CONTROL																																
#1. SH 30 at Stephen D. Hogan Pkwy	**11**	**B**	**10**	**B**	**13**	**B**	**10**	**B**					**13**	**B**	**11**	**B**	**14**	**B**	**14**	**B**					**14**	**B**	**15**	**B**				
Eastbound Through	9	A	8	A	17	B	13	B	N/A				18	B	15	B	16	B	17	B	N/A				17	B	19	B	N/A			
Eastbound Right	8	A	7	A	11	B	10	B					11	B	10	B	15	B	14	B					15	B	13	B				
Westbound Left	41	D	46	D	43	D	32	C					43	D	32	C	43	D	42	D					43	D	42	D				
Westbound Through	1	A	0	A	0	A	0	A					0	A	0	A	0	A	0	A					0	A	0	A				
Northbound Left	26	C	34	C	32	C	18	B					32	C	18	B	42	D	31	C					42	D	30	C				
Northbound Right	19	B	29	C	21	C	15	B					21	C	15	B	20	C	21	C					20	C	21	C				

Table 2 - Peak Hour Intersection Level of Service Summary

Intersection and Cricital Lane Groups	Existing				Year 2030 Background				2030 Background (with Improvements)				2030 Background + Project				Year 2040 Background				Year 2040 Background (with Improvements)				2040 Background + Project				Year 2040 Bkgrd + Project (with Improvements)			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
#7. Gun Club Rd at 6th Pkwy	**121**	**F**	**49**	**D**	**43**	**D**	**35**	**D**	**38**	**D**	**35**	**C**	**44**	**D**	**35**	**C**	**45**	**D**	**45**	**D**					**44**	**D**	**51**	**D**				
Eastbound Left	>120	F	41	D	51	D	30	C	44	D	29	C	60	E	28	C	106	F	27	C	N/A				100	F	33	C	N/A			
Eastbound Through	51	D	56	E	30	C	41	D	33	C	41	D	44	D	38	D	34	C	51	D					30	C	54	D				
Eastbound Through+Right																																
Eastbound Right	52	D	>120	F	31	C	43	D	34	C	43	D	47	D	41	D	34	C	35	C					31	C	32	C				
Westbound Left	130	F	38	D	24	C	79	E	27	C	79	E	30	C	72	E	28	C	90	F					26	C	>120	F				
Westbound Through+Right	>120	F	35	D	55	D	36	D									63	E	32	C					56	E	33	C				
Westbound Through									42	D	35	C	40	D	32	C																
Westbound Right									27	C	32	C	25	C	29	C																
Northbound Left	13	B	13	B	42	D	20	B	37	D	20	B	44	D	31	C	30	C	32	C					41	D	49	D				
Northbound Through	17	B	16	B	50	D	25	C	44	D	25	C	5	A	28	C	33	C	36	D					38	D	38	D				
Northbound Right	16	B	14	B	41	D	23	C	37	D	23	C	39	D	26	C	23	C	47	D					27	C	50	D				
Southbound Left	14	B	12	B	47	D	19	B	39	D	19	B	65	E	23	C	40	D	75	E					49	D	87	F				
Southbound Through+Right	19	B	18	B																												
Southbound Through					41	D	27	C	38	D	27	C	52	D	31	C	39	D	41	D					44	D	45	D				
Southbound Right					37	D	22	C	35	C	22	C	46	D	25	C	49	D	42	D					40	D	53	D				
#2. SH 30 at Picadilly Rd									**23**	**C**	**27**	**C**	**25**	**C**	**32**	**C**	**43**	**D**	**30**	**C**					**47**	**D**	**34**	**C**				
South-Eastbound Left	Refer to Stop Section				Refer to Stop Section				14	B	11	B	15	B	11	B	26	C	19	B	N/A				26	C	19	B	N/A			
South-Eastbound Through									11	B	21	C	12	B	20	C	28	C	30	C					28	C	30	C				
South-Eastbound Right									9	A	11	B	10	A	11	B	24	C	21	C					24	C	21	C				
North-Westbound Left									9	A	14	B	10	A	13	B	22	C	21	C					22	C	21	C				
North-Westbound Through									21	C	15	B	24	C	15	B	34	C	24	C					34	C	24	C				
North-Westbound Right									14	B	14	B	16	B	15	B	45	D	18	B					51	D	21	C				
Northbound Left									34	C	39	D	34	C	39	D	35	C	26	C					35	C	26	C				
Northbound Through+Right									42	D	48	D	42	D	48	D																
Northbound Through																	68	E	49	D					68	E	49	D				
Northbound Right																	39	D	28	C					39	D	28	C				
Southbound Left									54	D	62	E	49	D	89	F	76	E	41	D					106	F	77	E				
Southbound Through+Right									35	C	36	D	33	C	37	D																
Southbound Through																	34	C	31	C					34	C	31	C				
Southbound Right																	27	C	20	B					27	C	20	B				
#3. Stephen D. Hogan Pkwy at Picadilly Rd									**29**	**C**	**28**	**C**	**37**	**D**	**36**	**D**	**22**	**C**	**27**	**C**					**26**	**C**	**33**	**C**	**21**	**C**	**29**	**C**
Eastbound Left	Refer to Stop Section				Refer to Stop Section				18	B	14	B	24	C	16	B	18	B	16	B	N/A				15	B	19	B	14	B	16	B
Eastbound Through+Right									20	C	23	C	24	C	29	C	22	C	30	C					22	C	40	D	21	C	38	D
Westbound Left									15	B	17	B	18	B	19	B	14	B	25	C					14	B	47	D	14	B	46	D
Westbound Through									26	C	20	C	39	D	22	C	15	B	24	C					13	B	11	B	2	A	5	A
Westbound Right									17	B	19	B	27	C	23	C													1	A	8	A
Northbound Left									24	C	28	C	34	C	28	C	33	C	29	C					42	D	36	D	44	D	37	D
Northbound Through+Right									55	D	47	D					48	D	39	D					76	E	76	E				
Northbound Through													62	E	33	C													55	D	45	D
Northbound Right													38	D	31	C													43	D	43	D
Southbound Left									27	C	34	C	43	D	112	F	33	C	31	C					53	D	46	D	52	D	39	D
Southbound Through									28	C	47	D	35	C	49	D	35	C	34	C					42	D	43	D	43	D	44	D
Southbound Right									29	C	31	C	34	C	29	C									0	A	0	A	0	A	0	A

Table 2 - Peak Hour Intersection Level of Service Summary

Intersection and Cricital Lane Groups	Existing				Year 2030 Background				2030 Background (with Improvements)				2030 Background + Project				Year 2040 Background				Year 2040 Background (with Improvements)				2040 Background + Project				Year 2040 Bkgrd + Project (with Improvements)			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
#4. Stephen D. Pkwy at Valdai St									**11**	**B**	**22**	**C**	**15**	**B**	**27**	**C**	**18**	**B**	**32**	**C**	**10**	**B**	**27**	**C**	**26**	**C**	**28**	**C**	**17**	**B**	**25**	**C**
Eastbound Left	*Refer to Stop Section*				*Refer to Stop Section*				*8*	*A*	*12*	*B*	*9*	*A*	*17*	*B*	*19*	*B*	*25*	*C*	*9*	*A*	*20*	*B*	*23*	*C*	*46*	*D*	*16*	*B*	*46*	*D*
Eastbound Through									*12*	*B*	*17*	*B*	*13*	*B*	*23*	*C*	*18*	*B*	*26*	*C*	*11*	*B*	*20*	*B*	*26*	*C*	*6*	*A*	*29*	*C*	*3*	*A*
Eastbound Right									*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*																
Westbound Left									*8*	*A*	*14*	*B*	*9*	*A*	*17*	*B*	*13*	*B*	*22*	*C*	*8*	*A*	*17*	*B*	*14*	*B*	*24*	*C*	*12*	*B*	*21*	*C*
Westbound Through+Right									*2*	*A*	*16*	*B*	*2*	*A*	*23*	*C*	*11*	*B*	*39*	*D*	*3*	*A*	*33*	*C*	*9*	*A*	*39*	*D*	*4*	*A*	*31*	*C*
Northbound Left									*34*	*C*	*38*	*D*	*49*	*D*	*36*	*D*	*33*	*C*	*40*	*D*	*48*	*D*	*45*	*D*	*41*	*D*	*48*	*D*	*46*	*D*	*47*	*D*
Northbound Through+Right									*38*	*D*	*36*	*D*	*54*	*D*	*33*	*C*																
Northbound Through																	*31*	*C*	*27*	*C*	*40*	*D*	*32*	*C*	*39*	*D*	*40*	*D*	*49*	*D*	*43*	*D*
Northbound Right																	*33*	*C*	*33*	*C*	*44*	*D*	*46*	*D*	*41*	*D*	*54*	*D*	*55*	*D*	*67*	*E*
Southbound Left									*34*	*C*	*29*	*C*	*52*	*D*	*42*	*D*	*30*	*C*	*27*	*C*	*40*	*D*	*33*	*C*	*41*	*D*	*48*	*D*	*52*	*D*	*54*	*D*
Southbound Through+Right									*43*	*D*	*44*	*D*	*57*	*E*	*49*	*D*																
Southbound Through																	*32*	*C*	*27*	*C*	*41*	*D*	*31*	*C*	*39*	*D*	*37*	*D*	*51*	*D*	*39*	*D*
Southbound Right																	*61*	*E*	*55*	*E*	*0*	*A*	*0*	*A*	*127*	*F*	*38*	*D*	*0*	*A*	*0*	*A*
#5. Stephen D. Pkwy at E-470 SB Ramps									**6**	**A**	**5**	**A**	**23**	**C**	**7**	**A**	**13**	**B**	**22**	**C**					**6**	**A**	**32**	**C**				
Eastbound Through	*Refer to Stop Section*				*Refer to Stop Section*				*5*	*A*	*3*	*A*	*1*	*A*	*6*	*A*	*1*	*A*	*26*	*C*	*N/A*				*0*	*A*	*44*	*D*	*N/A*			
Eastbound Right									*5*	*A*	*1*	*A*	*0*	*A*	*0*	*A*	*2*	*A*	*14*	*B*					*1*	*A*	*12*	*B*				
Westbound Left									*11*	*B*	*7*	*A*	*11*	*B*	*7*	*A*	*11*	*B*	*33*	*C*					*10*	*B*	*47*	*D*				
Westbound Through									*1*	*A*	*0*	*A*	*33*	*C*	*0*	*A*	*15*	*B*	*0*	*A*					*1*	*A*	*0*	*A*				
Southbound Left+Through									*25*	*C*	*35*	*C*	*38*	*D*	*35*	*C*	*32*	*C*	*54*	*D*					*40*	*D*	*58*	*E*				
Southbound Right									*25*	*C*	*33*	*C*	*39*	*D*	*37*	*D*	*30*	*C*	*35*	*D*					*39*	*D*	*48*	*D*				
#6. Stephen D. Pkwy at E-470 NB Ramps									**14**	**B**	**10**	**A**	**12**	**B**	**11**	**B**	**15**	**B**	**13**	**B**					**7**	**A**	**23**	**C**				
Eastbound Left	*Refer to Stop Section*				*Refer to Stop Section*				*13*	*B*	*11*	*B*	*12*	*B*	*12*	*B*	*20*	*B*	*17*	*B*	*N/A*				*10*	*A*	*27*	*C*	*N/A*			
Eastbound Through									*0*	*A*	*1*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*1*	*A*					*0*	*A*	*0*	*A*				
Westbound Through									*18*	*B*	*17*	*B*	*10*	*A*	*20*	*B*	*18*	*B*	*24*	*C*					*1*	*A*	*47*	*D*				
Westbound Right									*13*	*B*	*16*	*B*	*0*	*A*	*0*	*A*	*12*	*B*	*23*	*C*					*0*	*A*	*42*	*D*				
Northbound Left+Through									*28*	*C*	*25*	*C*	*43*	*D*	*29*	*C*	*35*	*D*	*24*	*C*					*50*	*D*	*37*	*D*				
Northbound Right									*28*	*C*	*30*	*C*	*40*	*D*	*30*	*C*	*41*	*D*	*42*	*D*					*53*	*D*	*52*	*D*				

Note: Delay represented in average seconds per vehicle.

FOX TUTTLE

Table 5 - Trip Generation Summary

Land Use	Size	Unit	Internal Capture	Non-Auto Factor	Average Daily Trips				AM Peak Hour Trips				PM Peak Hour Trips			
					Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
PA-1																
ITE 720: Medical-Dental Office Building	12.0	ksf	0.90	0.95	34.80	357	179	178	2.78	29	23	6	3.46	35	10	25
ITE 820: Shopping Center	3.10	ksf	0.90	0.95	37.75	100	50	50	0.94	2	1	1	3.81	10	5	5
ITE 912: Drive-In Bank	2.8	ksf	0.90	0.95	100.03	239	120	119	9.50	23	13	10	20.45	49	25	24
ITE 934 - Fast-Food Restaurant w/ Drive-Through Window	3.00	ksf	0.90	0.95	470.95	1,208	604	604	40.19	103	53	50	32.67	84	44	40
Subtotal of Trips						*1,904*	*953*	*951*		*157*	*90*	*67*		*178*	*84*	*94*
Pass-by Trips: Shopping Center				*34%*		*-34*	*-17*	*-17*		*0*	*0*	*0*		*-3*	*-2*	*-1*
Pass-by Trips: Bank (AM)				*29%*		*0*	*0*	*0*		*-7*	*-4*	*-3*		*0*	*0*	*0*
Pass-by Trips: Bank (PM)				*35%*		*-84*	*-42*	*-42*		*0*	*0*	*0*		*-17*	*-9*	*-8*
Pass-by Trips: Fast-Food (AM)				*49%*		*0*	*0*	*0*		*-50*	*-26*	*-24*		*0*	*0*	*0*
Pass-by Trips: Fast-Food (PM)				*50%*		*-604*	*-302*	*-302*		*0*	*0*	*0*		*-42*	*-22*	*-20*
Subtotal of Pass-By Trips						*-722*	*-361*	*-361*		*-57*	*-30*	*-27*		*-62*	*-33*	*-29*
Subtotal of New Trips						***1,182***	***592***	***590***		***100***	***60***	***40***		***116***	***51***	***65***
PA-2																
ITE 820: Shopping Center	20.10	ksf	0.90	0.95	37.75	649	325	324	0.94	16	10	6	3.81	65	31	34
ITE 934 - Fast-Food Restaurant w/ Drive-Through Window	2.40	ksf	0.90	0.95	470.95	966	483	483	40.19	82	42	40	32.67	67	35	32
Subtotal of Trips						*1,615*	*808*	*807*		*98*	*52*	*46*		*132*	*66*	*66*
Pass-by Trips: Shopping Center				*34%*		*-221*	*-111*	*-110*		*0*	*0*	*0*		*-22*	*-11*	*-11*
Pass-by Trips: Fast-Food (AM)				*49%*		*0*	*0*	*0*		*-40*	*-21*	*-19*		*0*	*0*	*0*
Pass-by Trips: Fast-Food (PM)				*50%*		*-483*	*-242*	*-241*		*0*	*0*	*0*		*-34*	*-18*	*-16*
Subtotal of Pass-By Trips						*-704*	*-353*	*-351*		*-40*	*-21*	*-19*		*-56*	*-29*	*-27*
Subtotal of New Trips						***911***	***455***	***456***		***58***	***31***	***27***		***76***	***37***	***39***
PA-4																
ITE 220: Multi-Family Housing (Low-Rise)	272	DU	0.90	0.95	7.32	1,702	851	851	0.46	107	28	79	0.56	130	79	51
Subtotal of New Trips						***1,702***	***851***	***851***		***107***	***28***	***79***		***130***	***79***	***51***
PA-5																
ITE 221: Multi-Family Housing (Mid-Rise)	150	ksf	0.90	0.95	5.44	698	349	349	0.36	46	12	34	0.44	56	34	22
ITE 820: Shopping Center	20	ksf	0.90	0.95	37.75	646	323	323	0.94	16	10	6	3.81	65	31	34
Subtotal of Trips						*1,344*	*672*	*672*		*62*	*22*	*40*		*121*	*65*	*56*
Pass-by Trips: Shopping Center				*34%*		*-220*	*-110*	*-110*		*0*	*0*	*0*		*-22*	*-11*	*-11*
Subtotal of New Trips						***1,124***	***562***	***562***		***62***	***22***	***40***		***99***	***54***	***45***
PA-8																
ITE 820: Shopping Center	36	ksf	0.90	0.95	37.75	1,162	581	581	0.94	29	18	11	3.81	117	56	61
Pass-by Trips: Shopping Center				*34%*		*-395*	*-198*	*-197*		*0*	*0*	*0*		*-40*	*-19*	*-21*
Subtotal of New Trips						***767***	***383***	***384***		***29***	***18***	***11***		***77***	***37***	***40***
PA-9																
ITE 720: Medical-Dental Office Building	11.2	ksf	0.90	0.95	34.80	333	167	166	2.78	27	21	6	3.46	33	9	24
ITE 820: Shopping Center	6.20	ksf	0.90	0.95	37.75	200	100	100	0.94	5	3	2	3.81	20	10	10
ITE 934 - Fast-Food Restaurant w/ Drive-Through Window	4.80	ksf	0.90	0.95	470.95	1,933	967	966	40.19	165	84	81	32.67	134	70	64
ITE 945 - Gas/Service Station w/ Convenience Market	16	fueling stations	0.90	0.95	205.36	2,809	1,405	1,404	12.47	171	87	84	13.99	191	97	94
Subtotal of Trips						*5,275*	*2,639*	*2,636*		*368*	*195*	*173*		*378*	*186*	*192*
Pass-by Trips: Shopping Center				*34%*		*-68*	*-34*	*-34*		*0*	*0*	*0*		*-7*	*-3*	*-4*
Pass-by Trips: Fast-Food (AM)				*49%*		*0*	*0*	*0*		*-81*	*-41*	*-40*		*0*	*0*	*0*
Pass-by Trips: Fast-Food (PM)				*50%*		*-967*	*-484*	*-483*		*0*	*0*	*0*		*-67*	*-35*	*-32*
Pass-by Trips: Gas Station (AM)				*62%*		*-1,742*	*-871*	*-871*		*-106*	*-54*	*-52*		*0*	*0*	*0*
Pass-by Trips: Gas Station (PM)				*56%*		*0*	*0*	*0*		*0*	*0*	*0*		*-107*	*-54*	*-53*
Subtotal of Pass-By Trips						*-2777*	*-1389*	*-1388*		*-187*	*-95*	*-92*		*-181*	*-92*	*-89*
Subtotal of New Trips						***2,498***	***1,250***	***1,248***		***181***	***100***	***81***		***197***	***94***	***103***
PA-10																
ITE 221: Multi-Family Housing (Mid-Rise)	400	ksf	0.90	0.95	5.44	1,860	930	930	0.36	123	32	91	0.44	150	92	58

Land Use	Size	Unit	Internal Capture	Non-Auto Factor	Average Daily Trips				AM Peak Hour Trips				PM Peak Hour Trips			
					Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Subtotal of New Trips						***1,860***	***930***	***930***		***123***	***32***	***91***		***150***	***92***	***58***
PA-11																
ITE 820: Shopping Center	24.6	ksf	0.90	0.95	37.75	794	397	397	0.94	20	12	8	3.81	80	38	42
Subtotal of Trips						*794*	*397*	*397*		*20*	*12*	*8*		*80*	*38*	*42*
Pass-by Trips: Shopping Center				*34%*		*-270*	*-135*	*-135*		*0*	*0*	*0*		*-27*	*-13*	*-14*
Subtotal of New Trips						***524***	***262***	***262***		***20***	***12***	***8***		***53***	***25***	***28***
PA-13																
ITE 220: Multi-Family Housing (Low-Rise)	322	DU	0.90	0.95	7.32	2,015	1,008	1,007	0.46	127	33	94	0.56	154	94	60
Subtotal of New Trips						***2,015***	***1,008***	***1,007***		***127***	***33***	***94***		***154***	***94***	***60***
PA-14																
ITE 820: Shopping Center	12.2	ksf	0.90	0.95	37.75	394	197	197	0.94	10	6	4	3.81	40	19	21
Subtotal of Trips						*394*	*197*	*197*		*10*	*6*	*4*		*40*	*19*	*21*
Pass-by Trips: Shopping Center				*34%*		*-134*	*-67*	*-67*		*0*	*0*	*0*		*-14*	*-6*	*-8*
Subtotal of New Trips						***260***	***130***	***130***		***10***	***6***	***4***		***26***	***13***	***13***
Total New Trips:						***12,843***	***6,423***	***6,420***	***AM >***	***817***	***342***	***475***	***PM >***	***1,078***	***576***	***502***
Total Pass-By Trips:						***5,222***	***2,613***	***2,609***	***AM >***	***284***	***146***	***138***	***PM >***	***402***	***203***	***199***
Total Trips:						***18,065***	***9,036***	***9,029***	***AM >***	***1,101***	***488***	***613***	***PM >***	***1,480***	***779***	***701***
Total of Internal Capture & Non-Auto Reductions:						***3,067***	***1,535***	***1,532***	***AM >***	***186***	***83***	***103***	***PM >***	***255***	***135***	***120***

Source : ITE Trip Generation 10th Edition, 2017.

Table 9 - Peak Hour Intersection Level of Service Summary for Proposed Accesses

Intersection and Cricital Lane Groups	2030 Background + Project				2040 Background + Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
STOP SIGN CONTROL								
#101. Picadilly Rd at Access 1 (3/4 mvmt)	**0**	**A**	**1**	**A**	**0**	**A**	**0**	**A**
Westbound Right	*12*	*B*	*10*	*B*	*13*	*B*	*12*	*B*
Southbound Left	*8*	*A*	*8*	*A*	*11*	*B*	*10*	*A*
#102. Stephen D. Hogan Pkwy at Access 2 (PA 1 & 11) (3/4 mvmt)	**0**	**A**	**0**	**A**	**0**	**A**	**0**	**A**
Northbound Right	*10*	*A*	*12*	*B*	*11*	*B*	*15*	*C*
Southbound Right	*12*	*B*	*13*	*B*	*15*	*C*	*11*	*B*
#104. Stephen D. Hogan Pkwy at Access 4 (PA 2 & 8)	**1**	**A**	**2**	**A**	**0**	**A**	**1**	**A**
Westbound Left	*57*	*F*	*115*	*F*	*30*	*D*	*67*	*F*
Westbound Right	*12*	*B*	*10*	*B*	*15*	*C*	*12*	*B*
Southbound Left	*10*	*A*	*9*	*A*	*13*	*B*	*11*	*B*
#105. Stephen D. Hogan Pkwy at Access 5 (PA 8) (3/4 mvmt)	**0**	**A**	**0**	**A**	**0**	**A**	**0**	**A**
Westbound Through+Right	*15*	*B*	*12*	*B*	*30*	*D*	*19*	*C*
Southbound Left	*13*	*B*	*10*	*B*	*57*	*F*	*25*	*C*
#106. Stephen D. Hogan Pkwy at Access 6 (PA 8 & 13)	**4**	**A**	**15**	**B**				
Eastbound Left	*66*	*F*	*>120*	*F*	*Refer to Signal Section*			
Eastbound Through+Right	*17*	*C*	*30*	*D*				
Westbound Left	*>120*	*F*	*>120*	*F*				
Westbound Through+Right	*19*	*C*	*16*	*C*				
Northbound Left	*8*	*A*	*10*	*A*				
Northbound Through+Right	*0*	*A*	*0*	*A*				
Southbound Left	*14*	*B*	*11*	*B*				
Southbound Through+Right	*0*	*A*	*0*	*A*				
#107. Stephen D. Hogan Pkwy at Access 7 (PA 9) (RIRO)	**0**	**A**	**0**	**A**	**0**	**A**	**0**	**A**
Southbound Right	*15*	*C*	*12*	*B*	*33*	*D*	*19*	*C*
#108. Stephen D. Hogan Pkwy at Access 8 (PA 9 & 13) (3/4 mvmt)	**0**	**A**	**0**	**A**	**1**	**A**	**0**	**A**
Eastbound Left	*10*	*A*	*9*	*A*	*21*	*C*	*10*	*B*
Westbound Left	*8*	*A*	*10*	*A*	*9*	*A*	*13*	*B*
Northbound Right	*10*	*A*	*12*	*B*	*11*	*B*	*15*	*B*
Southbound Right	*12*	*B*	*10*	*A*	*30*	*D*	*13*	*B*
#109. Stephen D. Hogan Pkwy at Access 9 (PA 9) (RIRO)	**0**	**A**	**1**	**A**	**0**	**A**	**0**	**A**
Southbound Right	*12*	*B*	*10*	*A*	*14*	*B*	*11*	*B*
#110. Valdai Street at Access 10 (PA 9)	**2**	**A**	**1**	**A**	**1**	**A**	**1**	**A**
Eastbound Left+Right	*11*	*B*	*11*	*B*	*14*	*B*	*15*	*B*
Northbound Left	*8*	*A*	*8*	*A*	*9*	*A*	*9*	*A*

Table 9 - Peak Hour Intersection Level of Service Summary for Proposed Accesses

Intersection and Cricital Lane Groups	2030 Background + Project				2040 Background + Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
#111. Valdai Street at Access 11 / Old Valdai St (PA 9&10)	**2**	**A**	**2**	**A**	**4**	**A**	**2**	**A**
Eastbound Left+Through+Right	*10*	*B*	*11*	*B*	*35*	*D*	*14*	*B*
Westbound Left+Through+Right	*14*	*B*	*16*	*C*	*28*	*D*	*33*	*D*
Northbound Left	*8*	*A*	*8*	*A*	*13*	*B*	*9*	*A*
Southbound Left	*8*	*A*	*8*	*A*	*8*	*A*	*9*	*A*
#112. Valdai Street at Access 12 (PA 4 & 5)	**1**	**A**	**1**	**A**	**0**	**A**	**1**	**A**
Eastbound Left+Through+Right	*10*	*B*	*12*	*B*	*13*	*B*	*18*	*C*
Westbound Left+Through+Right	*11*	*B*	*13*	*B*	*17*	*C*	*21*	*C*
Northbound Left	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*
Southbound Left	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*
#113. Valdai Street at Access 13 (PA 4 & 5)	**1**	**A**	**1**	**A**	**1**	**A**	**1**	**A**
Eastbound Left+Through+Right	*10*	*B*	*11*	*B*	*12*	*B*	*14*	*B*
Westbound Left+Through+Right	*11*	*B*	*12*	*B*	*16*	*C*	*20*	*C*
Northbound Left	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*
Southbound Left	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*
#114. Valdai Street at 6th Avenue	**4**	**A**	**4**	**A**	**4**	**A**	**6**	**A**
Eastbound Left+Through+Right	*12*	*B*	*14*	*B*	*19*	*C*	*36*	*E*
Westbound Left+Through+Right	*11*	*B*	*12*	*B*	*15*	*B*	*19*	*C*
Northbound Left	*8*	*A*	*8*	*A*	*8*	*A*	*9*	*A*
Southbound Left	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*
#115. 6th Avenue at Access 15 (PA 4)	**2**	**A**	**2**	**A**	**2**	**A**	**2**	**A**
Eastbound Left+Through+Right	*7*	*A*	*7*	*A*	*8*	*A*	*0*	*A*
Westbound Left+Through+Right	*7*	*A*	*7*	*A*	*7*	*A*	*0*	*A*
Northbound Left+Through+Right	*10*	*A*	*9*	*A*	*10*	*A*	*0*	*A*
Southbound Left+Through+Right	*9*	*A*	*9*	*A*	*10*	*A*	*3*	*A*
#116. 6th Avenue at Access 16 (PA 4)	**2**	**A**	**1**	**A**	**2**	**A**	**1**	**A**
Eastbound Left+Through+Right	*7*	*A*	*7*	*A*	*8*	*A*	*8*	*A*
Westbound Left+Through+Right	*7*	*A*	*7*	*A*	*7*	*A*	*8*	*A*
Northbound Left+Through+Right	*10*	*A*	*9*	*A*	*10*	*A*	*10*	*B*
Southbound Left+Through+Right	*9*	*A*	*9*	*A*	*10*	*B*	*10*	*B*
#117. 6th Avenue at Access 17 (PA 4)	**3**	**A**	**2**	**A**	**3**	**A**	**2**	**A**
Eastbound Left+Through+Right	*7*	*A*	*7*	*A*	*8*	*A*	*8*	*A*
Westbound Left+Through+Right	*7*	*A*	*7*	*A*	*7*	*A*	*8*	*A*
Northbound Left+Through+Right	*10*	*B*	*10*	*B*	*11*	*B*	*11*	*B*
Southbound Left+Through+Right	*10*	*A*	*9*	*A*	*10*	*B*	*10*	*A*
#118. 6th Avenue at Access 18 (PA 2 & 4)	**0**	**A**	**0**	**A**	**0**	**A**	**0**	**A**
Westbound Left+Through	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*
Northbound Left+Right	*10*	*A*	*10*	*A*	*10*	*B*	*11*	*B*
#119. 6th Avenue at Rome Street	**9**	**A**	**8**	**A**	**12**	**B**	**15**	**B**
Eastbound Left+Through+Right	*7*	*A*	*7*	*A*	*7*	*A*	*8*	*A*
Westbound Left+Through+Right	*7*	*A*	*8*	*A*	*8*	*A*	*8*	*A*
Northbound Left	*13*	*B*	*13*	*B*	*19*	*C*	*15*	*B*
Northbound Through+Right	*11*	*B*	*12*	*B*	*14*	*B*	*24*	*C*
Southbound Left	*13*	*B*	*13*	*B*	*16*	*C*	*25*	*C*
Southbound Through+Right	*12*	*B*	*12*	*B*	*18*	*C*	*14*	*B*

Table 9 - Peak Hour Intersection Level of Service Summary for Proposed Accesses

Intersection and Cricital Lane Groups	2030 Background + Project				2040 Background + Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
#120. 6th Avenue at Access 19 (PA 1) (3/4 mvmt)	**0**	**A**	**0**	**A**	**0**	**A**	**0**	**A**
Westbound Left+Through	7	A	8	A	7	A	8	A
Northbound Right	9	A	9	A	9	A	9	A
#121. 6th Avenue at Access 20 (PA 1)	**0**	**A**	**0**	**A**	**0**	**A**	**0**	**A**
Northbound Right	9	A	9	A	9	A	9	A
#122. Rome Street at Access 21	**3**	**A**	**3**	**A**	**2**	**A**	**3**	**A**
Eastbound Left	13	B	10	A	12	B	15	C
Eastbound Through+Right	10	A	0	A	0	A	10	A
Westbound Left	14	B	12	B	16	C	17	C
Westbound Through+Right	10	A	0	A	0	A	10	B
Northbound Left	8	A	8	A	8	A	8	A
Southbound Left	8	A	8	A	8	A	8	A
#123. Old Valdai Street at Access 22 (PA 5)	**3**	**A**	**4**	**A**	**3**	**A**	**4**	**A**
Eastbound Left+Right	9	A	9	A	9	A	9	A
Northbound Left+Through	7	A	7	A	7	A	7	A
#124. Old Valdai Street at Access 23 (PA 5)	**3**	**A**	**3**	**A**	**3**	**A**	**3**	**A**
Eastbound Left+Right	9	A	9	A	9	A	9	A
Northbound Left+Through	7	A	7	A	7	A	7	A
#125. Internal Rd at PA 2 & PA 8	**5**	**A**	**4**	**A**	**5**	**A**	**4**	**A**
Eastbound Left+Through+Right	7	A	7	A	7	A	7	A
Westbound Left+Through+Right	7	A	7	A	7	A	7	A
Northbound Left+Through+Right	9	A	10	A	9	A	10	A
Southbound Left+Through+Right	9	A	9	A	9	A	9	A
SIGNAL CONTROL								
#103. Stephen D. Hogan Pkwy at Rome St. / Access	**23**	**C**	**18**	**B**	**32**	**C**	**21**	**C**
Eastbound Left	27	C	8	A	41	D	25	C
Eastbound Through+Right	9	A	16	B	1	A	10	A
Westbound Left	14	B	12	B	14	B	16	B
Westbound Through	27	C	11	B	50	D	40	D
Westbound Right	15	B	10	A		A	35	C
Northbound Left	39	D	49	D	43	D	39	D
Northbound Through+Right	40	D	52	D	40	D	39	D
Southbound Left	39	D	49	D	40	D	36	D
Southbound Through+Right	34	C	56	E	40	D	33	C
#106. Stephen D. Hogan Pkwy at Access 6 (PA 8 & 13)					**34**	**C**	**40**	**D**
Eastbound Left					35	C	35	C
Eastbound Through+Right					37	D	37	D
Westbound Left					35	C	34	C
Westbound Through+Right					39	D	38	D
Northbound Left					16	B	27	C
Northbound Through+Right					38	D	22	C
Southbound Left					29	C	19	B
Southbound Through+Right					34	C	55	D

Note: Delay represented in average seconds per vehicle.

FOX TUTTLE

Table 11 - Peak Hour Estimated 95th Percentile Queue Lengths

Intersection and Cricital Lane Groups	Ex. Storage Length	Prop. Storage Length	CDOT SHAC Require.			Existing		Year 2030 Background		Year 2030 Background (with Improvements)		2030 Background + Project		Year 2040 Background		Year 2040 Background (with Improvements)		2040 Background + Project		Year 2040 Bkgrd + Project (with Improvements)	
			Assume Category	Storage	Taper	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
#1. SH 30 at Stephen D. Hogan Pkwy						*Signalized*		*Signalized*		*N/A*		*Signalized*		*Signalized*		*N/A*		*Signalized*		*N/A*	
Eastbound Through	-	-	Newly Built intersection			148'	317'	404'	340'			464'	380'	224'	515'			240'	558'		
Eastbound Right	-	-				32'	38'	44'	56'			44'	56'	55'	55'			55'	55'		
Westbound Left	225'	-				20'	15'	35'	16'			35'	16'	47'	31'			47'	31'		
Westbound Through	-	-				0'	0'	0'	0'			0'	0'	0'	0'			0'	0'		
Northbound Left	470'	-				177'	108'	269'	93'			268'	93'	411'	186'			409'	183'		
Northbound Right	250'	-				8'	14'	12'	14'			12'	14'	16'	20'			16'	20'		
#2. SH 30 at Picadilly Rd						*Stop-Control*		*Stop-Control*		*Signalized*		*Signalized*		*Signalized*		*N/A*		*Signalized*		*N/A*	
South-Eastbound Left+Through+Righ	-					3'	0'														
South-Eastbound Left		430'	NR-A	428'	222'			3'	3'	17'	17'	19'	19'	48'	29'			51'	35'		
South-Eastbound Through		-	-	-	-			0'	0'	169'	585'	174'	578'	205'	344'			203'	338'		
South-Eastbound Right		380'	NR-A	378'	222'			0'	0'	0'	0'	0'	0'	0'	0'			0'	0'		
North-Westbound Left+Through+Righ	-					0'	0'														
North-Westbound Left		460'	NR-A	458'	222'			3'	3'	15'	17'	15'	17'	75'	26'			75'	54'		
North-Westbound Through+Right		-	-	-	-			0'	0'	672'	278'	686'	270'	464'	147'			457'	195'		
North-Westbound Right		380'	NR-A	378'	222'			0'	0'	85'	41'	101'	44'	189'	105'			243'	151'		
Northbound Left+Through+Right	-					8'	8'														
Northbound Left		275'	NR-C >40mph	273'	162'			40'	78'	18'	14'	17'	14'	49'	25'			49'	25'		
Northbound Through+Right								158'	125'	51'	56'	51'	56'								
Northbound Through		-	-	-	-									506'	331'			506'	331'		
Northbound Right		275'	NR-C >40mph	273'	162'									17'	0'			17'	0'		
Southbound Left+Through+Right	-					100'	268'														
Southbound Left		450'	NR-B >40 mph	273'	162'			595'	840'	151'	222'	179'	284'	376'	218'			444'	299'		
Southbound Through+Right								50'	190'	78'	152'	80'	160'								
Southbound Through		-	-	-	-									333'	348'			333'	348'		
Southbound Right		275'	NR-B >40 mph	273'	162'									0'	0'			0'	0'		
#3. Stephen D. Hogan Pkwy at Picadilly Rd						*Stop-Control*		*Stop-Control*		*Signalized*		*Signalized*		*Signalized*		*N/A*		*Signalized*		*Signalized*	
Eastbound Left	325'	255' each	NR-B (40 mph)	510'	144'	0'	5'	8'	25'	34'	116'	46'	117'	85'	132'			108'	216'	109'	129'
Eastbound Through+Right	-	-	-	-	-	0'	0'	0'	0'	167'	389'	236'	474'	223'	521'			260'	622'	260'	622'
Westbound Left	275'	250'	NR-B (40 mph)	250'	144'	0'	0'	5'	3'	39'	21'	6'	46'	45'	97'			137'	178'	136'	179'
Westbound Through+Right	-	-	-	-	-	0'	0'	0'	0'	382'	179'	266'	222'	20'	233'			250'	200'	219'	162'
Westbound Right	225'	250'	NR-B (40 mph)	250'	144'	0'	0'	0'	0'	3'	12'	5'	50'							55'	120'
Northbound Left	100'	150'	NR-B (30 mph)	130'	96'	38'	0'	0'	0'	40'	21'	51'	26'	110'	83'			140'	114'	140'	116'
Northbound Through+Right	-	-	-	-	-	253'	85'	1228'	988'	390'	206'			236'	146'			340'	232'	276'	167'
Northbound Through												394'	164'								
Northbound Right	-	200'	NR-B (30 mph)	130'	96'							0'	9'							12'	176'
Southbound Left	100'	140' each	NR-B (30 mph)	320'	96'	0'	110'	0'	0'	59'	83'	153'	241'	58'	83'			118'	150'	117'	142'
Southbound Through	-	-	-	-	-	110'	278'	570'	1203'	165'	295'	195'	327'	96'	134'			120'	187'	120'	190'
Southbound Right	100'	410'	NR-B (30 mph)	410'	96'	25'	10'	55'	28'	51'	36'	48'	16'	343'	220'			348'	280'	348'	283'

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Table 11 - Peak Hour Estimated 95th Percentile Queue Lengths

Intersection and Cricital Lane Groups	Ex. Storage Length	Prop. Storage Length	CDOT SHAC Require.			Existing		Year 2030 Background		Year 2030 Background (with Improvements)		2030 Background + Project		Year 2040 Background		Year 2040 Background (with Improvements)		2040 Background + Project		Year 2040 Bkgrd + Project (with Improvements)	
			Assume Category	Storage	Taper	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
#4. Stephen D. Pkwy at Valdai St						*Stop-Control*		*Stop-Control*		*Signalized*		*Signalized*		*Signalized*				*Signalized*		*Signalized*	
Eastbound Left	275'	300'	NR-B (40 mph)	300'	144'	0'	3'	5'	10'	23'	51'	35'	67'	118'	157'	122'	148'	210'	288'	63'	290'
Eastbound Through	-	-	-	-	-	0'	0'	0'	0'	142'	319'	189'	404'	267'	469'	63'	391'	327'	427'	326'	428'
Eastbound Right	225'	120'	NR-B (40 mph)	120'	144'	0'	0'	0'	0'	0'	0'	0'	0'	19'	35'	17'	17'	35'	32'	34'	35'
Westbound Left	225'	350'	NR-B (40 mph)	130'	144'	5'	0'	8'	3'	7'	3'	11'	4'	562'	190'	68'	190'	312'	345'	349'	345'
Westbound Through+Right	-	-	-	-	-	0'	0'	0'	0'	38'	105'	464'	167'	95'	103'	113'	116'	116'	134'	126'	132'
Northbound Left	100'	150'	NR-C (30 mph)	150'	96'	23'	20'	30'	288'	36'	48'	47'	46'	17'	33'	19'	35'	20'	44'	22'	44'
Northbound Through+Right	-	-	-	-	-	10'	20'	18'	105'	14'	5'	15'	4'	0'	0'	0'	0'	0'	17'	0'	17'
Southbound Left	100'	250'	NR-C (30 mph)	250'	96'	85'	23'	115'	195'	78'	55'	264'	128'	109'	92'	128'	99'	225'	238'	243'	234'
Southbound Through+Right	-					45'	8'	28'	68'	55'	25'	73'	33'								
Southbound Through		-	-	-	-									21'	27'	24'	28'	24'	34'	27'	34'
Southbound Right		275'	NR-C (30 mph)	320'	96'									135'	32'	0'	0'	271'	192'	0'	0'
#5. Stephen D. Pkwy at E-470 SB Ramps						*Stop-Control*		*Stop-Control*		*Signalized*		*Signalized*		*Signalized*		*N/A*		*Signalized*		*N/A*	
Eastbound Through	-	-	-	-	-	0'	0'	0'	0'	70'	184'	143'	286'	49'	269'			89'	543'		
Eastbound Right	135'	300'	NR-B (40 mph)	300'	144'	0'	0'	0'	0'	4'	22'	0'	0'	2'	34'			9'	113'		
Westbound Left	200'	210' each	NR-B (40 mph)	370'	144'	20'	8'	20'	68'	26'	131'	19'	120'	11'	169'			18'	207'		
Westbound Through	-	-	-	-	-	0'	0'	0'	0'	61'	57'	230'	90'	379'	157'			104'	135'		
Southbound Left	-	-	-	-	-	215'	55'	395'	393'	119'	108'	163'	108'	209'	231'			250'	268'		
Southbound Right	235'	275'	NR-B >40 mph	273'	162'	33'	8'	28'	13'	54'	27'	106'	32'	94'	30'			154'	122'		
#6. Stephen D. Pkwy at E-470 NB Ramps						*Stop-Control*		*Stop-Control*		*Signalized*		*Signalized*		*Signalized*		*N/A*		*Signalized*		*N/A*	
Eastbound Left	230'	250'	NR-B (40 mph)	250'	144'	5'	8'	8'	15'	77'	13'	100'	12'	106'	97'			168'	202'		
Eastbound Through	-	-	-	-	-	0'	0'	0'	0'	139'	35'	136'	34'	177'	49'			78'	145'		
Westbound Through	-	-	-	-	-	0'	0'	0'	0'	318'	158'	359'	211'	397'	276'			584'	452'		
Westbound Right	280'	270'	NR-B (40 mph)	270'	144'	0'	0'	0'	0'	32'	31'	0'	0'	34'	54'			20'	163'		
Northbound Left+Through	-	-	-	-	-	240'	58'	63'	300'	140'	74'	238'	134'	161'	73'			264'	190'		
Northbound Right	135'	275'	NR-B >40 mph	273'	162'	18'	30'	20'	80'	44'	80'	52'	80'	104'	180'			144'	250'		
#7. Gun Club Rd at 6th Pkwy						*Signalized*		*Signalized*		*Signalized*		*Signalized*		*Signalized*		*N/A*		*Signalized*		*N/A*	
Eastbound Left	120'	400'	NR-B (40 mph)	260'	144'	100'	51'	101'	66'	97'	66'	102'	82'	352'	162'			395'	214'		
Eastbound Through		-	-	-	-			172'	309'	172'	309'	184'	327'	223'	536'			228'	524'		
Eastbound Through+Right						186'	317'														
Eastbound Right	120'	350'	NR-B (40 mph)	350'	144'	25'	151'	0'	98'	0'	98'	49'	136'	60'	141'			121'	221'		
Westbound Left	120'	470'	NR-B (40 mph)	320'	144'	207'	91'	137'	161'	137'	161'	126'	155'	220'	423'			199'	471'		
Westbound Through+Right	-	-	-	-	-	825'	191'	437'	202'					589'	395'			588'	423'		
Westbound Through										369'	174'	376'	195'								
Westbound Right										26'	22'	24'	21'								
Northbound Left	180'	300'	NR-B (40 mph)	300'	144'	92'	50'	185'	128'	185'	128'	246'	196'	217'	152'			273'	246'		
Northbound Through	-	-	-	-	-	219'	190'	402'	339'	402'	339'	439'	339'	225'	204'			240'	208'		
Northbound Right	550'	300'	NR-B (40 mph)	300'	144'	28'	29'	43'	55'	43'	55'	44'	55'	151'	79'			170'	119'		
Southbound Left	130'	240'	NR-B (40 mph)	210'	144'	44'	50'	133'	112'	124'	112'	185'	119'	135'	211'			146'	235'		
Southbound Through+Right	-					201'	281'														
Southbound Through		-			-			263'	404'	263'	404'	335'	404'	146'	213'			154'	224'		
Southbound Right		260'	NR-B (40 mph)	260'	144'			41'	42'	41'	42'	41'	48'	67'	54'			156'	63'		

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Table 11 - Peak Hour Estimated 95th Percenitle Queue Lengths

Intersection and Cricital Lane Groups	Ex. Storage Length	Prop. Storage Length	CDOT SHAC Require.			Existing		Year 2030 Background		Year 2030 Background (with Improvements)		2030 Background + Project		Year 2040 Background		Year 2040 Background (with Improvements)		2040 Background + Project		Year 2040 Bkgrd + Project (with Improvements)	
			Assume Category	Storage	Taper	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
#8. Picadilly Rd at 6th Ave						*Stop-Control*		*Stop-Control*		*N/A*		*Stop-Control*		*Stop-Control*				*Stop-Control*			
Eastbound Left+Through+Right	-	-	-	-	-	0'	0'	3'	5'			3'	5'	0'	3'			13'	15'		
Westbound Left+Through+Right	-					3'	5'														
Westbound Left		100'	NR-C (30 mph)	40'	96'			3'	3'			5'	15'	0'	0'			5'	25'		
Westbound Through+Right		-	-	-	-			3'	8'			13'	20'	8'	8'			23'	40'		
Northbound Left+Through+Right	-					0'	0'														
Northbound Left		50'	NR-B (30 mph)	25'	96'			0'	0'			0'	0'	0'	0'			0'	0'		
Northbound Through+Right		-	-	-	-			0'	0'			0'	0'	0'	0'			0'	0'		
Southbound Left+Through+Right	-					0'	0'														
Southbound Left		110'	NR-B (30 mph)	110'	96'			0'	3'			3'	8'	0'	3'			5'	15'		
Southbound Through+Right		-	-	-	-			0'	0'			0'	0'	0'	0'			0'	0'		
#101. Picadilly Rd at Access 1 (3/4 mvmt)												*Stop-Control*						*Stop-Control*			
Westbound Right	-	-	-	-	-							3'	3'					3'	3'		
Southbound Left	-	50'	NR-B (30 mph)	25'	96'							0'	3'					0'	3'		
#102. Stephen D. Hogan Pkwy at Access 2 (PA 1 & 11) (3/4 mvmt)												*Stop-Control*						*Stop-Control*			
Northbound Right	-	-	-	-	-							0'	3'					0'	3'		
Southbound Right	-	-	-	-	-							3'	3'					5'	3'		
#103. Stephen D. Hogan Pkwy at Rome St. / Access 3												*Signalized*						*Signalized*			
Eastbound Left	-	230'	NR-B (40 mph)	230'	144'							187'	39'					174'	145'		
Eastbound Through+Right	-	-	-	-	-							194'	474'					137'	334'		
Westbound Left	-	150'	NR-B (40 mph)	40'	144'							13'	19'					3'	16'		
Westbound Through	-	-	-	-	-							589'	214'					950'	454'		
Westbound Right	-	150'	NR-B (40 mph)	270'	144'							0'	35'						120'		
Northbound Left	-	50'	NR-C (30 mph)	25'	96'							29'	39'					29'	15'		
Northbound Through+Right	-	-	-	-	-							0'	27'					26'	24'		
Southbound Left	-	200'	NR-C (30 mph)	175'	96'							159'	139'					187'	149'		
Southbound Through+Right	-	-	-	-	-							41'	59'					60'	48'		
#104. Stephen D. Hogan Pkwy at Access 4 (PA 2 & 8)												*Stop-Control*						*Stop-Control*			
Westbound Left	-	100'	NR-B (40 mph)	70'	144'							23'	53'					25'	35'		
Westbound Right	-	60'	NR-B (40 mph)	60'	144'							8'	8'					10'	8'		
Southbound Left	-	50'	NR-C (30 mph)	50'	96'							3'	5'					5'	8'		
#105. Stephen D. Hogan Pkwy at Access 5 (PA 8) (3/4 mvmt)												*Stop-Control*						*Stop-Control*			
Westbound Through+Right	-	-	-	-	-							0'	0'					0'	3'		
Southbound Left	-	-	-	-	-							0'	0'					3'	3'		
#106. Stephen D. Hogan Pkwy at Access 6 (PA 8 & 13)												*Stop-Control*						*Stop-Control*			
Eastbound Left	-	260'	NR-B (40 mph)	90'	144'							88'	90'					37'	39'		
Eastbound Through+Right	-	-	-	-	-							8'	5'					20'	23'		
Westbound Left	-	200'	NR-B (40 mph)	60'	144'							105'	128'					45'	62'		
Westbound Through+Right	-	-	-	-	-							15'	15'					38'	44'		
Northbound Left	-	100'	NR-C (30 mph)	70'	96'							3'	3'					3'	5'		
Northbound Through+Right	-	-	-	-	-							0'	0'					777'	261'		
Southbound Left	-	50'	NR-C (30 mph)	60'	96'							13'	10'					60'	56'		
Southbound Through+Right	-	-	-	-	-							0'	0'					369'	757'		

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Table 11 - Peak Hour Estimated 95th Percentile Queue Lengths

Intersection and Cricital Lane Groups	Ex. Storage Length	Prop. Storage Length	CDOT SHAC Require.			Existing		Year 2030 Background		Year 2030 Background (with Improvements)		2030 Background + Project		Year 2040 Background		Year 2040 Background (with Improvements)		2040 Background + Project		Year 2040 Bkgrd + Project (with Improvements)	
			Assume Category	Storage	Taper	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
#107. Stephen D. Hogan Pkwy at Access 7 (PA 9) (RIRO)												*Stop-Control*						*Stop-Control*			
Southbound Right	-	-	-	-	-							5'	3'					10'	5'		
#108. Stephen D. Hogan Pkwy at Access 8 (PA 9 & 13) (3/4 mvmt)												*Stop-Control*						*Stop-Control*			
Eastbound Left	-	150'	NR-B (40 mph)	70'	144'							5'	3'					150'	5'		
Westbound Left	-	150'	NR-B (40 mph)	40'	144'							0'	3'					0'	3'		
Northbound Right	-	-	-	-	-							0'	3'					3'	3'		
Southbound Right	-	-	-	-	-							5'	5'					20'	8'		
#109. Stephen D. Hogan Pkwy at Access 9 (PA 9) (RIRO)												*Stop-Control*						*Stop-Control*			
Southbound Right	-	-	-	-	-							3'	3'					3'	3'		
#110. Valdai Street at Access 10 (PA 9)												*Stop-Control*						*Stop-Control*			
Eastbound Left+Right	-	-	-	-	-							8'	8'					10'	15'		
Northbound Left	-	50'	NR-C (30 mph)	90'	96'							3'	3'					3'	3'		
#111. Valdai Street at Access 11 / Old Valdai St (PA 9&10)												*Stop-Control*						*Stop-Control*			
Eastbound Left+Through+Right	-	-	-	-	-							8'	5'					38'	8'		
Westbound Left+Through+Right	-	-	-	-	-							5'	8'					13'	20'		
Northbound Left	-	50'	NR-C (30 mph)	25'	96'							0'	3'					3'	5'		
Southbound Left	-	50'	NR-C (30 mph)	25'	96'							0'	0'					0'	0'		
#112. Valdai Street at Access 12 (PA 4 & 5)												*Stop-Control*						*Stop-Control*			
Eastbound Left+Through+Right	-	-	-	-	-							3'	3'					3'	5'		
Westbound Left+Through+Right	-	50'	NR-C (30 mph)	25'	96'							0'	3'					0'	3'		
Northbound Left	-	-	-	-	-							0'	0'					0'	0'		
Southbound Left	-	50'	NR-C (30 mph)	25'	96'							0'	0'					0'	0'		
#113. Valdai Street at Access 13 (PA 4 & 5)												*Stop-Control*						*Stop-Control*			
Eastbound Left+Through+Right	-	-	-	-	-							3'	3'					3'	3'		
Westbound Left+Through+Right	-	-	-	-	-							3'	3'					3'	8'		
Northbound Left	-	50'	NR-C (30 mph)	25'	96'							0'	0'					0'	0'		
Southbound Left	-	50'	NR-C (30 mph)	25'	96'							0'	0'					0'	0'		
#114. Valdai Street at 6th Avenue												*Stop-Control*						*Stop-Control*			
Eastbound Left+Through+Right	-	-	-	-	-							15'	20'					33'	80'		
Westbound Left+Through+Right	-	-	-	-	-							3'	3'					5'	8'		
Northbound Left	-	50'	NR-C (30 mph)	110'	96'							3'	3'					8'	10'		
Southbound Left	-	50'	NR-C (30 mph)	25'	96'							0'	0'					0'	0'		
#115. 6th Avenue at Access 15 (PA 4)												*Stop-Control*						*Stop-Control*			
Eastbound Left+Through+Right	-	-	-	-	-							0'	0'					0'	0'		
Westbound Left+Through+Right	-	-	-	-	-							0'	0'					0'	0'		
Northbound Left+Through+Right	-	-	-	-	-							0'	0'					0'	0'		
Southbound Left+Through+Right	-	-	-	-	-							3'	3'					5'	3'		

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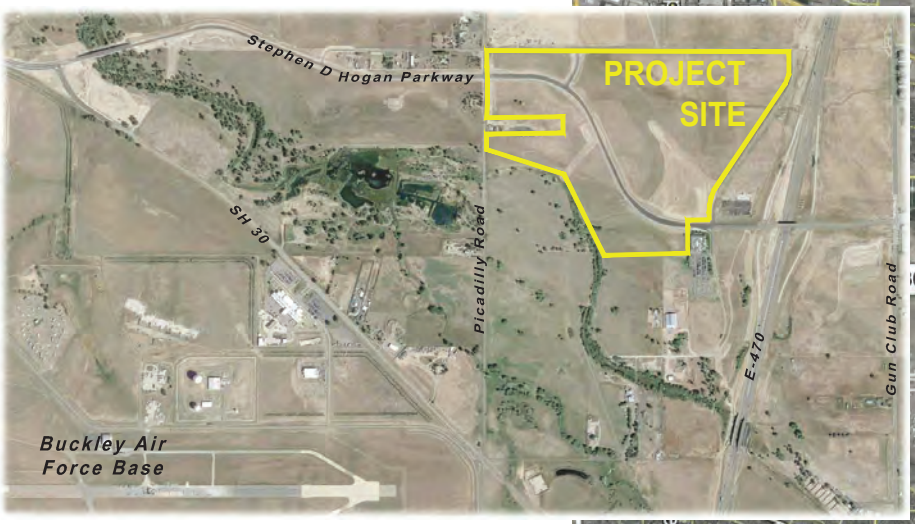
Table 11 - Peak Hour Estimated 95th Percentile Queue Lengths

Intersection and Cricital Lane Groups	Ex. Storage Length	Prop. Storage Length	CDOT SHAC Require.			Existing		Year 2030 Background		Year 2030 Background (with Improvements)		2030 Background + Project		Year 2040 Background		Year 2040 Background (with Improvements)		2040 Background + Project		Year 2040 Bkgrd + Project (with Improvements)	
			Assume Category	Storage	Taper	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
#116. 6th Avenue at Access 16 (PA 4)												*Stop-Control*						*Stop-Control*			
Eastbound Left+Through+Right	-	-	-	-	-							0'	0'					0'	0'		
Westbound Left+Through+Right	-	-	-	-	-							0'	0'					0'	0'		
Northbound Left+Through+Right	-	-	-	-	-							0'	0'					0'	0'		
Southbound Left+Through+Right	-	-	-	-	-							3'	0'					5'	3'		
#117. 6th Avenue at Access 17 (PA 4)												*Stop-Control*						*Stop-Control*			
Eastbound Left+Through+Right	-	-	-	-	-							3'	3'					3'	3'		
Westbound Left+Through+Right	-	-	-	-	-							0'	0'					0'	0'		
Northbound Left+Through+Right	-	-	-	-	-							3'	0'					3'	0'		
Southbound Left+Through+Right	-	-	-	-	-							8'	3'					8'	5'		
#118. 6th Avenue at Access 18 (PA 2 & 4)												*Stop-Control*						*Stop-Control*			
Westbound Left+Through	-	-	-	-	-							0'	0'					0'	0'		
Northbound Left+Right	-	-	-	-	-							0'	0'					0'	0'		
#119. 6th Avenue at Rome Street												*Stop-Control*						*Stop-Control*			
Eastbound Left+Through+Right	-	-	-	-	-							0'	3'					0'	3'		
Westbound Left+Through+Right	-	-	-	-	-							3'	3'					5'	3'		
Northbound Left	-	150'	NR-C (30 mph)	50'	96'							3'	3'					5'	5'		
Northbound Through+Right	-	-	-	-	-							23'	25'					40'	130'		
Southbound Left	-	50'	NR-C (30 mph)	25'	96'							3'	3'					3'	3'		
Southbound Through+Right	-	-	-	-	-							20'	15'					68'	25'		
#120. 6th Avenue at Access 19 (PA 1) (3/4 mvmt)												*Stop-Control*						*Stop-Control*			
Westbound Left+Through	-	-	-	-	-							0'	0'					0'	0'		
Northbound Right	-	-	-	-	-							0'	0'					0'	0'		
#121. 6th Avenue at Access 20 (PA 1)												*Stop-Control*						*Stop-Control*			
Northbound Right	-	-	-	-	-							0'	0'					0'	0'		
#122. Rome Street at Access 21												*Stop-Control*						*Stop-Control*			
Eastbound Left	-	50'	NR-C (30 mph)	25'	96'							3'	8'					8'	3'		
Eastbound Through+Right	-	-	-	-	-							5'	0'					0'	8'		
Westbound Left	-	50'	NR-C (30 mph)	25'	96'							3'	5'					8'	8'		
Westbound Through+Right	-	-	-	-	-							0'	0'					0'	3'		
Northbound Left	-	50'	NR-C (30 mph)	110'	96'							3'	3'					5'	0'		
Southbound Left	-	50'	NR-C (30 mph)	25'	96'							0'	0'					0'	0'		
#123. Old Valdai Street at Access 22 (PA 5)												*Stop-Control*						*Stop-Control*			
Eastbound Left+Right	-	-	-	-	-							0'	3'					0'	3'		
Northbound Left+Through	-	-	-	-	-							0'	0'					0'	0'		
#124. Old Valdai Street at Access 23 (PA 5)												*Stop-Control*						*Stop-Control*			
Eastbound Left+Right	-	-	-	-	-							0'	0'					0'	0'		
Northbound Left+Through	-	-	-	-	-							0'	0'					0'	0'		
#125. Internal Rd at PA 2 & PA 8												*Stop-Control*						*Stop-Control*			
Eastbound Left+Through+Right	-	-	-	-	-							0'	0'					0'	0'		
Westbound Left+Through+Right	-	-	-	-	-							0'	0'					0'	0'		
Northbound Left+Through+Right	-	-	-	-	-							3'	5'					3'	5'		
Southbound Left+Through+Right	-	-	-	-	-							3'	3'					3'	3'		



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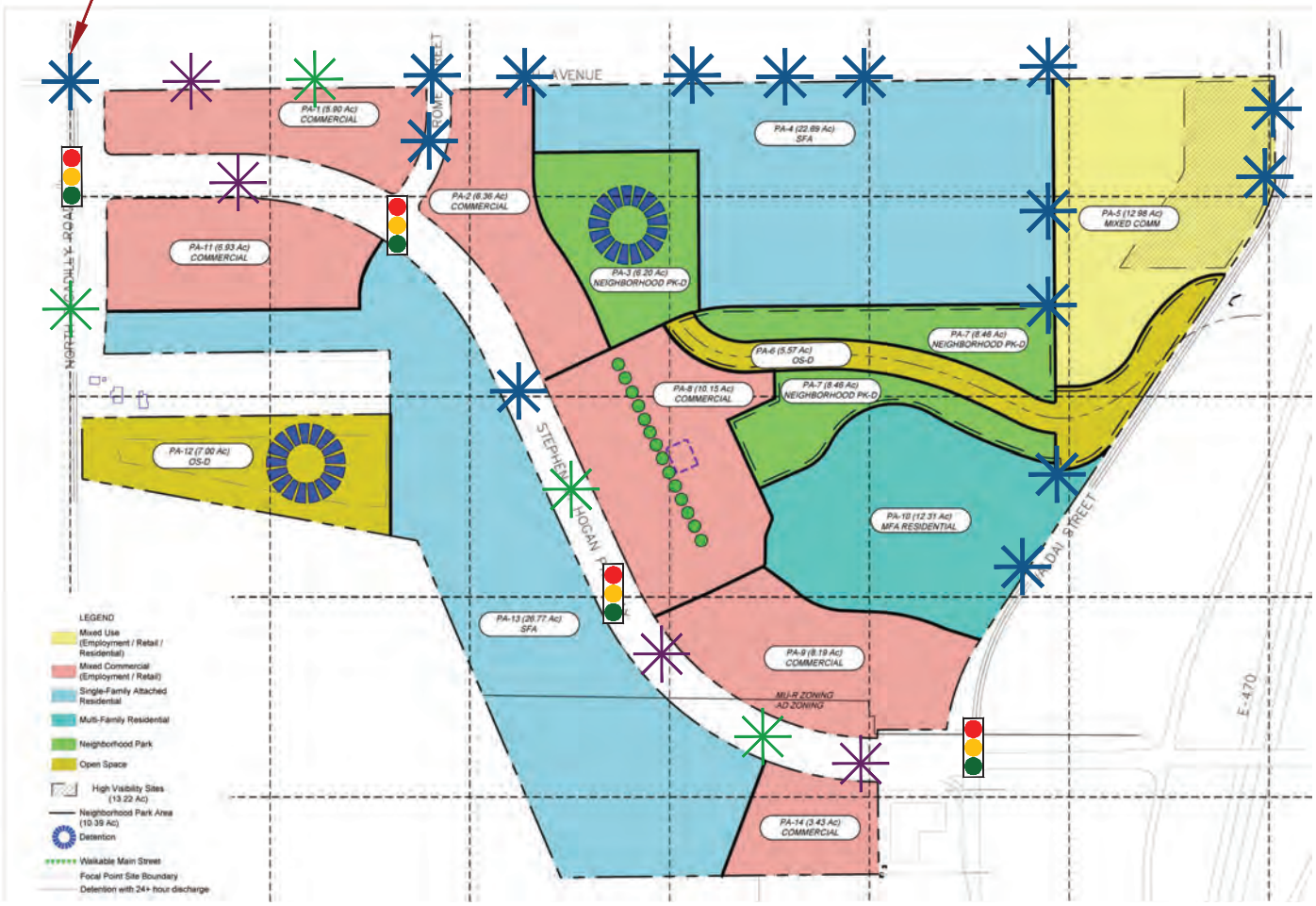
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

VICINITY MAP

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	1

MAY BE LIMITED TO ¾ MOVEMENT
IF A CRASH PATTERN OCCURS



KEY

- PROPOSED FULL MOVEMENT ACCESS
- PROPOSED 3/4 MOVEMENT ACCESS
- PROPOSED RIGHT-IN, RIGHT-OUT MOVEMENT ACCESS
- PROPOSED FUTURE SIGNAL

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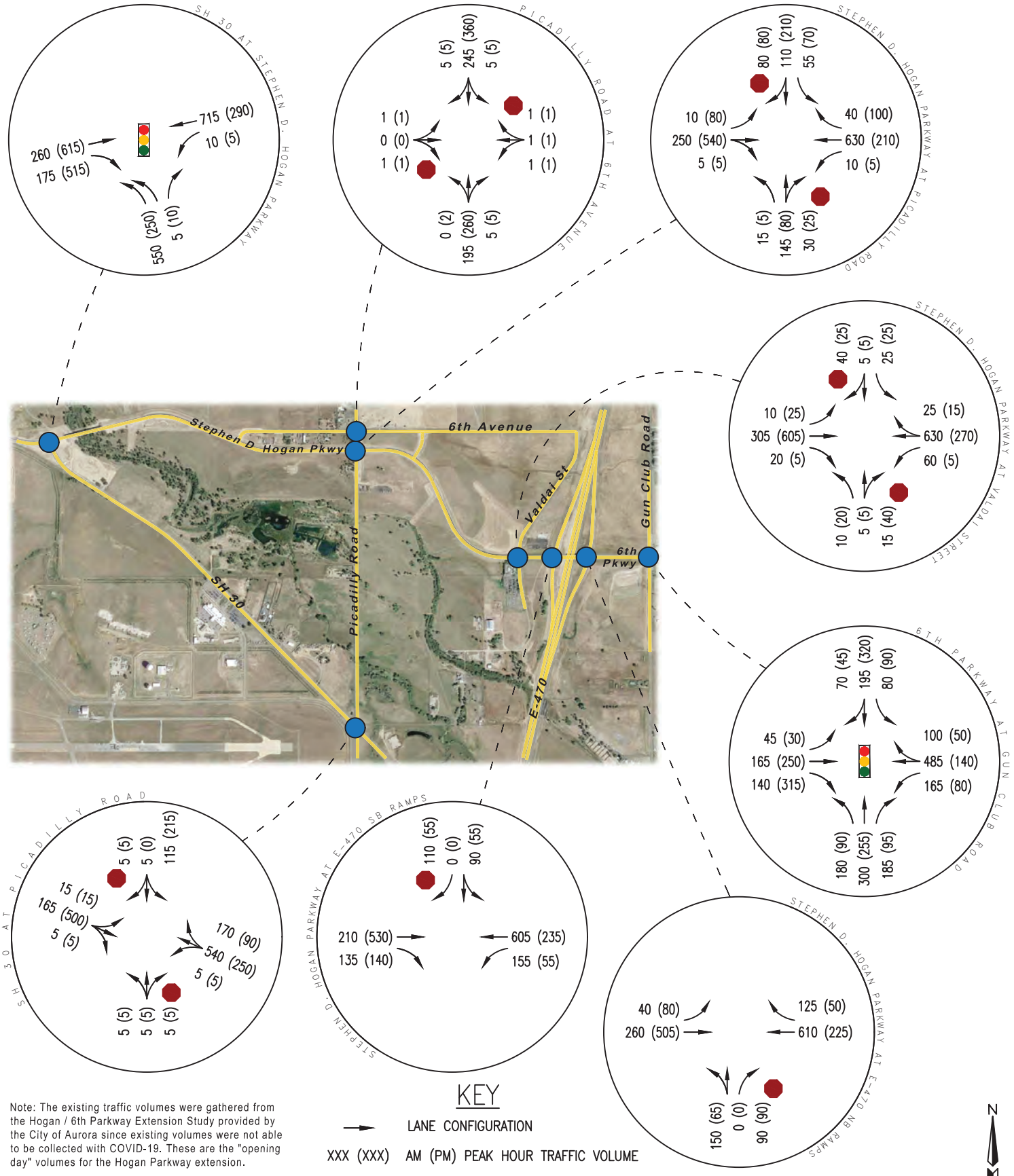
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

CONCEPTUAL SITE PLAN AND ACCESS

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	2



Note: The existing traffic volumes were gathered from the Hogan / 6th Parkway Extension Study provided by the City of Aurora since existing volumes were not able to be collected with COVID-19. These are the "opening day" volumes for the Hogan Parkway extension.

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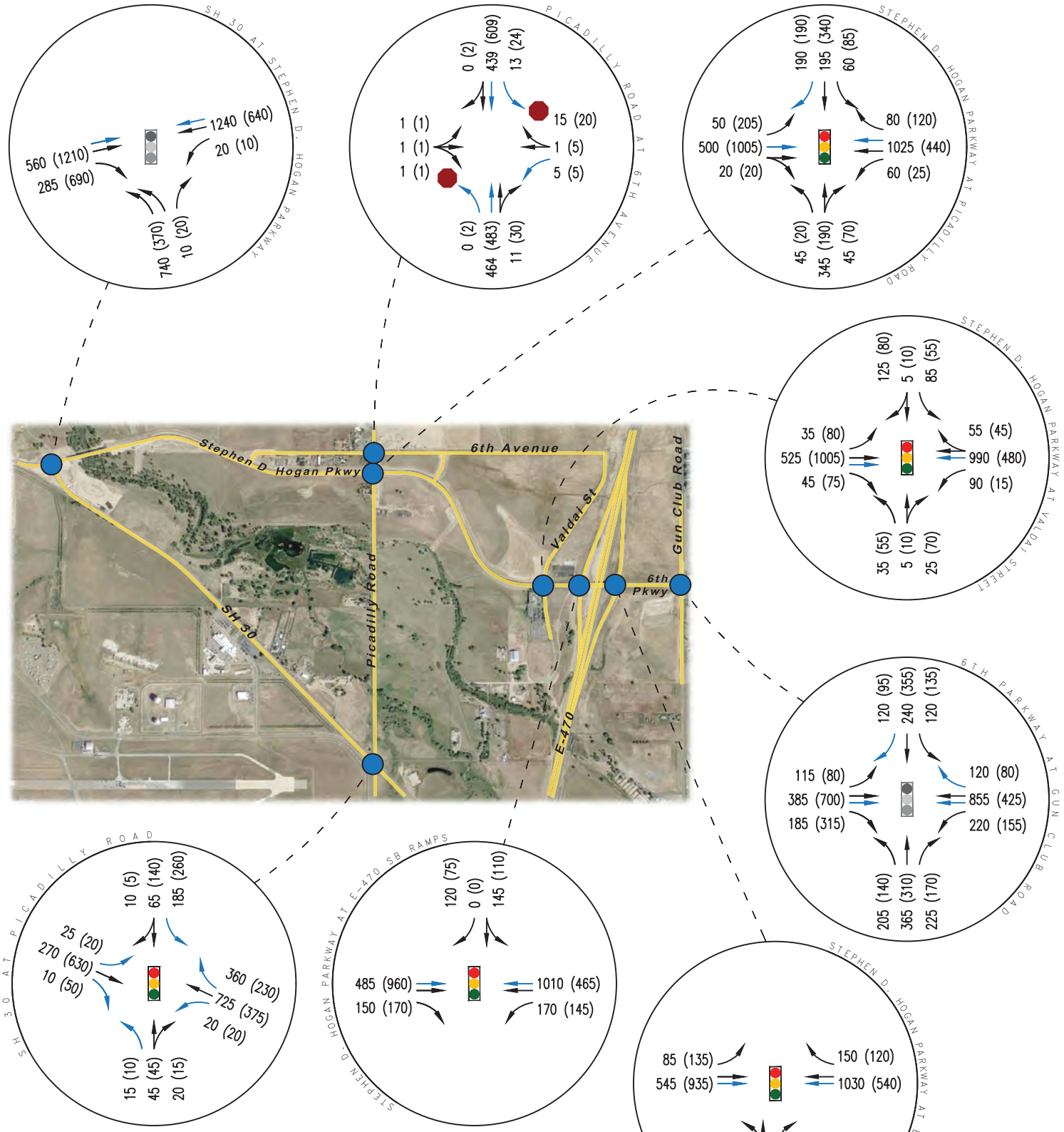
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

EXISTING WEEKDAY TRAFFIC VOLUMES

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	3



Note: For comparison purposes, it was assumed the 2030 roadway network recommended in the NEATS (2018) report and in the 6th Avenue Parkway Extension Project (2017) was constructed and forecasted traffic was adjusted to reflect assumptions in NEATS with new connections and available capacity.

KEY

EXISTING LANE / SIGNAL

NEW 2030 BACKGROUND LANE / SIGNAL

XXX (XXX) AM (PM) PEAK HOUR TRAFFIC VOLUME

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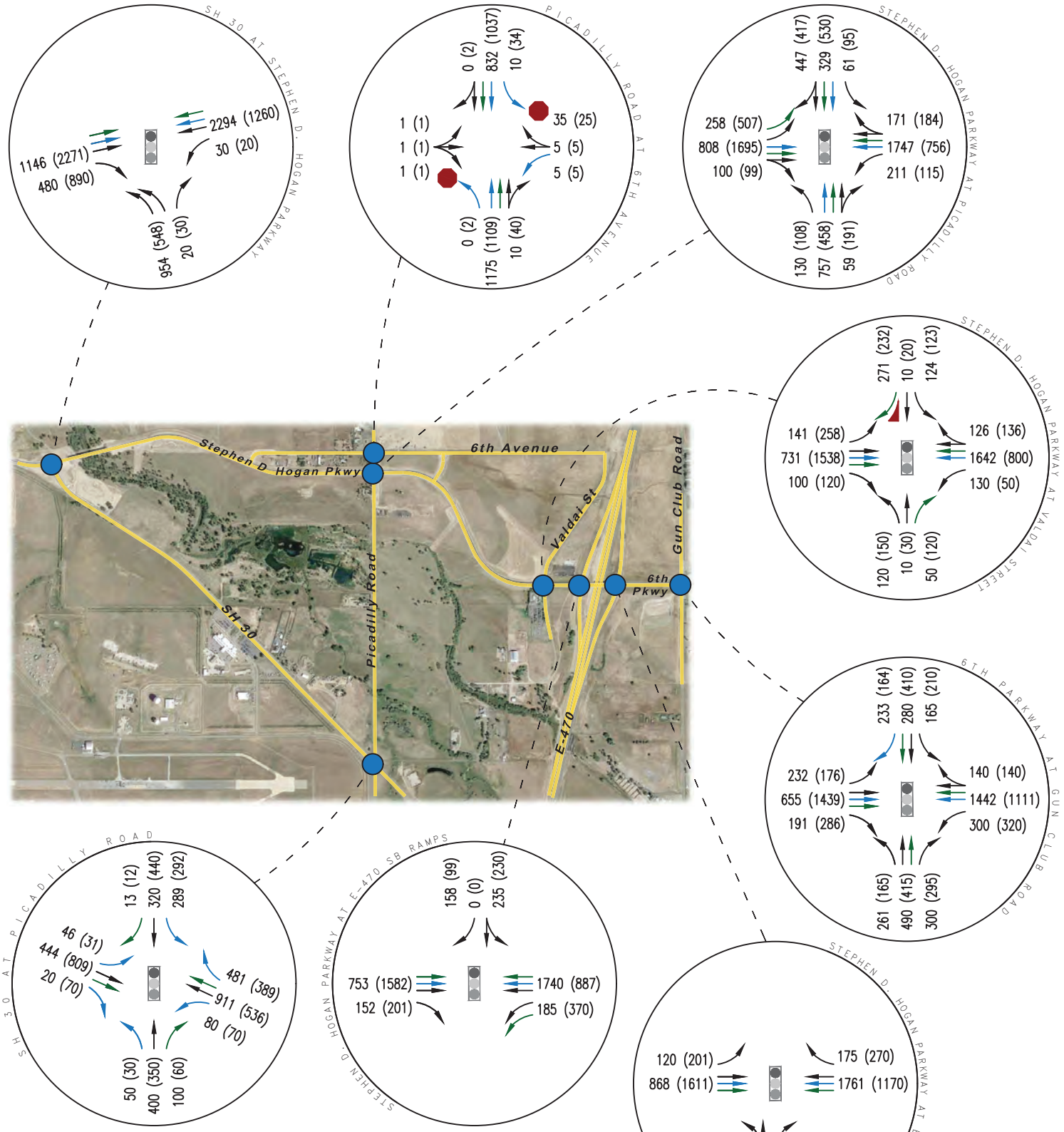
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

YEAR 2030 BACKGROUND TRAFFIC VOLUMES

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	4



Note: For comparison purposes, it was assumed the 2040 roadway network recommended in the NEATS (2018) report and in the 6th Avenue Parkway Extension Project (2017) was constructed and forecasted traffic was adjusted to reflect assumptions in NEATS with new connections and available capacity.

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AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

YEAR 2040 BACKGROUND TRAFFIC VOLUMES

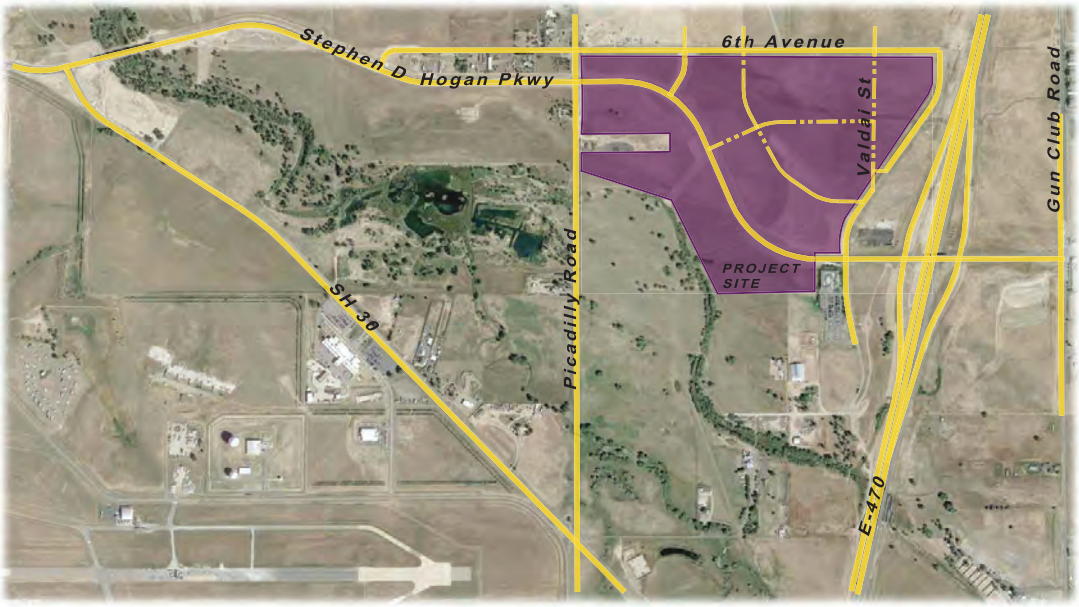
Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	5

13%
To/From North/East via Gun Club Road and Colfax Avenue

30%
To/From North via Picadilly Road

7%
To/From North via E-470

15%
To/From West via 6th/ Hogan Parkway



6%
To/From East via 6th/ Hogan Parkway

6%
To/From South via SH 30

14%
To/From South via E-470

9%
To/From South via Gun Club Road

KEY

PROPOSED PROJECT ROADWAY NETWORK

X% TRIP DISTRIBUTION

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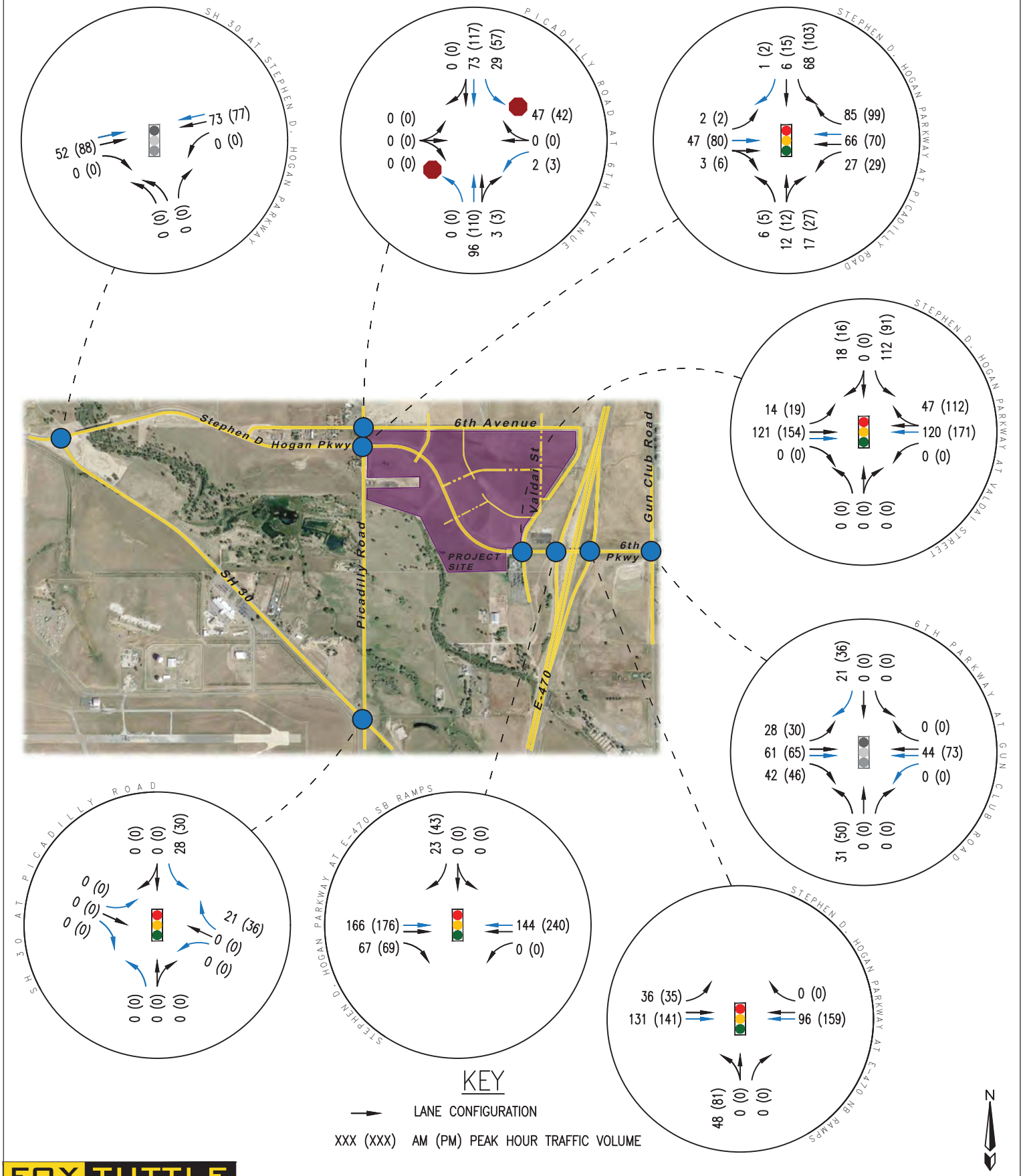
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

TRIP DISTRIBUTION

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	6



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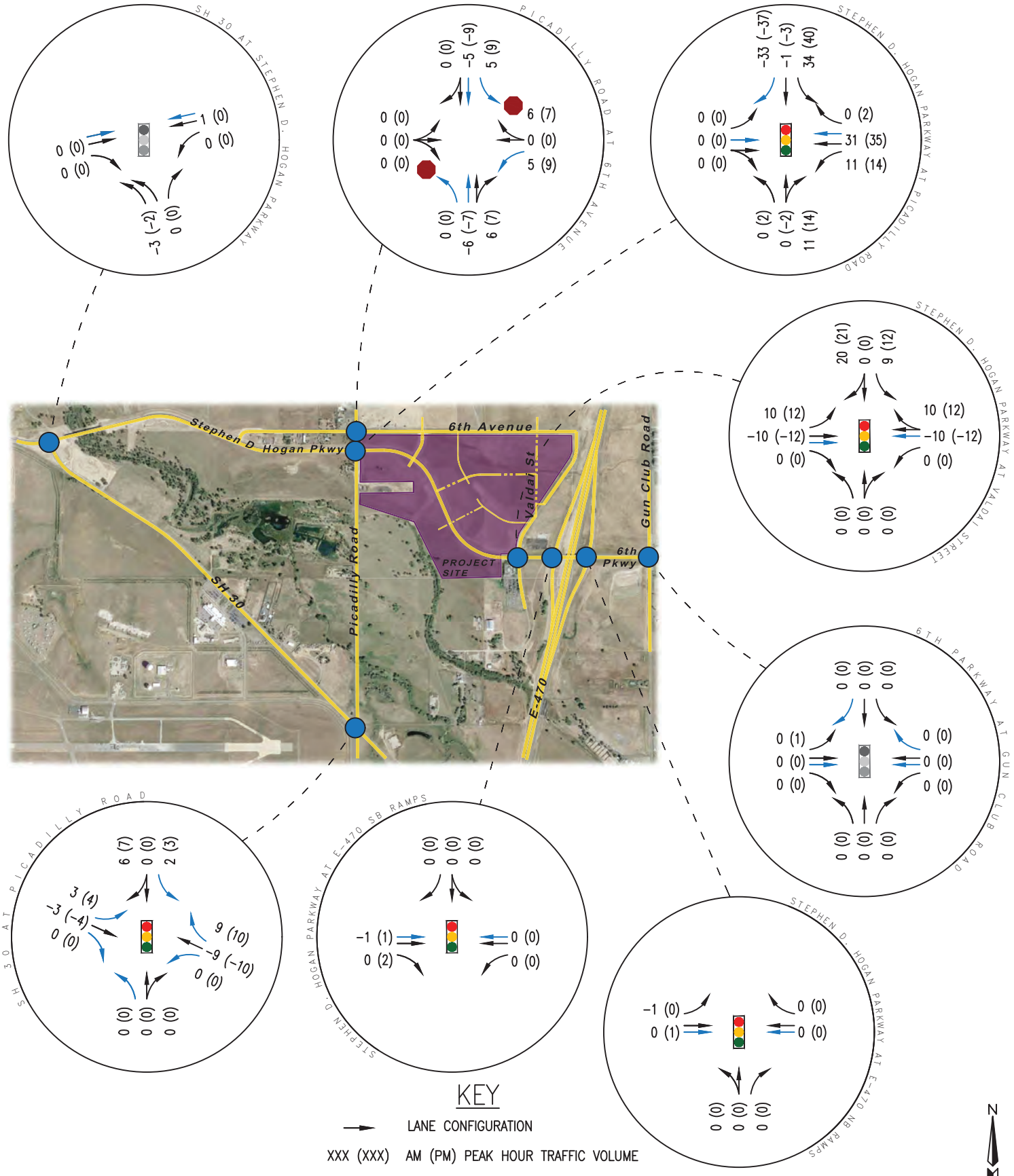
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

NEW SITE-GENERATED TRAFFIC VOLUMES [EXISTING INTERSECTIONS]

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	7A



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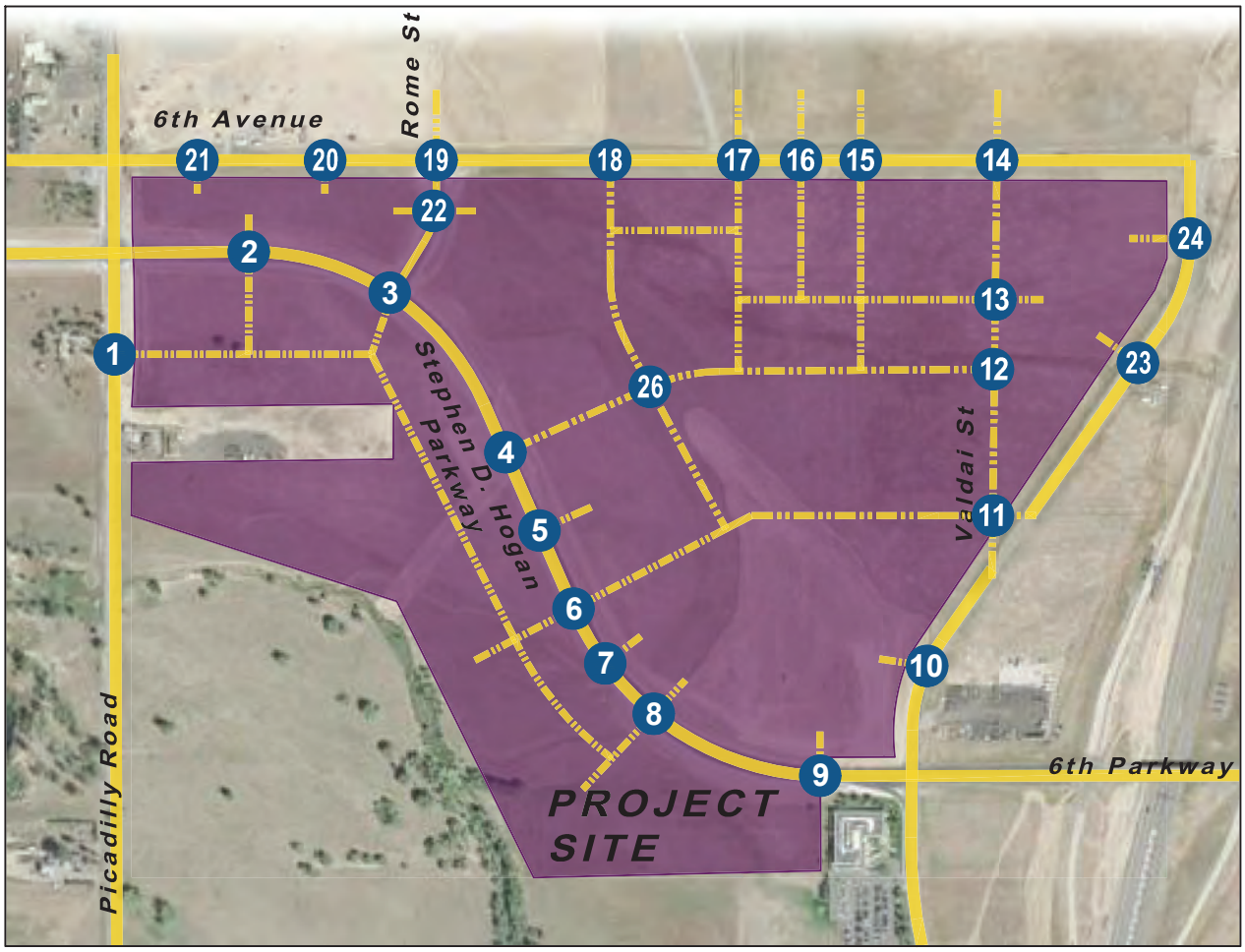
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

PASS-BY SITE-GENERATED TRAFFIC VOLUMES [EXISTING INTERSECTIONS]

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	7B



NOTE: FOR INTERNAL INTERSECTIONS NOT ANALYZED IN THIS STUDY, ANTICIPATED VOLUMES ARE LOW AND SIDE-STREET STOP-CONTROL SHALL BE CONSIDERED ACCEPTABLE UNLESS STUDIED BY A LATER TRAFFIC IMPACT STUDY. ALL-WAY STOP-CONTROL SHALL NOT BE USED UNLESS AN ALL-WAY STOP WARRANT HAS BEEN MET PER CRITERIA SET FORTH IN THE *MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES*.

KEY

PROPOSED PROJECT ROADWAY NETWORK

ACCESS INTERSECTION ID NUMBER

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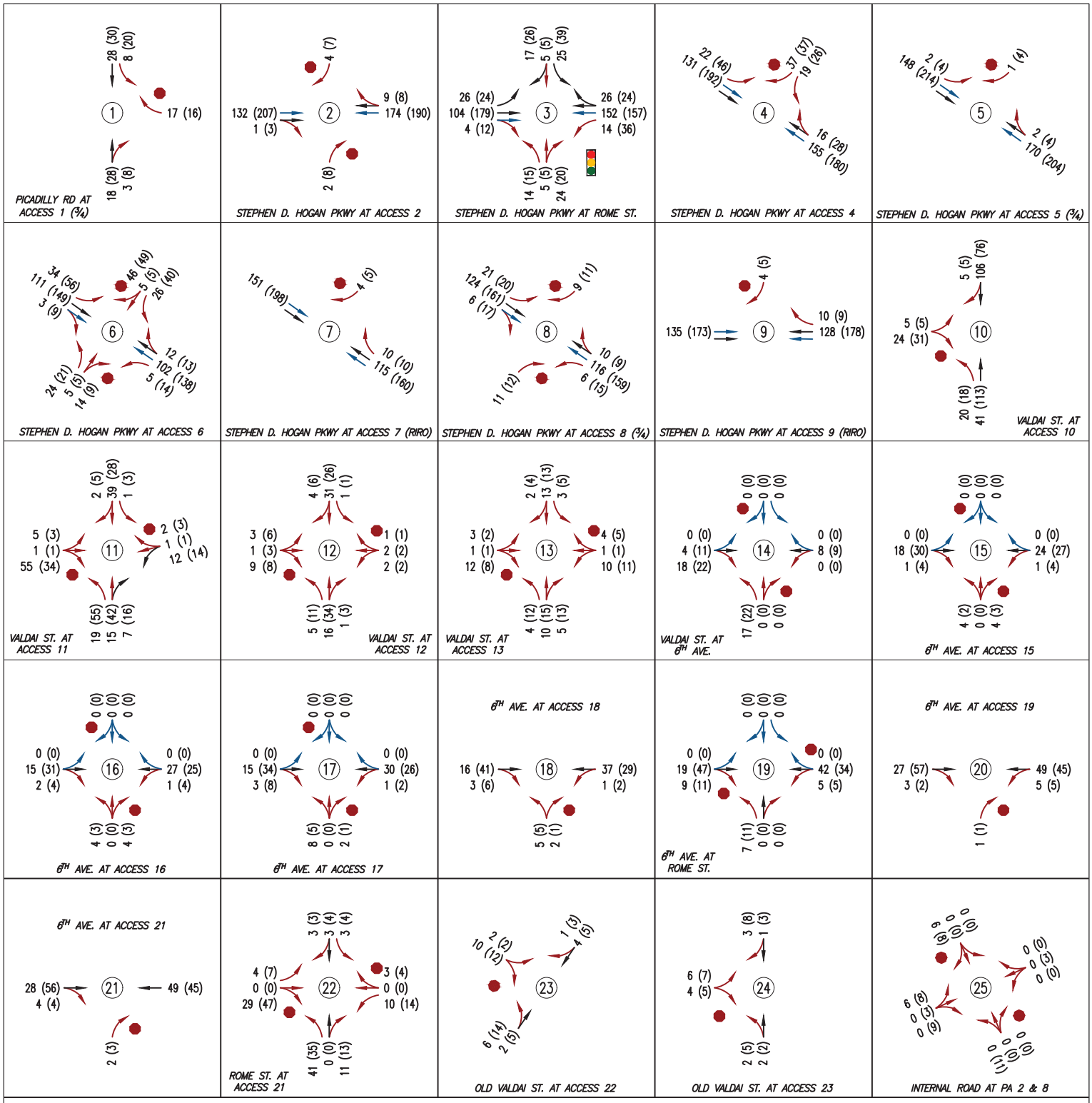
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

MAP OF PROPOSED ACCESS INTERSECTIONS

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	7C



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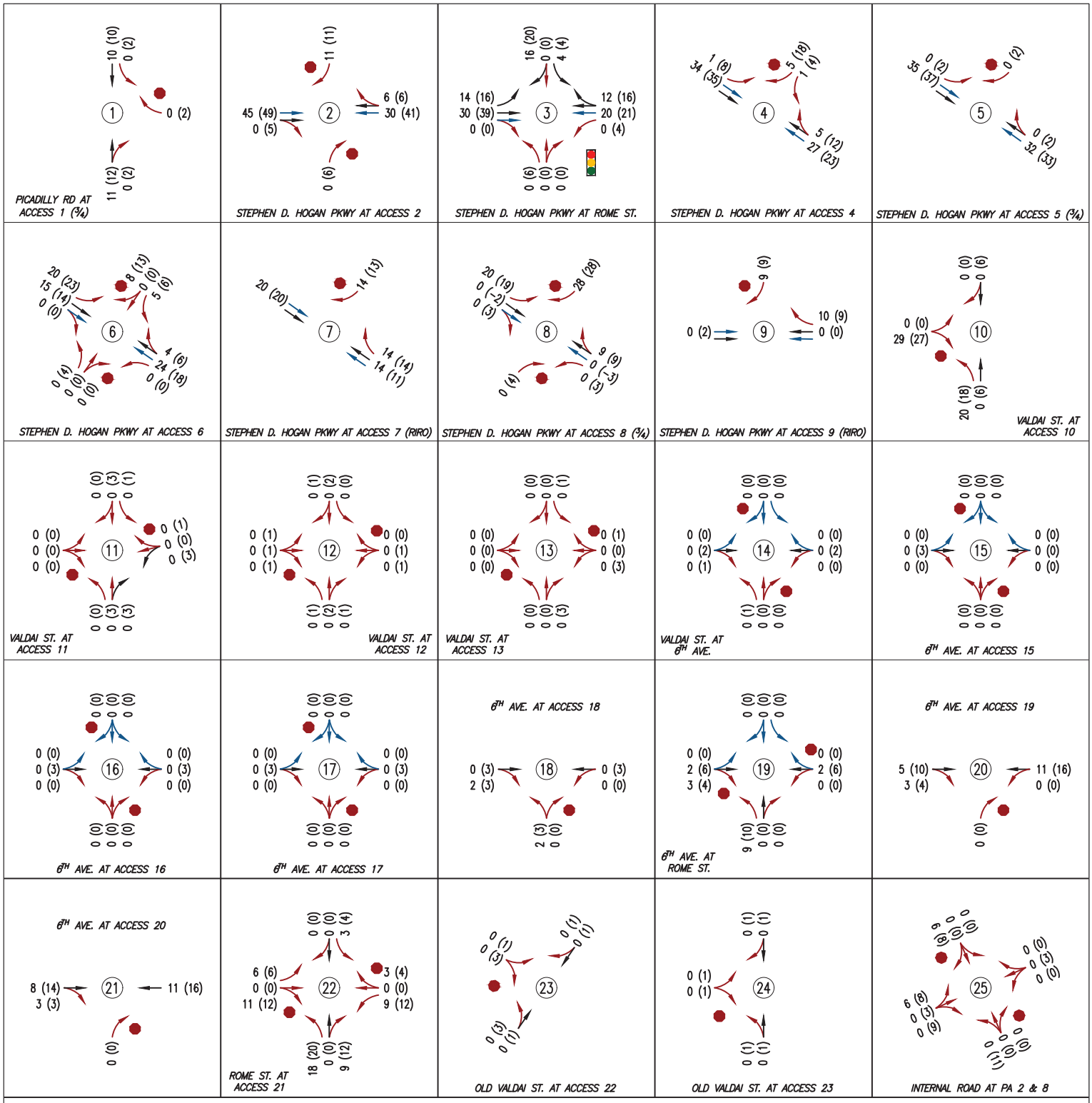
NEW SITE-GENERATED TRAFFIC VOLUMES [ACCESS INTERSECTIONS]

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	7D



KEY

XX (XX) AM (PM) PEAK HOUR TRIPS

EXISTING LANE CONFIGURATION

NEW BACKGROUND LANE CONFIGURATION

NEW PROJECT LANE CONFIGURATION

EXISTING / BKGRD TRAFFIC CONTROL

NEW PROJECT TRAFFIC CONTROL

N

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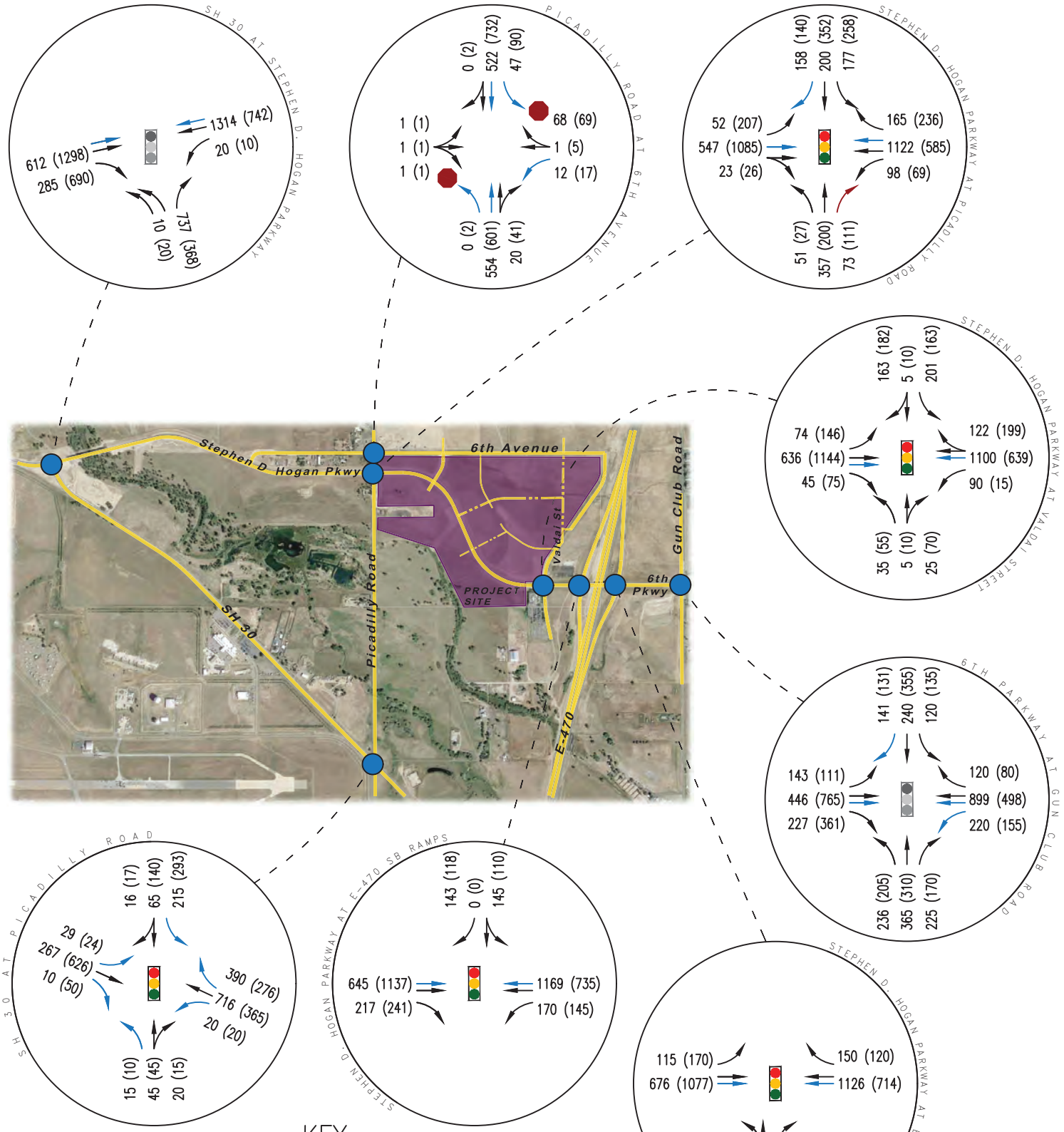
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

PASS-BY SITE-GENERATED TRAFFIC VOLUMES [ACCESS INTERSECTIONS]

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	7E



Note: For comparison purposes, it was assumed the 2030 roadway network recommended in the NEATS (2018) report and in the 6th Avenue Parkway Extension Project (2017) was constructed and forecasted traffic was adjusted to reflect assumptions in NEATS with new connections and available capacity.

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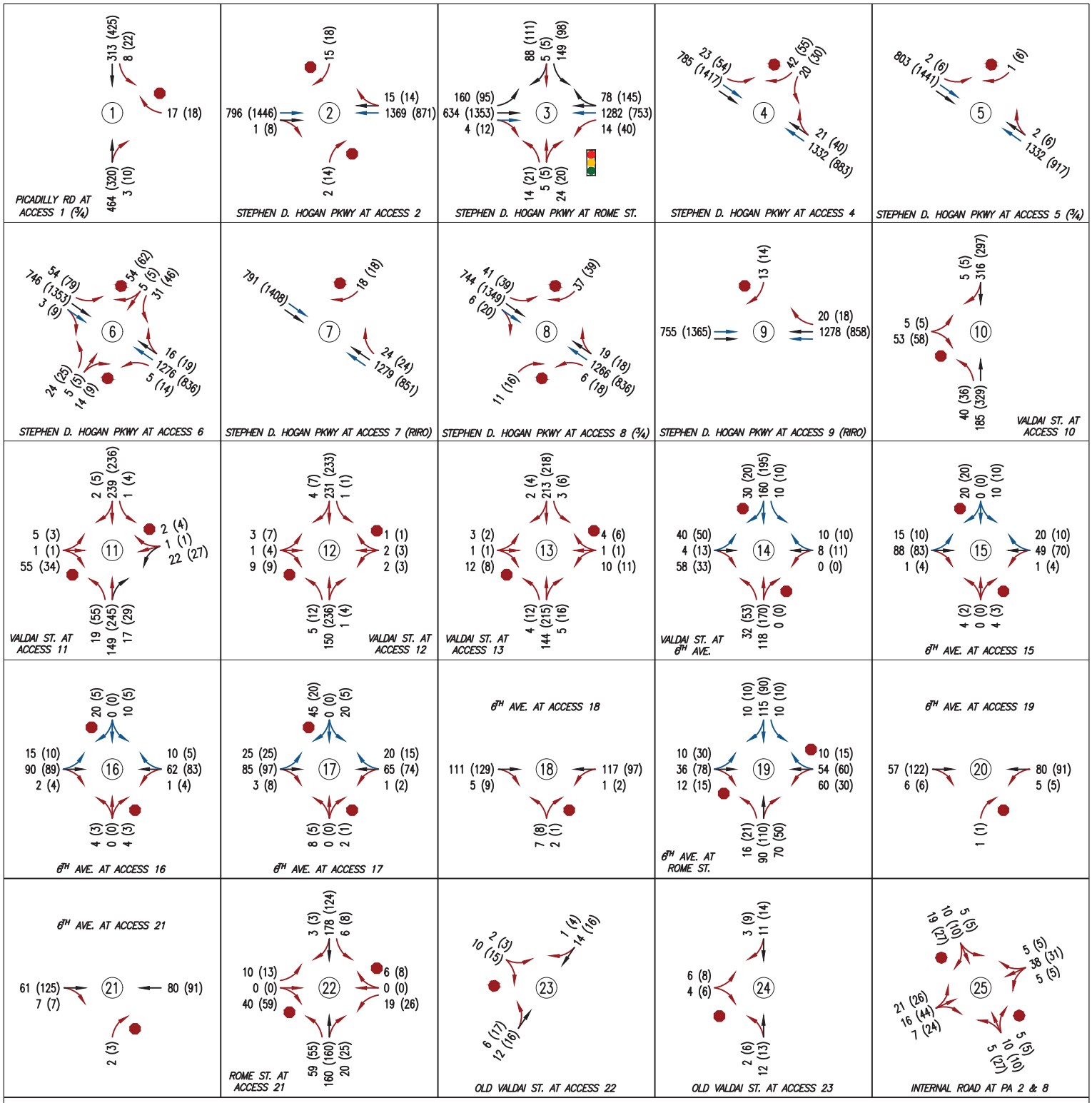
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

YEAR 2030 BKGRD + SITE-GENERATED TRAFFIC VOLUMES [EXISTING INTERSECTIONS]

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	8A



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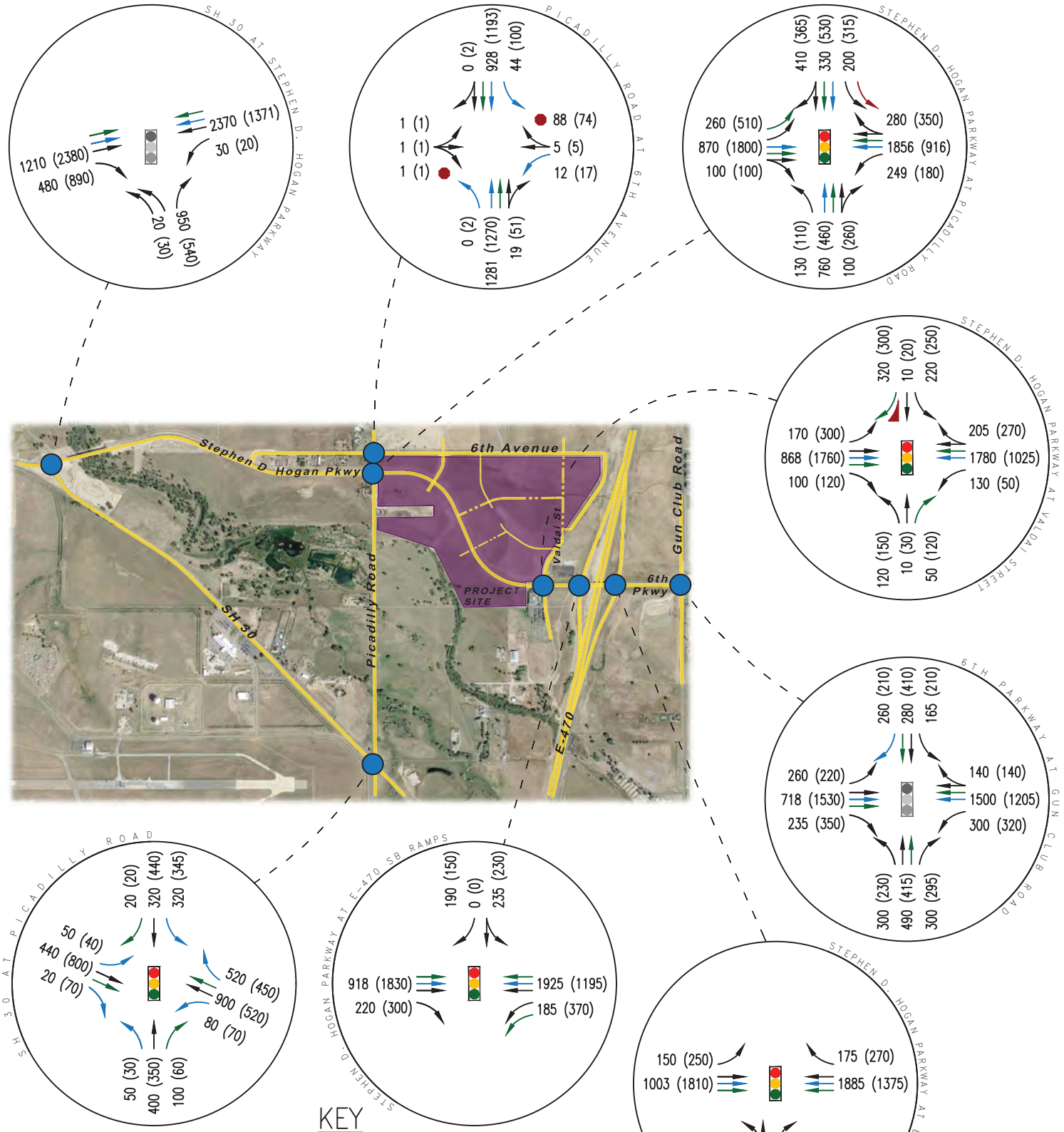
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

YEAR 2030 BKGRD + SITE-GENERATED TRAFFIC VOLUMES [ACCESS INTERSECTIONS]

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	8B



Note: For comparison purposes, it was assumed the 2040 roadway network recommended in the NEATS (2018) report and in the 6th Avenue Parkway Extension Project (2017) was constructed and forecasted traffic was adjusted to reflect assumptions in NEATS with new connections and available capacity.

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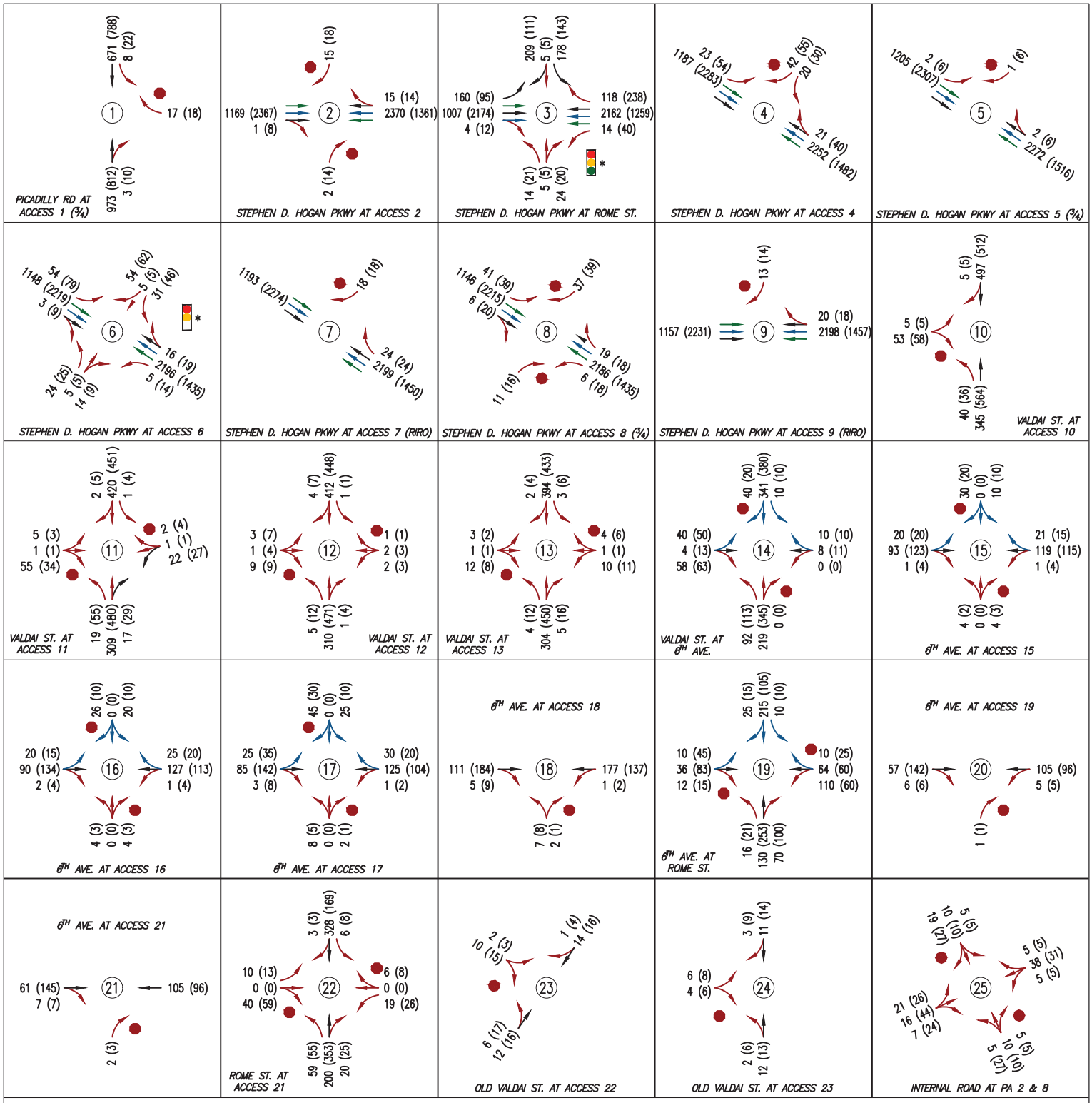
YEAR 2040 BKGRD + SITE-GENERATED TRAFFIC VOLUMES [EXISTING INTERSECTIONS]

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	9A



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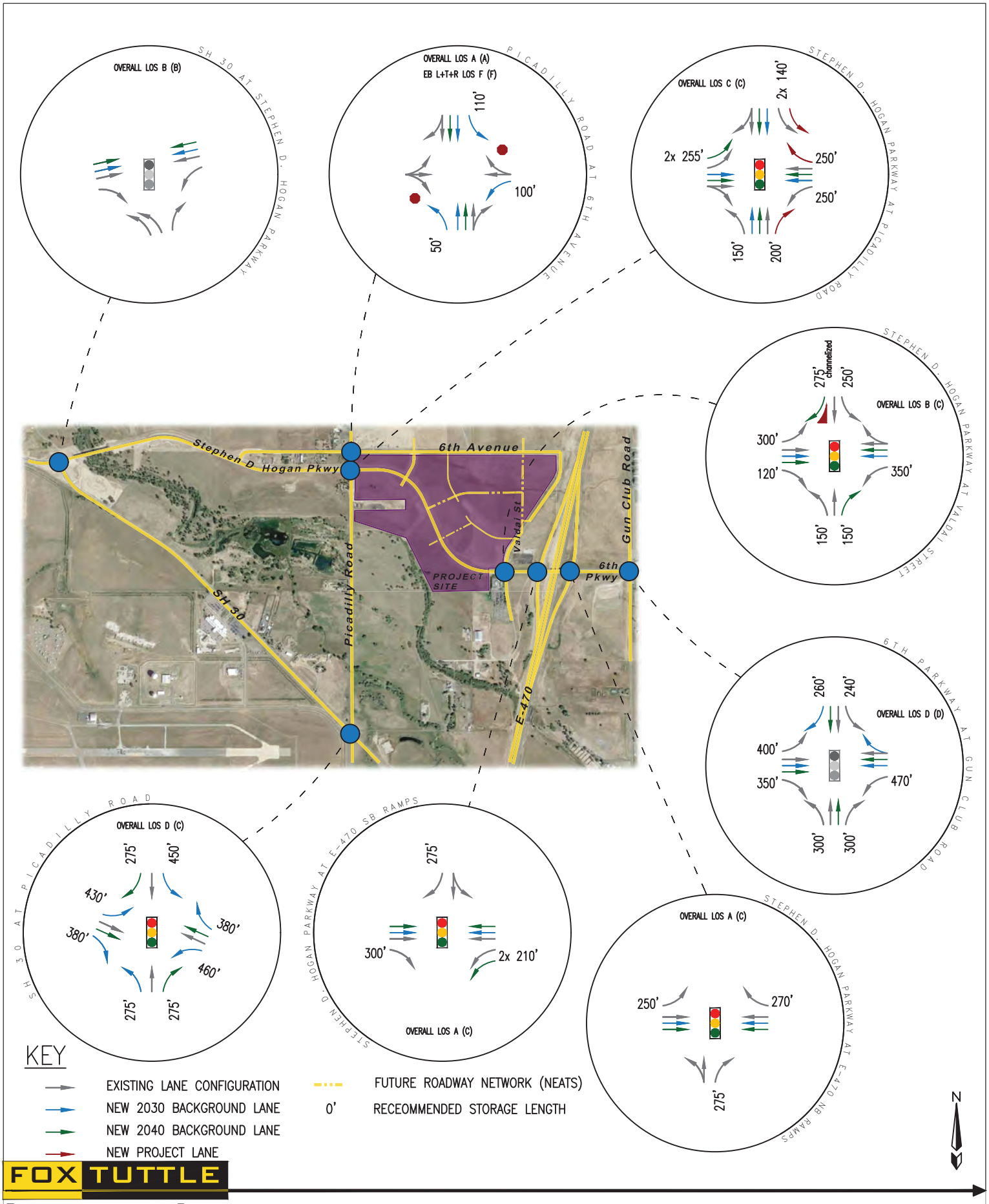
YEAR 2040 BKGRD + SITE-GENERATED TRAFFIC VOLUMES [ACCESS INTERSECTIONS]

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	9B



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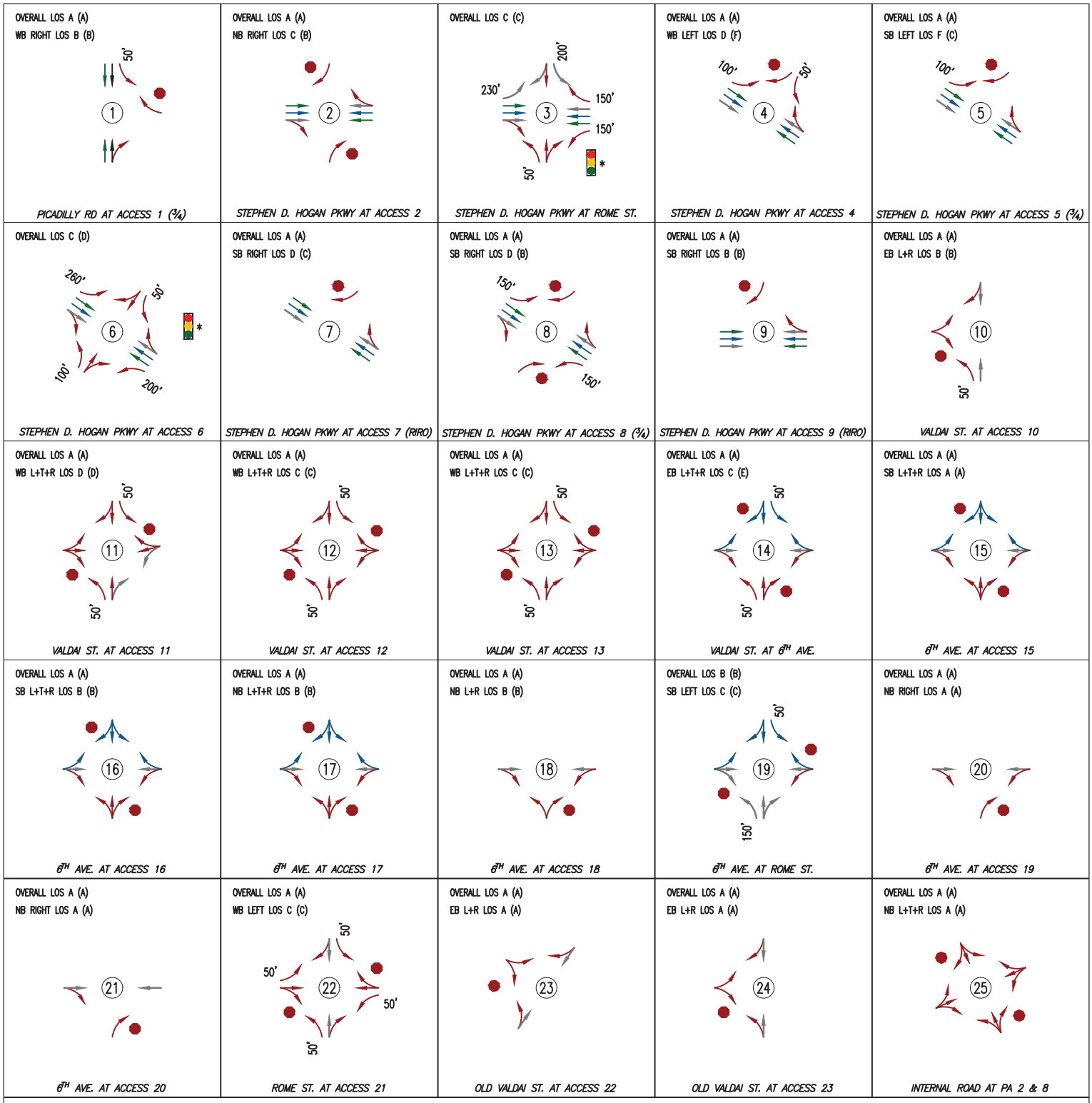
AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

RECOMMENDED IMPROVEMENTS [EXISTING INTERSECTIONS]

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	10A



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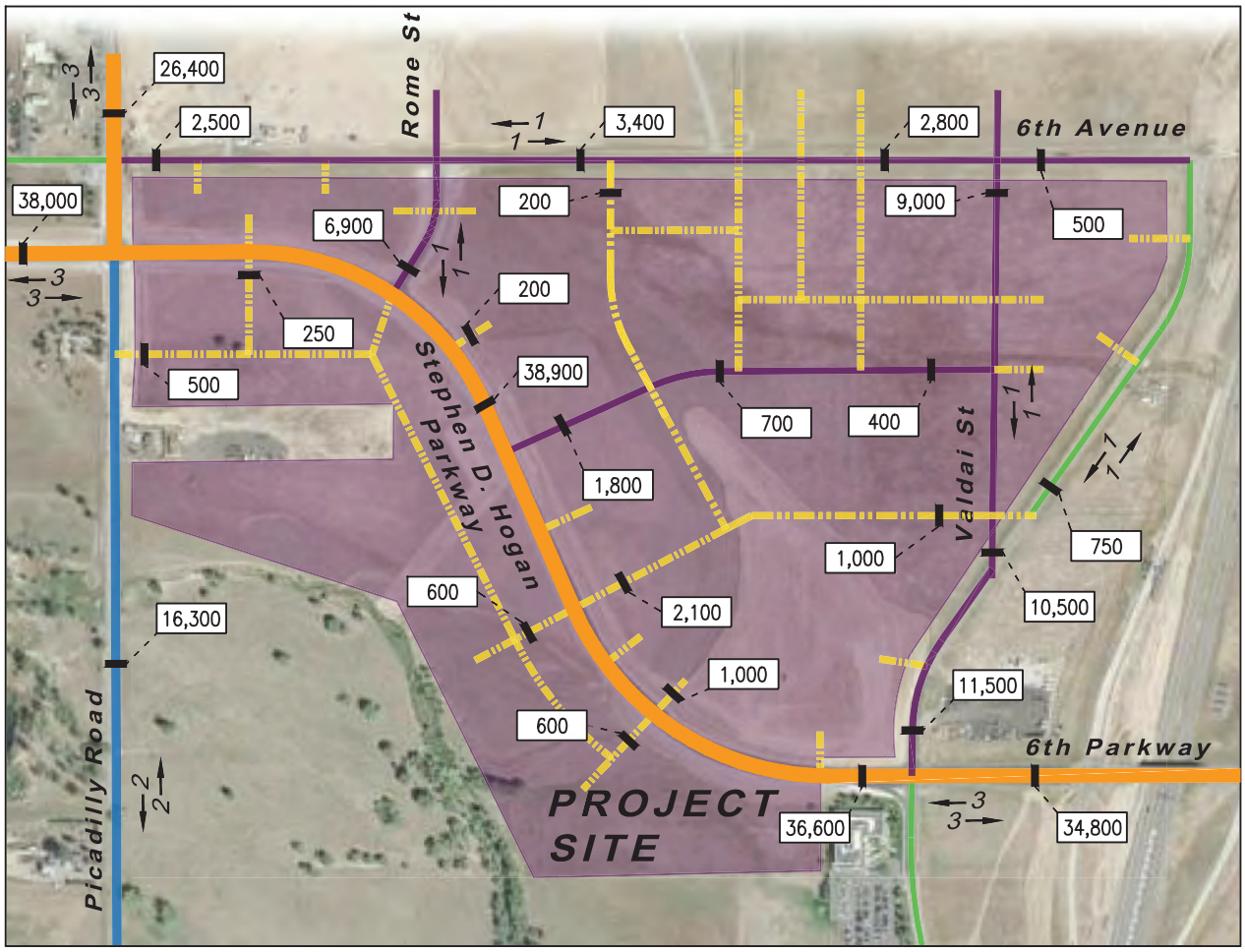
RECOMMENDED IMPROVEMENTS [ACCESS INTERSECTIONS]

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	10B



KEY

- LOCAL OR PRIVATE DRIVE
- LOCAL STREET
- COLLECTOR
- MINOR ARTERIAL
- MAJOR ARTERIAL
- FREEWAY/ EXPRESSWAY
- XX→ NUMBER OF LANES PER DIRECTION
- X,XXX 2040 DAILY TRAFFIC VOLUME

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AURORA ONE TRAFFIC IMPACT STUDY - AURORA, CO

STUDY AREA ROADWAY CLASSIFICATIONS AND LANEAGE AND DAILY VOLUMES

Project #	20001	Original Scale	NTS	Date	1/25/2021	Drawn by	CRS	Figure #	11

Appendix:

Level of Service Definitions

Existing Traffic Data

Forecasted Traffic Volumes from 6th Parkway Extension Project and NEATS Refresh

Intersection Capacity Worksheets

Signal Warrant Worksheets

Level of Service Definitions

LEVEL OF SERVICE DEFINITIONS

In rating roadway and intersection operating conditions with existing or future traffic volumes, "Levels of Service" (LOS) A through F are used, with LOS A indicating very good operation and LOS F indicating poor operation. Levels of service at signalized and unsignalized intersections are closely associated with vehicle delays experienced in seconds per vehicle. More complete level of service definitions and delay data for signal and stop sign controlled intersections are contained in the following table for reference.

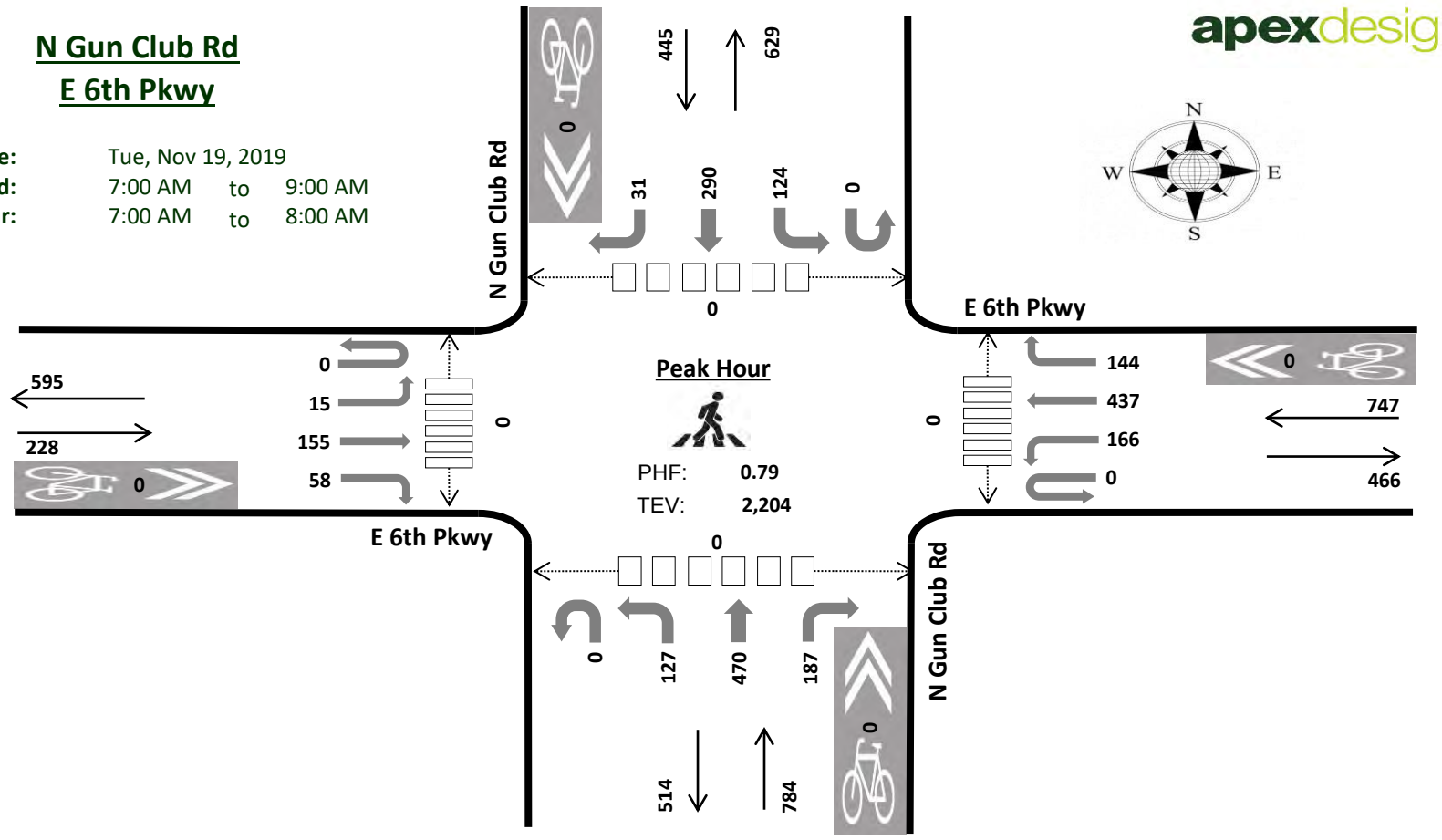
Level of Service Rating	Delay in seconds per vehicle *(a)*		Definition
	Signalized	Unsignalized	
A	0.0 to 10.0	0.0 to 10.0	Low vehicular traffic volumes; primarily free flow operations. Density is low and vehicles can freely maneuver within the traffic stream. Drivers are able to maintain their desired speeds with little or no delay.
B	10.1 to 20.0	10.1 to 15.0	Stable vehicular traffic volume flow with potential for some restriction of operating speeds due to traffic conditions. Vehicle maneuvering is only slightly restricted. The stopped delays are not bothersome and drivers are not subject to appreciable tension.
C	20.1 to 35.0	15.1 to 25.0	Stable traffic operations, however the ability for vehicles to maneuver is more restricted by the increase in traffic volumes. Relatively satisfactory operating speeds prevail, but adverse signal coordination or longer vehicle queues cause delays along the corridor.
D	35.1 to 55.0	25.1 to 35.0	Approaching unstable vehicular traffic flow where small increases in volume could cause substantial delays. Most drivers are restricted in ability to maneuver and selection of travel speeds due to congestion. Driver comfort and convenience are low, but tolerable.
E	55.1 to 80.0	35.1 to 50.0	Traffic operations characterized by significant approach delays and average travel speeds of one-half to one-third the free flow speed. Vehicular flow is unstable and there is potential for stoppages of brief duration. High signal density, extensive vehicle queuing, or corridor signal progression/timing are the typical causes of vehicle delays at signalized corridors.
F	> 80.0	> 50.0	Forced vehicular traffic flow and operations with high approach delays at critical intersections. Vehicle speeds are reduced substantially, and stoppages may occur for short or long periods of time because of downstream congestion.

(a) Delay ranges based on Highway Capacity Manual (6th Edition, 2016) criteria.

Existing Traffic Data

N Gun Club Rd
E 6th Pkwy

Date: Tue, Nov 19, 2019
Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



Summary

Time	E 6th Pkwy Eastbound UT	LT	TH	RT	E 6th Pkwy Westbound UT	LT	TH	RT	N Gun Club Rd Northbound UT	LT	TH	RT	N Gun Club Rd Southbound UT	LT	TH	RT	Total	Rolling Hour
7:00 AM	0	4	37	14	0	41	107	41	0	31	132	77	0	37	75	7	603	0
7:15 AM	0	5	69	18	0	53	148	55	0	41	118	74	0	39	74	5	699	0
7:30 AM	0	3	27	12	0	43	104	24	0	31	111	20	0	26	80	10	491	0
7:45 AM	0	3	22	14	0	29	78	24	0	24	109	16	0	22	61	9	411	2,204
8:00 AM	0	5	26	15	0	32	76	43	0	26	102	25	0	31	80	7	468	2,069
8:15 AM	0	8	21	15	0	48	75	54	0	22	101	14	0	8	59	8	433	1,803
8:30 AM	0	5	17	13	0	14	38	16	0	16	72	9	0	13	48	2	263	1,575
8:45 AM	0	1	18	6	0	12	25	14	0	18	70	9	0	7	40	2	222	1,386
Count Total	0	34	237	107	0	272	651	271	0	209	815	244	0	183	517	50	3,590	0
Peak Hour	0	15	155	58	0	166	437	144	0	127	470	187	0	124	290	31	2,204	0
PH HV %	2.19%				1.74%				0.51%				2.25%					
PHF	0.62				0.73				0.82				0.93					

Time	Heavy Vehicles EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians East	West	North	South	Total
7:00 AM	0	9	0	2	11	0	0	0	0	0	0	0	0	0	0
7:15 AM	2	1	1	1	5	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	1	5	7	0	0	0	0	0	0	0	0	0	0
7:45 AM	2	3	2	2	9	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	7	3	2	13	0	0	0	0	0	0	0	0	0	0
8:15 AM	3	2	0	1	6	0	0	0	0	0	0	0	0	0	0
8:30 AM	1	0	0	2	3	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	3	1	6	11	0	0	0	0	0	0	0	0	0	0
Count Total	11	25	8	21	65	0	0	0	0	0	0	0	0	0	0
Peak Hour	5	13	4	10	32	0	0	0	0	0	0	0	0	0	0

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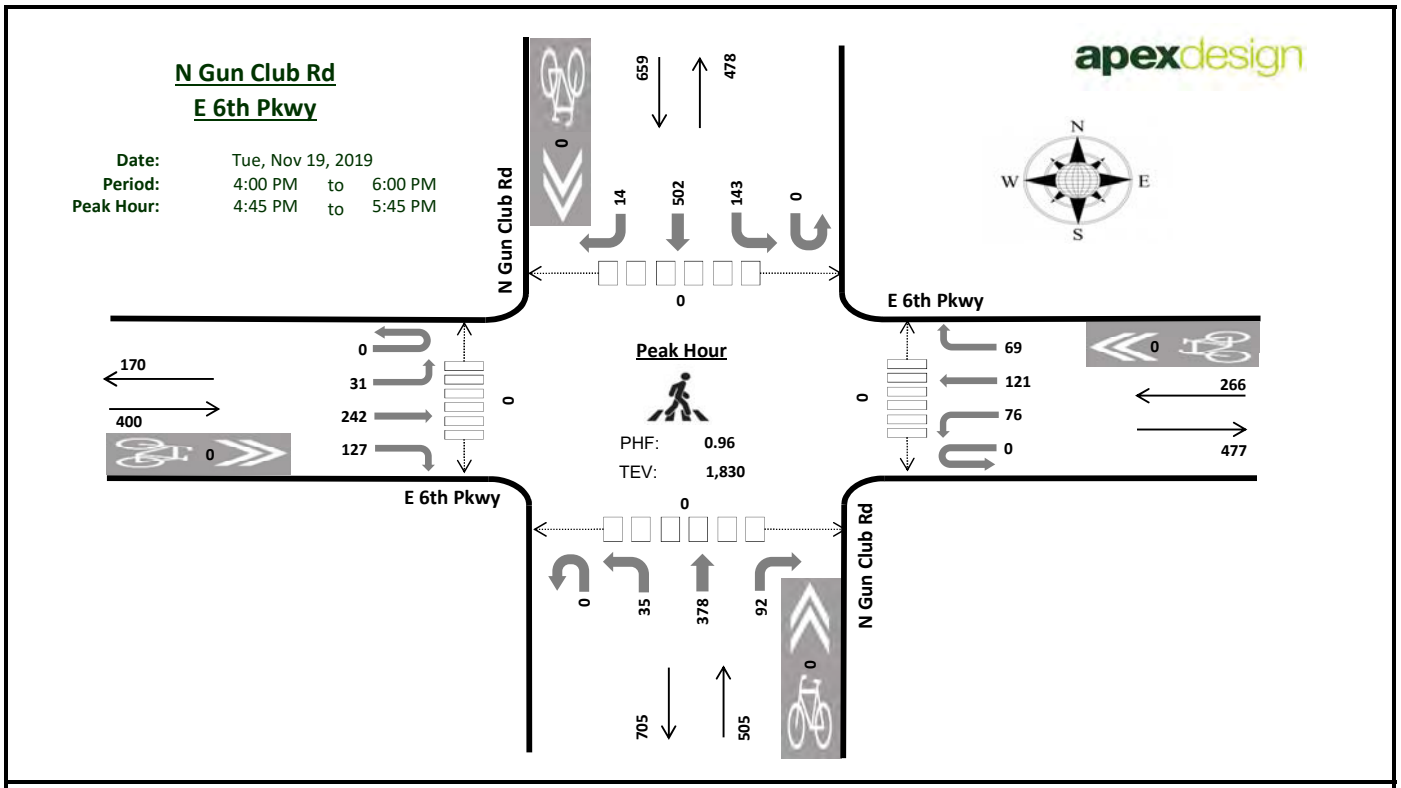

Summary

Time	E 6th Pkwy Eastbound				E 6th Pkwy Westbound				N Gun Club Rd Northbound				N Gun Club Rd Southbound				Total	Rolling Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	4	43	31	0	22	48	14	0	12	74	15	0	31	125	6	425	0
4:15 PM	0	2	67	30	0	10	34	11	0	11	61	24	0	22	121	4	397	0
4:30 PM	0	10	58	28	0	15	26	19	0	9	86	16	0	34	130	4	435	0
4:45 PM	**0**	**7**	**59**	**31**	**0**	**22**	**31**	**18**	**0**	**8**	**89**	**21**	**0**	**37**	**106**	**3**	**432**	1,689
5:00 PM	**0**	**11**	**59**	**27**	**0**	**23**	**27**	**22**	**0**	**8**	**87**	**26**	**0**	**36**	**131**	**4**	**461**	1,725
5:15 PM	**0**	**8**	**64**	**44**	**0**	**13**	**31**	**17**	**0**	**11**	**92**	**23**	**0**	**29**	**123**	**5**	**460**	1,788
5:30 PM	**0**	**5**	**60**	**25**	**0**	**18**	**32**	**12**	**0**	**8**	**110**	**22**	**0**	**41**	**142**	**2**	**477**	1,830
5:45 PM	0	5	40	24	0	18	23	15	0	12	83	33	0	35	122	3	413	1,811
Count Total	**0**	**52**	**450**	**240**	**0**	**141**	**252**	**128**	**0**	**79**	**682**	**180**	**0**	**265**	**1,000**	**31**	**3,500**	**0**
Peak Hour	**0**	**31**	**242**	**127**	**0**	**76**	**121**	**69**	**0**	**35**	**378**	**92**	**0**	**143**	**502**	**14**	**1,830**	**0**
PH HV %	**0.25%**				**3.01%**				**0.20%**				**0.61%**					
PHF	**0.86**				**0.92**				**0.90**				**0.89**					

Time		Heavy Vehicles						Bicycles						Pedestrians				
		EB	WB	NB	SB	Total		EB	WB	NB	SB	Total		East	West	North	South	Total
4:00 PM		0	3	2	1	6		0	0	0	0	0		0	0	0	0	0
4:15 PM		1	3	3	3	10		0	0	0	0	0		0	0	0	0	0
4:30 PM		2	4	2	2	10		0	0	0	0	0		0	0	0	0	0
4:45 PM		**1**	**0**	**1**	**0**	**2**		**0**	**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**	0
5:00 PM		**0**	**1**	**0**	**3**	**4**		**0**	**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**	0
5:15 PM		**0**	**6**	**0**	**0**	**6**		**0**	**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**	0
5:30 PM		**0**	**1**	**0**	**1**	**2**		**0**	**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**	0
5:45 PM		1	0	3	0	4		0	0	0	0	0		0	0	0	0	0
Count Total		**5**	**18**	**11**	**10**	**44**		**0**	**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**	**0**
Peak Hour		**1**	**8**	**1**	**4**	**14**		**0**	**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**	**0**

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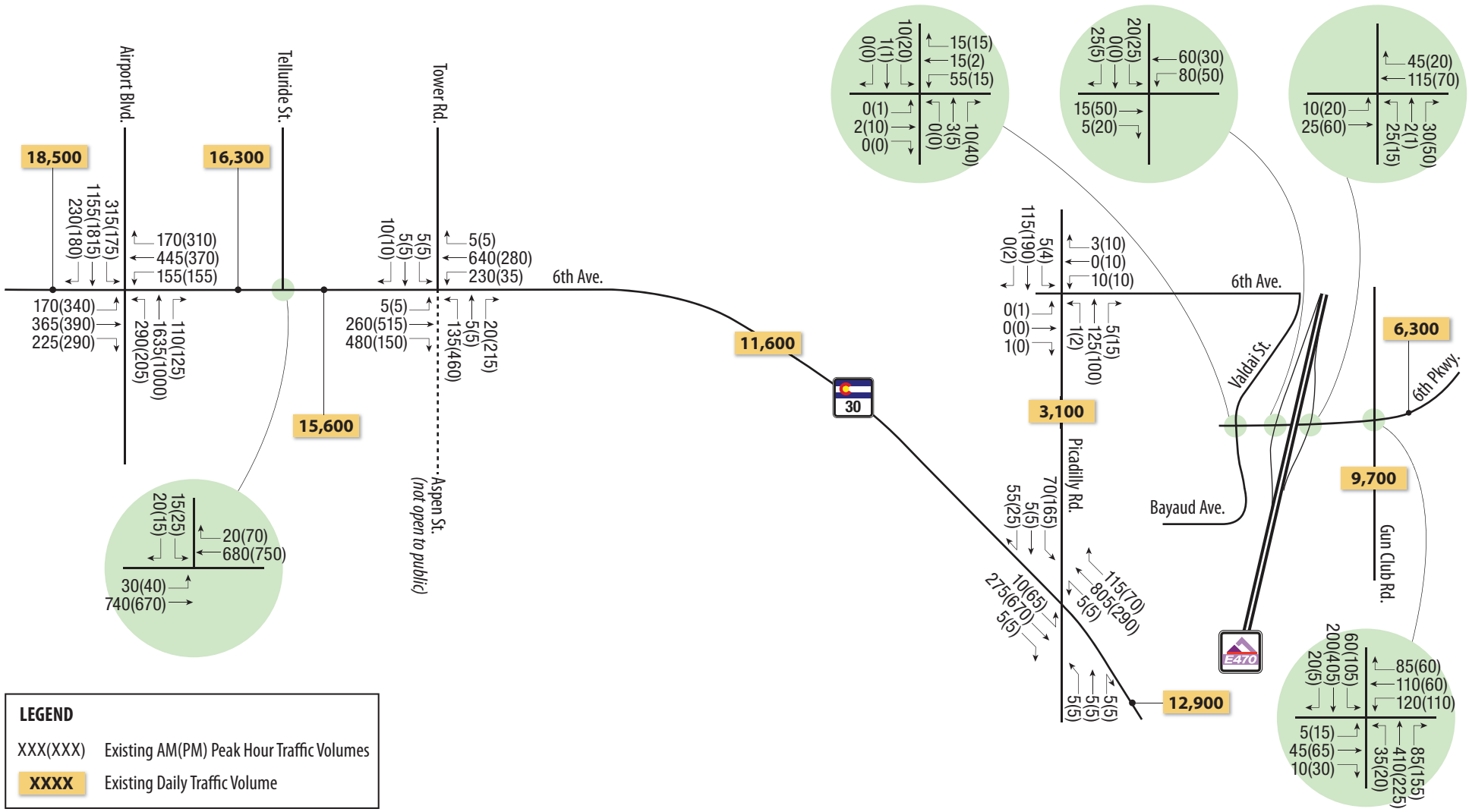
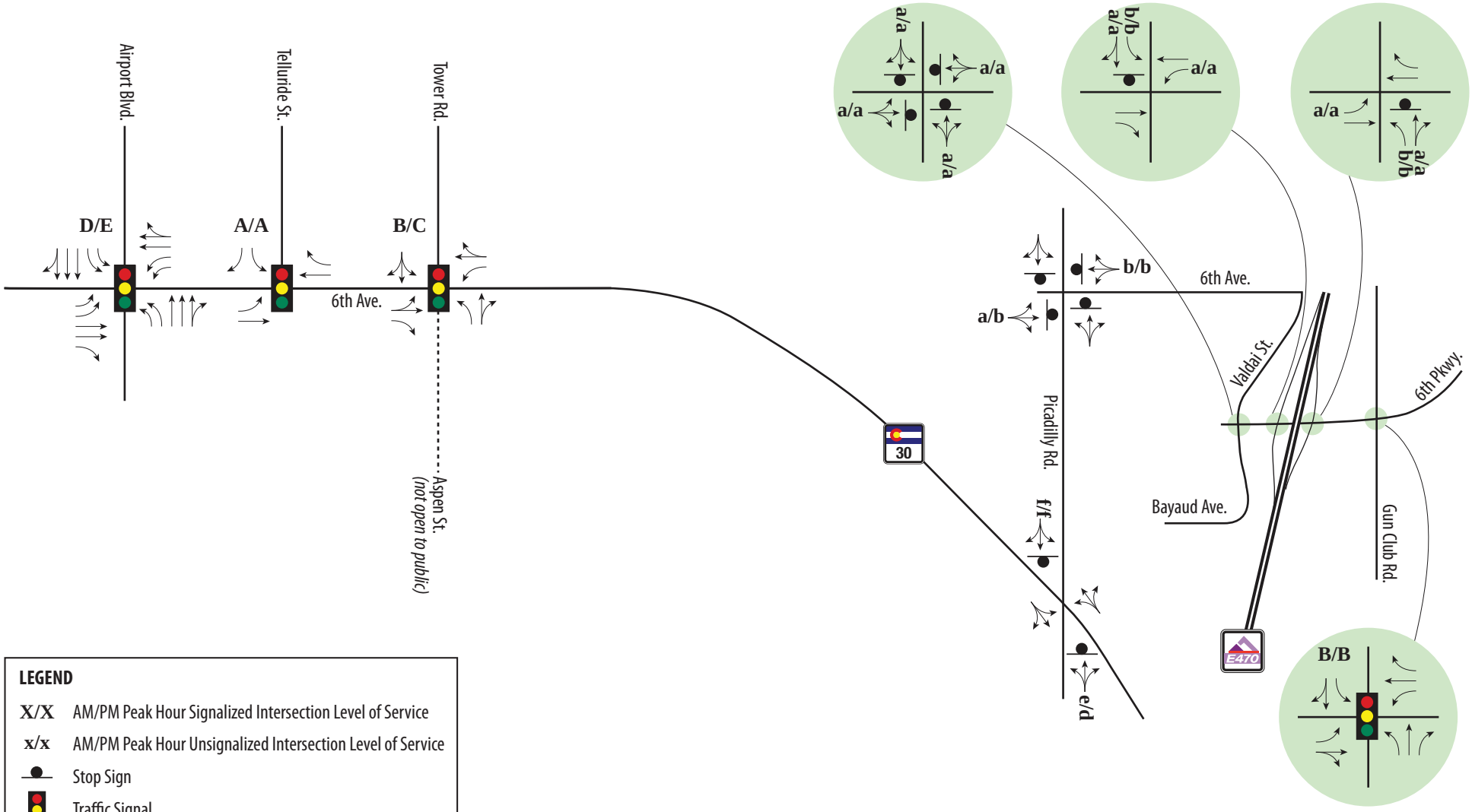


LEGEND

XXX(XXX)	Existing AM(PM) Peak Hour Traffic Volumes
XXXX	Existing Daily Traffic Volume

DRAFT

Figure 2
2017 Existing Traffic Volumes

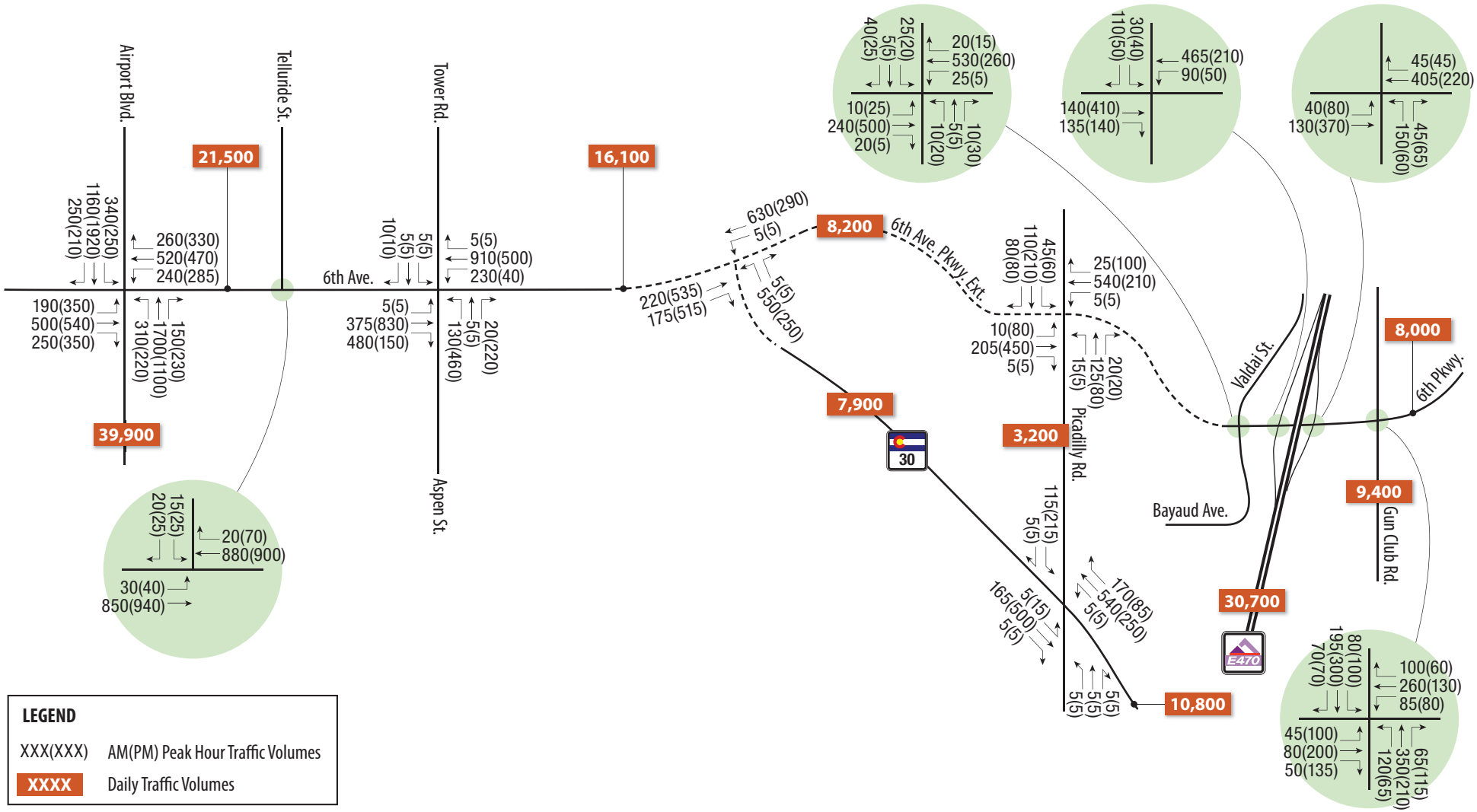


LEGEND

X/X	AM/PM Peak Hour Signalized Intersection Level of Service
x/x	AM/PM Peak Hour Unsignalized Intersection Level of Service
●	Stop Sign
	Traffic Signal

DRAFT

Figure 3
Existing Intersection Lanes and Level of Service

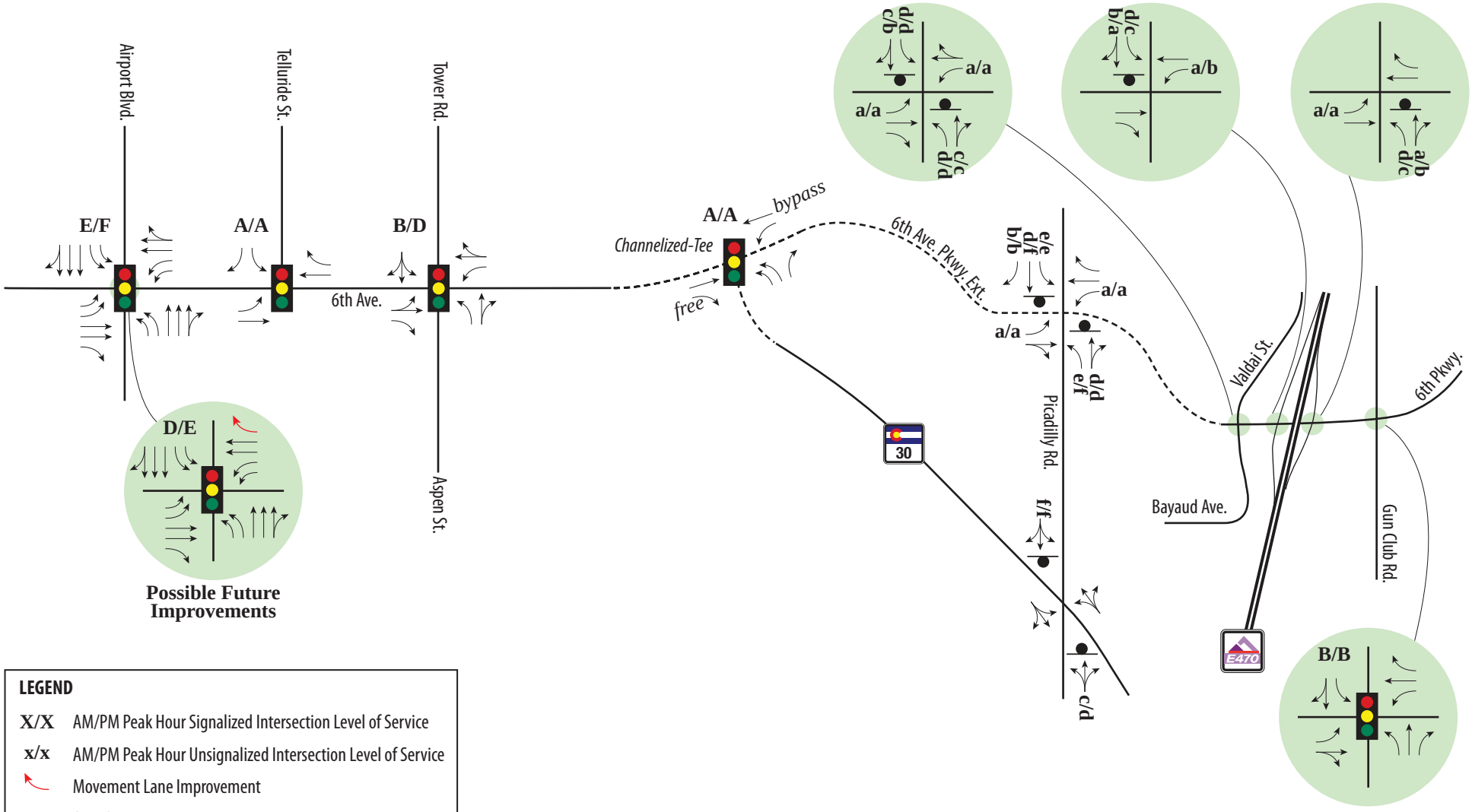


LEGEND

XXX(XXX)	AM(PM) Peak Hour Traffic Volumes
XXXX	Daily Traffic Volumes

DRAFT

Figure 8
Opening Day Traffic Volumes



LEGEND

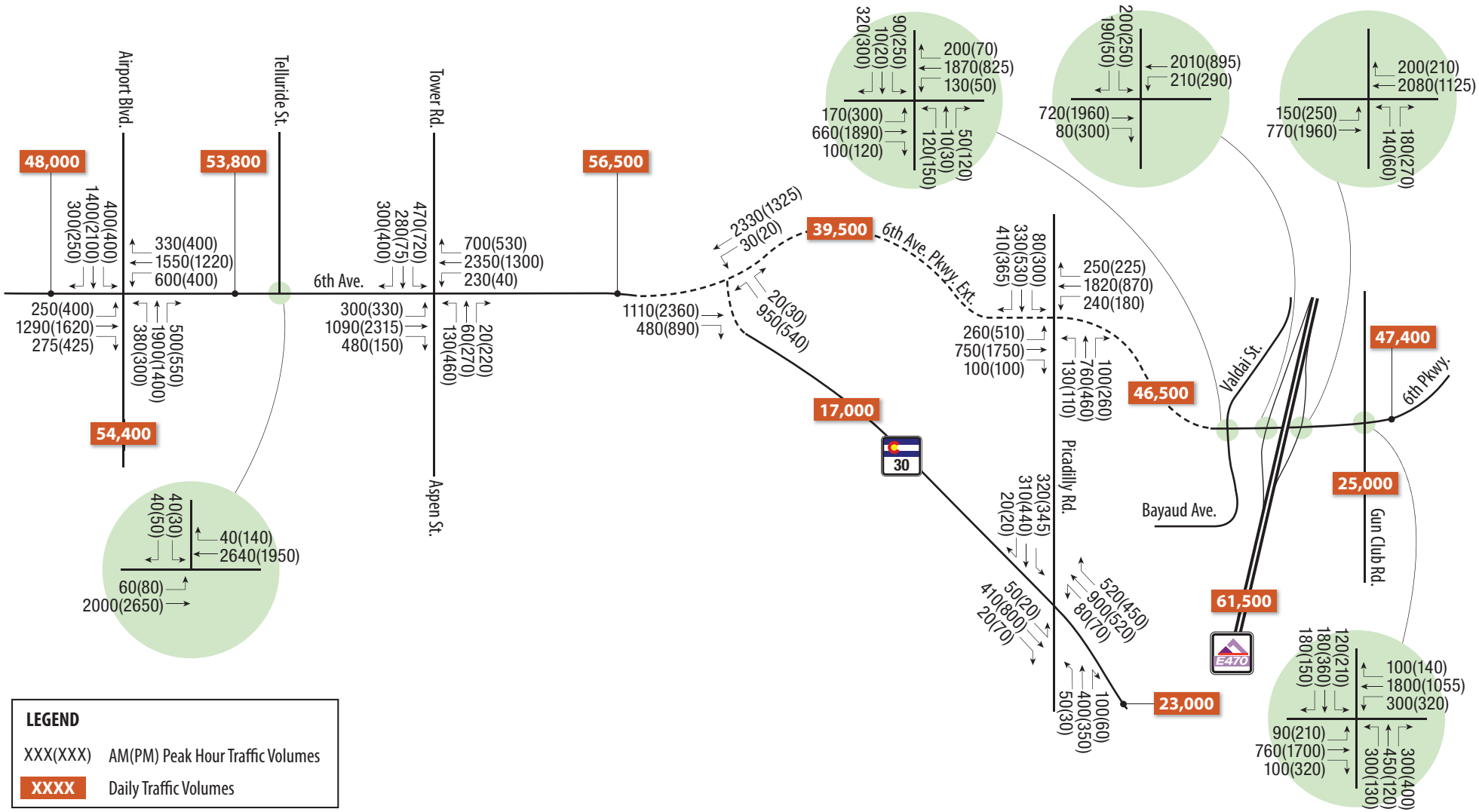
X/X	AM/PM Peak Hour Signalized Intersection Level of Service
x/x	AM/PM Peak Hour Unsignalized Intersection Level of Service
	Movement Lane Improvement
	Stop Sign
	Traffic Signal

DRAFT

Figure 9

Opening Day Geometry, Traffic Control and Level of Service

Forecasted Traffic Volumes from 6th Parkway Extension Project and NEATS Refresh



LEGEND

XXX(XXX)	AM(PM) Peak Hour Traffic Volumes
XXXX	Daily Traffic Volumes

DRAFT

Figure 10
2040 Build Traffic Volumes

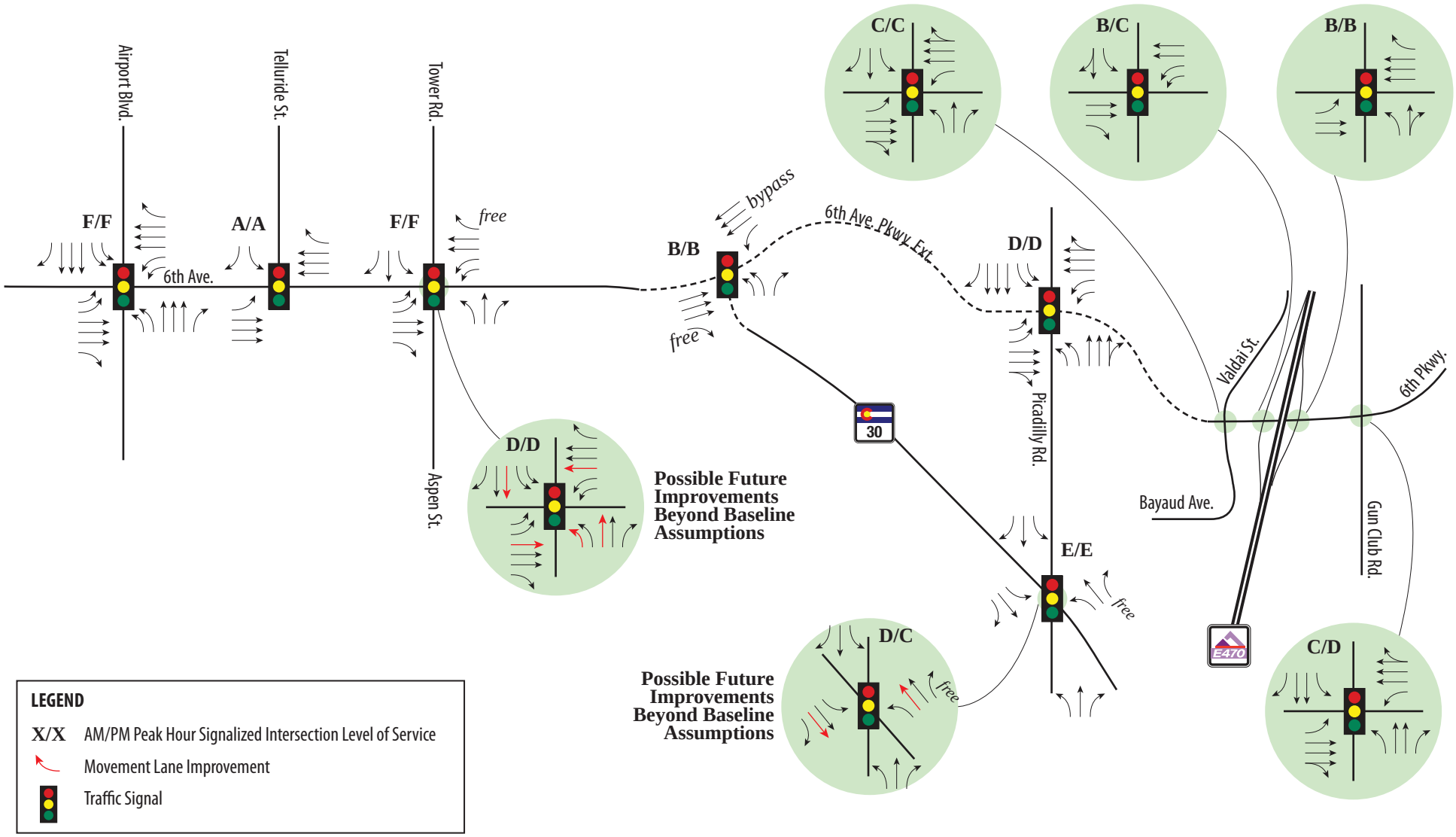


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Figure 11

2040 Build Lane Geometry, Traffic Control and Level of Service

Figure 12.
2030 Daily Traffic Volumes

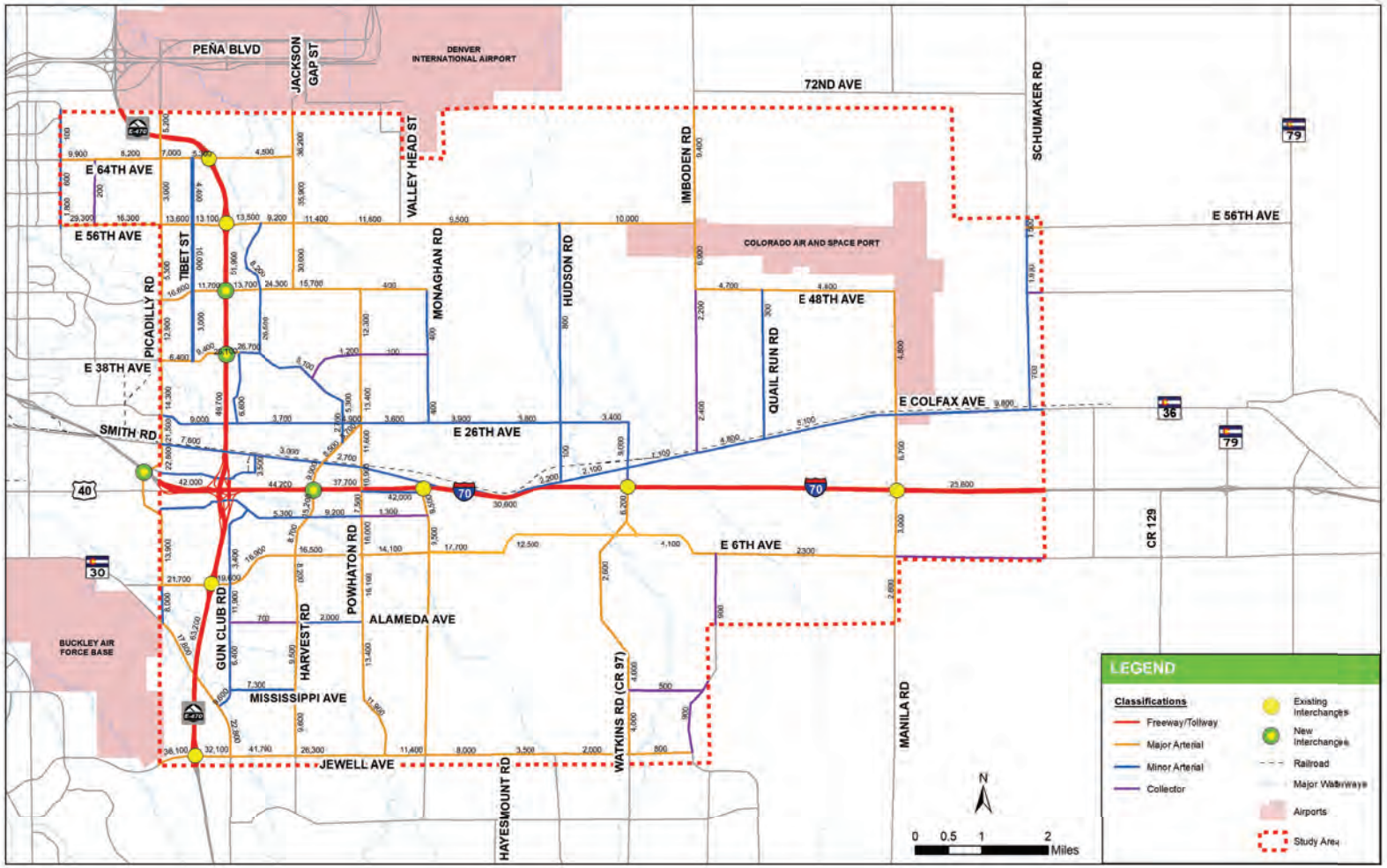


Figure ES-2.
2040 Daily Traffic Volumes

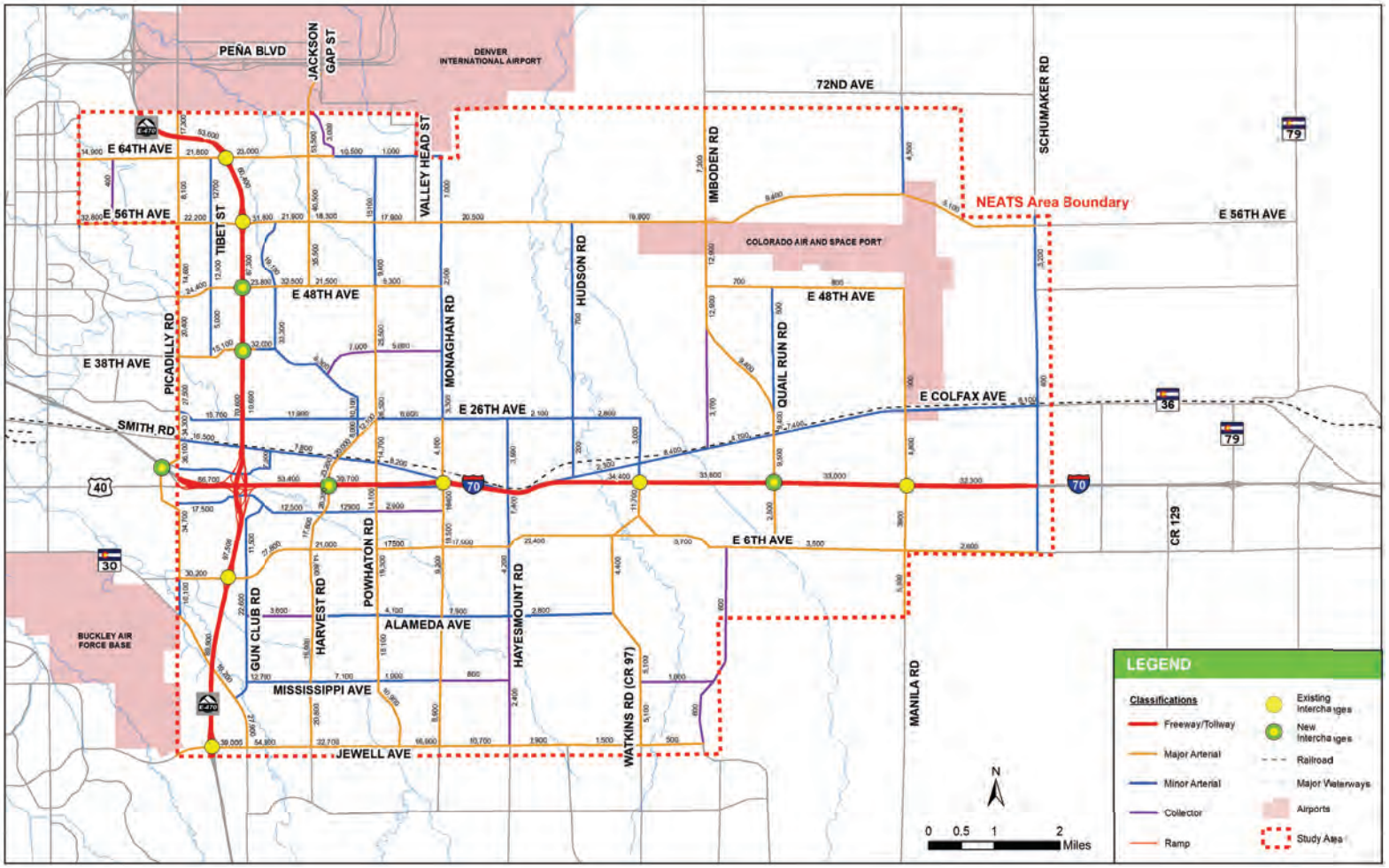
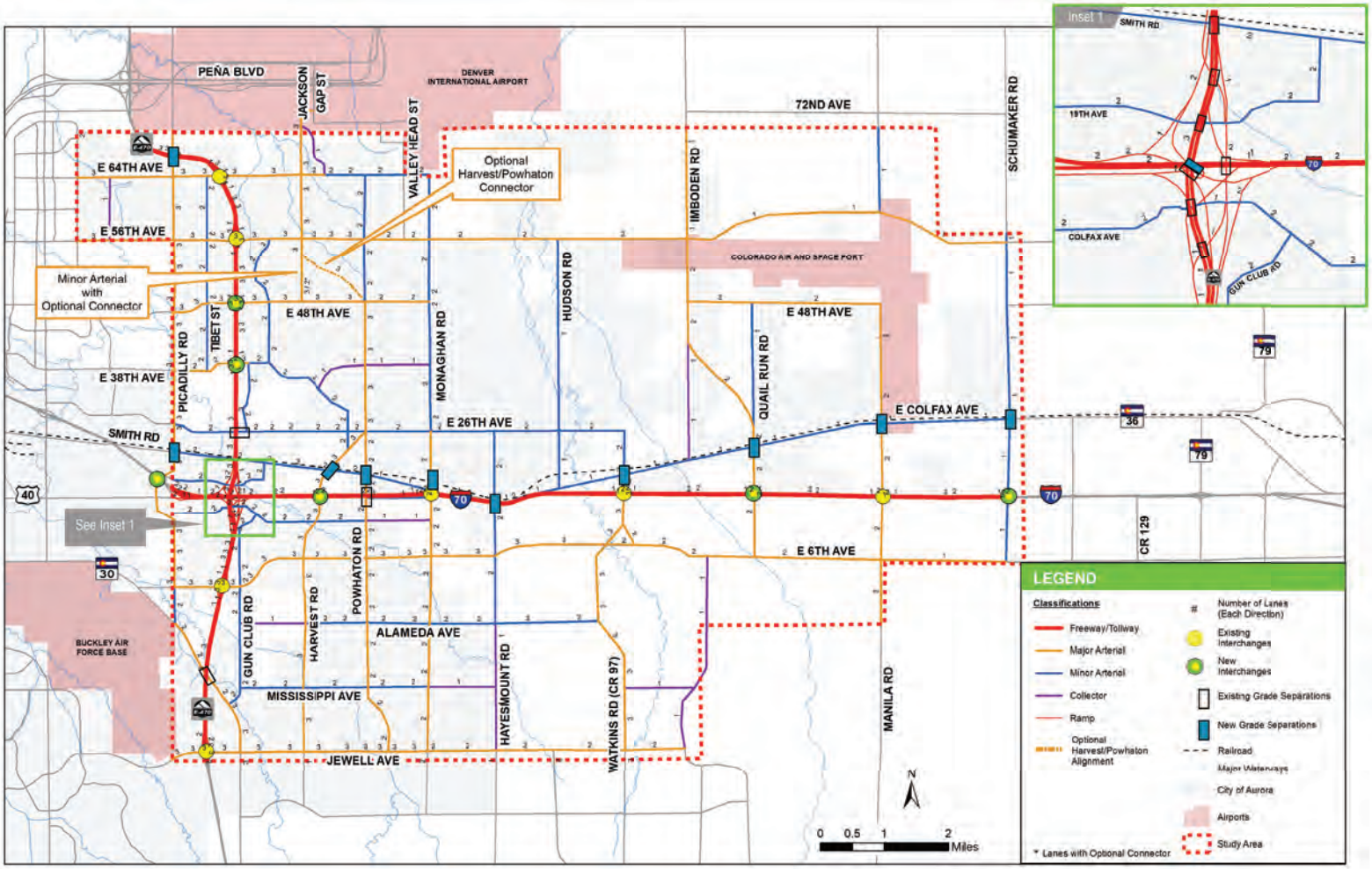


Figure 13.
Recommended Roadway Network



Intersection Capacity Worksheets: Existing

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	295	199	11	813	585	5
v/c Ratio	0.28	0.20	0.06	0.44	0.67	0.01
Control Delay	9.6	2.5	30.4	0.7	25.7	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	2.5	30.4	0.7	25.7	12.2
Queue Length 50th (ft)	44	0	4	0	97	0
Queue Length 95th (ft)	148	32	20	0	177	8
Internal Link Dist (ft)	1030			1968	1006	
Turn Bay Length (ft)		340	225		470	250
Base Capacity (vph)	1067	991	214	1863	1856	857
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.20	0.05	0.44	0.32	0.01

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	260	175	10	715	550	5
Future Volume (vph)	260	175	10	715	550	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	1863	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	1863	3433	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.94	0.94
Adj. Flow (vph)	295	199	11	812	585	5
RTOR Reduction (vph)	0	91	0	0	0	4
Lane Group Flow (vph)	295	108	11	813	585	1
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Actuated Green, G (s)	36.1	36.1	1.1	66.6	15.9	15.9
Effective Green, g (s)	36.1	36.1	1.1	66.6	15.9	15.9
Actuated g/C Ratio	0.54	0.54	0.02	1.00	0.24	0.24
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	1009	858	29	1863	819	377
v/s Ratio Prot	0.16		0.01	0.44	c0.17	
v/s Ratio Perm		0.07				0.00
v/c Ratio	0.29	0.13	0.38	0.44	0.71	0.00
Uniform Delay, d1	8.3	7.5	32.4	0.0	23.3	19.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.3	8.1	0.7	3.0	0.0
Delay (s)	9.0	7.8	40.5	0.7	26.2	19.3
Level of Service	A	A	D	A	C	B
Approach Delay (s)	8.5			1.3	26.2	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	66.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Intersection	
Int Delay, s/veh	6.4

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	5	5	5	115	5	5	15	165	5	5	540	170
Future Vol, veh/h	5	5	5	115	5	5	15	165	5	5	540	170
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	82	82	82	91	91	91	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	10	10	140	6	6	16	181	5	6	600	189

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	929	1017	184	933	925	695	789	0	0	186	0	0
Stage 1	216	216	-	707	707	-	-	-	-	-	-	-
Stage 2	713	801	-	226	218	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	248	238	858	246	269	442	831	-	-	1388	-	-
Stage 1	786	724	-	426	438	-	-	-	-	-	-	-
Stage 2	423	397	-	777	723	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	235	231	858	230	261	442	831	-	-	1388	-	-
Mov Cap-2 Maneuver	235	231	-	230	261	-	-	-	-	-	-	-
Stage 1	769	709	-	417	434	-	-	-	-	-	-	-
Stage 2	408	394	-	741	708	-	-	-	-	-	-	-

Approach	NB	SB	SE	NW
HCM Control Delay, s	17.9	44.4	0.8	0.1
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	NWR	SEL	SET	SER	SBLn1
Capacity (veh/h)	308	1388	-	-	831	-	-	236
HCM Lane V/C Ratio	0.097	0.004	-	-	0.02	-	-	0.646
HCM Control Delay (s)	17.9	7.6	0	-	9.4	0	-	44.4
HCM Lane LOS	C	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	4

Intersection	
Int Delay, s/veh	18.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	250	5	10	630	40	15	145	30	55	110	80
Future Vol, veh/h	10	250	5	10	630	40	15	145	30	55	110	80
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	325	-	-	275	-	225	100	-	-	100	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	79	79	79	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	313	6	13	788	50	19	184	38	67	134	98

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	838	0	0	319	0	0	1297	1206	316	1267	1159	788
Stage 1	-	-	-	-	-	-	342	342	-	814	814	-
Stage 2	-	-	-	-	-	-	955	864	-	453	345	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	796	-	-	1241	-	-	139	184	724	146	196	391
Stage 1	-	-	-	-	-	-	673	638	-	372	391	-
Stage 2	-	-	-	-	-	-	310	371	-	586	636	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	796	-	-	1241	-	-	44	~ 179	724	-	191	391
Mov Cap-2 Maneuver	-	-	-	-	-	-	44	~ 179	-	-	191	-
Stage 1	-	-	-	-	-	-	662	628	-	366	387	-
Stage 2	-	-	-	-	-	-	150	367	-	387	626	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	133.3	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	44	206	796	-	-	1241	-	-	-	191	391
HCM Lane V/C Ratio	0.432	1.075	0.016	-	-	0.01	-	-	-	0.702	0.25
HCM Control Delay (s)	138.5	132.9	9.6	-	-	7.9	-	-	-	59.1	17.2
HCM Lane LOS	F	F	A	-	-	A	-	-	-	F	C
HCM 95th %tile Q(veh)	1.5	10.1	0	-	-	0	-	-	-	4.4	1

Notes

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

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	305	20	60	630	25	10	5	15	25	5	40
Future Vol, veh/h	10	305	20	60	630	25	10	5	15	25	5	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	275	-	225	225	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	55	55	55	36	36	36
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	381	25	75	788	31	18	9	27	69	14	111

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	819	0	0	381	0	0	1423	1376	381	1379	1361	804
Stage 1	-	-	-	-	-	-	407	407	-	954	954	-
Stage 2	-	-	-	-	-	-	1016	969	-	425	407	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	810	-	-	1177	-	-	114	145	666	122	148	383
Stage 1	-	-	-	-	-	-	621	597	-	311	337	-
Stage 2	-	-	-	-	-	-	287	332	-	607	597	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	810	-	-	1177	-	-	70	134	666	104	136	383
Mov Cap-2 Maneuver	-	-	-	-	-	-	70	134	-	104	136	-
Stage 1	-	-	-	-	-	-	611	587	-	306	315	-
Stage 2	-	-	-	-	-	-	182	311	-	564	587	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	35.9	47.6
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	70	334	810	-	-	1177	-	-	104	319
HCM Lane V/C Ratio	0.26	0.109	0.015	-	-	0.064	-	-	0.668	0.392
HCM Control Delay (s)	73.6	17.1	9.5	-	-	8.3	-	-	91.3	23.4
HCM Lane LOS	F	C	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	0.9	0.4	0	-	-	0.2	-	-	3.4	1.8

Intersection	
Int Delay, s/veh	20.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱	↰	↑						↰↑	↱
Traffic Vol, veh/h	0	210	135	155	605	0	0	0	0	90	0	110
Future Vol, veh/h	0	210	135	155	605	0	0	0	0	90	0	110
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	135	200	-	-	-	-	-	-	-	235
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	43	43	43	90	90	90	92	92	92	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	488	314	172	672	0	0	0	0	114	0	139

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	802	0	0		1661	1818	672
Stage 1	-	-	-	-	-	-		1016	1016	-
Stage 2	-	-	-	-	-	-		645	802	-
Critical Hdwy	-	-	-	4.12	-	-		6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-		3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	822	-	0		~ 107	78	456
Stage 1	0	-	-	-	-	0		350	315	-
Stage 2	0	-	-	-	-	0		522	396	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	822	-	-		~ 85	0	456
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 85	0	-
Stage 1	-	-	-	-	-	-		350	0	-
Stage 2	-	-	-	-	-	-		413	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.1	144.5
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	822	-	85	456
HCM Lane V/C Ratio	-	-	0.21	-	1.34	0.305
HCM Control Delay (s)	-	-	10.5	-	$ 301.1	16.3
HCM Lane LOS	-	-	B	-	F	C
HCM 95th %tile Q(veh)	-	-	0.8	-	8.6	1.3

Notes

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

Intersection	
Int Delay, s/veh	18.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	260	0	0	610	125	150	0	90	0	0	0
Future Vol, veh/h	40	260	0	0	610	125	150	0	90	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	280	-	-	135	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	93	93	93	68	68	68	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	310	0	0	656	134	221	0	132	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	790	0	-	-	-	0	1129	1196	310
Stage 1	-	-	-	-	-	-	406	406	-
Stage 2	-	-	-	-	-	-	723	790	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	830	-	0	0	-	-	226	186	730
Stage 1	-	-	0	0	-	-	673	598	-
Stage 2	-	-	0	0	-	-	481	402	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	830	-	-	-	-	-	~ 213	0	730
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 213	0	-
Stage 1	-	-	-	-	-	-	634	0	-
Stage 2	-	-	-	-	-	-	481	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.3	0	78.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	213	730	830	-	-	-
HCM Lane V/C Ratio	1.036	0.181	0.057	-	-	-
HCM Control Delay (s)	119	11	9.6	-	-	-
HCM Lane LOS	F	B	A	-	-	-
HCM 95th %tile Q(veh)	9.6	0.7	0.2	-	-	-

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	73	266	226	226	801	220	366	226	86	285
v/c Ratio	1.18	0.72	0.49	1.03	1.54	0.33	0.37	0.24	0.14	0.33
Control Delay	213.7	56.7	13.7	106.7	284.1	10.7	18.9	2.7	9.4	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	213.7	56.7	13.7	106.7	284.1	10.7	18.9	2.7	9.4	20.1
Queue Length 50th (ft)	~68	194	26	~145	~874	66	167	0	24	125
Queue Length 95th (ft)	#100	186	25	#207	#825	92	219	28	44	201
Internal Link Dist (ft)		1048			585		581			595
Turn Bay Length (ft)	120		120	120		180		550	130	
Base Capacity (vph)	62	372	464	220	520	772	981	941	647	862
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.72	0.49	1.03	1.54	0.28	0.37	0.24	0.13	0.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	165	140	165	485	100	180	300	185	80	195	70
Future Volume (veh/h)	45	165	140	165	485	100	180	300	185	80	195	70
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	73	266	226	226	664	137	220	366	226	86	210	75
Peak Hour Factor	0.62	0.62	0.62	0.73	0.73	0.73	0.82	0.82	0.82	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	374	317	210	426	88	638	1003	850	478	653	233
Arrive On Green	0.20	0.20	0.20	0.05	0.28	0.28	0.08	0.54	0.54	0.04	0.50	0.50
Sat Flow, veh/h	679	1870	1585	1781	1504	310	1781	1870	1585	1781	1316	470
Grp Volume(v), veh/h	73	266	226	226	0	801	220	366	226	86	0	285
Grp Sat Flow(s),veh/h/ln	679	1870	1585	1781	0	1814	1781	1870	1585	1781	0	1786
Q Serve(g_s), s	0.0	15.9	16.0	6.0	0.0	34.0	6.9	13.5	9.3	2.8	0.0	11.5
Cycle Q Clear(g_c), s	24.0	15.9	16.0	6.0	0.0	34.0	6.9	13.5	9.3	2.8	0.0	11.5
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	60	374	317	210	0	514	638	1003	850	478	0	887
V/C Ratio(X)	1.22	0.71	0.71	1.08	0.00	1.56	0.34	0.36	0.27	0.18	0.00	0.32
Avail Cap(c_a), veh/h	60	374	317	210	0	514	885	1003	850	573	0	887
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	60.0	44.8	44.8	46.5	0.0	43.0	12.4	16.0	15.0	14.0	0.0	18.1
Incr Delay (d2), s/veh	185.9	6.2	7.3	83.8	0.0	260.5	0.3	1.0	0.8	0.2	0.0	1.0
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	4.9	7.8	6.7	8.2	0.0	51.8	2.6	5.7	3.3	1.1	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	245.9	51.0	52.1	130.3	0.0	303.5	12.7	17.1	15.8	14.2	0.0	19.1
LnGrp LOS	F	D	D	F	A	F	B	B	B	B	A	B
Approach Vol, veh/h		565			1027			812			371	
Approach Delay, s/veh		76.6			265.4			15.5			17.9	
Approach LOS		E			F			B			B	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	8.6	71.4	10.0	30.0	13.4	66.6		40.0
Change Period (Y+Rc), s	4.0	7.0	4.0	6.0	4.0	7.0		6.0
Max Green Setting (Gmax), s	11.0	58.0	6.0	24.0	26.0	43.0		34.0
Max Q Clear Time (g_c+I1), s	4.8	15.5	8.0	26.0	8.9	13.5		36.0
Green Ext Time (p_c), s	0.1	2.9	0.0	0.0	0.5	1.6		0.0

Intersection Summary	
HCM 6th Ctrl Delay	120.8
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	0	0	1	9	0	3	1	189	5	5	235	0
Future Vol, veh/h	0	0	1	9	0	3	1	189	5	5	235	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	60	60	60	79	79	79	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	15	0	5	1	239	6	6	287	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	546	546	287	544	543	242	287	0	0	245	0	0
Stage 1	299	299	-	244	244	-	-	-	-	-	-	-
Stage 2	247	247	-	300	299	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	448	445	752	450	447	797	1275	-	-	1321	-	-
Stage 1	710	666	-	760	704	-	-	-	-	-	-	-
Stage 2	757	702	-	709	666	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	443	442	752	447	444	797	1275	-	-	1321	-	-
Mov Cap-2 Maneuver	443	442	-	447	444	-	-	-	-	-	-	-
Stage 1	709	663	-	759	703	-	-	-	-	-	-	-
Stage 2	751	701	-	704	663	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	12.5	0	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1275	-	-	752	502	1321	-	-
HCM Lane V/C Ratio	0.001	-	-	0.003	0.04	0.005	-	-
HCM Control Delay (s)	7.8	0	-	9.8	12.5	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	676	566	6	330	284	11
v/c Ratio	0.51	0.44	0.05	0.18	0.55	0.04
Control Delay	8.0	1.8	36.4	0.2	34.2	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	1.8	36.4	0.2	34.2	15.8
Queue Length 50th (ft)	105	0	3	0	61	0
Queue Length 95th (ft)	317	38	15	0	108	14
Internal Link Dist (ft)	1030			1968	1006	
Turn Bay Length (ft)		340	225		470	250
Base Capacity (vph)	1316	1284	128	1863	838	395
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.44	0.05	0.18	0.34	0.03

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	615	515	5	290	250	10
Future Volume (vph)	615	515	5	290	250	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	1863	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	1863	3433	1583
Peak-hour factor, PHF	0.91	0.91	0.88	0.88	0.88	0.88
Adj. Flow (vph)	676	566	6	330	284	11
RTOR Reduction (vph)	0	184	0	0	0	9
Lane Group Flow (vph)	676	382	6	330	284	2
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Actuated Green, G (s)	53.8	53.8	1.0	79.8	11.5	11.5
Effective Green, g (s)	53.8	53.8	1.0	79.8	11.5	11.5
Actuated g/C Ratio	0.67	0.67	0.01	1.00	0.14	0.14
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	1256	1067	22	1863	494	228
v/s Ratio Prot	c0.36		0.00	0.18	c0.08	
v/s Ratio Perm		0.24				0.00
v/c Ratio	0.54	0.36	0.27	0.18	0.57	0.01
Uniform Delay, d1	6.6	5.6	39.0	0.0	31.9	29.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.9	6.6	0.2	1.6	0.0
Delay (s)	8.3	6.5	45.7	0.2	33.5	29.3
Level of Service	A	A	D	A	C	C
Approach Delay (s)	7.5			1.0	33.3	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	79.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Intersection	
Int Delay, s/veh	25.2

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	5	5	5	215	0	5	15	500	5	5	250	90
Future Vol, veh/h	5	5	5	215	0	5	15	500	5	5	250	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	88	88	88	93	93	93	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	10	10	244	0	6	16	538	5	6	284	102

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	923	971	541	930	922	335	386	0	0	543	0	0
Stage 1	573	573	-	347	347	-	-	-	-	-	-	-
Stage 2	350	398	-	583	575	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	250	253	541	248	270	707	1172	-	-	1026	-	-
Stage 1	505	504	-	669	635	-	-	-	-	-	-	-
Stage 2	666	603	-	498	503	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	243	246	541	~ 231	262	707	1172	-	-	1026	-	-
Mov Cap-2 Maneuver	243	246	-	~ 231	262	-	-	-	-	-	-	-
Stage 1	495	494	-	656	630	-	-	-	-	-	-	-
Stage 2	655	598	-	469	493	-	-	-	-	-	-	-

Approach	NB	SB	SE	NW
HCM Control Delay, s	18.4	121.5	0.2	0.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	NWR	SEL	SET	SER	SBLn1
Capacity (veh/h)	299	1026	-	-	1172	-	-	235
HCM Lane V/C Ratio	0.1	0.006	-	-	0.014	-	-	1.064
HCM Control Delay (s)	18.4	8.5	0	-	8.1	0	-	121.5
HCM Lane LOS	C	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	10.7

Notes

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

Intersection	
Int Delay, s/veh	28

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	540	5	5	210	100	5	80	25	70	210	80
Future Vol, veh/h	80	540	5	5	210	100	5	80	25	70	210	80
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	325	-	-	275	-	225	100	-	-	100	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	88	88	88	79	79	79	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	581	5	6	239	114	6	101	32	81	244	93

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	586	0	0	1233	1121	584	1073	1009	239
Stage 1	-	-	-	-	-	-	756	756	-	251	251	-
Stage 2	-	-	-	-	-	-	477	365	-	822	758	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1206	-	-	989	-	-	154	206	512	198	~ 240	800
Stage 1	-	-	-	-	-	-	400	416	-	753	699	-
Stage 2	-	-	-	-	-	-	569	623	-	368	415	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1206	-	-	989	-	-	-	190	512	102	~ 222	800
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	190	-	102	~ 222	-
Stage 1	-	-	-	-	-	-	372	386	-	700	695	-
Stage 2	-	-	-	-	-	-	324	619	-	237	386	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.1		104.3
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	223	1206	-	-	989	-	-	102	222	800
HCM Lane V/C Ratio	-	0.596	0.071	-	-	0.006	-	-	0.798	1.1	0.116
HCM Control Delay (s)	-	42.5	8.2	-	-	8.7	-	-	116.3	136.1	10.1
HCM Lane LOS	-	E	A	-	-	A	-	-	F	F	B
HCM 95th %tile Q(veh)	-	3.4	0.2	-	-	0	-	-	4.4	11.1	0.4

Notes

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

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	605	5	5	270	15	20	5	40	25	5	25
Future Vol, veh/h	25	605	5	5	270	15	20	5	40	25	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	275	-	225	225	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	51	51	51	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	680	6	6	303	17	39	10	78	37	7	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	320	0	0	680	0	0	1082	1068	680	1104	1060	312
Stage 1	-	-	-	-	-	-	736	736	-	324	324	-
Stage 2	-	-	-	-	-	-	346	332	-	780	736	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1240	-	-	912	-	-	195	222	451	188	224	728
Stage 1	-	-	-	-	-	-	411	425	-	688	650	-
Stage 2	-	-	-	-	-	-	670	644	-	388	425	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1240	-	-	912	-	-	176	215	451	147	217	728
Mov Cap-2 Maneuver	-	-	-	-	-	-	176	215	-	147	217	-
Stage 1	-	-	-	-	-	-	402	415	-	672	645	-
Stage 2	-	-	-	-	-	-	625	639	-	306	415	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	21	23.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	176	402	1240	-	-	912	-	-	147	523
HCM Lane V/C Ratio	0.223	0.219	0.023	-	-	0.006	-	-	0.25	0.084
HCM Control Delay (s)	31.2	16.5	8	-	-	9	-	-	37.5	12.5
HCM Lane LOS	D	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.8	0.8	0.1	-	-	0	-	-	0.9	0.3

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱	↰	↑						↰↑	↱
Traffic Vol, veh/h	0	530	140	55	235	0	0	0	0	55	0	55
Future Vol, veh/h	0	530	140	55	235	0	0	0	0	55	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	135	200	-	-	-	-	-	-	-	235
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	83	83	83	92	92	92	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	828	219	66	283	0	0	0	0	71	0	71

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	1047	0	0			1353	1462	283
Stage 1	-	-	-	-	-	-			415	415	-
Stage 2	-	-	-	-	-	-			938	1047	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	665	-	0			165	129	756
Stage 1	0	-	-	-	-	0			666	592	-
Stage 2	0	-	-	-	-	0			381	305	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	665	-	-			149	0	756
Mov Cap-2 Maneuver	-	-	-	-	-	-			149	0	-
Stage 1	-	-	-	-	-	-			666	0	-
Stage 2	-	-	-	-	-	-			343	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.1	29.8
HCM LOS			D

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	665	-	149	756
HCM Lane V/C Ratio	-	-	0.1	-	0.473	0.093
HCM Control Delay (s)	-	-	11	-	49.2	10.3
HCM Lane LOS	-	-	B	-	E	B
HCM 95th %tile Q(veh)	-	-	0.3	-	2.2	0.3

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	505	0	0	225	50	65	0	90	0	0	0
Future Vol, veh/h	80	505	0	0	225	50	65	0	90	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	280	-	-	135	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	96	96	96	73	73	73	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	114	721	0	0	234	52	89	0	123	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	286	0	-	-	-	0	1209	1235	721
Stage 1	-	-	-	-	-	-	949	949	-
Stage 2	-	-	-	-	-	-	260	286	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1276	-	0	0	-	-	202	176	427
Stage 1	-	-	0	0	-	-	376	339	-
Stage 2	-	-	0	0	-	-	783	675	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1276	-	-	-	-	-	184	0	427
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	0	-
Stage 1	-	-	-	-	-	-	343	0	-
Stage 2	-	-	-	-	-	-	783	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.1	0	27.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	184	427	1276	-	-	-
HCM Lane V/C Ratio	0.484	0.289	0.09	-	-	-
HCM Control Delay (s)	41.7	16.8	8.1	-	-	-
HCM Lane LOS	E	C	A	-	-	-
HCM 95th %tile Q(veh)	2.3	1.2	0.3	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	35	291	366	87	206	100	283	106	101	411
v/c Ratio	0.16	0.85	0.71	0.49	0.42	0.18	0.29	0.12	0.15	0.43
Control Delay	42.1	69.0	20.1	41.2	35.9	9.2	17.9	3.4	9.0	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	69.0	20.1	41.2	35.9	9.2	17.9	3.4	9.0	19.8
Queue Length 50th (ft)	23	216	61	50	119	28	123	0	28	192
Queue Length 95th (ft)	51	#317	151	91	191	50	190	29	50	281
Internal Link Dist (ft)		1048			585		581			595
Turn Bay Length (ft)	120		120	120		180		550	130	
Base Capacity (vph)	234	372	535	179	517	735	973	877	723	957
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.78	0.68	0.49	0.40	0.14	0.29	0.12	0.14	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	250	315	80	140	50	90	255	95	90	320	45
Future Volume (veh/h)	30	250	315	80	140	50	90	255	95	90	320	45
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	35	291	366	87	152	54	100	283	106	101	360	51
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.90	0.90	0.90	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	374	317	190	373	133	523	998	846	582	854	121
Arrive On Green	0.20	0.20	0.20	0.05	0.28	0.28	0.04	0.53	0.53	0.04	0.53	0.53
Sat Flow, veh/h	1176	1870	1585	1781	1318	468	1781	1870	1585	1781	1602	227
Grp Volume(v), veh/h	35	291	366	87	0	206	100	283	106	101	0	411
Grp Sat Flow(s),veh/h/ln	1176	1870	1585	1781	0	1786	1781	1870	1585	1781	0	1829
Q Serve(g_s), s	3.0	17.7	24.0	4.5	0.0	11.2	3.0	10.0	4.0	3.1	0.0	16.2
Cycle Q Clear(g_c), s	4.2	17.7	24.0	4.5	0.0	11.2	3.0	10.0	4.0	3.1	0.0	16.2
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	283	374	317	190	0	506	523	998	846	582	0	975
V/C Ratio(X)	0.12	0.78	1.15	0.46	0.00	0.41	0.19	0.28	0.13	0.17	0.00	0.42
Avail Cap(c_a), veh/h	283	374	317	190	0	506	833	998	846	671	0	975
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.6	45.5	48.0	35.7	0.0	34.8	12.7	15.4	14.0	12.0	0.0	16.9
Incr Delay (d2), s/veh	0.2	10.0	99.3	1.7	0.0	0.5	0.2	0.7	0.3	0.1	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	9.0	17.9	2.0	0.0	4.8	1.1	4.2	1.4	1.2	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	55.5	147.3	37.5	0.0	35.4	12.9	16.1	14.3	12.1	0.0	18.2
LnGrp LOS	D	E	F	D	A	D	B	B	B	B	A	B
Approach Vol, veh/h		692			293			489			512	
Approach Delay, s/veh		103.3			36.0			15.1			17.0	
Approach LOS		F			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	71.0	10.0	30.0	9.1	70.9		40.0
Change Period (Y+Rc), s	4.0	7.0	4.0	6.0	4.0	7.0		6.0
Max Green Setting (Gmax), s	11.0	58.0	6.0	24.0	26.0	43.0		34.0
Max Q Clear Time (g_c+I1), s	5.1	12.0	6.5	26.0	5.0	18.2		13.2
Green Ext Time (p_c), s	0.1	1.9	0.0	0.0	0.2	2.3		1.0

Intersection Summary	
HCM 6th Ctrl Delay	49.4
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	1	0	0	8	0	10	2	242	16	4	352	2
Future Vol, veh/h	1	0	0	8	0	10	2	242	16	4	352	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	33	33	33	71	71	71	79	79	79	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	0	11	0	14	3	306	20	5	409	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	749	752	410	742	743	316	411	0	0	326	0	0
Stage 1	420	420	-	322	322	-	-	-	-	-	-	-
Stage 2	329	332	-	420	421	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	328	339	642	332	343	724	1148	-	-	1234	-	-
Stage 1	611	589	-	690	651	-	-	-	-	-	-	-
Stage 2	684	644	-	611	589	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	320	336	642	330	340	724	1148	-	-	1234	-	-
Mov Cap-2 Maneuver	320	336	-	330	340	-	-	-	-	-	-	-
Stage 1	609	586	-	688	649	-	-	-	-	-	-	-
Stage 2	669	642	-	608	586	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	13	0.1	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1148	-	-	320	473	1234	-	-
HCM Lane V/C Ratio	0.002	-	-	0.009	0.054	0.004	-	-
HCM Control Delay (s)	8.1	0	-	16.4	13	7.9	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection Capacity Worksheets: 2030 Background

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	609	310	22	1348	787	11
v/c Ratio	0.62	0.31	0.14	0.38	0.79	0.02
Control Delay	18.6	2.9	38.2	0.3	31.4	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.6	2.9	38.2	0.3	31.4	11.4
Queue Length 50th (ft)	155	0	9	0	155	0
Queue Length 95th (ft)	413	45	35	0	269	12
Internal Link Dist (ft)	1030			1968	1006	
Turn Bay Length (ft)		340	225		470	250
Base Capacity (vph)	990	986	202	3539	1316	614
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.31	0.11	0.38	0.60	0.02

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	560	285	20	1240	740	10
Future Volume (vph)	560	285	20	1240	740	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.94	0.94
Adj. Flow (vph)	609	310	22	1348	787	11
RTOR Reduction (vph)	0	149	0	0	0	8
Lane Group Flow (vph)	609	161	22	1348	787	3
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Actuated Green, G (s)	41.3	41.3	2.5	79.6	22.3	22.3
Effective Green, g (s)	41.3	41.3	2.5	79.6	22.3	22.3
Actuated g/C Ratio	0.52	0.52	0.03	1.00	0.28	0.28
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	966	821	55	3539	961	443
v/s Ratio Prot	c0.33		0.01	0.38	c0.23	
v/s Ratio Perm		0.10				0.00
v/c Ratio	0.63	0.20	0.40	0.38	0.82	0.01
Uniform Delay, d1	13.7	10.3	37.8	0.0	26.8	20.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.5	4.7	0.3	5.5	0.0
Delay (s)	16.8	10.8	42.5	0.3	32.3	20.7
Level of Service	B	B	D	A	C	C
Approach Delay (s)	14.8			1.0	32.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Intersection	
Int Delay, s/veh	243.3

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	15	45	20	185	65	10	25	270	10	20	725	360
Future Vol, veh/h	15	45	20	185	65	10	25	270	10	20	725	360
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	225	-	225	225	-	225
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	90	40	201	71	11	27	293	11	22	788	391

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	1416	1570	293	1250	1190	788	1179	0	0	304	0	0
Stage 1	347	347	-	832	832	-	-	-	-	-	-	-
Stage 2	1069	1223	-	418	358	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	115	111	746	~ 150	188	391	592	-	-	1257	-	-
Stage 1	669	635	-	363	384	-	-	-	-	-	-	-
Stage 2	268	252	-	612	628	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	73	104	746	~ 36	176	391	592	-	-	1257	-	-
Mov Cap-2 Maneuver	73	104	-	~ 36	176	-	-	-	-	-	-	-
Stage 1	638	606	-	346	377	-	-	-	-	-	-	-
Stage 2	208	247	-	471	599	-	-	-	-	-	-	-

Approach	NB	SB	SE	NW
HCM Control Delay, s	111.3	$ 1635.9	0.9	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	NWL	NWT	NWR	SEL	SET	SER	SBLn1	SBLn2
Capacity (veh/h)	73	141	1257	-	-	592	-	-	36	190
HCM Lane V/C Ratio	0.411	0.922	0.017	-	-	0.046	-	-	5.586	0.429
HCM Control Delay (s)	85.1	117.4	7.9	-	-	11.4	-		$ 2283.9	37.5
HCM Lane LOS	F	F	A	-	-	B	-	-	F	E
HCM 95th %tile Q(veh)	1.6	6.3	0.1	-	-	0.1	-	-	23.8	2

Notes

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	500	20	60	1025	80	45	345	45	75	195	190
Future Vol, veh/h	50	500	20	60	1025	80	45	345	45	75	195	190
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	325	-	-	275	-	225	100	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	543	22	65	1114	87	49	375	49	82	212	207

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1201	0	0	565	0	0	1455	1993	283	1811	1917	557
Stage 1	-	-	-	-	-	-	662	662	-	1244	1244	-
Stage 2	-	-	-	-	-	-	793	1331	-	567	673	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	577	-	-	1003	-	-	91	~ 60	714	~ 49	~ 67	474
Stage 1	-	-	-	-	-	-	417	457	-	184	244	-
Stage 2	-	-	-	-	-	-	348	~ 222	-	476	452	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	577	-	-	1003	-	-	-	~ 51	714	-	~ 57	474
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 51	-	-	~ 57	-
Stage 1	-	-	-	-	-	-	378	414	-	167	228	-
Stage 2	-	-	-	-	-	-	~ 13	~ 208	-	~ 38	410	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.5		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	57	577	-	-	1003	-	-	-	57	474
HCM Lane V/C Ratio	-	7.437	0.094	-	-	0.065	-	-	-	3.719	0.436
HCM Control Delay (s)	$	3036.1	11.9	-	-	8.8	-	-	$	1372.5	18.3
HCM Lane LOS	-	F	B	-	-	A	-	-	-	F	C
HCM 95th %tile Q(veh)	-	49.1	0.3	-	-	0.2	-	-	-	22.8	2.2

Notes

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

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	525	45	90	990	65	35	5	25	80	5	125
Future Vol, veh/h	50	525	45	90	990	65	35	5	25	80	5	125
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	275	-	225	225	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	55	55	55	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	571	49	98	1076	71	64	9	45	87	5	136

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1147	0	0	571	0	0	1416	2022	286	1706	1987	574
Stage 1	-	-	-	-	-	-	679	679	-	1308	1308	-
Stage 2	-	-	-	-	-	-	737	1343	-	398	679	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1000	-	-	998	-	-	*311	84	711	143	91	*669
Stage 1	-	-	-	-	-	-	*408	449	-	444	427	-
Stage 2	-	-	-	-	-	-	*631	402	-	599	449	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	1000	-	-	998	-	-	*208	72	711	107	78	*669
Mov Cap-2 Maneuver	-	-	-	-	-	-	*208	72	-	107	78	-
Stage 1	-	-	-	-	-	-	*386	425	-	420	385	-
Stage 2	-	-	-	-	-	-	*447	363	-	519	425	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.7	25.5	52.9
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	208	287	1000	-	-	998	-	-	107	518
HCM Lane V/C Ratio	0.306	0.19	0.054	-	-	0.098	-	-	0.813	0.273
HCM Control Delay (s)	29.8	20.5	8.8	-	-	9	-	-	115.2	14.5
HCM Lane LOS	D	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	1.2	0.7	0.2	-	-	0.3	-	-	4.6	1.1

Notes

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

Intersection	
Int Delay, s/veh	61.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑						↰↑	↱
Traffic Vol, veh/h	0	480	150	170	1025	0	0	0	0	145	0	120
Future Vol, veh/h	0	480	150	170	1025	0	0	0	0	145	0	120
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	135	200	-	-	-	-	-	-	-	235
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	522	163	185	1114	0	0	0	0	158	0	130

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	685	0	0		1745	2169	557
Stage 1	-	-	-	-	-	-		1484	1484	-
Stage 2	-	-	-	-	-	-		261	685	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	3.32
Pot Cap-1 Maneuver	0	-	-	904	-	0		~ 77	46	474
Stage 1	0	-	-	-	-	0		175	187	-
Stage 2	0	-	-	-	-	0		759	447	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	904	-	-		~ 61	0	474
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 61	0	-
Stage 1	-	-	-	-	-	-		175	0	-
Stage 2	-	-	-	-	-	-		603	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.4	$ 479
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	904	-	61	474
HCM Lane V/C Ratio	-	-	0.204	-	2.584	0.275
HCM Control Delay (s)	-	-	10	-	$ 862.6	15.5
HCM Lane LOS	-	-	B	-	F	C
HCM 95th %tile Q(veh)	-	-	0.8	-	15.8	1.1

Notes

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

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	545	0	0	1030	150	165	0	140	0	0	0
Future Vol, veh/h	80	545	0	0	1030	150	165	0	140	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	280	-	-	135	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	592	0	0	1108	161	179	0	152	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1269	0	-	-	-	0	1320	2035	296
Stage 1	-	-	-	-	-	-	766	766	-
Stage 2	-	-	-	-	-	-	554	1269	-
Critical Hdwy	4.14	-	-	-	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	847	-	0	0	-	-	*423	82	700
Stage 1	-	-	0	0	-	-	*419	410	-
Stage 2	-	-	0	0	-	-	*632	454	-
Platoon blocked, %	1	-			-	-	1	1	
Mov Cap-1 Maneuver	847	-	-	-	-	-	*379	0	700
Mov Cap-2 Maneuver	-	-	-	-	-	-	*379	0	-
Stage 1	-	-	-	-	-	-	*376	0	-
Stage 2	-	-	-	-	-	-	*632	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.2	0	17.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	379	700	847	-	-	-
HCM Lane V/C Ratio	0.473	0.217	0.103	-	-	-
HCM Control Delay (s)	22.7	11.6	9.7	-	-	-
HCM Lane LOS	C	B	A	-	-	-
HCM 95th %tile Q(veh)	2.5	0.8	0.3	-	-	-

Notes

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

7: Gun Club Road & Hogan/6th Parkway

2030 Background - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	169	621	274	301	1335	250	445	274	129	258	129
v/c Ratio	0.83	0.51	0.38	0.67	0.94	0.67	0.82	0.42	0.64	0.54	0.25
Control Delay	58.7	33.5	5.2	23.2	48.2	37.1	53.3	5.8	43.1	43.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	33.5	5.2	23.2	48.2	37.1	53.3	5.8	43.1	43.2	5.9
Queue Length 50th (ft)	74	197	0	123	508	136	321	0	65	173	0
Queue Length 95th (ft)	88	175	0	140	437	183	397	42	#121	260	40
Internal Link Dist (ft)		1048			585		581			595	
Turn Bay Length (ft)	225		225	225		225		550	225		225
Base Capacity (vph)	204	1224	726	516	1428	373	543	655	202	481	513
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.51	0.38	0.58	0.93	0.67	0.82	0.42	0.64	0.54	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	385	170	220	855	120	205	365	225	120	240	120
Future Volume (veh/h)	105	385	170	220	855	120	205	365	225	120	240	120
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	169	621	274	301	1171	164	250	445	274	129	258	129
Peak Hour Factor	0.62	0.62	0.62	0.73	0.73	0.73	0.82	0.82	0.82	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	1262	563	417	1248	174	347	569	482	198	507	430
Arrive On Green	0.08	0.36	0.36	0.12	0.40	0.40	0.08	0.30	0.30	0.04	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	1781	3131	437	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	169	621	274	301	663	672	250	445	274	129	258	129
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1792	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.2	16.4	16.2	12.3	42.9	43.3	9.0	26.1	17.4	5.0	14.0	7.8
Cycle Q Clear(g_c), s	7.2	16.4	16.2	12.3	42.9	43.3	9.0	26.1	17.4	5.0	14.0	7.8
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	1262	563	417	708	714	347	569	482	198	507	430
V/C Ratio(X)	0.80	0.49	0.49	0.72	0.94	0.94	0.72	0.78	0.57	0.65	0.51	0.30
Avail Cap(c_a), veh/h	216	1262	563	537	726	732	347	569	482	198	507	430
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	30.2	30.2	21.1	34.6	34.7	33.9	38.1	35.1	37.3	37.0	34.7
Incr Delay (d2), s/veh	18.6	0.3	0.7	3.4	19.2	20.0	7.1	10.3	4.8	7.3	3.6	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	4.0	6.8	6.0	5.2	21.2	21.7	3.0	13.1	7.1	1.6	6.7	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	30.5	30.8	24.5	53.8	54.7	41.0	48.4	39.9	44.7	40.6	36.5
LnGrp LOS	D	C	C	C	D	D	D	D	D	D	D	D
Approach Vol, veh/h		1064			1636			969			516	
Approach Delay, s/veh		33.3			48.8			44.1			40.6	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	43.5	18.9	48.6	13.0	39.5	13.6	53.8
Change Period (Y+Rc), s	4.0	7.0	4.0	6.0	4.0	7.0	4.5	6.0
Max Green Setting (Gmax), s	5.0	35.0	23.0	36.0	9.0	31.0	9.5	49.0
Max Q Clear Time (g_c+I1), s	7.0	28.1	14.3	18.4	11.0	16.0	9.2	45.3
Green Ext Time (p_c), s	0.0	2.0	0.6	4.5	0.0	1.5	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	5	0	15	1	464	11	13	454	0
Future Vol, veh/h	1	1	1	5	0	15	1	464	11	13	454	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	60	60	60	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	2	2	8	0	25	1	504	12	14	493	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	775	1039	247	788	1033	258	493	0	0	516	0	0
Stage 1	521	521	-	512	512	-	-	-	-	-	-	-
Stage 2	254	518	-	276	521	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	288	229	753	282	231	741	1067	-	-	1046	-	-
Stage 1	507	530	-	513	535	-	-	-	-	-	-	-
Stage 2	728	531	-	707	530	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	275	226	753	276	228	741	1067	-	-	1046	-	-
Mov Cap-2 Maneuver	275	226	-	276	228	-	-	-	-	-	-	-
Stage 1	506	523	-	512	534	-	-	-	-	-	-	-
Stage 2	703	530	-	693	523	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.5	12.1	0	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1067	-	-	320	276	741	1046	-	-
HCM Lane V/C Ratio	0.001	-	-	0.019	0.03	0.034	0.014	-	-
HCM Control Delay (s)	8.4	-	-	16.5	18.4	10	8.5	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	61.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	475	0	0	1100	40	0	0	0	120	0	55
Future Vol, veh/h	120	475	0	0	1100	40	0	0	0	120	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	100	-	100	100	-	-	80	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	516	0	0	1196	43	0	0	0	130	0	60

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1239	0	0	516	0	0	1374	2015	258	1714	1972	598
Stage 1	-	-	-	-	-	-	776	776	-	1196	1196	-
Stage 2	-	-	-	-	-	-	598	1239	-	518	776	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	558	-	-	1046	-	-	105	58	741	~ 58	62	445
Stage 1	-	-	-	-	-	-	356	406	-	198	258	-
Stage 2	-	-	-	-	-	-	456	246	-	509	406	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	558	-	-	1046	-	-	75	44	741	~ 48	48	445
Mov Cap-2 Maneuver	-	-	-	-	-	-	75	44	-	~ 48	48	-
Stage 1	-	-	-	-	-	-	273	311	-	152	258	-
Stage 2	-	-	-	-	-	-	395	246	-	390	311	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0	0	$ 661
HCM LOS			A	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	558	-	-	1046	-	-	48	445
HCM Lane V/C Ratio	-	-	0.234	-	-	-	-	-	2.717	0.134
HCM Control Delay (s)	0	0	13.4	-	-	0	-	-	$ 957.4	14.3
HCM Lane LOS	A	A	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	-	-	0.9	-	-	0	-	-	13.8	0.5

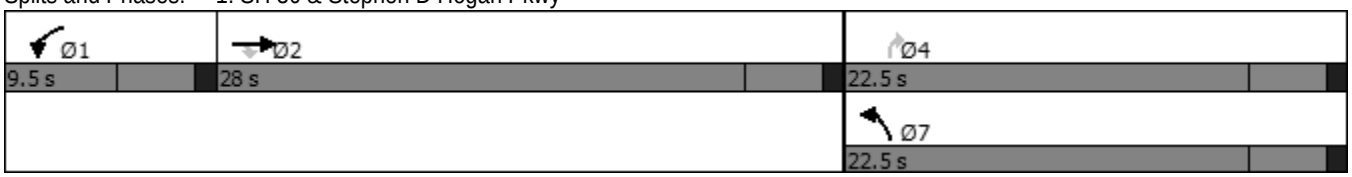
Notes

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

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1210	690	10	665	370	20
Future Volume (vph)	1210	690	10	665	370	20
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Detector Phase	2	2	1		7	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	9.5		22.5	22.5
Total Split (s)	28.0	28.0	9.5		22.5	22.5
Total Split (%)	46.7%	46.7%	15.8%		37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	Max	Max	None		None	None
Act Effct Green (s)	24.0	24.0	5.1	45.1	10.5	10.5
Actuated g/C Ratio	0.53	0.53	0.11	1.00	0.23	0.23
v/c Ratio	0.70	0.63	0.06	0.20	0.50	0.06

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 45.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 8.5
Intersection Capacity Utilization 54.4%
Analysis Period (min) 15
! Phase conflict between lane groups.

Splits and Phases: 1: SH 30 & Stephen D Hogan Pkwy



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1315	750	11	723	402	22
v/c Ratio	0.70	0.63	0.06	0.20	0.50	0.06
Control Delay	12.8	3.8	21.5	0.1	17.8	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	3.8	21.5	0.1	17.8	7.9
Queue Length 50th (ft)	100	0	2	0	43	0
Queue Length 95th (ft)	#340	56	16	0	93	14
Internal Link Dist (ft)	1030			1968	1006	
Turn Bay Length (ft)		340	225		470	250
Base Capacity (vph)	1881	1192	199	3539	1391	654
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.63	0.06	0.20	0.29	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1210	690	10	665	370	20
Future Volume (vph)	1210	690	10	665	370	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1315	750	11	723	402	22
RTOR Reduction (vph)	0	381	0	0	0	17
Lane Group Flow (vph)	1315	369	11	723	402	5
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Actuated Green, G (s)	24.0	24.0	0.8	48.8	10.5	10.5
Effective Green, g (s)	24.0	24.0	0.8	48.8	10.5	10.5
Actuated g/C Ratio	0.49	0.49	0.02	1.00	0.22	0.22
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	1740	778	29	3539	738	340
v/s Ratio Prot	c0.37		0.01	0.20	c0.12	
v/s Ratio Perm		0.23				0.00
v/c Ratio	0.76	0.47	0.38	0.20	0.54	0.01
Uniform Delay, d1	10.0	8.2	23.8	0.0	17.0	15.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	2.1	8.1	0.1	0.8	0.0
Delay (s)	13.1	10.3	31.9	0.1	17.9	15.1
Level of Service	B	B	C	A	B	B
Approach Delay (s)	12.1			0.6	17.7	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	48.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Intersection	
Int Delay, s/veh	338.7

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	10	45	15	260	140	5	20	630	50	20	375	230
Future Vol, veh/h	10	45	15	260	140	5	20	630	50	20	375	230
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	225	-	225	225	-	225
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	88	88	88	93	93	93	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	90	30	295	159	6	22	677	54	23	426	261

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	1406	1454	677	1280	1247	426	687	0	0	731	0	0
Stage 1	721	721	-	472	472	-	-	-	-	-	-	-
Stage 2	685	733	-	808	775	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	117	130	453	~ 143	173	628	907	-	-	873	-	-
Stage 1	419	432	-	573	559	-	-	-	-	-	-	-
Stage 2	438	426	-	375	408	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 14	124	453	~ 53	165	628	907	-	-	873	-	-
Mov Cap-2 Maneuver	~ 14	124	-	~ 53	165	-	-	-	-	-	-	-
Stage 1	409	422	-	559	544	-	-	-	-	-	-	-
Stage 2	299	415	-	~ 269	398	-	-	-	-	-	-	-

Approach	NB	SB	SE	NW
HCM Control Delay, s	183.4	$ 1461.6	0.3	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	NWL	NWT	NWR	SEL	SET	SER	SBLn1	SBLn2
Capacity (veh/h)	14	152	873	-	-	907	-	-	53	169
HCM Lane V/C Ratio	1.429	0.789	0.026	-	-	0.024	-	-	5.575	0.975
HCM Control Delay (s)	$ 776.4	84.6	9.2	-	-	9.1	-	-	$ 2211.2	117.5
HCM Lane LOS	F	F	A	-	-	A	-	-	F	F
HCM 95th %tile Q(veh)	3.1	5	0.1	-	-	0.1	-	-	33.6	7.6

Notes

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	205	1005	20	25	480	135	20	190	70	115	340	175
Future Vol, veh/h	205	1005	20	25	480	135	20	190	70	115	340	175
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	325	-	-	275	-	225	100	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	88	88	88	79	79	79	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	220	1081	22	28	545	153	25	241	89	134	395	203

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	698	0	0	1103	0	0	2058	2286	552	1702	2144	273
Stage 1	-	-	-	-	-	-	1532	1532	-	601	601	-
Stage 2	-	-	-	-	-	-	526	754	-	1101	1543	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	894	-	-	629	-	-	32	~ 39	477	~ 59	~ 48	725
Stage 1	-	-	-	-	-	-	122	~ 177	-	454	488	-
Stage 2	-	-	-	-	-	-	503	415	-	226	~ 175	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	894	-	-	629	-	-	-	~ 28	477	-	~ 35	725
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 28	-	-	~ 35	-
Stage 1	-	-	-	-	-	-	92	~ 133	-	342	466	-
Stage 2	-	-	-	-	-	-	52	396	-	-	~ 132	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0.4		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	38	894	-	-	629	-	-	-	35	725
HCM Lane V/C Ratio	-	8.661	0.247	-	-	0.045	-	-	-	11.296	0.281
HCM Control Delay (s)	$	3651.1	10.3	-	-	11	-	-	$	4851.1	11.9
HCM Lane LOS	-	F	B	-	-	B	-	-	-	F	B
HCM 95th %tile Q(veh)	-	39.5	1	-	-	0.1	-	-	-	48.1	1.1

Notes

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

Intersection	
Int Delay, s/veh	66.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑						↰↑	↱
Traffic Vol, veh/h	0	960	170	145	495	0	0	0	0	110	0	75
Future Vol, veh/h	0	960	170	145	495	0	0	0	0	110	0	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	135	200	-	-	-	-	-	-	-	235
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	83	83	83	92	92	92	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1500	266	175	596	0	0	0	0	141	0	96

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	1766	0	0		1696	2712	298
Stage 1	-	-	-	-	-	-		946	946	-
Stage 2	-	-	-	-	-	-		750	1766	-
Critical Hdwy	-	-	-	4.14	-	-		6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-		5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.84	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-		3.52	4.02	3.32
Pot Cap-1 Maneuver	0	-	-	349	-	0		~ 84	21	698
Stage 1	0	-	-	-	-	0		338	338	-
Stage 2	0	-	-	-	-	0		427	135	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	349	-	-		~ 42	0	698
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 42	0	-
Stage 1	-	-	-	-	-	-		338	0	-
Stage 2	-	-	-	-	-	-		213	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	$ 755
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	349	-	42	698
HCM Lane V/C Ratio	-	-	0.501	-	3.358	0.138
HCM Control Delay (s)	-	-	25.2	$	1262.3	11
HCM Lane LOS	-	-	D	-	F	B
HCM 95th %tile Q(veh)	-	-	2.7	-	15.7	0.5

Notes

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

Intersection	
Int Delay, s/veh	38.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	135	935	0	0	555	120	85	0	160	0	0	0
Future Vol, veh/h	135	935	0	0	555	120	85	0	160	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	230	-	-	-	-	280	-	-	135	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	96	96	96	73	73	73	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	193	1336	0	0	578	125	116	0	219	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	703	0	-	-	-	0	2011	2425	668
Stage 1	-	-	-	-	-	-	1722	1722	-
Stage 2	-	-	-	-	-	-	289	703	-
Critical Hdwy	4.14	-	-	-	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	1150	-	0	0	-	-	*~ 60	31	401
Stage 1	-	-	0	0	-	-	*129	142	-
Stage 2	-	-	0	0	-	-	*825	621	-
Platoon blocked, %	1	-			-	-	1	1	
Mov Cap-1 Maneuver	1150	-	-	-	-	-	*~ 50	0	401
Mov Cap-2 Maneuver	-	-	-	-	-	-	*~ 50	0	-
Stage 1	-	-	-	-	-	-	*~ 107	0	-
Stage 2	-	-	-	-	-	-	*825	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.1	0	287.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	50	401	1150	-	-	-
HCM Lane V/C Ratio	2.329	0.547	0.168	-	-	-
HCM Control Delay (s)	$ 782	24.3	8.8	-	-	-
HCM Lane LOS	F	C	A	-	-	-
HCM 95th %tile Q(veh)	12	3.2	0.6	-	-	-

Notes

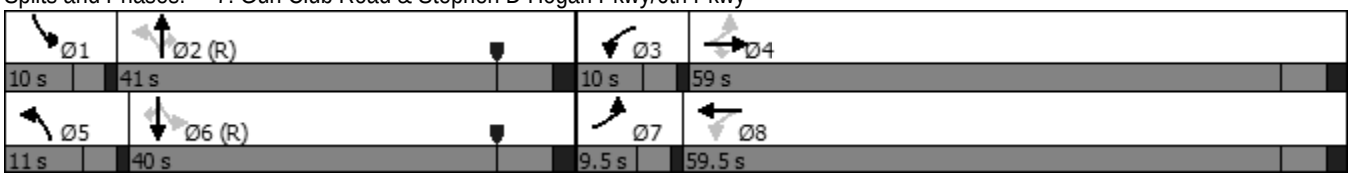
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	80	700	315	155	425	155	310	170	135	355	95
Future Volume (vph)	80	700	315	155	425	155	310	170	135	355	95
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	3.0	5.0	5.0	3.0	5.0	3.0	10.0	10.0	3.0	10.0	10.0
Minimum Split (s)	7.0	11.0	11.0	7.0	11.0	7.0	41.0	41.0	7.0	17.0	17.0
Total Split (s)	9.5	59.0	59.0	10.0	59.5	11.0	41.0	41.0	10.0	40.0	40.0
Total Split (%)	7.9%	49.2%	49.2%	8.3%	49.6%	9.2%	34.2%	34.2%	8.3%	33.3%	33.3%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	4.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	44.7	37.2	37.2	45.7	37.7	59.9	45.2	45.2	57.6	44.0	44.0
Actuated g/C Ratio	0.37	0.31	0.31	0.38	0.31	0.50	0.38	0.38	0.48	0.37	0.37
v/c Ratio	0.33	0.74	0.53	0.91	0.50	0.40	0.49	0.27	0.32	0.58	0.17

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 31.0
Intersection Capacity Utilization 72.7%
Analysis Period (min) 15

Splits and Phases: 7: Gun Club Road & Stephen D Hogan Pkwy/6th Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	93	814	366	168	549	172	344	189	152	399	107
v/c Ratio	0.33	0.74	0.53	0.91	0.50	0.40	0.49	0.27	0.32	0.58	0.17
Control Delay	23.8	41.0	9.6	72.6	32.8	19.6	33.9	5.5	18.6	37.2	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	41.0	9.6	72.6	32.8	19.6	33.9	5.5	18.6	37.2	6.7
Queue Length 50th (ft)	44	297	42	84	174	68	202	0	59	247	0
Queue Length 95th (ft)	66	309	98	#161	202	128	339	55	112	#404	42
Internal Link Dist (ft)		1048			585		581			595	
Turn Bay Length (ft)	225		225	225		225		550	225		225
Base Capacity (vph)	285	1563	861	185	1552	429	701	713	473	683	648
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.52	0.43	0.91	0.35	0.40	0.49	0.27	0.32	0.58	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	700	315	155	425	80	155	310	170	135	355	95
Future Volume (veh/h)	80	700	315	155	425	80	155	310	170	135	355	95
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	93	814	366	168	462	87	172	344	189	152	399	107
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.90	0.90	0.90	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	281	1026	458	186	875	164	407	816	691	418	800	678
Arrive On Green	0.05	0.29	0.29	0.05	0.29	0.29	0.06	0.44	0.44	0.05	0.43	0.43
Sat Flow, veh/h	1781	3554	1585	1781	2987	559	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	93	814	366	168	274	275	172	344	189	152	399	107
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1770	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.4	25.4	25.6	6.0	15.4	15.6	6.6	15.2	9.2	5.8	18.6	5.0
Cycle Q Clear(g_c), s	4.4	25.4	25.6	6.0	15.4	15.6	6.6	15.2	9.2	5.8	18.6	5.0
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	281	1026	458	186	521	518	407	816	691	418	800	678
V/C Ratio(X)	0.33	0.79	0.80	0.90	0.53	0.53	0.42	0.42	0.27	0.36	0.50	0.16
Avail Cap(c_a), veh/h	281	1570	700	186	792	789	407	816	691	418	800	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	39.4	39.5	39.0	35.5	35.5	19.3	23.4	21.7	18.9	25.0	21.1
Incr Delay (d2), s/veh	0.7	1.6	3.8	40.1	0.8	0.8	0.7	1.6	1.0	0.5	2.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.9	10.1	4.1	6.6	6.6	2.7	6.8	3.5	2.4	8.4	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	41.0	43.3	79.1	36.3	36.4	20.0	25.0	22.6	19.4	27.2	21.6
LnGrp LOS	C	D	D	E	D	D	C	C	C	B	C	C
Approach Vol, veh/h		1273			717			705			658	
Approach Delay, s/veh		40.8			46.4			23.1			24.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	59.3	10.0	40.7	11.0	58.3	9.5	41.2
Change Period (Y+Rc), s	4.0	7.0	4.0	6.0	4.0	7.0	4.0	6.0
Max Green Setting (Gmax), s	6.0	34.0	6.0	53.0	7.0	33.0	5.5	53.5
Max Q Clear Time (g_c+I1), s	7.8	17.2	8.0	27.6	8.6	20.6	6.4	17.6
Green Ext Time (p_c), s	0.0	2.3	0.0	7.0	0.0	2.0	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

Intersection												
Int Delay, s/veh	0.8											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	5	5	20	2	498	30	24	624	2
Future Vol, veh/h	1	1	1	5	5	20	2	498	30	24	624	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	33	33	33	71	71	71	79	79	79	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	3	3	7	7	28	3	630	38	28	726	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1108	1457	364	1076	1439	334	728	0	0	668	0	0
Stage 1	783	783	-	655	655	-	-	-	-	-	-	-
Stage 2	325	674	-	421	784	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	164	129	633	174	132	662	871	-	-	918	-	-
Stage 1	353	403	-	421	461	-	-	-	-	-	-	-
Stage 2	661	452	-	581	402	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	147	125	633	166	128	662	871	-	-	918	-	-
Mov Cap-2 Maneuver	147	125	-	166	128	-	-	-	-	-	-	-
Stage 1	352	391	-	420	460	-	-	-	-	-	-	-
Stage 2	621	451	-	556	390	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.7	17.9	0	0.3
HCM LOS	D	C		

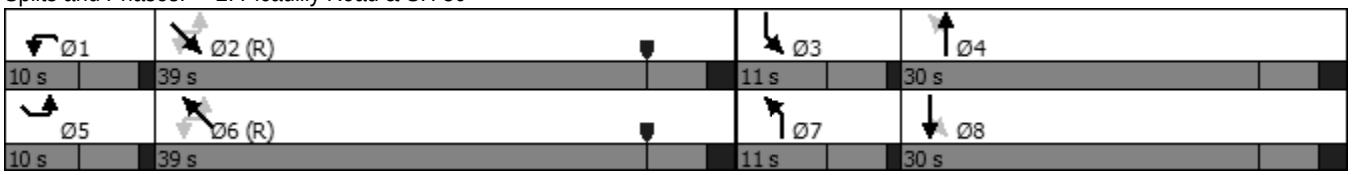
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	871	-	-	183	166	361	918	-	-
HCM Lane V/C Ratio	0.003	-	-	0.05	0.042	0.098	0.03	-	-
HCM Control Delay (s)	9.1	-	-	25.7	27.6	16	9	-	-
HCM Lane LOS	A	-	-	D	D	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.3	0.1	-	-

Intersection Capacity Worksheets: 2030 Background With Improvements

Lane Group	NBL	NBT	SBL	SBT	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations										
Traffic Volume (vph)	15	45	185	65	25	270	10	20	725	360
Future Volume (vph)	15	45	185	65	25	270	10	20	725	360
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	30.0	10.0	30.0	10.0	26.0	26.0	10.0	26.0	26.0
Total Split (s)	11.0	30.0	11.0	30.0	10.0	39.0	39.0	10.0	39.0	39.0
Total Split (%)	12.2%	33.3%	12.2%	33.3%	11.1%	43.3%	43.3%	11.1%	43.3%	43.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	18.7	11.8	20.8	16.2	54.3	50.6	50.6	54.2	50.6	50.6
Actuated g/C Ratio	0.21	0.13	0.23	0.18	0.60	0.56	0.56	0.60	0.56	0.56
v/c Ratio	0.10	0.51	0.69	0.25	0.11	0.28	0.01	0.03	0.75	0.38

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SETL and 6:NWTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 20.8
Intersection Capacity Utilization 65.1%
Analysis Period (min) 15

Splits and Phases: 2: Picadilly Road & SH 30



Lane Group	NBL	NBT	SBL	SBT	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	30	130	201	82	27	293	11	22	788	391
v/c Ratio	0.10	0.51	0.69	0.25	0.11	0.28	0.01	0.03	0.75	0.38
Control Delay	24.7	36.6	42.2	32.2	8.2	12.9	0.0	7.5	23.6	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	36.6	42.2	32.2	8.2	12.9	0.0	7.5	23.6	4.5
Queue Length 50th (ft)	13	57	96	39	5	67	0	4	264	16
Queue Length 95th (ft)	18	51	#151	78	17	169	0	15	#672	85
Internal Link Dist (ft)		388		631		507			534	
Turn Bay Length (ft)	100		100		225		225	225		225
Base Capacity (vph)	304	491	293	492	254	1047	959	664	1046	1026
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.26	0.69	0.17	0.11	0.28	0.01	0.03	0.75	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	15	45	20	185	65	10	25	270	10	20	725	360
Future Volume (veh/h)	15	45	20	185	65	10	25	270	10	20	725	360
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	30	90	40	201	71	11	27	293	11	22	788	391
Peak Hour Factor	0.50	0.50	0.50	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	275	136	60	250	234	36	235	1037	879	629	1030	873
Arrive On Green	0.03	0.11	0.11	0.07	0.15	0.15	0.03	0.55	0.55	0.02	0.55	0.55
Sat Flow, veh/h	1781	1227	545	1781	1581	245	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	30	0	130	201	0	82	27	293	11	22	788	391
Grp Sat Flow(s),veh/h/ln	1781	0	1772	1781	0	1826	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.3	0.0	6.3	6.0	0.0	3.6	0.6	7.4	0.3	0.5	29.4	13.2
Cycle Q Clear(g_c), s	1.3	0.0	6.3	6.0	0.0	3.6	0.6	7.4	0.3	0.5	29.4	13.2
Prop In Lane	1.00		0.31	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	0	196	250	0	271	235	1037	879	629	1030	873
V/C Ratio(X)	0.11	0.00	0.66	0.80	0.00	0.30	0.11	0.28	0.01	0.03	0.76	0.45
Avail Cap(c_a), veh/h	341	0	473	250	0	487	285	1037	879	686	1030	873
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	0.0	38.4	36.7	0.0	34.2	13.2	10.6	9.0	8.5	15.7	12.1
Incr Delay (d2), s/veh	0.2	0.0	3.8	17.2	0.0	0.6	0.2	0.7	0.0	0.0	5.4	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.8	2.5	0.0	1.6	0.2	2.7	0.1	0.2	11.4	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	0.0	42.2	53.9	0.0	34.8	13.5	11.3	9.0	8.6	21.1	13.7
LnGrp LOS	C	A	D	D	A	C	B	B	A	A	C	B
Approach Vol, veh/h		160			283			331			1201	
Approach Delay, s/veh		40.6			48.4			11.4			18.5	
Approach LOS		D			D			B			B	

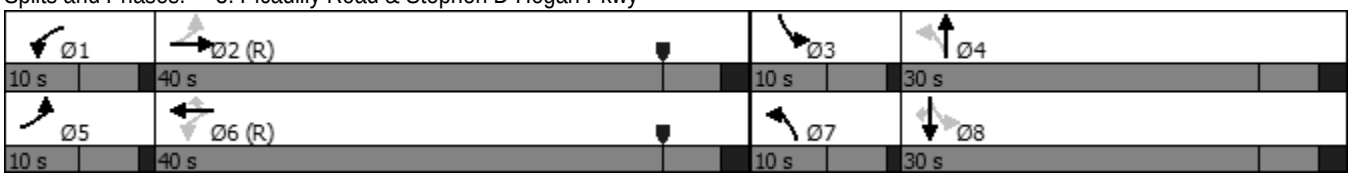
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	55.9	11.0	16.0	7.5	55.6	7.6	19.3
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	33.0	6.0	24.0	5.0	33.0	6.0	24.0
Max Q Clear Time (g_c+I1), s	2.5	9.4	8.0	8.3	2.6	31.4	3.3	5.6
Green Ext Time (p_c), s	0.0	1.4	0.0	0.5	0.0	1.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	50	500	60	1025	80	45	345	75	195	190
Future Volume (vph)	50	500	60	1025	80	45	345	75	195	190
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	5	2	1	6		7	4	3	8	
Permitted Phases	2		6		6	4		8		8
Detector Phase	5	2	1	6	6	7	4	3	8	8
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	30.0	10.0	30.0	30.0	10.0	30.0	10.0	30.0	30.0
Total Split (s)	10.0	40.0	10.0	40.0	40.0	10.0	30.0	10.0	30.0	30.0
Total Split (%)	11.1%	44.4%	11.1%	44.4%	44.4%	11.1%	33.3%	11.1%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	1.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	44.0	39.0	44.0	39.0	39.0	28.0	23.0	29.0	25.0	25.0
Actuated g/C Ratio	0.49	0.43	0.49	0.43	0.43	0.31	0.26	0.32	0.28	0.28
v/c Ratio	0.28	0.37	0.16	0.73	0.11	0.13	0.90	0.42	0.41	0.35

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 26.7
Intersection Capacity Utilization 75.9%
Analysis Period (min) 15

Splits and Phases: 3: Picadilly Road & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	54	565	65	1114	87	49	424	82	212	207
v/c Ratio	0.28	0.37	0.16	0.73	0.11	0.13	0.90	0.42	0.41	0.35
Control Delay	15.7	19.7	12.8	26.7	0.5	18.5	55.4	24.9	29.5	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	19.7	12.8	26.7	0.5	18.5	55.4	24.9	29.5	5.8
Queue Length 50th (ft)	15	122	18	297	0	17	226	29	100	0
Queue Length 95th (ft)	34	167	39	382	3	40	#390	59	165	51
Internal Link Dist (ft)		1158		287			427		245	
Turn Bay Length (ft)	325		275		225	100		100		
Base Capacity (vph)	191	1526	409	1532	775	374	493	197	536	603
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.37	0.16	0.73	0.11	0.13	0.86	0.42	0.40	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	500	20	60	1025	80	45	345	45	75	195	190
Future Volume (veh/h)	50	500	20	60	1025	80	45	345	45	75	195	190
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	54	543	22	65	1114	87	49	375	49	82	212	207
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	221	1427	58	414	1470	655	312	409	53	193	489	415
Arrive On Green	0.04	0.41	0.41	0.04	0.41	0.41	0.04	0.25	0.25	0.05	0.26	0.26
Sat Flow, veh/h	1781	3481	141	1781	3554	1585	1781	1621	212	1781	1870	1585
Grp Volume(v), veh/h	54	277	288	65	1114	87	49	0	424	82	212	207
Grp Sat Flow(s),veh/h/ln	1781	1777	1845	1781	1777	1585	1781	0	1832	1781	1870	1585
Q Serve(g_s), s	1.5	9.8	9.8	1.9	24.1	3.1	1.8	0.0	20.3	3.0	8.5	10.0
Cycle Q Clear(g_c), s	1.5	9.8	9.8	1.9	24.1	3.1	1.8	0.0	20.3	3.0	8.5	10.0
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	221	729	757	414	1470	655	312	0	462	193	489	415
V/C Ratio(X)	0.24	0.38	0.38	0.16	0.76	0.13	0.16	0.00	0.92	0.43	0.43	0.50
Avail Cap(c_a), veh/h	247	729	757	433	1470	655	341	0	489	205	499	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	18.6	18.6	14.5	22.5	16.4	23.6	0.0	32.7	25.6	27.7	28.2
Incr Delay (d2), s/veh	0.6	1.5	1.5	0.2	3.7	0.4	0.2	0.0	21.7	1.5	0.6	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.0	4.1	0.7	9.8	1.1	0.7	0.0	11.2	1.3	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	20.1	20.0	14.6	26.3	16.8	23.8	0.0	54.5	27.0	28.3	29.2
LnGrp LOS	B	C	C	B	C	B	C	A	D	C	C	C
Approach Vol, veh/h		619			1266			473			501	
Approach Delay, s/veh		19.9			25.0			51.3			28.4	
Approach LOS		B			C			D			C	

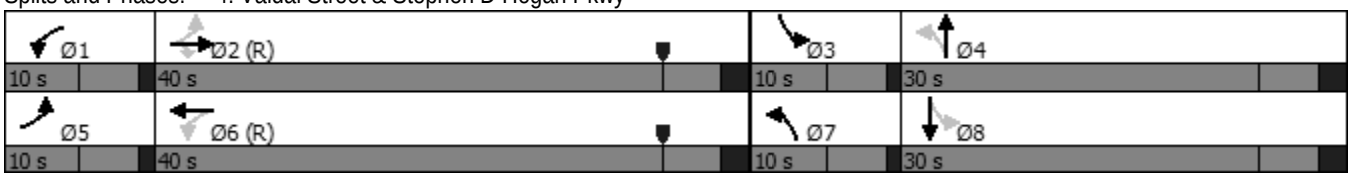
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	42.9	9.4	28.7	8.7	43.2	8.5	29.5
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	34.0	5.0	24.0	5.0	34.0	5.0	24.0
Max Q Clear Time (g_c+I1), s	3.9	11.8	5.0	22.3	3.5	26.1	3.8	12.0
Green Ext Time (p_c), s	0.0	3.0	0.0	0.4	0.0	4.4	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	50	525	45	90	990	35	5	80	5
Future Volume (vph)	50	525	45	90	990	35	5	80	5
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6	7	4	3	8
Permitted Phases	2		2	6		4		8	
Detector Phase	5	2	2	1	6	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	10.0	30.0	30.0	10.0	30.0	10.0	30.0	10.0	30.0
Total Split (s)	10.0	40.0	40.0	10.0	40.0	10.0	30.0	10.0	30.0
Total Split (%)	11.1%	44.4%	44.4%	11.1%	44.4%	11.1%	33.3%	11.1%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	55.9	49.5	49.5	57.5	50.3	13.1	10.3	16.3	10.3
Actuated g/C Ratio	0.62	0.55	0.55	0.64	0.56	0.15	0.11	0.18	0.11
v/c Ratio	0.18	0.29	0.05	0.17	0.58	0.30	0.24	0.35	0.47

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 12 (13%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 8.7
Intersection Capacity Utilization 64.7%
Analysis Period (min) 15

Splits and Phases: 4: Valdai Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	571	49	98	1147	64	54	87	141
v/c Ratio	0.18	0.29	0.05	0.17	0.58	0.30	0.24	0.35	0.47
Control Delay	7.4	12.9	0.1	1.6	3.6	33.0	16.9	32.6	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.4	12.9	0.1	1.6	3.6	33.0	16.9	32.6	12.9
Queue Length 50th (ft)	10	95	0	3	24	29	5	40	3
Queue Length 95th (ft)	23	142	0	m7	38	36	14	78	55
Internal Link Dist (ft)		350			557		352		320
Turn Bay Length (ft)	275		225	225		100		100	
Base Capacity (vph)	299	1946	941	563	1963	210	467	248	524
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.29	0.05	0.17	0.58	0.30	0.12	0.35	0.27

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	525	45	90	990	65	35	5	25	80	5	125
Future Volume (veh/h)	50	525	45	90	990	65	35	5	25	80	5	125
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	54	571	0	98	1076	71	64	9	45	87	5	136
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.55	0.55	0.55	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	1913		549	1854	122	205	30	150	288	7	188
Arrive On Green	0.04	0.54	0.00	0.10	1.00	1.00	0.04	0.11	0.11	0.06	0.12	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3384	223	1781	271	1355	1781	57	1537
Grp Volume(v), veh/h	54	571	0	98	565	582	64	0	54	87	0	141
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1830	1781	0	1626	1781	0	1594
Q Serve(g_s), s	1.2	8.0	0.0	2.2	0.0	0.0	2.8	0.0	2.7	3.9	0.0	7.7
Cycle Q Clear(g_c), s	1.2	8.0	0.0	2.2	0.0	0.0	2.8	0.0	2.7	3.9	0.0	7.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.83	1.00		0.96
Lane Grp Cap(c), veh/h	417	1913		549	974	1003	205	0	180	288	0	195
V/C Ratio(X)	0.13	0.30		0.18	0.58	0.58	0.31	0.00	0.30	0.30	0.00	0.72
Avail Cap(c_a), veh/h	443	1913		557	974	1003	225	0	434	288	0	425
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	11.4	0.0	8.0	0.0	0.0	33.6	0.0	36.8	32.9	0.0	38.0
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.1	2.1	2.0	0.9	0.0	0.9	0.6	0.0	5.0
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	0.4	2.8	0.0	0.7	0.6	0.6	1.3	0.0	1.1	1.7	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.3	11.8	0.0	8.1	2.1	2.0	34.4	0.0	37.7	33.5	0.0	43.1
LnGrp LOS	A	B		A	A	A	C	A	D	C	A	D
Approach Vol, veh/h		625	A		1245			118			228	
Approach Delay, s/veh		11.5			2.5			35.9			39.4	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	54.4	10.0	16.0	8.7	55.3	9.0	17.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	34.0	5.0	24.0	5.0	34.0	5.0	24.0
Max Q Clear Time (g_c+I1), s	4.2	10.0	5.9	4.7	3.2	2.0	4.8	9.7
Green Ext Time (p_c), s	0.0	3.5	0.0	0.2	0.0	8.1	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

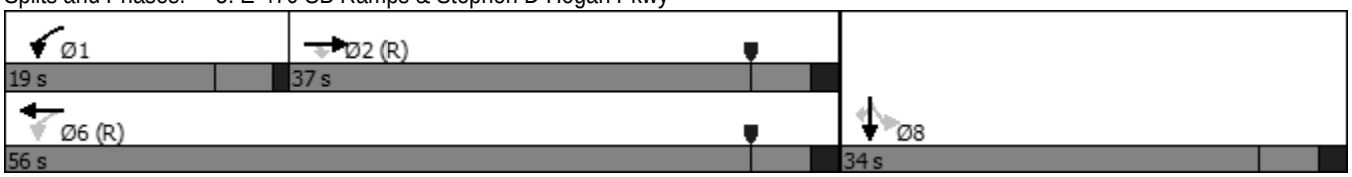
Notes

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

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	480	150	170	1025	0	120
Future Volume (vph)	480	150	170	1025	0	120
Turn Type	NA	Perm	pm+pt	NA	NA	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	5.0	5.0
Minimum Split (s)	24.0	24.0	10.0	24.0	30.0	30.0
Total Split (s)	37.0	37.0	19.0	56.0	34.0	34.0
Total Split (%)	41.1%	41.1%	21.1%	62.2%	37.8%	37.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	34.9	34.9	51.0	50.0	28.0	28.0
Actuated g/C Ratio	0.39	0.39	0.57	0.56	0.31	0.31
v/c Ratio	0.38	0.23	0.37	0.57	0.29	0.23

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 7 (8%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 9.2
Intersection Capacity Utilization 56.2%
Analysis Period (min) 15

Splits and Phases: 5: E-470 SB Ramps & Stephen D Hogan Pkwy



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	522	163	185	1114	158	130
v/c Ratio	0.38	0.23	0.37	0.57	0.29	0.23
Control Delay	13.7	1.4	6.3	6.4	25.2	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	1.4	6.3	6.4	25.2	9.0
Queue Length 50th (ft)	51	0	16	52	67	13
Queue Length 95th (ft)	70	4	m26	61	119	54
Internal Link Dist (ft)	557			525	689	
Turn Bay Length (ft)		135	200			235
Base Capacity (vph)	1371	713	547	1966	550	559
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.23	0.34	0.57	0.29	0.23

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	480	150	170	1025	0	0	0	0	145	0	120
Future Volume (veh/h)	0	480	150	170	1025	0	0	0	0	145	0	120
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	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	522	163	185	1114	0				158	0	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1488	664	516	1974	0				554	0	493
Arrive On Green	0.00	0.84	0.84	0.16	1.00	0.00				0.31	0.00	0.31
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1781	0	1585
Grp Volume(v), veh/h	0	522	163	185	1114	0				158	0	130
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	3.0	1.9	5.1	0.0	0.0				6.0	0.0	5.5
Cycle Q Clear(g_c), s	0.0	3.0	1.9	5.1	0.0	0.0				6.0	0.0	5.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1488	664	516	1974	0				554	0	493
V/C Ratio(X)	0.00	0.35	0.25	0.36	0.56	0.00				0.29	0.00	0.26
Avail Cap(c_a), veh/h	0	1488	664	648	1974	0				554	0	493
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.96	0.96	0.73	0.73	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	4.5	4.4	10.6	0.0	0.0				23.4	0.0	23.3
Incr Delay (d2), s/veh	0.0	0.6	0.8	0.3	0.9	0.0				1.3	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.0	0.7	1.6	0.2	0.0				2.7	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.1	5.3	11.0	0.9	0.0				24.7	0.0	24.6
LnGrp LOS	A	A	A	B	A	A				C	A	C
Approach Vol, veh/h		685			1299						288	
Approach Delay, s/veh		5.2			2.3						24.7	
Approach LOS		A			A						C	

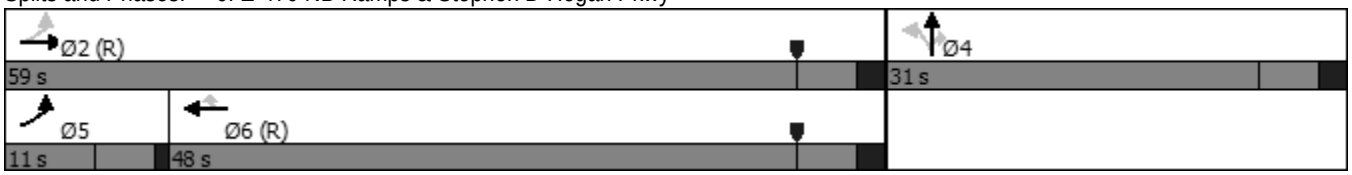
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	12.3	43.7				56.0		34.0				
Change Period (Y+Rc), s	5.0	6.0				6.0		6.0				
Max Green Setting (Gmax), s	14.0	31.0				50.0		28.0				
Max Q Clear Time (g_c+I1), s	7.1	5.0				2.0		8.0				
Green Ext Time (p_c), s	0.3	3.8				9.4		1.3				

Intersection Summary												
HCM 6th Ctrl Delay			6.0									
HCM 6th LOS			A									

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	80	545	1030	150	0	140
Future Volume (vph)	80	545	1030	150	0	140
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	10.0	24.0	24.0	24.0	30.0	30.0
Total Split (s)	11.0	59.0	48.0	48.0	31.0	31.0
Total Split (%)	12.2%	65.6%	53.3%	53.3%	34.4%	34.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max
Act Effct Green (s)	54.0	53.0	44.2	44.2	25.0	25.0
Actuated g/C Ratio	0.60	0.59	0.49	0.49	0.28	0.28
v/c Ratio	0.34	0.28	0.64	0.19	0.36	0.28

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 84 (93%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 15.7
Intersection Capacity Utilization 56.2%
Analysis Period (min) 15

Splits and Phases: 6: E-470 NB Ramps & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	87	592	1108	161	179	152
v/c Ratio	0.34	0.28	0.64	0.19	0.36	0.28
Control Delay	20.4	9.4	19.7	2.9	28.7	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.4	9.4	19.7	2.9	28.7	5.9
Queue Length 50th (ft)	24	67	247	0	82	0
Queue Length 95th (ft)	77	139	318	32	140	44
Internal Link Dist (ft)		525	1048		568	
Turn Bay Length (ft)	230			280		135
Base Capacity (vph)	259	2084	1738	859	491	549
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.28	0.64	0.19	0.36	0.28

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	545	0	0	1030	150	165	0	140	0	0	0
Future Volume (veh/h)	80	545	0	0	1030	150	165	0	140	0	0	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	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	87	592	0	0	1108	161	179	0	152			
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	277	2093	0	0	1720	767	495	0	440			
Arrive On Green	0.10	1.00	0.00	0.00	0.48	0.48	0.28	0.00	0.28			
Sat Flow, veh/h	1781	3647	0	0	3647	1585	1781	0	1585			
Grp Volume(v), veh/h	87	592	0	0	1108	161	179	0	152			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1585	1781	0	1585			
Q Serve(g_s), s	2.1	0.0	0.0	0.0	21.0	5.2	7.3	0.0	6.9			
Cycle Q Clear(g_c), s	2.1	0.0	0.0	0.0	21.0	5.2	7.3	0.0	6.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	277	2093	0	0	1720	767	495	0	440			
V/C Ratio(X)	0.31	0.28	0.00	0.00	0.64	0.21	0.36	0.00	0.35			
Avail Cap(c_a), veh/h	308	2093	0	0	1720	767	495	0	440			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.93	0.93	0.00	0.00	0.09	0.09	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.3	0.0	0.0	0.0	17.4	13.3	26.1	0.0	26.0			
Incr Delay (d2), s/veh	0.6	0.3	0.0	0.0	0.2	0.1	2.0	0.0	2.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.7	0.1	0.0	0.0	7.6	1.7	3.3	0.0	6.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	0.3	0.0	0.0	17.6	13.4	28.1	0.0	28.1			
LnGrp LOS	B	A	A	A	B	B	C	A	C			
Approach Vol, veh/h		679			1269			331				
Approach Delay, s/veh		1.9			17.0			28.1				
Approach LOS		A			B			C				

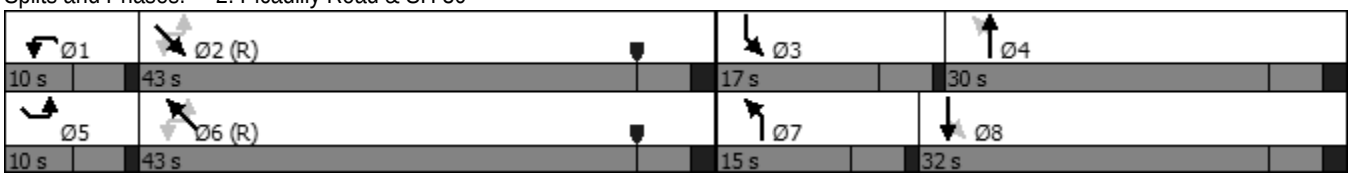
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		59.0		31.0	9.4	49.6
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		53.0		25.0	6.0	42.0
Max Q Clear Time (g_c+I1), s		2.0		9.3	4.1	23.0
Green Ext Time (p_c), s		4.1		1.4	0.0	7.8

Intersection Summary			
HCM 6th Ctrl Delay			14.1
HCM 6th LOS			B

Lane Group	NBL	NBT	SBL	SBT	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations										
Traffic Volume (vph)	10	45	260	140	20	630	50	20	375	230
Future Volume (vph)	10	45	260	140	20	630	50	20	375	230
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	30.0	10.0	30.0	10.0	26.0	26.0	10.0	26.0	26.0
Total Split (s)	15.0	30.0	17.0	32.0	10.0	43.0	43.0	10.0	43.0	43.0
Total Split (%)	15.0%	30.0%	17.0%	32.0%	10.0%	43.0%	43.0%	10.0%	43.0%	43.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	19.4	12.0	29.9	24.2	57.9	54.3	54.3	58.0	54.3	54.3
Actuated g/C Ratio	0.19	0.12	0.30	0.24	0.58	0.54	0.54	0.58	0.54	0.54
v/c Ratio	0.07	0.52	0.77	0.37	0.04	0.67	0.06	0.08	0.42	0.27

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:SETL and 6:NWTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 23.6
Intersection Capacity Utilization 64.2%
Analysis Period (min) 15

Splits and Phases: 2: Picadilly Road & SH 30



Lane Group	NBL	NBT	SBL	SBT	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	20	120	295	165	22	677	54	23	426	261
v/c Ratio	0.07	0.52	0.77	0.37	0.04	0.67	0.06	0.08	0.42	0.27
Control Delay	24.8	43.7	44.4	35.2	9.2	22.9	0.1	9.6	17.0	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.8	43.7	44.4	35.2	9.2	22.9	0.1	9.6	17.0	2.9
Queue Length 50th (ft)	9	64	159	82	5	253	0	5	131	0
Queue Length 95th (ft)	14	56	222	152	17	#585	0	17	278	41
Internal Link Dist (ft)		388		631		507			534	
Turn Bay Length (ft)	100		100		225		225	225		225
Base Capacity (vph)	335	442	382	498	501	1011	924	295	1012	979
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.27	0.77	0.33	0.04	0.67	0.06	0.08	0.42	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	10	45	15	260	140	5	20	630	50	20	375	230
Future Volume (veh/h)	10	45	15	260	140	5	20	630	50	20	375	230
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	20	90	30	295	159	6	22	677	54	23	426	261
Peak Hour Factor	0.50	0.50	0.50	0.88	0.88	0.88	0.93	0.93	0.93	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	134	45	331	356	13	415	1003	850	312	1005	851
Arrive On Green	0.02	0.10	0.10	0.12	0.20	0.20	0.02	0.54	0.54	0.02	0.54	0.54
Sat Flow, veh/h	1781	1342	447	1781	1791	68	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	20	0	120	295	0	165	22	677	54	23	426	261
Grp Sat Flow(s),veh/h/ln	1781	0	1790	1781	0	1858	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.0	0.0	6.5	12.0	0.0	7.8	0.6	26.3	1.6	0.6	13.7	9.1
Cycle Q Clear(g_c), s	1.0	0.0	6.5	12.0	0.0	7.8	0.6	26.3	1.6	0.6	13.7	9.1
Prop In Lane	1.00		0.25	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	0	179	331	0	369	415	1003	850	312	1005	851
V/C Ratio(X)	0.09	0.00	0.67	0.89	0.00	0.45	0.05	0.67	0.06	0.07	0.42	0.31
Avail Cap(c_a), veh/h	372	0	430	331	0	483	464	1003	850	359	1005	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	0.0	43.4	36.7	0.0	35.2	10.8	16.8	11.1	13.4	13.9	12.8
Incr Delay (d2), s/veh	0.2	0.0	4.3	24.8	0.0	0.8	0.1	3.6	0.1	0.1	1.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.0	3.5	0.0	3.5	0.2	10.4	0.6	0.2	5.2	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.2	0.0	47.7	61.5	0.0	36.1	10.8	20.5	11.3	13.5	15.2	13.8
LnGrp LOS	D	A	D	E	A	D	B	C	B	B	B	B
Approach Vol, veh/h		140			460			753			710	
Approach Delay, s/veh		46.5			52.4			19.5			14.6	
Approach LOS		D			D			B			B	

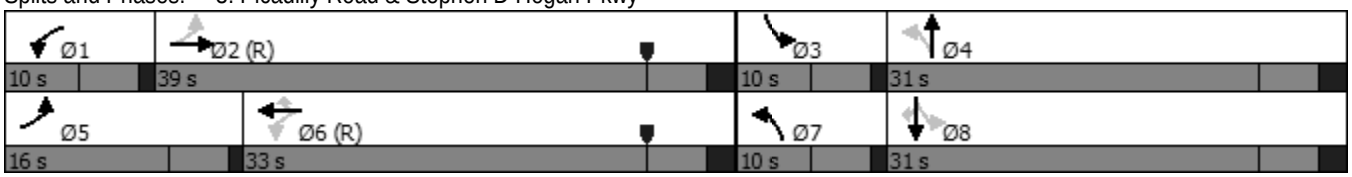
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	59.6	17.0	16.0	7.3	59.7	7.1	25.9
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	37.0	12.0	24.0	5.0	37.0	10.0	26.0
Max Q Clear Time (g_c+I1), s	2.6	28.3	14.0	8.5	2.6	15.7	3.0	9.8
Green Ext Time (p_c), s	0.0	2.7	0.0	0.4	0.0	3.0	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	205	1005	25	480	135	20	190	115	340	175
Future Volume (vph)	205	1005	25	480	135	20	190	115	340	175
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	5	2	1	6		7	4	3	8	
Permitted Phases	2		6		6	4		8		8
Detector Phase	5	2	1	6	6	7	4	3	8	8
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	30.0	10.0	30.0	30.0	10.0	30.0	10.0	30.0	30.0
Total Split (s)	16.0	39.0	10.0	33.0	33.0	10.0	31.0	10.0	31.0	31.0
Total Split (%)	17.8%	43.3%	11.1%	36.7%	36.7%	11.1%	34.4%	11.1%	34.4%	34.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	1.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	48.5	43.5	38.9	32.4	32.4	26.5	20.5	29.5	26.5	26.5
Actuated g/C Ratio	0.54	0.48	0.43	0.36	0.36	0.29	0.23	0.33	0.29	0.29
v/c Ratio	0.49	0.65	0.13	0.43	0.22	0.10	0.78	0.53	0.72	0.33

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 24.3
Intersection Capacity Utilization 73.0%
Analysis Period (min) 15

Splits and Phases: 3: Picadilly Road & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	220	1103	28	545	153	25	330	134	395	203
v/c Ratio	0.49	0.65	0.13	0.43	0.22	0.10	0.78	0.53	0.72	0.33
Control Delay	16.1	22.0	13.5	24.4	1.7	18.4	43.5	28.5	37.5	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	22.0	13.5	24.4	1.7	18.4	43.5	28.5	37.5	4.7
Queue Length 50th (ft)	63	215	7	125	0	9	166	52	185	0
Queue Length 95th (ft)	116	#389	21	179	12	21	206	83	#295	36
Internal Link Dist (ft)		1158		287			427		245	
Turn Bay Length (ft)	325		275		225	100		100		
Base Capacity (vph)	459	1706	220	1274	709	245	511	254	554	624
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.65	0.13	0.43	0.22	0.10	0.65	0.53	0.71	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	1005	20	25	480	135	20	190	70	115	340	175
Future Volume (veh/h)	205	1005	20	25	480	135	20	190	70	115	340	175
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	220	1081	22	28	545	153	25	241	89	134	395	203
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.79	0.79	0.79	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	1639	33	245	1405	627	158	276	102	214	452	383
Arrive On Green	0.09	0.46	0.46	0.03	0.40	0.40	0.03	0.21	0.21	0.06	0.24	0.24
Sat Flow, veh/h	1781	3562	72	1781	3554	1585	1781	1303	481	1781	1870	1585
Grp Volume(v), veh/h	220	539	564	28	545	153	25	0	330	134	395	203
Grp Sat Flow(s),veh/h/ln	1781	1777	1857	1781	1777	1585	1781	0	1784	1781	1870	1585
Q Serve(g_s), s	6.2	21.2	21.2	0.8	9.9	5.8	1.0	0.0	16.1	5.0	18.3	10.0
Cycle Q Clear(g_c), s	6.2	21.2	21.2	0.8	9.9	5.8	1.0	0.0	16.1	5.0	18.3	10.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	459	817	855	245	1405	627	158	0	378	214	452	383
V/C Ratio(X)	0.48	0.66	0.66	0.11	0.39	0.24	0.16	0.00	0.87	0.63	0.87	0.53
Avail Cap(c_a), veh/h	511	817	855	294	1405	627	211	0	495	214	520	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	18.8	18.8	16.6	19.4	18.2	27.9	0.0	34.3	28.7	32.8	29.7
Incr Delay (d2), s/veh	0.8	4.2	4.0	0.2	0.8	0.9	0.5	0.0	12.7	5.7	13.8	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	8.6	9.0	0.3	3.9	2.1	0.4	0.0	7.9	2.5	9.4	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	23.0	22.8	16.8	20.2	19.1	28.4	0.0	47.0	34.4	46.6	30.8
LnGrp LOS	B	C	C	B	C	B	C	A	D	C	D	C
Approach Vol, veh/h		1323			726			355			732	
Approach Delay, s/veh		21.5			19.9			45.7			40.0	
Approach LOS		C			B			D			D	

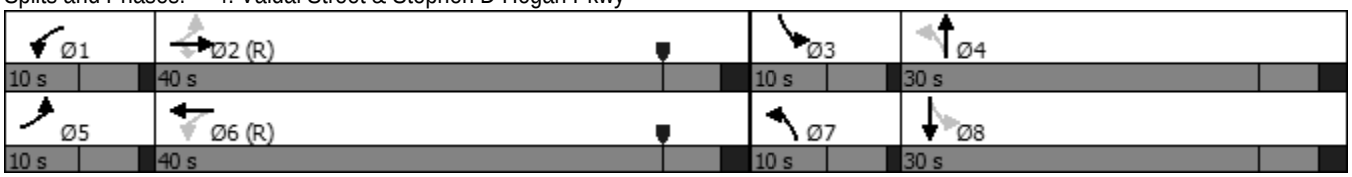
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	47.4	10.0	25.1	13.3	41.6	7.3	27.8
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	33.0	5.0	25.0	11.0	27.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	2.8	23.2	7.0	18.1	8.2	11.9	3.0	20.3
Green Ext Time (p_c), s	0.0	4.5	0.0	1.0	0.2	3.4	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	115	1005	75	15	480	55	10	60	10
Future Volume (vph)	115	1005	75	15	480	55	10	60	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6	7	4	3	8
Permitted Phases	2		2	6		4		8	
Detector Phase	5	2	2	1	6	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	10.0	30.0	30.0	10.0	30.0	10.0	30.0	10.0	30.0
Total Split (s)	10.0	40.0	40.0	10.0	40.0	10.0	30.0	10.0	30.0
Total Split (%)	11.1%	44.4%	44.4%	11.1%	44.4%	11.1%	33.3%	11.1%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	None	None	None
Act Effct Green (s)	57.5	52.7	52.7	51.0	44.1	17.8	12.8	16.8	10.8
Actuated g/C Ratio	0.64	0.59	0.59	0.57	0.49	0.20	0.14	0.19	0.12
v/c Ratio	0.26	0.55	0.08	0.06	0.36	0.60	0.45	0.35	0.60

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 13.4
Intersection Capacity Utilization 63.9%
Analysis Period (min) 15

Splits and Phases: 4: Valdai Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	129	1129	84	17	623	108	157	88	228
v/c Ratio	0.26	0.55	0.08	0.06	0.36	0.60	0.45	0.35	0.60
Control Delay	7.7	13.9	0.2	2.5	7.7	42.8	13.4	31.4	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.7	13.9	0.2	2.5	7.7	42.8	13.4	31.4	13.7
Queue Length 50th (ft)	24	157	0	0	71	50	10	41	8
Queue Length 95th (ft)	51	319	0	3	105	48	4	55	25
Internal Link Dist (ft)		350			557		352		320
Turn Bay Length (ft)	275		225	225		100		100	
Base Capacity (vph)	500	2070	991	302	1710	181	532	254	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	2	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.55	0.08	0.06	0.36	0.60	0.30	0.35	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	1005	75	15	480	75	55	10	70	60	10	145
Future Volume (veh/h)	115	1005	75	15	480	75	55	10	70	60	10	145
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	129	1129	0	17	539	84	108	20	137	88	15	213
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.51	0.51	0.51	0.68	0.68	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	469	1815		255	1462	227	216	35	240	278	18	255
Arrive On Green	0.06	0.51	0.00	0.02	0.47	0.47	0.06	0.17	0.17	0.06	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	1781	3082	479	1781	206	1411	1781	105	1496
Grp Volume(v), veh/h	129	1129	0	17	310	313	108	0	157	88	0	228
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1784	1781	0	1616	1781	0	1601
Q Serve(g_s), s	3.3	20.5	0.0	0.4	10.0	10.1	4.5	0.0	8.0	3.6	0.0	12.4
Cycle Q Clear(g_c), s	3.3	20.5	0.0	0.4	10.0	10.1	4.5	0.0	8.0	3.6	0.0	12.4
Prop In Lane	1.00		1.00	1.00		0.27	1.00		0.87	1.00		0.93
Lane Grp Cap(c), veh/h	469	1815		255	843	846	216	0	275	278	0	272
V/C Ratio(X)	0.27	0.62		0.07	0.37	0.37	0.50	0.00	0.57	0.32	0.00	0.84
Avail Cap(c_a), veh/h	469	1815		320	843	846	216	0	431	278	0	427
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	0.00	0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.3	15.8	0.0	13.4	15.1	15.1	29.7	0.0	34.3	28.8	0.0	36.1
Incr Delay (d2), s/veh	0.3	1.6	0.0	0.1	1.2	1.2	8.0	0.0	1.9	0.6	0.0	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	7.6	0.0	0.2	3.9	3.9	2.4	0.0	3.2	1.6	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.6	17.4	0.0	13.5	16.3	16.3	37.7	0.0	36.2	29.4	0.0	44.3
LnGrp LOS	B	B		B	B	B	D	A	D	C	A	D
Approach Vol, veh/h		1258	A		640			265			316	
Approach Delay, s/veh		16.8			16.2			36.8			40.2	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	52.0	10.0	21.3	10.0	48.7	10.0	21.3
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	34.0	5.0	24.0	5.0	34.0	5.0	24.0
Max Q Clear Time (g_c+I1), s	2.4	22.5	5.6	10.0	5.3	12.1	6.5	14.4
Green Ext Time (p_c), s	0.0	5.6	0.0	0.7	0.0	3.4	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

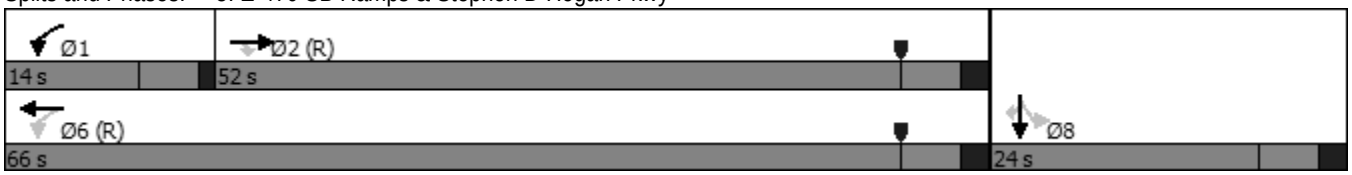
Notes

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

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	960	170	145	495	0	75
Future Volume (vph)	960	170	145	495	0	75
Turn Type	NA	Perm	pm+pt	NA	NA	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	5.0	5.0
Minimum Split (s)	24.0	24.0	10.0	24.0	24.0	24.0
Total Split (s)	52.0	52.0	14.0	66.0	24.0	24.0
Total Split (%)	57.8%	57.8%	15.6%	73.3%	26.7%	26.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	46.6	46.6	61.0	60.0	18.0	18.0
Actuated g/C Ratio	0.52	0.52	0.68	0.67	0.20	0.20
v/c Ratio	0.82	0.29	0.70	0.25	0.40	0.24

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 81 (90%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 15.6
Intersection Capacity Utilization 54.8%
Analysis Period (min) 15

Splits and Phases: 5: E-470 SB Ramps & Stephen D Hogan Pkwy



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	1500	266	175	596	141	96
v/c Ratio	0.82	0.29	0.70	0.25	0.40	0.24
Control Delay	17.4	4.0	42.0	5.1	35.2	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	4.0	42.0	5.1	35.2	8.4
Queue Length 50th (ft)	375	7	80	57	70	0
Queue Length 95th (ft)	184	22	131	57	108	27
Internal Link Dist (ft)	557			525	689	
Turn Bay Length (ft)		135	200			235
Base Capacity (vph)	1832	904	260	2359	354	394
Starvation Cap Reductn	2	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.29	0.67	0.25	0.40	0.24

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	960	170	145	495	0	0	0	0	110	0	75
Future Volume (veh/h)	0	960	170	145	495	0	0	0	0	110	0	75
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	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1500	266	175	596	0				141	0	96
Peak Hour Factor	0.64	0.64	0.64	0.83	0.83	0.83				0.78	0.78	0.78
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1942	866	343	2369	0				356	0	317
Arrive On Green	0.00	1.00	1.00	0.13	1.00	0.00				0.20	0.00	0.20
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1781	0	1585
Grp Volume(v), veh/h	0	1500	266	175	596	0				141	0	96
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	0.0	0.0	3.8	0.0	0.0				6.2	0.0	4.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.8	0.0	0.0				6.2	0.0	4.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1942	866	343	2369	0				356	0	317
V/C Ratio(X)	0.00	0.77	0.31	0.51	0.25	0.00				0.40	0.00	0.30
Avail Cap(c_a), veh/h	0	1942	866	406	2369	0				356	0	317
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.83	0.83	0.93	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	6.3	0.0	0.0				31.3	0.0	30.7
Incr Delay (d2), s/veh	0.0	2.5	0.8	1.1	0.2	0.0				3.3	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	0.7	0.2	1.1	0.1	0.0				2.9	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	2.5	0.8	7.4	0.2	0.0				34.5	0.0	33.1
LnGrp LOS	A	A	A	A	A	A				C	A	C
Approach Vol, veh/h		1766			771						237	
Approach Delay, s/veh		2.3			1.9						34.0	
Approach LOS		A			A						C	

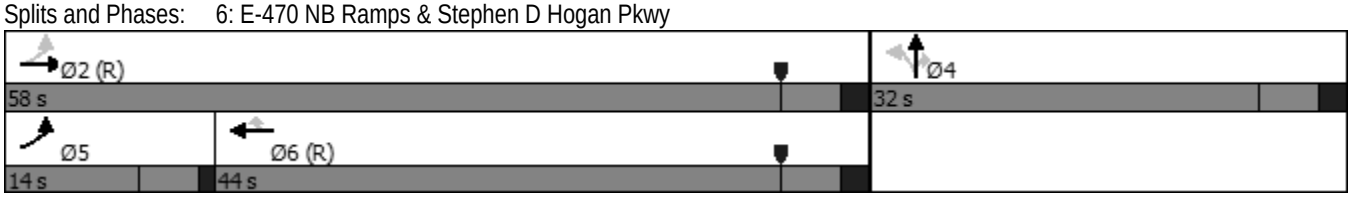
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	10.8	55.2				66.0		24.0				
Change Period (Y+Rc), s	5.0	6.0				6.0		6.0				
Max Green Setting (Gmax), s	9.0	46.0				60.0		18.0				
Max Q Clear Time (g_c+I1), s	5.8	2.0				2.0		8.2				
Green Ext Time (p_c), s	0.1	16.9				4.1		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			4.9									
HCM 6th LOS			A									

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	135	935	555	120	0	160
Future Volume (vph)	135	935	555	120	0	160
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	10.0	24.0	24.0	24.0	30.0	30.0
Total Split (s)	14.0	58.0	44.0	44.0	32.0	32.0
Total Split (%)	15.6%	64.4%	48.9%	48.9%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max
Act Effct Green (s)	53.0	52.0	38.4	38.4	26.0	26.0
Actuated g/C Ratio	0.59	0.58	0.43	0.43	0.29	0.29
v/c Ratio	0.40	0.65	0.38	0.17	0.23	0.42

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 9.2
Intersection Capacity Utilization 54.8%
Analysis Period (min) 15

Splits and Phases: 6: E-470 NB Ramps & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	193	1336	578	125	116	219
v/c Ratio	0.40	0.65	0.38	0.17	0.23	0.42
Control Delay	3.9	3.6	18.7	3.7	25.8	16.8
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	3.9	3.6	18.7	3.7	25.8	16.8
Queue Length 50th (ft)	10	38	116	0	50	53
Queue Length 95th (ft)	m13	35	158	31	74	80
Internal Link Dist (ft)		525	1048		568	
Turn Bay Length (ft)	230			280		135
Base Capacity (vph)	485	2044	1510	746	511	526
Starvation Cap Reductn	0	67	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.68	0.38	0.17	0.23	0.42

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	935	0	0	555	120	85	0	160	0	0	0
Future Volume (veh/h)	135	935	0	0	555	120	85	0	160	0	0	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	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	193	1336	0	0	578	125	116	0	219			
Peak Hour Factor	0.70	0.70	0.70	0.96	0.96	0.96	0.73	0.73	0.73			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	471	2053	0	0	1571	701	515	0	458			
Arrive On Green	0.16	1.00	0.00	0.00	0.44	0.44	0.29	0.00	0.29			
Sat Flow, veh/h	1781	3647	0	0	3647	1585	1781	0	1585			
Grp Volume(v), veh/h	193	1336	0	0	578	125	116	0	219			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1585	1781	0	1585			
Q Serve(g_s), s	5.2	0.0	0.0	0.0	9.8	4.3	4.5	0.0	10.3			
Cycle Q Clear(g_c), s	5.2	0.0	0.0	0.0	9.8	4.3	4.5	0.0	10.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	471	2053	0	0	1571	701	515	0	458			
V/C Ratio(X)	0.41	0.65	0.00	0.00	0.37	0.18	0.23	0.00	0.48			
Avail Cap(c_a), veh/h	506	2053	0	0	1571	701	515	0	458			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.47	0.47	0.00	0.00	0.90	0.90	1.00	0.00	1.00			
Uniform Delay (d), s/veh	10.5	0.0	0.0	0.0	16.7	15.2	24.3	0.0	26.4			
Incr Delay (d2), s/veh	0.3	0.8	0.0	0.0	0.6	0.5	1.0	0.0	3.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	0.2	0.0	0.0	3.7	1.5	2.0	0.0	9.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.8	0.8	0.0	0.0	17.3	15.7	25.4	0.0	30.0			
LnGrp LOS	B	A	A	A	B	B	C	A	C			
Approach Vol, veh/h		1529			703			335				
Approach Delay, s/veh		2.0			17.0			28.4				
Approach LOS		A			B			C				

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		58.0		32.0	12.2	45.8
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		52.0		26.0	9.0	38.0
Max Q Clear Time (g_c+I1), s		2.0		12.3	7.2	11.8
Green Ext Time (p_c), s		12.7		1.2	0.1	4.1

Intersection Summary		
HCM 6th Ctrl Delay		9.6
HCM 6th LOS		A

Intersection Capacity Worksheets: 2040 Background

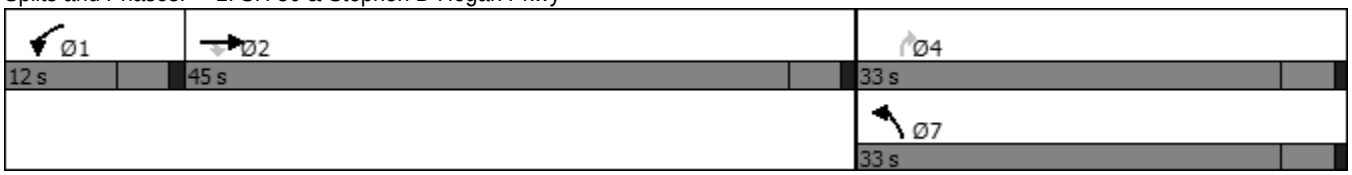
Intersection Capacity Worksheets: 2040 Background With Improvements

Intersection Capacity Worksheets: 2030 Background + Project

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	612	285	20	1314	737	10
Future Volume (vph)	612	285	20	1314	737	10
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Detector Phase	2	2	1		7	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	9.5		22.5	22.5
Total Split (s)	45.0	45.0	12.0		33.0	33.0
Total Split (%)	50.0%	50.0%	13.3%		36.7%	36.7%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	Max	Max	None		None	None
Act Effct Green (s)	41.3	41.3	6.5	76.8	22.3	22.3
Actuated g/C Ratio	0.54	0.54	0.08	1.00	0.29	0.29
v/c Ratio	0.66	0.31	0.15	0.40	0.79	0.02

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 76.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 12.6
Intersection Capacity Utilization 64.4%
Analysis Period (min) 15
! Phase conflict between lane groups.

Splits and Phases: 1: SH 30 & Stephen D Hogan Pkwy



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	665	310	22	1428	784	11
v/c Ratio	0.66	0.31	0.15	0.40	0.79	0.02
Control Delay	19.9	2.8	39.1	0.3	31.9	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	2.8	39.1	0.3	31.9	11.5
Queue Length 50th (ft)	178	0	9	0	158	0
Queue Length 95th (ft)	#464	44	35	0	268	12
Internal Link Dist (ft)	1030			1968	1006	
Turn Bay Length (ft)		340	225		470	250
Base Capacity (vph)	1001	994	176	3539	1298	605
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.31	0.13	0.40	0.60	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	612	285	20	1314	737	10
Future Volume (vph)	612	285	20	1314	737	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.94	0.94
Adj. Flow (vph)	665	310	22	1428	784	11
RTOR Reduction (vph)	0	149	0	0	0	8
Lane Group Flow (vph)	665	161	22	1428	784	3
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Actuated Green, G (s)	41.3	41.3	2.5	79.6	22.3	22.3
Effective Green, g (s)	41.3	41.3	2.5	79.6	22.3	22.3
Actuated g/C Ratio	0.52	0.52	0.03	1.00	0.28	0.28
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	966	821	55	3539	961	443
v/s Ratio Prot	c0.36		0.01	0.40	c0.23	
v/s Ratio Perm		0.10				0.00
v/c Ratio	0.69	0.20	0.40	0.40	0.82	0.01
Uniform Delay, d1	14.3	10.3	37.8	0.0	26.7	20.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.0	0.5	4.7	0.3	5.4	0.0
Delay (s)	18.3	10.8	42.5	0.3	32.2	20.7
Level of Service	B	B	D	A	C	C
Approach Delay (s)	15.9			1.0	32.0	
Approach LOS	B			A	C	

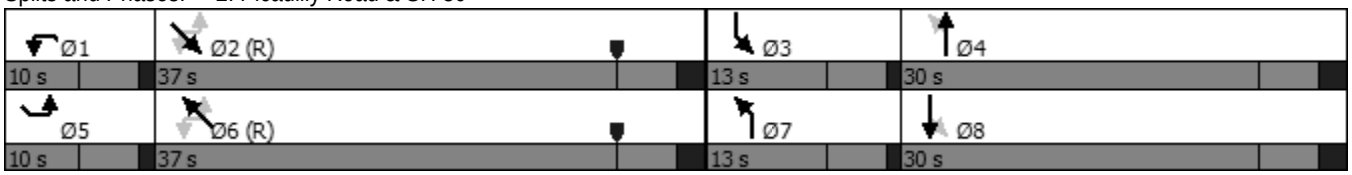
Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	NBL	NBT	SBL	SBT	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations										
Traffic Volume (vph)	15	45	215	65	28	267	10	20	716	390
Future Volume (vph)	15	45	215	65	28	267	10	20	716	390
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	30.0	10.0	30.0	10.0	26.0	26.0	10.0	26.0	26.0
Total Split (s)	13.0	30.0	13.0	30.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (%)	14.4%	33.3%	14.4%	33.3%	11.1%	41.1%	41.1%	11.1%	41.1%	41.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	19.4	11.8	23.2	17.4	52.3	48.6	48.6	51.1	46.3	46.3
Actuated g/C Ratio	0.22	0.13	0.26	0.19	0.58	0.54	0.54	0.57	0.51	0.51
v/c Ratio	0.10	0.51	0.72	0.24	0.14	0.29	0.01	0.03	0.81	0.43

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SETL and 6:NWTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 23.4
Intersection Capacity Utilization 66.3%
Analysis Period (min) 15

Splits and Phases: 2: Picadilly Road & SH 30



Lane Group	NBL	NBT	SBL	SBT	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	30	130	234	88	30	290	11	22	778	424
v/c Ratio	0.10	0.51	0.72	0.24	0.14	0.29	0.01	0.03	0.81	0.43
Control Delay	23.3	36.6	41.5	30.0	9.5	14.2	0.0	8.3	29.5	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	36.6	41.5	30.0	9.5	14.2	0.0	8.3	29.5	5.6
Queue Length 50th (ft)	13	57	111	39	6	71	0	4	380	28
Queue Length 95th (ft)	17	51	#179	80	19	174	0	15	#686	101
Internal Link Dist (ft)		388		631		507			534	
Turn Bay Length (ft)	100		100		225		225	225		225
Base Capacity (vph)	342	491	325	491	217	1005	927	641	957	975
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.26	0.72	0.18	0.14	0.29	0.01	0.03	0.81	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	15	45	20	215	65	16	28	267	10	20	716	390
Future Volume (veh/h)	15	45	20	215	65	16	28	267	10	20	716	390
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	30	90	40	234	71	17	30	290	11	22	778	424
Peak Hour Factor	0.50	0.50	0.50	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	277	136	60	289	249	60	220	996	844	603	985	834
Arrive On Green	0.03	0.11	0.11	0.09	0.17	0.17	0.03	0.53	0.53	0.02	0.53	0.53
Sat Flow, veh/h	1781	1227	545	1781	1458	349	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	30	0	130	234	0	88	30	290	11	22	778	424
Grp Sat Flow(s),veh/h/ln	1781	0	1772	1781	0	1808	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.3	0.0	6.3	8.0	0.0	3.8	0.7	7.7	0.3	0.5	30.4	15.6
Cycle Q Clear(g_c), s	1.3	0.0	6.3	8.0	0.0	3.8	0.7	7.7	0.3	0.5	30.4	15.6
Prop In Lane	1.00		0.31	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	0	197	289	0	308	220	996	844	603	985	834
V/C Ratio(X)	0.11	0.00	0.66	0.81	0.00	0.29	0.14	0.29	0.01	0.04	0.79	0.51
Avail Cap(c_a), veh/h	383	0	473	289	0	482	267	996	844	660	985	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	0.0	38.4	33.8	0.0	32.6	14.5	11.7	9.9	9.5	17.3	13.8
Incr Delay (d2), s/veh	0.2	0.0	3.8	15.6	0.0	0.5	0.3	0.7	0.0	0.0	6.4	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.8	2.3	0.0	1.6	0.2	2.8	0.1	0.2	12.2	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	0.0	42.2	49.4	0.0	33.1	14.8	12.4	9.9	9.5	23.7	16.0
LnGrp LOS	C	A	D	D	A	C	B	B	A	A	C	B
Approach Vol, veh/h		160			322			331			1224	
Approach Delay, s/veh		40.6			44.9			12.5			20.8	
Approach LOS		D			D			B			C	

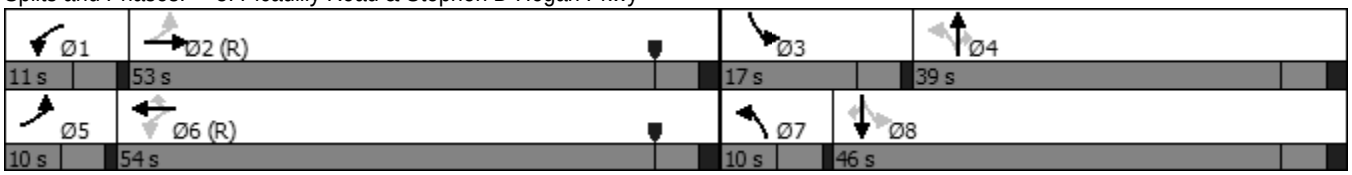
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	53.9	13.0	16.0	7.6	53.4	7.6	21.3
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	31.0	8.0	24.0	5.0	31.0	8.0	24.0
Max Q Clear Time (g_c+I1), s	2.5	9.7	10.0	8.3	2.7	32.4	3.3	5.8
Green Ext Time (p_c), s	0.0	1.4	0.0	0.5	0.0	0.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	52	547	98	1122	165	51	357	73	177	200	158
Future Volume (vph)	52	547	98	1122	165	51	357	73	177	200	158
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2	1	6		7	4		3	8	
Permitted Phases	2		6		6	4		4	8		8
Detector Phase	5	2	1	6	6	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	30.0	10.0	30.0	30.0	10.0	30.0	30.0	10.0	30.0	30.0
Total Split (s)	10.0	53.0	11.0	54.0	54.0	10.0	39.0	39.0	17.0	46.0	46.0
Total Split (%)	8.3%	44.2%	9.2%	45.0%	45.0%	8.3%	32.5%	32.5%	14.2%	38.3%	38.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	57.3	50.4	60.3	53.6	53.6	35.0	29.0	29.0	46.6	37.6	37.6
Actuated g/C Ratio	0.48	0.42	0.50	0.45	0.45	0.29	0.24	0.24	0.39	0.31	0.31
v/c Ratio	0.36	0.42	0.29	0.77	0.22	0.15	0.86	0.16	0.73	0.37	0.28

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 55 (46%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 21.6
Intersection Capacity Utilization 82.1%
Analysis Period (min) 15

Splits and Phases: 3: Picadilly Road & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	57	620	107	1220	179	55	388	79	192	217	172
v/c Ratio	0.36	0.42	0.29	0.77	0.22	0.15	0.86	0.16	0.73	0.37	0.28
Control Delay	21.9	26.2	3.2	9.1	0.8	23.1	62.7	0.7	41.1	33.9	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	26.2	3.2	9.1	0.8	23.1	62.7	0.7	41.1	33.9	5.4
Queue Length 50th (ft)	21	183	3	275	5	26	285	0	98	131	0
Queue Length 95th (ft)	46	236	m6	266	m5	51	394	0	#153	195	48
Internal Link Dist (ft)		1158		287			427			245	
Turn Bay Length (ft)	325		275		225	100		100	100		
Base Capacity (vph)	160	1479	368	1580	797	363	512	554	268	621	642
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.42	0.29	0.77	0.22	0.15	0.76	0.14	0.72	0.35	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	547	23	98	1122	165	51	357	73	177	200	158
Future Volume (veh/h)	52	547	23	98	1122	165	51	357	73	177	200	158
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	57	595	25	107	1220	179	55	388	79	192	217	172
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	179	1541	65	409	1619	722	319	429	364	257	544	461
Arrive On Green	0.04	0.44	0.44	0.03	0.31	0.31	0.04	0.23	0.23	0.10	0.29	0.29
Sat Flow, veh/h	1781	3475	146	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	57	304	316	107	1220	179	55	388	79	192	217	172
Grp Sat Flow(s),veh/h/ln	1781	1777	1844	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.1	13.8	13.8	3.9	37.2	10.2	2.8	24.2	4.9	9.5	11.2	10.4
Cycle Q Clear(g_c), s	2.1	13.8	13.8	3.9	37.2	10.2	2.8	24.2	4.9	9.5	11.2	10.4
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	179	788	818	409	1619	722	319	429	364	257	544	461
V/C Ratio(X)	0.32	0.39	0.39	0.26	0.75	0.25	0.17	0.90	0.22	0.75	0.40	0.37
Avail Cap(c_a), veh/h	190	788	818	413	1619	722	331	514	436	264	623	528
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	22.4	22.4	17.7	35.6	26.2	33.6	44.9	37.5	32.5	34.2	33.9
Incr Delay (d2), s/veh	1.0	1.4	1.4	0.3	3.3	0.8	0.3	17.3	0.3	10.8	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.8	6.0	1.6	17.2	4.1	1.2	12.9	1.9	4.7	5.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	23.9	23.8	18.1	38.9	27.1	33.8	62.3	37.8	43.3	34.6	34.4
LnGrp LOS	C	C	C	B	D	C	C	E	D	D	C	C
Approach Vol, veh/h		677			1506			522			581	
Approach Delay, s/veh		23.9			36.0			55.6			37.4	
Approach LOS		C			D			E			D	

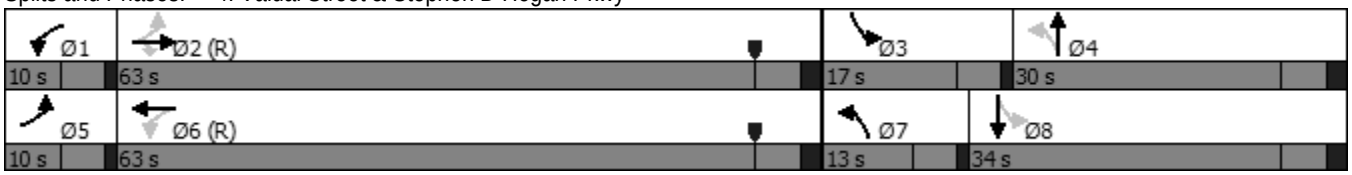
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	59.2	16.5	33.5	9.3	60.7	9.2	40.9
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	6.0	47.0	12.0	33.0	5.0	48.0	5.0	40.0
Max Q Clear Time (g_c+I1), s	5.9	15.8	11.5	26.2	4.1	39.2	4.8	13.2
Green Ext Time (p_c), s	0.0	3.6	0.0	1.3	0.0	5.3	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	74	636	45	90	1100	35	5	201	5
Future Volume (vph)	74	636	45	90	1100	35	5	201	5
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6	7	4	3	8
Permitted Phases	2		2	6		4		8	
Detector Phase	5	2	2	1	6	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	10.0	30.0	30.0	10.0	30.0	10.0	30.0	10.0	30.0
Total Split (s)	10.0	63.0	63.0	10.0	63.0	13.0	30.0	17.0	34.0
Total Split (%)	8.3%	52.5%	52.5%	8.3%	52.5%	10.8%	25.0%	14.2%	28.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	79.8	71.5	71.5	81.6	74.1	16.3	10.0	24.1	13.5
Actuated g/C Ratio	0.66	0.60	0.60	0.68	0.62	0.14	0.08	0.20	0.11
v/c Ratio	0.30	0.33	0.05	0.19	0.62	0.33	0.31	0.84	0.54

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 105 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 15.9
Intersection Capacity Utilization 76.3%
Analysis Period (min) 15

Splits and Phases: 4: Valdai Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	80	691	49	98	1329	64	54	218	182
v/c Ratio	0.30	0.33	0.05	0.19	0.62	0.33	0.31	0.84	0.54
Control Delay	9.4	13.6	0.1	2.9	8.9	42.3	23.6	69.7	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	13.6	0.1	2.9	8.9	42.3	23.6	69.7	14.3
Queue Length 50th (ft)	19	143	0	6	284	40	7	149	4
Queue Length 95th (ft)	35	189	0	11	464	47	15	#264	73
Internal Link Dist (ft)		350			557		352		320
Turn Bay Length (ft)	275		225	225		100		100	
Base Capacity (vph)	263	2109	991	509	2156	203	362	260	506
Starvation Cap Reductn	0	0	0	0	36	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.33	0.05	0.19	0.63	0.32	0.15	0.84	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	636	45	90	1100	122	35	5	25	201	5	163
Future Volume (veh/h)	74	636	45	90	1100	122	35	5	25	201	5	163
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	80	691	0	98	1196	133	64	9	45	218	5	177
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.55	0.55	0.55	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	2108		504	1918	213	172	23	113	308	6	216
Arrive On Green	0.04	0.59	0.00	0.08	1.00	1.00	0.04	0.08	0.08	0.10	0.14	0.14
Sat Flow, veh/h	1781	3554	1585	1781	3225	358	1781	271	1355	1781	44	1548
Grp Volume(v), veh/h	80	691	0	98	658	671	64	0	54	218	0	182
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1806	1781	0	1626	1781	0	1592
Q Serve(g_s), s	2.1	11.8	0.0	2.6	0.0	0.0	3.9	0.0	3.8	12.0	0.0	13.3
Cycle Q Clear(g_c), s	2.1	11.8	0.0	2.6	0.0	0.0	3.9	0.0	3.8	12.0	0.0	13.3
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.83	1.00		0.97
Lane Grp Cap(c), veh/h	374	2108		504	1056	1074	172	0	136	308	0	223
V/C Ratio(X)	0.21	0.33		0.19	0.62	0.63	0.37	0.00	0.40	0.71	0.00	0.82
Avail Cap(c_a), veh/h	379	2108		507	1056	1074	213	0	325	308	0	371
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.5	12.3	0.0	8.8	0.0	0.0	47.6	0.0	52.1	44.5	0.0	50.1
Incr Delay (d2), s/veh	0.3	0.4	0.0	0.2	2.3	2.3	1.3	0.0	1.9	7.3	0.0	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.4	0.0	0.9	0.7	0.7	1.8	0.0	1.6	6.5	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.8	12.7	0.0	9.0	2.3	2.3	49.0	0.0	54.0	51.8	0.0	57.3
LnGrp LOS	A	B		A	A	A	D	A	D	D	A	E
Approach Vol, veh/h		771	A		1427			118			400	
Approach Delay, s/veh		12.3			2.8			51.3			54.3	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	77.2	17.0	16.0	9.7	77.3	10.2	22.8
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	57.0	12.0	24.0	5.0	57.0	8.0	28.0
Max Q Clear Time (g_c+I1), s	4.6	13.8	14.0	5.8	4.1	2.0	5.9	15.3
Green Ext Time (p_c), s	0.0	4.9	0.0	0.2	0.0	11.4	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

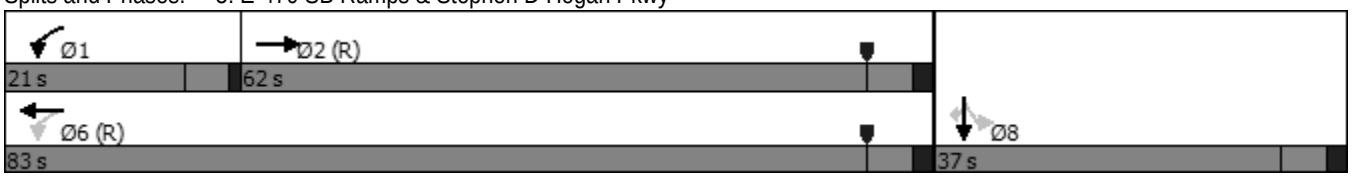
Notes

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

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	645	217	170	1169	0	143
Future Volume (vph)	645	217	170	1169	0	143
Turn Type	NA	Free	pm+pt	NA	NA	Perm
Protected Phases	2		1	6	8	
Permitted Phases		Free	6			8
Detector Phase	2		1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	5.0	5.0
Minimum Split (s)	24.0		10.0	24.0	30.0	30.0
Total Split (s)	62.0		21.0	83.0	37.0	37.0
Total Split (%)	51.7%		17.5%	69.2%	30.8%	30.8%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	Max	Max
Act Effct Green (s)	61.6	120.0	78.0	77.0	31.0	31.0
Actuated g/C Ratio	0.51	1.00	0.65	0.64	0.26	0.26
v/c Ratio	0.39	0.15	0.39	0.56	0.35	0.33

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 10.3
Intersection Capacity Utilization 63.5%
Analysis Period (min) 15

Splits and Phases: 5: E-470 SB Ramps & Stephen D Hogan Pkwy



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	701	236	185	1271	158	155
v/c Ratio	0.39	0.15	0.39	0.56	0.35	0.33
Control Delay	14.8	0.2	4.0	5.5	38.8	20.2
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	14.8	0.2	4.0	5.9	38.8	20.2
Queue Length 50th (ft)	115	0	10	221	100	47
Queue Length 95th (ft)	m143	m0	19	230	163	106
Internal Link Dist (ft)	557			525	689	
Turn Bay Length (ft)		135	200			235
Base Capacity (vph)	1815	1583	528	2270	457	466
Starvation Cap Reductn	0	0	0	468	0	0
Spillback Cap Reductn	0	0	0	44	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.15	0.35	0.71	0.35	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	645	217	170	1169	0	0	0	0	145	0	143
Future Volume (veh/h)	0	645	217	170	1169	0	0	0	0	145	0	143
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	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	701	0	185	1271	0				158	0	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1912		572	2280	0				460	0	409
Arrive On Green	0.00	1.00	0.00	0.02	0.21	0.00				0.26	0.00	0.26
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1781	0	1585
Grp Volume(v), veh/h	0	701	0	185	1271	0				158	0	155
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	0.0	0.0	5.2	38.4	0.0				8.7	0.0	9.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	5.2	38.4	0.0				8.7	0.0	9.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1912		572	2280	0				460	0	409
V/C Ratio(X)	0.00	0.37		0.32	0.56	0.00				0.34	0.00	0.38
Avail Cap(c_a), veh/h	0	1912		698	2280	0				460	0	409
HCM Platoon Ratio	1.00	2.00	2.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.89	0.00	0.73	0.73	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	10.3	32.1	0.0				36.2	0.0	36.6
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.2	0.7	0.0				2.0	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	2.0	18.3	0.0				4.0	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.5	0.0	10.5	32.8	0.0				38.2	0.0	39.2
LnGrp LOS	A	A		B	C	A				D	A	D
Approach Vol, veh/h		701	A		1456						313	
Approach Delay, s/veh		0.5			30.0						38.7	
Approach LOS		A			C						D	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	12.5	70.5				83.0		37.0				
Change Period (Y+Rc), s	5.0	6.0				6.0		6.0				
Max Green Setting (Gmax), s	16.0	56.0				77.0		31.0				
Max Q Clear Time (g_c+I1), s	7.2	2.0				40.4		11.6				
Green Ext Time (p_c), s	0.3	5.0				11.0		1.3				

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

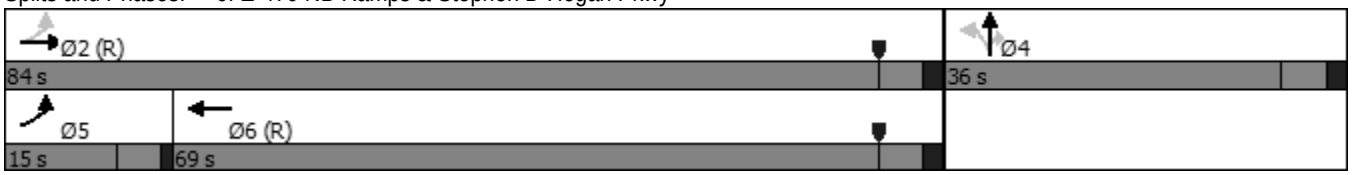
Notes

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

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	115	676	1126	150	0	140
Future Volume (vph)	115	676	1126	150	0	140
Turn Type	pm+pt	NA	NA	Free	NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			Free		4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		10.0	10.0
Minimum Split (s)	10.0	24.0	24.0		30.0	30.0
Total Split (s)	15.0	84.0	69.0		36.0	36.0
Total Split (%)	12.5%	70.0%	57.5%		30.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		Max	Max
Act Effct Green (s)	79.0	78.0	64.6	120.0	30.0	30.0
Actuated g/C Ratio	0.66	0.65	0.54	1.00	0.25	0.25
v/c Ratio	0.46	0.32	0.64	0.10	0.52	0.30

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 66 (55%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 18.4
Intersection Capacity Utilization 63.5%
Analysis Period (min) 15

Splits and Phases: 6: E-470 NB Ramps & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	125	735	1211	161	232	152
v/c Ratio	0.46	0.32	0.64	0.10	0.52	0.30
Control Delay	24.4	8.5	22.8	0.1	43.9	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	8.5	22.8	0.1	43.9	7.2
Queue Length 50th (ft)	43	77	265	0	156	0
Queue Length 95th (ft)	100	136	359	m0	238	52
Internal Link Dist (ft)		525	1048		568	
Turn Bay Length (ft)	230			280		135
Base Capacity (vph)	291	2300	1903	1583	442	509
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.32	0.64	0.10	0.52	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	676	0	0	1126	150	213	0	140	0	0	0
Future Volume (veh/h)	115	676	0	0	1126	150	213	0	140	0	0	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	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	125	735	0	0	1211	0	232	0	152			
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	329	2310	0	0	1999		445	0	396			
Arrive On Green	0.09	1.00	0.00	0.00	0.75	0.00	0.25	0.00	0.25			
Sat Flow, veh/h	1781	3647	0	0	3647	1585	1781	0	1585			
Grp Volume(v), veh/h	125	735	0	0	1211	0	232	0	152			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1585	1781	0	1585			
Q Serve(g_s), s	3.5	0.0	0.0	0.0	18.8	0.0	13.5	0.0	9.5			
Cycle Q Clear(g_c), s	3.5	0.0	0.0	0.0	18.8	0.0	13.5	0.0	9.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	329	2310	0	0	1999		445	0	396			
V/C Ratio(X)	0.38	0.32	0.00	0.00	0.61		0.52	0.00	0.38			
Avail Cap(c_a), veh/h	395	2310	0	0	1999		445	0	396			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	0.93	0.93	0.00	0.00	0.50	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	11.0	0.0	0.0	0.0	9.0	0.0	38.8	0.0	37.3			
Incr Delay (d2), s/veh	0.7	0.3	0.0	0.0	0.7	0.0	4.3	0.0	2.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.2	0.1	0.0	0.0	5.0	0.0	6.4	0.0	9.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	0.3	0.0	0.0	9.7	0.0	43.1	0.0	40.1			
LnGrp LOS	B	A	A	A	A		D	A	D			
Approach Vol, veh/h		860			1211	A		384				
Approach Delay, s/veh		2.0			9.7			41.9				
Approach LOS		A			A			D				

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		84.0		36.0	10.5	73.5
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		78.0		30.0	10.0	63.0
Max Q Clear Time (g_c+I1), s		2.0		15.5	5.5	20.8
Green Ext Time (p_c), s		5.3		1.6	0.1	10.5

Intersection Summary	
HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

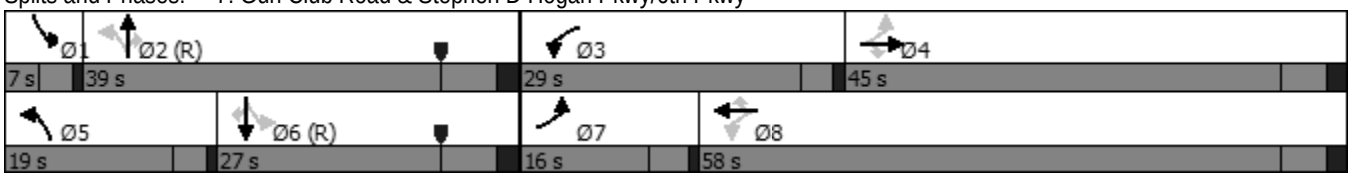
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	446	227	220	899	120	236	365	225	120	240	141
Future Volume (vph)	143	446	227	220	899	120	236	365	225	120	240	141
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	10.0	10.0	3.0	10.0	10.0
Minimum Split (s)	9.5	11.0	11.0	7.0	11.0	11.0	7.0	41.0	41.0	7.0	17.0	17.0
Total Split (s)	16.0	45.0	45.0	29.0	58.0	58.0	19.0	39.0	39.0	7.0	27.0	27.0
Total Split (%)	13.3%	37.5%	37.5%	24.2%	48.3%	48.3%	15.8%	32.5%	32.5%	5.8%	22.5%	22.5%
Yellow Time (s)	3.5	4.0	4.0	3.0	4.0	4.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.0	6.0	6.0	4.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	56.9	43.9	43.9	66.0	48.8	48.8	45.1	32.3	32.3	30.9	22.1	22.1
Actuated g/C Ratio	0.47	0.37	0.37	0.55	0.41	0.41	0.38	0.27	0.27	0.26	0.18	0.18
v/c Ratio	0.99	0.56	0.45	0.70	0.86	0.22	0.78	0.89	0.44	0.71	0.75	0.35

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 37.0
Intersection Capacity Utilization 76.5%
Analysis Period (min) 15

Splits and Phases: 7: Gun Club Road & Stephen D Hogan Pkwy/6th Pkwy



7: Gun Club Road & Stephen D Hogan Pkwy/6th Pkwy

2030 Background + Project - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	231	719	366	301	1232	164	288	445	274	129	258	152
v/c Ratio	0.99	0.56	0.45	0.70	0.86	0.22	0.78	0.89	0.44	0.71	0.75	0.35
Control Delay	85.3	31.8	6.7	23.3	39.0	4.9	46.0	63.1	6.4	58.9	62.2	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.3	31.8	6.7	23.3	39.0	4.9	46.0	63.1	6.4	58.9	62.2	6.3
Queue Length 50th (ft)	118	215	49	114	437	6	169	333	0	68	196	0
Queue Length 95th (ft)	102	184	49	126	376	24	#246	#439	44	#185	#335	41
Internal Link Dist (ft)		1048			585			581			595	
Turn Bay Length (ft)	225		225	225		225	225		550	225		225
Base Capacity (vph)	233	1294	810	520	1533	770	369	501	627	181	343	435
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.56	0.45	0.58	0.80	0.21	0.78	0.89	0.44	0.71	0.75	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	446	227	220	899	120	236	365	225	120	240	141
Future Volume (veh/h)	143	446	227	220	899	120	236	365	225	120	240	141
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	231	719	366	301	1232	164	288	445	274	129	258	152
Peak Hour Factor	0.62	0.62	0.62	0.73	0.73	0.73	0.82	0.82	0.82	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	1310	584	373	1394	622	362	576	488	172	388	329
Arrive On Green	0.03	0.12	0.12	0.12	0.39	0.39	0.13	0.31	0.31	0.03	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	231	719	366	301	1232	164	288	445	274	129	258	152
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	9.6	22.9	26.3	12.2	38.7	8.4	15.0	25.9	17.4	3.0	15.2	10.1
Cycle Q Clear(g_c), s	9.6	22.9	26.3	12.2	38.7	8.4	15.0	25.9	17.4	3.0	15.2	10.1
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	258	1310	584	373	1394	622	362	576	488	172	388	329
V/C Ratio(X)	0.90	0.55	0.63	0.81	0.88	0.26	0.80	0.77	0.56	0.75	0.66	0.46
Avail Cap(c_a), veh/h	258	1310	584	524	1540	687	362	576	488	172	388	329
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	43.3	44.9	23.3	33.9	24.7	32.1	37.7	34.8	48.0	43.7	41.7
Incr Delay (d2), s/veh	29.7	0.5	2.0	6.3	6.0	0.2	11.7	9.7	4.6	16.8	8.7	4.6
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	6.4	10.9	11.5	5.4	16.9	3.1	7.4	13.0	7.1	3.2	7.8	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	43.8	46.9	29.5	40.0	24.9	43.9	47.5	39.4	64.8	52.4	46.3
LnGrp LOS	E	D	D	C	D	C	D	D	D	E	D	D
Approach Vol, veh/h		1316			1697			1007			539	
Approach Delay, s/veh		47.6			36.7			44.2			53.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	43.9	18.9	50.2	19.0	31.9	16.0	53.1
Change Period (Y+Rc), s	4.0	7.0	4.0	6.0	4.0	7.0	4.5	6.0
Max Green Setting (Gmax), s	3.0	32.0	25.0	39.0	15.0	20.0	11.5	52.0
Max Q Clear Time (g_c+I1), s	5.0	27.9	14.2	28.3	17.0	17.2	11.6	40.7
Green Ext Time (p_c), s	0.0	1.4	0.6	4.3	0.0	0.5	0.0	6.4

Intersection Summary	
HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	12	1	68	1	554	20	47	522	0
Future Vol, veh/h	1	1	1	12	1	68	1	554	20	47	522	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	60	60	60	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	2	2	20	2	113	1	602	22	51	567	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	973	1295	284	1002	1284	312	567	0	0	624	0	0
Stage 1	669	669	-	615	615	-	-	-	-	-	-	-
Stage 2	304	626	-	387	669	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	*374	228	713	353	232	*874	1001	-	-	1249	-	-
Stage 1	*413	454	-	779	692	-	-	-	-	-	-	-
Stage 2	*824	683	-	608	454	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*313	218	713	338	222	*874	1001	-	-	1249	-	-
Mov Cap-2 Maneuver	*313	218	-	338	222	-	-	-	-	-	-	-
Stage 1	*413	435	-	778	692	-	-	-	-	-	-	-
Stage 2	*714	682	-	579	435	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.2	10.9	0	0.7
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1001	-	-	327	338	838	1249	-	-
HCM Lane V/C Ratio	0.001	-	-	0.018	0.059	0.137	0.041	-	-
HCM Control Delay (s)	8.6	-	-	16.2	16.3	10	8	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.5	0.1	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	17	464	3	8	313
Future Vol, veh/h	0	17	464	3	8	313
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	-	-	100	-
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	18	504	3	9	340

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	506	0	0	507	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	0	566	-	-	1058	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	566	-	-	1058	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	566	1058	-
HCM Lane V/C Ratio	-	-	0.033	0.008	-
HCM Control Delay (s)	-	-	11.6	8.4	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↳			↑↑↳				↱			↱
Traffic Vol, veh/h	0	796	1	0	1369	15	0	0	2	0	0	15
Future Vol, veh/h	0	796	1	0	1369	15	0	0	2	0	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	865	1	0	1488	16	0	0	2	0	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	433	-	-	752
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	*772	0	0	*516
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-			1			1
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	*772	-	-	*516
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.7	12.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	772	-	-	-	-	516
HCM Lane V/C Ratio	0.003	-	-	-	-	0.032
HCM Control Delay (s)	9.7	-	-	-	-	12.2
HCM Lane LOS	A	-	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0.1

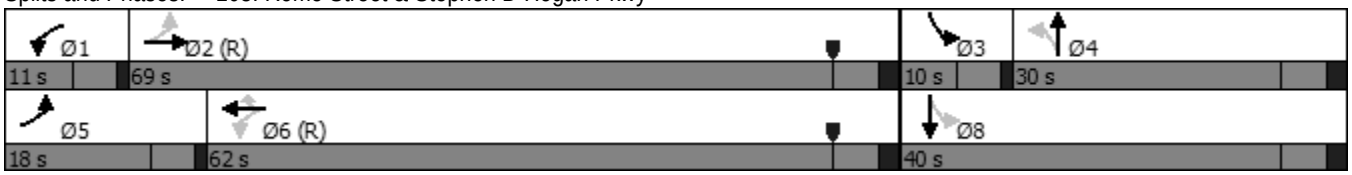
Notes

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	160	634	14	1282	78	14	0	149	1
Future Volume (vph)	160	634	14	1282	78	14	0	149	1
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases	5	2	1	6			4	3	8
Permitted Phases	2		6		6	4		8	
Detector Phase	5	2	1	6	6	4	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	10.0	26.0	10.0	26.0	26.0	30.0	30.0	10.0	30.0
Total Split (s)	18.0	69.0	11.0	62.0	62.0	30.0	30.0	10.0	40.0
Total Split (%)	15.0%	57.5%	9.2%	51.7%	51.7%	25.0%	25.0%	8.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	Max	Max	None	Max
Act Effct Green (s)	75.0	69.6	64.5	57.7	57.7	24.0	24.0	35.0	34.0
Actuated g/C Ratio	0.62	0.58	0.54	0.48	0.48	0.20	0.20	0.29	0.28
v/c Ratio	0.76	0.34	0.03	0.82	0.10	0.06	0.05	0.45	0.19

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 39 (33%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 26.8
Intersection Capacity Utilization 73.4%
Analysis Period (min) 15

Splits and Phases: 103: Rome Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	174	693	15	1393	85	15	26	162	97
v/c Ratio	0.76	0.34	0.03	0.82	0.10	0.06	0.05	0.45	0.19
Control Delay	52.8	14.3	9.3	32.0	0.2	39.8	0.2	38.4	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	14.3	9.3	32.0	0.2	39.8	0.2	38.4	7.4
Queue Length 50th (ft)	115	117	4	484	0	9	0	98	1
Queue Length 95th (ft)	m#187	194	13	589	0	29	0	159	41
Internal Link Dist (ft)		606		202			162		261
Turn Bay Length (ft)	130		100		100	100		80	
Base Capacity (vph)	253	2050	442	1701	846	258	546	359	518
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.34	0.03	0.82	0.10	0.06	0.05	0.45	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	634	4	14	1282	78	14	0	24	149	1	88
Future Volume (veh/h)	160	634	4	14	1282	78	14	0	24	149	1	88
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	174	689	4	15	1393	85	15	0	26	162	1	96
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	243	2023	12	460	1819	811	320	0	317	393	5	445
Arrive On Green	0.08	0.74	0.74	0.02	0.51	0.51	0.20	0.00	0.20	0.04	0.28	0.28
Sat Flow, veh/h	1781	3622	21	1781	3554	1585	1298	0	1585	1781	16	1571
Grp Volume(v), veh/h	174	338	355	15	1393	85	15	0	26	162	0	97
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	1585	1298	0	1585	1781	0	1588
Q Serve(g_s), s	5.4	7.9	7.9	0.5	37.8	3.3	1.1	0.0	1.6	5.0	0.0	5.6
Cycle Q Clear(g_c), s	5.4	7.9	7.9	0.5	37.8	3.3	1.1	0.0	1.6	5.0	0.0	5.6
Prop In Lane	1.00		0.01	1.00		1.00	1.00		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	243	993	1043	460	1819	811	320	0	317	393	0	450
V/C Ratio(X)	0.72	0.34	0.34	0.03	0.77	0.10	0.05	0.00	0.08	0.41	0.00	0.22
Avail Cap(c_a), veh/h	323	993	1043	519	1819	811	320	0	317	393	0	450
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.5	7.8	7.8	13.5	23.5	15.1	38.8	0.0	39.0	37.9	0.0	32.8
Incr Delay (d2), s/veh	5.0	0.9	0.9	0.0	3.1	0.3	0.3	0.0	0.5	0.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.7	2.8	0.2	15.4	1.2	0.4	0.0	0.7	1.8	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	8.8	8.7	13.5	26.7	15.4	39.1	0.0	39.5	38.6	0.0	33.9
LnGrp LOS	C	A	A	B	C	B	D	A	D	D	A	C
Approach Vol, veh/h		867			1493			41			259	
Approach Delay, s/veh		12.5			25.9			39.4			36.8	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	73.0	10.0	30.0	12.6	67.4		40.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	6.0	63.0	5.0	24.0	13.0	56.0		34.0
Max Q Clear Time (g_c+I1), s	2.5	9.9	7.0	3.6	7.4	39.8		7.6
Green Ext Time (p_c), s	0.0	4.2	0.0	0.1	0.2	8.9		0.6

Intersection Summary	
HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	42	1332	21	23	785
Future Vol, veh/h	20	42	1332	21	23	785
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	225	130	-
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	22	46	1448	23	25	853

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1925	724	0	0	1471	0
Stage 1	1448	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*94	*542	-	-	*811	-
Stage 1	*511	-	-	-	-	-
Stage 2	*728	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*91	*542	-	-	*811	-
Mov Cap-2 Maneuver	*91	-	-	-	-	-
Stage 1	*511	-	-	-	-	-
Stage 2	*706	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.6	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	91	542	* 811	-
HCM Lane V/C Ratio	-	-	0.239	0.084	0.031	-
HCM Control Delay (s)	-	-	56.6	12.3	9.6	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.3	0.1	-

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↳		↰	↑↑
Traffic Vol, veh/h	0	1	1352	2	2	803
Future Vol, veh/h	0	1	1352	2	2	803
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	1	1470	2	2	873

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	736	0	0	1472	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	361	-	-	454	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	361	-	-	454	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	361	454	-
HCM Lane V/C Ratio	-	-	0.003	0.005	-
HCM Control Delay (s)	-	-	15	13	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	1	14	31	1	54	5	1276	16	54	746	3
Future Vol, veh/h	24	1	14	31	1	54	5	1276	16	54	746	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	235	-	-	235	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	1	15	34	1	59	5	1387	17	59	811	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1635	2345	407	1930	2338	702	814	0	0	1404	0	0
Stage 1	931	931	-	1406	1406	-	-	-	-	-	-	-
Stage 2	704	1414	-	524	932	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	113	37	*797	*57	38	381	1164	-	-	482	-	-
Stage 1	585	547	-	*146	204	-	-	-	-	-	-	-
Stage 2	394	202	-	*752	546	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	84	32	*797	*50	33	381	1164	-	-	482	-	-
Mov Cap-2 Maneuver	84	32	-	*50	33	-	-	-	-	-	-	-
Stage 1	583	480	-	*145	203	-	-	-	-	-	-	-
Stage 2	330	201	-	*645	480	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.4	72.8	0	0.9
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1164	-	-	84	307	50	320	482	-	-
HCM Lane V/C Ratio	0.005	-	-	0.311	0.053	0.674	0.187	0.122	-	-
HCM Control Delay (s)	8.1	-	-	66.1	17.4	168.6	18.8	13.5	-	-
HCM Lane LOS	A	-	-	F	C	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	1.2	0.2	2.7	0.7	0.4	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	791	1279	24	0	18
Future Vol, veh/h	0	791	1279	24	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	860	1390	26	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	708
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	377
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	377
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	377
HCM Lane V/C Ratio	-	-	-	0.052
HCM Control Delay (s)	-	-	-	15.1
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	744	6	6	1266	19	0	0	11	0	0	37
Future Vol, veh/h	41	744	6	6	1266	19	0	0	11	0	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	130	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	809	7	7	1376	21	0	0	12	0	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1397	0	0	816	0	0	-	-	408	-	-	699
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	*849	-	-	1161	-	-	0	0	*797	0	0	*567
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	*849	-	-	1161	-	-	-	-	*797	-	-	*567
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	9.6	11.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	797	* 849	-	-	1161	-	-	567
HCM Lane V/C Ratio	0.015	0.052	-	-	0.006	-	-	0.071
HCM Control Delay (s)	9.6	9.5	-	-	8.1	-	-	11.8
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.2

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	755	1278	20	0	13
Future Vol, veh/h	0	755	1278	20	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	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	821	1389	22	0	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	695
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	*567
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*567
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	567
HCM Lane V/C Ratio	-	-	-	0.025
HCM Control Delay (s)	-	-	-	11.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Notes

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	53	40	185	316	5
Future Vol, veh/h	5	53	40	185	316	5
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	-	100	-	-	-
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	5	58	43	201	343	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	633	346	348	0	-	0
Stage 1	346	-	-	-	-	-
Stage 2	287	-	-	-	-	-
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	459	697	1211	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	443	697	1211	-	-	-
Mov Cap-2 Maneuver	443	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1211	-	664	-	-
HCM Lane V/C Ratio	0.036	-	0.095	-	-
HCM Control Delay (s)	8.1	-	11	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	55	22	1	2	19	149	17	1	239	2
Future Vol, veh/h	5	1	55	22	1	2	19	149	17	1	239	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	60	24	1	2	21	162	18	1	260	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	478	485	261	507	477	171	262	0	0	180	0	0
Stage 1	263	263	-	213	213	-	-	-	-	-	-	-
Stage 2	215	222	-	294	264	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	498	482	778	476	487	873	1302	-	-	1396	-	-
Stage 1	742	691	-	789	726	-	-	-	-	-	-	-
Stage 2	787	720	-	714	690	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	490	474	778	433	479	873	1302	-	-	1396	-	-
Mov Cap-2 Maneuver	490	474	-	433	479	-	-	-	-	-	-	-
Stage 1	730	690	-	776	714	-	-	-	-	-	-	-
Stage 2	771	708	-	658	689	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	13.5	0.8	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1302	-	-	735	453	1396	-	-
HCM Lane V/C Ratio	0.016	-	-	0.09	0.06	0.001	-	-
HCM Control Delay (s)	7.8	-	-	10.4	13.5	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	9	2	2	1	5	150	1	1	231	4
Future Vol, veh/h	3	1	9	2	2	1	5	150	1	1	231	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	10	2	2	1	5	163	1	1	251	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	430	429	253	435	431	164	255	0	0	164	0	0
Stage 1	255	255	-	174	174	-	-	-	-	-	-	-
Stage 2	175	174	-	261	257	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	535	518	786	531	517	881	1310	-	-	1414	-	-
Stage 1	749	696	-	828	755	-	-	-	-	-	-	-
Stage 2	827	755	-	744	695	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	531	515	786	522	514	881	1310	-	-	1414	-	-
Mov Cap-2 Maneuver	531	515	-	522	514	-	-	-	-	-	-	-
Stage 1	746	695	-	825	752	-	-	-	-	-	-	-
Stage 2	820	752	-	733	694	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	11.4	0.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1310	-	-	683	564	1414	-	-
HCM Lane V/C Ratio	0.004	-	-	0.021	0.01	0.001	-	-
HCM Control Delay (s)	7.8	-	-	10.4	11.4	7.5	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	12	10	1	4	4	144	5	3	213	2
Future Vol, veh/h	3	1	12	10	1	4	4	144	5	3	213	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	13	11	1	4	4	157	5	3	232	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	409	409	233	414	408	160	234	0	0	162	0	0
Stage 1	239	239	-	168	168	-	-	-	-	-	-	-
Stage 2	170	170	-	246	240	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	553	532	806	549	533	885	1333	-	-	1417	-	-
Stage 1	764	708	-	834	759	-	-	-	-	-	-	-
Stage 2	832	758	-	758	707	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	547	529	806	537	530	885	1333	-	-	1417	-	-
Mov Cap-2 Maneuver	547	529	-	537	530	-	-	-	-	-	-	-
Stage 1	762	707	-	831	757	-	-	-	-	-	-	-
Stage 2	824	756	-	743	706	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	11.2	0.2	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1333	-	-	719	599	1417	-	-
HCM Lane V/C Ratio	0.003	-	-	0.024	0.027	0.002	-	-
HCM Control Delay (s)	7.7	-	-	10.1	11.2	7.5	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	4	58	1	8	10	32	118	1	10	160	30
Future Vol, veh/h	40	4	58	1	8	10	32	118	1	10	160	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	4	63	1	9	11	35	128	1	11	174	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	422	412	191	445	428	129	207	0	0	129	0	0
Stage 1	213	213	-	199	199	-	-	-	-	-	-	-
Stage 2	209	199	-	246	229	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	542	530	851	523	519	921	1364	-	-	1457	-	-
Stage 1	789	726	-	803	736	-	-	-	-	-	-	-
Stage 2	793	736	-	758	715	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	515	512	851	469	501	921	1364	-	-	1457	-	-
Mov Cap-2 Maneuver	515	512	-	469	501	-	-	-	-	-	-	-
Stage 1	768	720	-	782	717	-	-	-	-	-	-	-
Stage 2	754	717	-	692	709	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	10.7	1.6	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1364	-	-	664	656	1457	-	-
HCM Lane V/C Ratio	0.026	-	-	0.167	0.031	0.007	-	-
HCM Control Delay (s)	7.7	-	-	11.5	10.7	7.5	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	15	88	1	1	49	20	4	1	4	10	1	20
Future Vol, veh/h	15	88	1	1	49	20	4	1	4	10	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	96	1	1	53	22	4	1	4	11	1	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	75	0	0	97	0	0	207	206	97	197	195	64
Stage 1	-	-	-	-	-	-	129	129	-	66	66	-
Stage 2	-	-	-	-	-	-	78	77	-	131	129	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1524	-	-	1496	-	-	751	691	959	762	700	1000
Stage 1	-	-	-	-	-	-	875	789	-	945	840	-
Stage 2	-	-	-	-	-	-	931	831	-	873	789	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1524	-	-	1496	-	-	727	683	959	751	692	1000
Mov Cap-2 Maneuver	-	-	-	-	-	-	727	683	-	751	692	-
Stage 1	-	-	-	-	-	-	865	780	-	935	839	-
Stage 2	-	-	-	-	-	-	909	830	-	858	780	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.1	9.5	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	808	1524	-	-	1496	-	-	892
HCM Lane V/C Ratio	0.012	0.011	-	-	0.001	-	-	0.038
HCM Control Delay (s)	9.5	7.4	0	-	7.4	0	-	9.2
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	15	90	2	1	62	10	4	1	4	10	1	20
Future Vol, veh/h	15	90	2	1	62	10	4	1	4	10	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	98	2	1	67	11	4	1	4	11	1	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	78	0	0	100	0	0	217	211	99	209	207	73
Stage 1	-	-	-	-	-	-	131	131	-	75	75	-
Stage 2	-	-	-	-	-	-	86	80	-	134	132	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1520	-	-	1493	-	-	739	686	957	748	690	989
Stage 1	-	-	-	-	-	-	873	788	-	934	833	-
Stage 2	-	-	-	-	-	-	922	828	-	869	787	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1520	-	-	1493	-	-	715	678	957	737	682	989
Mov Cap-2 Maneuver	-	-	-	-	-	-	715	678	-	737	682	-
Stage 1	-	-	-	-	-	-	863	779	-	924	832	-
Stage 2	-	-	-	-	-	-	900	827	-	854	778	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.1	9.6	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	800	1520	-	-	1493	-	-	879
HCM Lane V/C Ratio	0.012	0.011	-	-	0.001	-	-	0.038
HCM Control Delay (s)	9.6	7.4	0	-	7.4	0	-	9.3
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	25	85	3	1	65	20	8	1	2	20	1	45
Future Vol, veh/h	25	85	3	1	65	20	8	1	2	20	1	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	92	3	1	71	22	9	1	2	22	1	49

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	93	0	0	95	0	0	257	243	94	233	233	82
Stage 1	-	-	-	-	-	-	148	148	-	84	84	-
Stage 2	-	-	-	-	-	-	109	95	-	149	149	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1501	-	-	1499	-	-	696	659	963	722	667	978
Stage 1	-	-	-	-	-	-	855	775	-	924	825	-
Stage 2	-	-	-	-	-	-	896	816	-	854	774	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1501	-	-	1499	-	-	650	646	963	708	654	978
Mov Cap-2 Maneuver	-	-	-	-	-	-	650	646	-	708	654	-
Stage 1	-	-	-	-	-	-	839	760	-	906	824	-
Stage 2	-	-	-	-	-	-	849	815	-	835	759	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.1	10.3	9.5
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	690	1501	-	-	1499	-	-	871
HCM Lane V/C Ratio	0.017	0.018	-	-	0.001	-	-	0.082
HCM Control Delay (s)	10.3	7.4	0	-	7.4	0	-	9.5
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	111	5	1	117	7	2
Future Vol, veh/h	111	5	1	117	7	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	121	5	1	127	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	126	0	253	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	129	-
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	-	-	1460	-	736	927
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	897	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1460	-	735	927
Mov Cap-2 Maneuver	-	-	-	-	735	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	896	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	770	-	-	1460	-
HCM Lane V/C Ratio	0.013	-	-	0.001	-
HCM Control Delay (s)	9.7	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	36	12	60	54	10	16	90	70	10	115	10
Future Vol, veh/h	10	36	12	60	54	10	16	90	70	10	115	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	39	13	65	59	11	17	98	76	11	125	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	70	0	0	52	0	0	331	268	46	350	269	65
Stage 1	-	-	-	-	-	-	68	68	-	195	195	-
Stage 2	-	-	-	-	-	-	263	200	-	155	74	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1531	-	-	1554	-	-	622	638	1023	605	637	999
Stage 1	-	-	-	-	-	-	942	838	-	807	739	-
Stage 2	-	-	-	-	-	-	742	736	-	847	833	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1531	-	-	1554	-	-	498	605	1023	472	605	999
Mov Cap-2 Maneuver	-	-	-	-	-	-	498	605	-	472	605	-
Stage 1	-	-	-	-	-	-	935	832	-	801	706	-
Stage 2	-	-	-	-	-	-	577	704	-	687	827	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	3.6	11.5	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	498	737	1531	-	-	1554	-	-	472	625
HCM Lane V/C Ratio	0.035	0.236	0.007	-	-	0.042	-	-	0.023	0.217
HCM Control Delay (s)	12.5	11.4	7.4	0	-	7.4	0	-	12.8	12.4
HCM Lane LOS	B	B	A	A	-	A	A	-	B	B
HCM 95th %tile Q(veh)	0.1	0.9	0	-	-	0.1	-	-	0.1	0.8

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	6	1	80	0	1
Future Vol, veh/h	57	6	1	80	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	7	1	87	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	69	0	-	66
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	1532	-	0	998
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1532	-	-	998
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	998	-	-	1532	-
HCM Lane V/C Ratio	0.001	-	-	0.001	-
HCM Control Delay (s)	8.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	7	0	80	0	2
Future Vol, veh/h	61	7	0	80	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	8	0	87	0	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	70
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	993
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	993
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	993	-	-	-
HCM Lane V/C Ratio	0.002	-	-	-
HCM Control Delay (s)	8.6	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	40	19	1	6	59	160	20	6	178	3
Future Vol, veh/h	10	1	40	19	1	6	59	160	20	6	178	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	80	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	43	21	1	7	64	174	22	7	193	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	526	533	195	544	523	185	196	0	0	196	0	0
Stage 1	209	209	-	313	313	-	-	-	-	-	-	-
Stage 2	317	324	-	231	210	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	493	470	846	479	477	936	1377	-	-	1402	-	-
Stage 1	793	729	-	742	676	-	-	-	-	-	-	-
Stage 2	739	668	-	772	728	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	470	446	846	436	453	936	1377	-	-	1402	-	-
Mov Cap-2 Maneuver	470	446	-	436	453	-	-	-	-	-	-	-
Stage 1	757	725	-	708	645	-	-	-	-	-	-	-
Stage 2	698	638	-	728	724	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	12.6	1.9	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1377	-	-	470	828	436	812	1402	-	-
HCM Lane V/C Ratio	0.047	-	-	0.023	0.054	0.047	0.009	0.005	-	-
HCM Control Delay (s)	7.7	-	-	12.8	9.6	13.7	9.5	7.6	-	-
HCM Lane LOS	A	-	-	B	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.2	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	10	6	12	14	1
Future Vol, veh/h	2	10	6	12	14	1
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	2	11	7	13	15	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	43	16	16	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	27	-	-	-	-	-
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	968	1063	1602	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	964	1063	1602	-	-	-
Mov Cap-2 Maneuver	964	-	-	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	996	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	2.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1602	-	1045	-	-
HCM Lane V/C Ratio	0.004	-	0.012	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	4	2	12	11	3
Future Vol, veh/h	6	4	2	12	11	3
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	7	4	2	13	12	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	31	14	15	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	17	-	-	-	-	-
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	983	1066	1603	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	982	1066	1603	-	-	-
Mov Cap-2 Maneuver	982	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1006	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1603	-	1014	-	-
HCM Lane V/C Ratio	0.001	-	0.011	-	-
HCM Control Delay (s)	7.2	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	18	12	14	5	27	5	12	5	5	5	5	23
Future Vol, veh/h	18	12	14	5	27	5	12	5	5	5	5	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	13	15	5	29	5	13	5	5	5	5	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	34	0	0	28	0	0	118	105	21	108	110	32
Stage 1	-	-	-	-	-	-	61	61	-	42	42	-
Stage 2	-	-	-	-	-	-	57	44	-	66	68	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1578	-	-	1585	-	-	858	785	1056	871	780	1042
Stage 1	-	-	-	-	-	-	950	844	-	972	860	-
Stage 2	-	-	-	-	-	-	955	858	-	945	838	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1578	-	-	1585	-	-	823	772	1056	851	768	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-	823	772	-	851	768	-
Stage 1	-	-	-	-	-	-	938	833	-	959	857	-
Stage 2	-	-	-	-	-	-	923	855	-	922	827	-

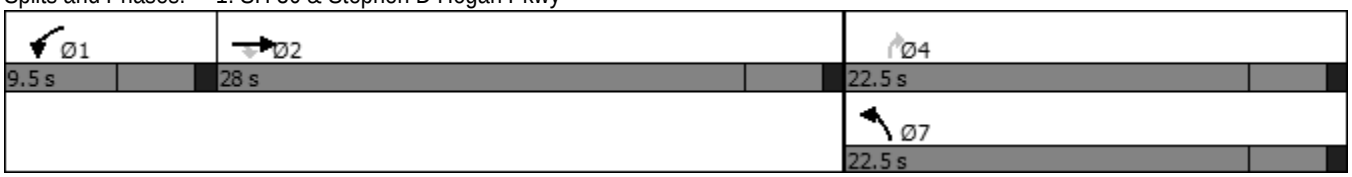
Approach	EB	WB	NB	SB
HCM Control Delay, s	3	1	9.3	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	853	1578	-	-	1585	-	-	958
HCM Lane V/C Ratio	0.028	0.012	-	-	0.003	-	-	0.037
HCM Control Delay (s)	9.3	7.3	0	-	7.3	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1298	690	10	742	368	20
Future Volume (vph)	1298	690	10	742	368	20
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Detector Phase	2	2	1		7	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	9.5		22.5	22.5
Total Split (s)	28.0	28.0	9.5		22.5	22.5
Total Split (%)	46.7%	46.7%	15.8%		37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	Max	Max	None		None	None
Act Effct Green (s)	24.0	24.0	5.1	45.1	10.5	10.5
Actuated g/C Ratio	0.53	0.53	0.11	1.00	0.23	0.23
v/c Ratio	0.75	0.63	0.06	0.23	0.50	0.06

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 45.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 9.0
Intersection Capacity Utilization 54.4%
Analysis Period (min) 15
! Phase conflict between lane groups.

Splits and Phases: 1: SH 30 & Stephen D Hogan Pkwy



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1411	750	11	807	400	22
v/c Ratio	0.75	0.63	0.06	0.23	0.50	0.06
Control Delay	14.2	3.8	21.5	0.1	17.8	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	3.8	21.5	0.1	17.8	7.9
Queue Length 50th (ft)	112	0	2	0	42	0
Queue Length 95th (ft)	#380	56	16	0	93	14
Internal Link Dist (ft)	1030			1968	1006	
Turn Bay Length (ft)		340	225		470	250
Base Capacity (vph)	1882	1193	199	3539	1391	654
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.63	0.06	0.23	0.29	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1298	690	10	742	368	20
Future Volume (vph)	1298	690	10	742	368	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1411	750	11	807	400	22
RTOR Reduction (vph)	0	381	0	0	0	17
Lane Group Flow (vph)	1411	369	11	807	400	5
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Actuated Green, G (s)	24.0	24.0	0.8	48.8	10.5	10.5
Effective Green, g (s)	24.0	24.0	0.8	48.8	10.5	10.5
Actuated g/C Ratio	0.49	0.49	0.02	1.00	0.22	0.22
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	1740	778	29	3539	738	340
v/s Ratio Prot	c0.40		0.01	0.23	c0.12	
v/s Ratio Perm		0.23				0.00
v/c Ratio	0.81	0.47	0.38	0.23	0.54	0.01
Uniform Delay, d1	10.5	8.2	23.8	0.0	17.0	15.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2	2.1	8.1	0.2	0.8	0.0
Delay (s)	14.7	10.3	31.9	0.2	17.8	15.1
Level of Service	B	B	C	A	B	B
Approach Delay (s)	13.2			0.6	17.7	
Approach LOS	B			A	B	

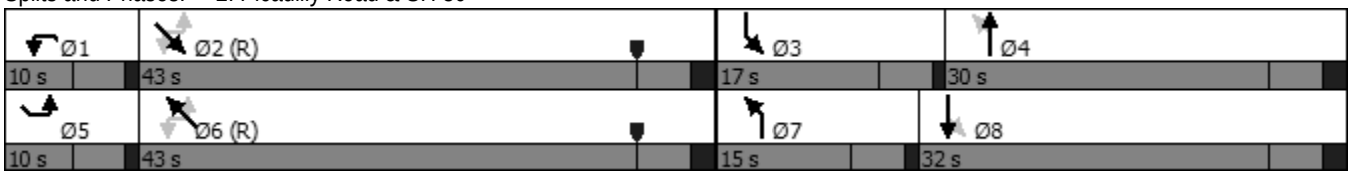
Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	48.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	NBL	NBT	SBL	SBT	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations										
Traffic Volume (vph)	10	45	293	140	24	626	50	20	365	276
Future Volume (vph)	10	45	293	140	24	626	50	20	365	276
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	30.0	10.0	30.0	10.0	26.0	26.0	10.0	26.0	26.0
Total Split (s)	15.0	30.0	17.0	32.0	10.0	43.0	43.0	10.0	43.0	43.0
Total Split (%)	15.0%	30.0%	17.0%	32.0%	10.0%	43.0%	43.0%	10.0%	43.0%	43.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	19.4	12.0	29.9	24.2	58.0	54.3	54.3	58.0	54.3	54.3
Actuated g/C Ratio	0.19	0.12	0.30	0.24	0.58	0.54	0.54	0.58	0.54	0.54
v/c Ratio	0.07	0.52	0.87	0.40	0.05	0.67	0.06	0.08	0.41	0.31

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:SETL and 6:NWTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 25.0
Intersection Capacity Utilization 65.8%
Analysis Period (min) 15

Splits and Phases: 2: Picadilly Road & SH 30



Lane Group	NBL	NBT	SBL	SBT	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	20	120	333	178	26	673	54	23	415	314
v/c Ratio	0.07	0.52	0.87	0.40	0.05	0.67	0.06	0.08	0.41	0.31
Control Delay	24.8	43.7	54.9	35.1	9.2	22.8	0.1	9.6	16.9	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.8	43.7	54.9	35.1	9.2	22.8	0.1	9.6	16.9	2.9
Queue Length 50th (ft)	9	64	185	87	6	250	0	5	127	0
Queue Length 95th (ft)	14	56	#284	160	19	#578	0	17	270	44
Internal Link Dist (ft)		388		631		507			534	
Turn Bay Length (ft)	100		100		225		225	225		225
Base Capacity (vph)	333	442	382	496	511	1011	924	298	1011	1002
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.27	0.87	0.36	0.05	0.67	0.06	0.08	0.41	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	10	45	15	293	140	17	24	626	50	20	365	276
Future Volume (vph)	10	45	15	293	140	17	24	626	50	20	365	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1793		1770	1833		1770	1863	1583	1770	1863	1583
Flt Permitted	0.64	1.00		0.51	1.00		0.42	1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)	1201	1793		947	1833		776	1863	1583	368	1863	1583
Peak-hour factor, PHF	0.50	0.50	0.50	0.88	0.88	0.88	0.93	0.93	0.93	0.88	0.88	0.88
Adj. Flow (vph)	20	90	30	333	159	19	26	673	54	23	415	314
RTOR Reduction (vph)	0	14	0	0	5	0	0	0	28	0	0	163
Lane Group Flow (vph)	20	106	0	333	173	0	26	673	26	23	415	151
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	18.0	15.1		32.1	24.2		50.9	48.2	48.2	50.9	48.2	48.2
Effective Green, g (s)	18.0	15.1		32.1	24.2		50.9	48.2	48.2	50.9	48.2	48.2
Actuated g/C Ratio	0.18	0.15		0.32	0.24		0.51	0.48	0.48	0.51	0.48	0.48
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	232	270		402	443		421	897	763	225	897	763
v/s Ratio Prot	0.00	0.06		c0.10	0.09		0.00	c0.36		c0.00	0.22	
v/s Ratio Perm	0.01			c0.17			0.03		0.02	0.05		0.10
v/c Ratio	0.09	0.39		0.83	0.39		0.06	0.75	0.03	0.10	0.46	0.20
Uniform Delay, d1	34.0	38.3		29.8	31.7		12.7	21.0	13.6	15.4	17.3	14.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	1.0		13.1	0.6		0.1	5.7	0.1	0.2	1.7	0.6
Delay (s)	34.2	39.3		43.0	32.3		12.8	26.8	13.7	15.6	19.0	15.4
Level of Service	C	D		D	C		B	C	B	B	B	B
Approach Delay (s)		38.5			39.3			25.3			17.4	
Approach LOS		D			D			C			B	

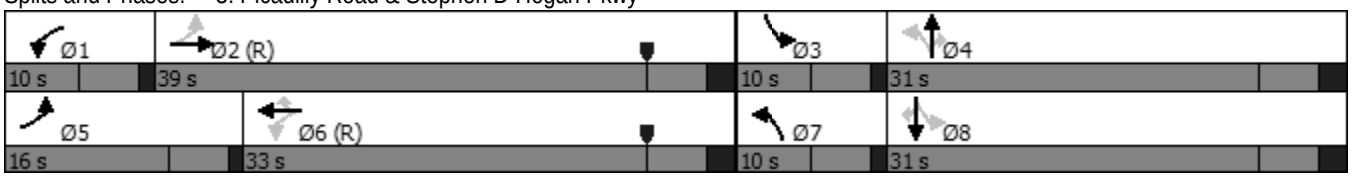
Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	207	1085	69	585	236	27	200	111	258	352	140
Future Volume (vph)	207	1085	69	585	236	27	200	111	258	352	140
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2	1	6		7	4		3	8	
Permitted Phases	2		6		6	4		4	8		8
Detector Phase	5	2	1	6	6	7	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	30.0	10.0	30.0	30.0	10.0	30.0	30.0	10.0	30.0	30.0
Total Split (s)	16.0	39.0	10.0	33.0	33.0	10.0	31.0	31.0	10.0	31.0	31.0
Total Split (%)	17.8%	43.3%	11.1%	36.7%	36.7%	11.1%	34.4%	34.4%	11.1%	34.4%	34.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	48.3	39.5	39.2	32.8	32.8	26.2	20.2	20.2	28.2	24.2	24.2
Actuated g/C Ratio	0.54	0.44	0.44	0.36	0.36	0.29	0.22	0.22	0.31	0.27	0.27
v/c Ratio	0.56	0.77	0.40	0.52	0.36	0.16	0.61	0.27	0.99	0.82	0.28

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 29.6
Intersection Capacity Utilization 78.1%
Analysis Period (min) 15

Splits and Phases: 3: Picadilly Road & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	223	1195	78	665	268	34	253	141	300	409	163
v/c Ratio	0.56	0.77	0.40	0.52	0.36	0.16	0.61	0.27	0.99	0.82	0.28
Control Delay	18.1	28.2	19.0	25.8	4.7	19.1	36.6	1.9	79.0	45.3	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	28.2	19.0	25.8	4.7	19.1	36.6	1.9	79.0	45.3	2.6
Queue Length 50th (ft)	71	335	23	170	0	12	120	0	121	215	0
Queue Length 95th (ft)	117	#474	46	222	50	26	164	0	#241	#327	16
Internal Link Dist (ft)		1158		287			427			245	
Turn Bay Length (ft)	325		275		225	100		100	100		
Base Capacity (vph)	412	1547	196	1290	747	210	517	597	303	517	597
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.77	0.40	0.52	0.36	0.16	0.49	0.24	0.99	0.79	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	1085	26	69	585	236	27	200	111	258	352	140
Future Volume (vph)	207	1085	26	69	585	236	27	200	111	258	352	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3527		1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.25	1.00		0.13	1.00	1.00	0.26	1.00	1.00	0.43	1.00	1.00
Satd. Flow (perm)	469	3527		241	3539	1583	475	1863	1583	793	1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.88	0.88	0.88	0.79	0.79	0.79	0.86	0.86	0.86
Adj. Flow (vph)	223	1167	28	78	665	268	34	253	141	300	409	163
RTOR Reduction (vph)	0	2	0	0	0	176	0	0	106	0	0	119
Lane Group Flow (vph)	223	1193	0	78	665	92	34	253	35	300	409	44
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4		4	8		8
Actuated Green, G (s)	45.8	36.5		35.2	30.9	30.9	25.2	22.2	22.2	29.2	24.2	24.2
Effective Green, g (s)	45.8	36.5		35.2	30.9	30.9	25.2	22.2	22.2	29.2	24.2	24.2
Actuated g/C Ratio	0.51	0.41		0.39	0.34	0.34	0.28	0.25	0.25	0.32	0.27	0.27
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	381	1430		167	1215	543	176	459	390	311	500	425
v/s Ratio Prot	c0.06	c0.34		0.02	0.19		0.01	0.14		c0.05	0.22	
v/s Ratio Perm	0.23			0.16		0.06	0.05		0.02	c0.26		0.03
v/c Ratio	0.59	0.83		0.47	0.55	0.17	0.19	0.55	0.09	0.96	0.82	0.10
Uniform Delay, d1	13.8	24.0		19.4	23.9	20.6	24.5	29.6	26.1	30.2	30.8	24.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3	5.9		2.1	1.8	0.7	0.5	1.4	0.1	41.2	10.0	0.1
Delay (s)	16.1	29.9		21.4	25.7	21.3	25.1	31.0	26.2	71.4	40.9	24.8
Level of Service	B	C		C	C	C	C	C	C	E	D	C
Approach Delay (s)		27.7			24.2			28.9			48.4	
Approach LOS		C			C			C			D	

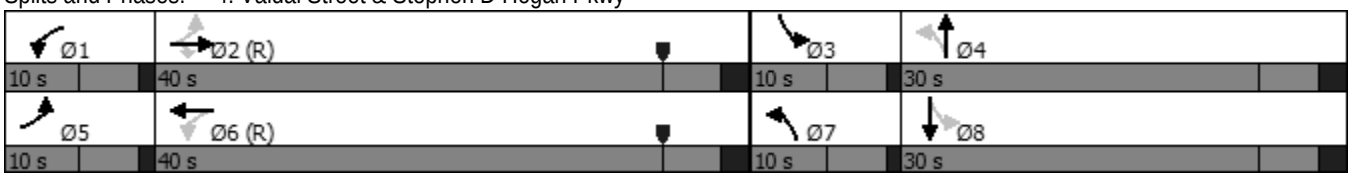
Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	146	1144	75	15	639	55	10	163	10
Future Volume (vph)	146	1144	75	15	639	55	10	163	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6	7	4	3	8
Permitted Phases	2		2	6		4		8	
Detector Phase	5	2	2	1	6	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	10.0	30.0	30.0	10.0	30.0	10.0	30.0	10.0	30.0
Total Split (s)	10.0	40.0	40.0	10.0	40.0	10.0	30.0	10.0	30.0
Total Split (%)	11.1%	44.4%	44.4%	11.1%	44.4%	11.1%	33.3%	11.1%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	None	None	None
Act Effct Green (s)	57.3	51.9	51.9	48.8	41.9	17.6	11.6	17.6	11.6
Actuated g/C Ratio	0.64	0.58	0.58	0.54	0.47	0.20	0.13	0.20	0.13
v/c Ratio	0.44	0.63	0.09	0.07	0.58	0.57	0.48	0.97	0.68

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 19.6
Intersection Capacity Utilization 71.5%
Analysis Period (min) 15

Splits and Phases: 4: Valdai Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	164	1285	84	17	942	108	157	240	283
v/c Ratio	0.44	0.63	0.09	0.07	0.58	0.57	0.48	0.97	0.68
Control Delay	10.7	16.2	0.2	3.1	10.3	40.0	13.8	85.4	16.6
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	16.3	0.2	3.1	10.3	40.0	13.8	85.4	16.6
Queue Length 50th (ft)	31	192	0	1	124	50	10	~129	22
Queue Length 95th (ft)	68	408	0	m5	167	46	4	127	34
Internal Link Dist (ft)		350			557		352		320
Turn Bay Length (ft)	275		225	225		100		100	
Base Capacity (vph)	376	2041	980	252	1617	188	532	247	603
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	108	0	0	0	0	4	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.66	0.09	0.07	0.58	0.57	0.30	0.97	0.47

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	1144	75	15	639	199	55	10	70	163	10	182
Future Volume (vph)	146	1144	75	15	639	199	55	10	70	163	10	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.87		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3413		1770	1619		1770	1598	
Flt Permitted	0.19	1.00	1.00	0.16	1.00		0.34	1.00		0.57	1.00	
Satd. Flow (perm)	357	3539	1583	289	3413		642	1619		1067	1598	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.51	0.51	0.51	0.68	0.68	0.68
Adj. Flow (vph)	164	1285	84	17	718	224	108	20	137	240	15	268
RTOR Reduction (vph)	0	0	38	0	28	0	0	119	0	0	211	0
Lane Group Flow (vph)	164	1285	46	17	914	0	108	38	0	240	72	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4			8		
Actuated Green, G (s)	56.4	48.9	48.9	44.4	41.9		16.6	11.6		16.6	11.6	
Effective Green, g (s)	56.4	48.9	48.9	44.4	41.9		16.6	11.6		16.6	11.6	
Actuated g/C Ratio	0.63	0.54	0.54	0.49	0.47		0.18	0.13		0.18	0.13	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	372	1922	860	183	1588		181	208		235	205	
v/s Ratio Prot	c0.05	c0.36		0.00	0.27		0.03	0.02		c0.06	0.05	
v/s Ratio Perm	0.23		0.03	0.04			0.08			c0.13		
v/c Ratio	0.44	0.67	0.05	0.09	0.58		0.60	0.18		1.02	0.35	
Uniform Delay, d1	9.3	14.7	9.7	12.5	17.6		32.2	35.0		36.1	35.8	
Progression Factor	1.00	1.00	1.00	0.35	0.50		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	1.9	0.1	0.2	1.4		5.2	0.4		64.3	1.0	
Delay (s)	10.1	16.6	9.8	4.6	10.3		37.4	35.4		100.5	36.8	
Level of Service	B	B	A	A	B		D	D		F	D	
Approach Delay (s)		15.5			10.2			36.2			66.0	
Approach LOS		B			B			D			E	

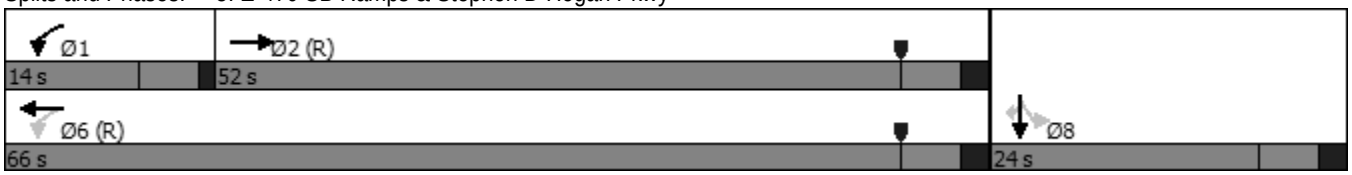
Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1137	241	145	735	0	118
Future Volume (vph)	1137	241	145	735	0	118
Turn Type	NA	Free	pm+pt	NA	NA	Perm
Protected Phases	2		1	6	8	
Permitted Phases		Free	6			8
Detector Phase	2		1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	5.0	5.0
Minimum Split (s)	24.0		10.0	24.0	24.0	24.0
Total Split (s)	52.0		14.0	66.0	24.0	24.0
Total Split (%)	57.8%		15.6%	73.3%	26.7%	26.7%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		5.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	Max	Max
Act Effct Green (s)	46.6	90.0	61.0	60.0	18.0	18.0
Actuated g/C Ratio	0.52	1.00	0.68	0.67	0.20	0.20
v/c Ratio	0.97	0.24	0.70	0.38	0.40	0.35

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 81 (90%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 21.6
Intersection Capacity Utilization 59.7%
Analysis Period (min) 15

Splits and Phases: 5: E-470 SB Ramps & Stephen D Hogan Pkwy



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	1777	377	175	886	141	151
v/c Ratio	0.97	0.24	0.70	0.38	0.40	0.35
Control Delay	32.5	0.3	38.2	5.4	35.2	7.9
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	0.3	38.2	5.4	35.2	7.9
Queue Length 50th (ft)	516	0	73	84	70	0
Queue Length 95th (ft)	277	0	120	78	108	32
Internal Link Dist (ft)	557			525	689	
Turn Bay Length (ft)		135	200			235
Base Capacity (vph)	1832	1583	260	2359	354	437
Starvation Cap Reductn	2	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.24	0.67	0.38	0.40	0.35

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1137	241	145	735	0	0	0	0	110	0	118
Future Volume (vph)	0	1137	241	145	735	0	0	0	0	110	0	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	5.0	6.0						6.0	6.0
Lane Util. Factor		0.95	1.00	1.00	0.95						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		3539	1583	1770	3539						1770	1583
Flt Permitted		1.00	1.00	0.08	1.00						0.95	1.00
Satd. Flow (perm)		3539	1583	144	3539						1770	1583
Peak-hour factor, PHF	0.64	0.64	0.64	0.83	0.83	0.83	0.92	0.92	0.92	0.78	0.78	0.78
Adj. Flow (vph)	0	1777	377	175	886	0	0	0	0	141	0	151
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	121
Lane Group Flow (vph)	0	1777	377	175	886	0	0	0	0	0	141	30
Turn Type		NA	Free	pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						8	
Permitted Phases			Free	6						8		8
Actuated Green, G (s)		46.6	90.0	60.0	60.0						18.0	18.0
Effective Green, g (s)		46.6	90.0	60.0	60.0						18.0	18.0
Actuated g/C Ratio		0.52	1.00	0.67	0.67						0.20	0.20
Clearance Time (s)		6.0		5.0	6.0						6.0	6.0
Vehicle Extension (s)		3.0		3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1832	1583	247	2359						354	316
v/s Ratio Prot		c0.50		c0.07	0.25							
v/s Ratio Perm			0.24	0.40							0.08	0.02
v/c Ratio		0.97	0.24	0.71	0.38						0.40	0.10
Uniform Delay, d1		21.0	0.0	22.4	6.7						31.3	29.4
Progression Factor		0.82	1.00	1.62	0.73						1.00	1.00
Incremental Delay, d2		13.8	0.3	8.2	0.4						3.3	0.6
Delay (s)		31.0	0.3	44.6	5.3						34.6	30.0
Level of Service		C	A	D	A						C	C
Approach Delay (s)		25.6			11.8			0.0			32.2	
Approach LOS		C			B			A			C	

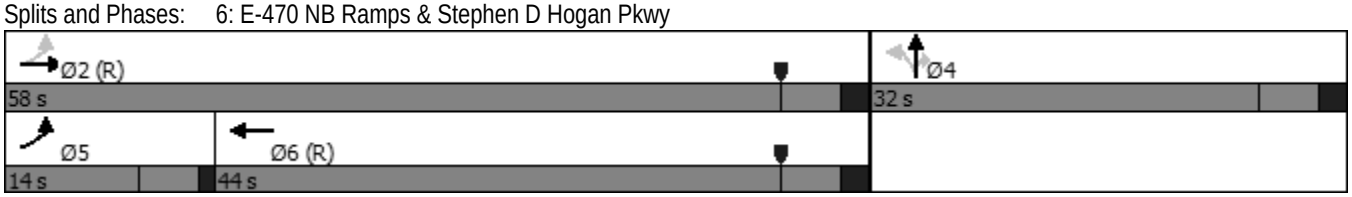
Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	170	1077	714	120	0	160
Future Volume (vph)	170	1077	714	120	0	160
Turn Type	pm+pt	NA	NA	Free	NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			Free		4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		10.0	10.0
Minimum Split (s)	10.0	24.0	24.0		30.0	30.0
Total Split (s)	14.0	58.0	44.0		32.0	32.0
Total Split (%)	15.6%	64.4%	48.9%		35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		Max	Max
Act Effct Green (s)	53.0	52.0	38.2	90.0	26.0	26.0
Actuated g/C Ratio	0.59	0.58	0.42	1.00	0.29	0.29
v/c Ratio	0.60	0.75	0.50	0.08	0.44	0.42

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 10.7
Intersection Capacity Utilization 59.7%
Analysis Period (min) 15

Splits and Phases: 6: E-470 NB Ramps & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	243	1539	744	125	227	219
v/c Ratio	0.60	0.75	0.50	0.08	0.44	0.42
Control Delay	10.4	3.2	20.4	0.1	29.5	16.8
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	10.4	3.4	20.4	0.1	29.5	16.8
Queue Length 50th (ft)	11	38	158	0	105	53
Queue Length 95th (ft)	m12	34	211	0	134	80
Internal Link Dist (ft)		525	1048		568	
Turn Bay Length (ft)	230			280		135
Base Capacity (vph)	409	2044	1501	1583	511	526
Starvation Cap Reductn	0	71	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.78	0.50	0.08	0.44	0.42

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	1077	0	0	714	120	166	0	160	0	0	0
Future Volume (vph)	170	1077	0	0	714	120	166	0	160	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0			6.0	4.0		6.0	6.0			
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	3539			3539	1583		1770	1583			
Flt Permitted	0.25	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	474	3539			3539	1583		1770	1583			
Peak-hour factor, PHF	0.70	0.70	0.70	0.96	0.96	0.96	0.73	0.73	0.73	0.92	0.92	0.92
Adj. Flow (vph)	243	1539	0	0	744	125	227	0	219	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	69	0	0	0
Lane Group Flow (vph)	243	1539	0	0	744	125	0	227	150	0	0	0
Turn Type	pm+pt	NA			NA	Free	Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2					Free	4		4			
Actuated Green, G (s)	52.0	52.0			38.2	90.0		26.0	26.0			
Effective Green, g (s)	52.0	52.0			38.2	90.0		26.0	26.0			
Actuated g/C Ratio	0.58	0.58			0.42	1.00		0.29	0.29			
Clearance Time (s)	5.0	6.0			6.0			6.0	6.0			
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)	400	2044			1502	1583		511	457			
v/s Ratio Prot	0.06	c0.43			0.21							
v/s Ratio Perm	0.29					0.08		0.13	0.09			
v/c Ratio	0.61	0.75			0.50	0.08		0.44	0.33			
Uniform Delay, d1	10.8	14.2			18.9	0.0		26.1	25.1			
Progression Factor	0.89	0.15			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.0	1.0			1.2	0.1		2.8	1.9			
Delay (s)	10.6	3.1			20.0	0.1		28.9	27.1			
Level of Service	B	A			C	A		C	C			
Approach Delay (s)		4.2			17.2			28.0			0.0	
Approach LOS		A			B			C			A	

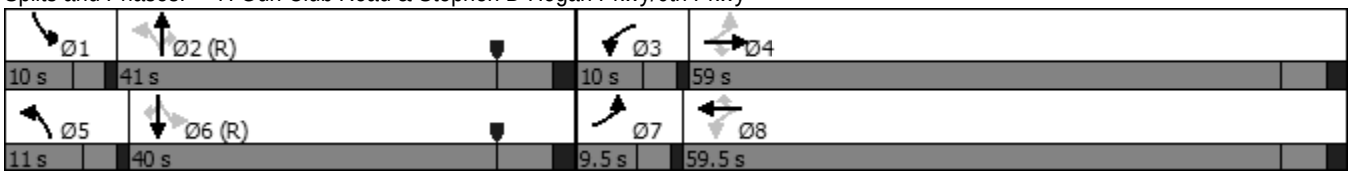
Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	765	361	155	498	80	205	310	170	135	355	131
Future Volume (vph)	111	765	361	155	498	80	205	310	170	135	355	131
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	10.0	10.0	3.0	10.0	10.0
Minimum Split (s)	7.0	11.0	11.0	7.0	11.0	11.0	7.0	41.0	41.0	7.0	17.0	17.0
Total Split (s)	9.5	59.0	59.0	10.0	59.5	59.5	11.0	41.0	41.0	10.0	40.0	40.0
Total Split (%)	7.9%	49.2%	49.2%	8.3%	49.6%	49.6%	9.2%	34.2%	34.2%	8.3%	33.3%	33.3%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	48.1	40.6	40.6	49.1	41.1	41.1	58.5	42.3	42.3	50.6	37.4	37.4
Actuated g/C Ratio	0.40	0.34	0.34	0.41	0.34	0.34	0.49	0.35	0.35	0.42	0.31	0.31
v/c Ratio	0.41	0.74	0.58	0.91	0.45	0.14	0.57	0.53	0.28	0.35	0.69	0.25

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 30.7
Intersection Capacity Utilization 77.3%
Analysis Period (min) 15

Splits and Phases: 7: Gun Club Road & Stephen D Hogan Pkwy/6th Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	129	890	420	168	541	87	228	344	189	152	399	147
v/c Ratio	0.41	0.74	0.58	0.91	0.45	0.14	0.57	0.53	0.28	0.35	0.69	0.25
Control Delay	23.7	38.7	12.2	70.9	31.1	2.8	26.8	36.5	5.7	21.4	44.8	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	38.7	12.2	70.9	31.1	2.8	26.8	36.5	5.7	21.4	44.8	6.4
Queue Length 50th (ft)	59	317	74	79	169	0	100	214	0	63	281	0
Queue Length 95th (ft)	82	327	136	#155	195	21	#196	339	55	119	#404	48
Internal Link Dist (ft)		1048			585			581			595	
Turn Bay Length (ft)	225		225	225		225	225		550	225		225
Base Capacity (vph)	318	1563	860	185	1577	766	400	655	679	436	581	594
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.57	0.49	0.91	0.34	0.11	0.57	0.53	0.28	0.35	0.69	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	765	361	155	498	80	205	310	170	135	355	131
Future Volume (vph)	111	765	361	155	498	80	205	310	170	135	355	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.36	1.00	1.00	0.15	1.00	1.00	0.27	1.00	1.00	0.46	1.00	1.00
Satd. Flow (perm)	667	3539	1583	270	3539	1583	497	1863	1583	852	1863	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.92	0.92	0.92	0.90	0.90	0.90	0.89	0.89	0.89
Adj. Flow (vph)	129	890	420	168	541	87	228	344	189	152	399	147
RTOR Reduction (vph)	0	0	191	0	0	57	0	0	122	0	0	101
Lane Group Flow (vph)	129	890	229	168	541	30	228	344	67	152	399	46
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	46.1	40.6	40.6	47.1	41.1	41.1	56.4	42.3	42.3	47.6	37.5	37.5
Effective Green, g (s)	46.1	40.6	40.6	47.1	41.1	41.1	56.4	42.3	42.3	47.6	37.5	37.5
Actuated g/C Ratio	0.38	0.34	0.34	0.39	0.34	0.34	0.47	0.35	0.35	0.40	0.31	0.31
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	7.0	7.0	4.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	306	1197	535	180	1212	542	391	656	558	415	582	494
v/s Ratio Prot	0.02	0.25		c0.05	0.15		c0.07	0.18		0.03	c0.21	
v/s Ratio Perm	0.14		0.14	c0.32		0.02	0.20		0.04	0.11		0.03
v/c Ratio	0.42	0.74	0.43	0.93	0.45	0.05	0.58	0.52	0.12	0.37	0.69	0.09
Uniform Delay, d1	25.2	35.1	30.7	31.8	30.6	26.4	21.6	30.9	26.3	24.1	36.1	29.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	2.5	0.6	47.9	0.3	0.0	2.2	3.0	0.4	0.6	6.4	0.4
Delay (s)	26.2	37.6	31.3	79.7	30.9	26.5	23.8	33.8	26.7	24.7	42.5	29.6
Level of Service	C	D	C	E	C	C	C	C	C	C	D	C
Approach Delay (s)		34.7			40.7			29.1			35.9	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	17	5	69	2	601	41	90	732	2
Future Vol, veh/h	1	1	1	17	5	69	2	601	41	90	732	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	33	33	33	71	71	71	79	79	79	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	3	3	24	7	97	3	761	52	105	851	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1452	1881	427	1430	1856	407	853	0	0	813	0	0
Stage 1	1062	1062	-	793	793	-	-	-	-	-	-	-
Stage 2	390	819	-	637	1063	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	*153	87	576	160	91	*838	782	-	-	1083	-	-
Stage 1	*239	298	-	650	599	-	-	-	-	-	-	-
Stage 2	*790	579	-	432	298	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*117	78	576	143	81	*838	782	-	-	1083	-	-
Mov Cap-2 Maneuver	*117	78	-	143	81	-	-	-	-	-	-	-
Stage 1	*238	269	-	647	597	-	-	-	-	-	-	-
Stage 2	*688	576	-	384	269	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.8	17.8	0	0.9
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	782	-	-	130	143	514	1083	-	-
HCM Lane V/C Ratio	0.003	-	-	0.07	0.167	0.203	0.097	-	-
HCM Control Delay (s)	9.6	-	-	34.8	35.2	13.8	8.7	-	-
HCM Lane LOS	A	-	-	D	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.6	0.8	0.3	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	18	320	10	22	425
Future Vol, veh/h	0	18	320	10	22	425
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	-	-	100	-
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	20	348	11	24	462

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	354	0	0	359	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	0	690	-	-	1200	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	690	-	-	1200	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	690	1200	-
HCM Lane V/C Ratio	-	-	0.028	0.02	-
HCM Control Delay (s)	-	-	10.4	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1446	8	0	871	14	0	0	14	0	0	18
Future Vol, veh/h	0	1446	8	0	871	14	0	0	14	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1572	9	0	947	15	0	0	15	0	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	791	-	-	481
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	*498	0	0	531
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-			1			
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	*498	-	-	531
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	12.5	12
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	498	-	-	-	-	531
HCM Lane V/C Ratio	0.031	-	-	-	-	0.037
HCM Control Delay (s)	12.5	-	-	-	-	12
HCM Lane LOS	B	-	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.1

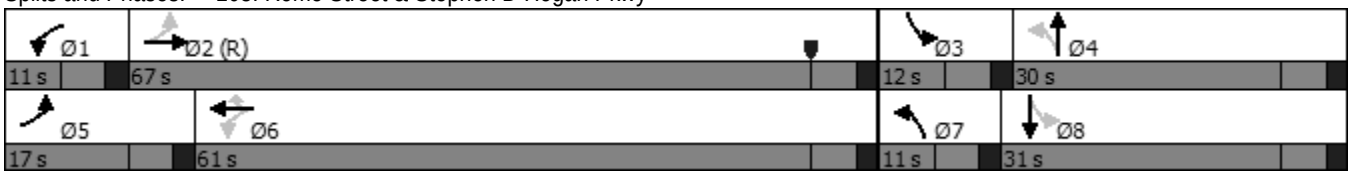
Notes

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	95	1353	40	753	145	21	1	98	1
Future Volume (vph)	95	1353	40	753	145	21	1	98	1
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6		7	4	3	8
Permitted Phases	2		6		6	4		8	
Detector Phase	5	2	1	6	6	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.0	26.0	11.0	26.0	26.0	11.0	30.0	11.0	30.0
Total Split (s)	17.0	67.0	11.0	61.0	61.0	11.0	30.0	12.0	31.0
Total Split (%)	14.2%	55.8%	9.2%	50.8%	50.8%	9.2%	25.0%	10.0%	25.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	86.9	80.6	83.5	77.2	77.2	11.2	10.2	14.4	10.8
Actuated g/C Ratio	0.72	0.67	0.70	0.64	0.64	0.09	0.08	0.12	0.09
v/c Ratio	0.22	0.62	0.18	0.36	0.15	0.17	0.15	0.69	0.48

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 14.9
Intersection Capacity Utilization 69.0%
Analysis Period (min) 15

Splits and Phases: 103: Rome Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	103	1484	43	818	158	23	23	107	122
v/c Ratio	0.22	0.62	0.18	0.36	0.15	0.17	0.15	0.69	0.48
Control Delay	5.8	14.3	6.8	11.4	2.9	44.5	22.6	68.7	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	14.3	6.8	11.4	2.9	44.5	22.6	68.7	16.0
Queue Length 50th (ft)	21	376	9	162	7	15	1	73	1
Queue Length 95th (ft)	39	474	19	214	35	39	27	#139	59
Internal Link Dist (ft)		606		202			162		261
Turn Bay Length (ft)	130		100		100	100		80	
Base Capacity (vph)	522	2376	234	2276	1066	138	336	156	426
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.62	0.18	0.36	0.15	0.17	0.07	0.69	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	1353	12	40	753	145	21	1	20	98	1	111
Future Volume (vph)	95	1353	12	40	753	145	21	1	20	98	1	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3535		1770	3539	1583	1770	1595		1770	1586	
Flt Permitted	0.30	1.00		0.12	1.00	1.00	0.68	1.00		0.43	1.00	
Satd. Flow (perm)	552	3535		220	3539	1583	1264	1595		794	1586	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	1471	13	43	818	158	23	1	22	107	1	121
RTOR Reduction (vph)	0	0	0	0	0	51	0	21	0	0	110	0
Lane Group Flow (vph)	103	1484	0	43	818	107	23	2	0	107	12	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6		6	4			8		
Actuated Green, G (s)	84.5	77.0		79.9	74.7	74.7	9.2	6.2		18.4	10.8	
Effective Green, g (s)	84.5	77.0		79.9	74.7	74.7	9.2	6.2		18.4	10.8	
Actuated g/C Ratio	0.70	0.64		0.67	0.62	0.62	0.08	0.05		0.15	0.09	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	464	2268		213	2203	985	109	82		183	142	
v/s Ratio Prot	c0.01	c0.42		0.01	0.23		0.01	0.00		c0.04	0.01	
v/s Ratio Perm	0.14			0.13		0.07	0.01			c0.05		
v/c Ratio	0.22	0.65		0.20	0.37	0.11	0.21	0.03		0.58	0.08	
Uniform Delay, d1	6.1	13.3		9.8	11.1	9.2	51.8	54.0		45.9	50.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.5		0.5	0.5	0.2	1.0	0.1		4.7	0.3	
Delay (s)	6.4	14.8		10.3	11.6	9.4	52.8	54.2		50.6	50.3	
Level of Service	A	B		B	B	A	D	D		D	D	
Approach Delay (s)		14.2			11.2			53.5			50.4	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	55	883	40	54	1417
Future Vol, veh/h	30	55	883	40	54	1417
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	225	130	-
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	33	60	960	43	59	1540

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1848	480	0	0	1003	0
Stage 1	960	-	-	-	-	-
Stage 2	888	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*66	*736	-	-	1046	-
Stage 1	*694	-	-	-	-	-
Stage 2	*463	-	-	-	-	-
Platoon blocked, %		1	-	-	1	-
Mov Cap-1 Maneuver	*62	*736	-	-	1046	-
Mov Cap-2 Maneuver	*62	-	-	-	-	-
Stage 1	*694	-	-	-	-	-
Stage 2	*437	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	47.2	0	0.3
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	62	736	1046	-
HCM Lane V/C Ratio	-	-	0.526	0.081	0.056	-
HCM Control Delay (s)	-	-	114.9	10.3	8.6	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	2.1	0.3	0.2	-

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↳		↰	↑↑
Traffic Vol, veh/h	0	6	917	6	6	1441
Future Vol, veh/h	0	6	917	6	6	1441
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	7	997	7	7	1566

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	502	0	0	1004	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	515	-	-	686	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	515	-	-	686	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	515	686	-
HCM Lane V/C Ratio	-	-	0.013	0.01	-
HCM Control Delay (s)	-	-	12.1	10.3	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	14.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	1	9	46	1	62	14	836	19	79	1353	9
Future Vol, veh/h	25	1	9	46	1	62	14	836	19	79	1353	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	235	-	-	235	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	1	10	50	1	67	15	909	21	86	1471	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2133	2608	741	1858	2603	465	1481	0	0	930	0	0
Stage 1	1648	1648	-	950	950	-	-	-	-	-	-	-
Stage 2	485	960	-	908	1653	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	28	24	*516	*~ 45	24	544	*772	-	-	731	-	-
Stage 1	392	363	-	*280	337	-	-	-	-	-	-	-
Stage 2	532	333	-	*487	359	-	-	-	-	-	-	-
Platoon blocked, %			1				1	-	-		-	-
Mov Cap-1 Maneuver	~ 21	21	*516	*~ 38	21	544	*772	-	-	731	-	-
Mov Cap-2 Maneuver	~ 21	21	-	*~ 38	21	-	-	-	-	-	-	-
Stage 1	384	320	-	*275	331	-	-	-	-	-	-	-
Stage 2	456	327	-	*420	317	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 412.5	185.8	0.2	0.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	* 772	-	-	21	154	38	390	731	-	-
HCM Lane V/C Ratio	0.02	-	-	1.294	0.071	1.316	0.176	0.117	-	-
HCM Control Delay (s)	9.8	-	-	$ 565.4	30.1	$ 418.1	16.2	10.6	-	-
HCM Lane LOS	A	-	-	F	D	F	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.6	0.2	5.1	0.6	0.4	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↳			↱
Traffic Vol, veh/h	0	1408	851	24	0	18
Future Vol, veh/h	0	1408	851	24	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1530	925	26	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	476
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	535
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	535
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	535
HCM Lane V/C Ratio	-	-	-	0.037
HCM Control Delay (s)	-	-	-	12
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	1349	20	18	836	18	0	0	16	0	0	39
Future Vol, veh/h	39	1349	20	18	836	18	0	0	16	0	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	130	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	1466	22	20	909	20	0	0	17	0	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	929	0	0	1488	0	0	-	-	744	-	-	465
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	1071	-	-	*772	-	-	0	0	*516	0	0	*770
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	1071	-	-	*772	-	-	-	-	*516	-	-	*770
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	12.2	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	516	1071	-	-	* 772	-	-	770
HCM Lane V/C Ratio	0.034	0.04	-	-	0.025	-	-	0.055
HCM Control Delay (s)	12.2	8.5	-	-	9.8	-	-	9.9
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-	-	0.2

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1365	858	18	0	14
Future Vol, veh/h	0	1365	858	18	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	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	1484	933	20	0	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	467
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	*736
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*736
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	736
HCM Lane V/C Ratio	-	-	-	0.021
HCM Control Delay (s)	-	-	-	10
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Notes

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

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	58	36	329	297	5
Future Vol, veh/h	5	58	36	329	297	5
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	-	100	-	-	-
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	5	63	39	358	323	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	762	326	328	0	-	0
Stage 1	326	-	-	-	-	-
Stage 2	436	-	-	-	-	-
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	387	715	1232	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	700	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	375	715	1232	-	-	-
Mov Cap-2 Maneuver	375	-	-	-	-	-
Stage 1	708	-	-	-	-	-
Stage 2	700	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1232	-	667	-	-
HCM Lane V/C Ratio	0.032	-	0.103	-	-
HCM Control Delay (s)	8	-	11	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	34	27	1	4	55	245	29	4	236	5
Future Vol, veh/h	3	1	34	27	1	4	55	245	29	4	236	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	37	29	1	4	60	266	32	4	257	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	673	686	260	689	672	282	262	0	0	298	0	0
Stage 1	268	268	-	402	402	-	-	-	-	-	-	-
Stage 2	405	418	-	287	270	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	369	370	779	360	377	757	1302	-	-	1263	-	-
Stage 1	738	687	-	625	600	-	-	-	-	-	-	-
Stage 2	622	591	-	720	686	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	352	352	779	329	359	757	1302	-	-	1263	-	-
Mov Cap-2 Maneuver	352	352	-	329	359	-	-	-	-	-	-	-
Stage 1	704	685	-	596	572	-	-	-	-	-	-	-
Stage 2	589	564	-	683	684	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	16.2	1.3	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1302	-	-	691	355	1263	-	-
HCM Lane V/C Ratio	0.046	-	-	0.06	0.098	0.003	-	-
HCM Control Delay (s)	7.9	-	-	10.5	16.2	7.9	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.3	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	4	9	3	3	1	12	236	4	1	233	4
Future Vol, veh/h	7	4	9	3	3	1	12	236	4	1	233	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	4	10	3	3	1	13	257	4	1	253	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	544	544	255	549	544	259	257	0	0	261	0	0
Stage 1	257	257	-	285	285	-	-	-	-	-	-	-
Stage 2	287	287	-	264	259	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	450	446	784	446	446	780	1308	-	-	1303	-	-
Stage 1	748	695	-	722	676	-	-	-	-	-	-	-
Stage 2	720	674	-	741	694	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	443	441	784	434	441	780	1308	-	-	1303	-	-
Mov Cap-2 Maneuver	443	441	-	434	441	-	-	-	-	-	-	-
Stage 1	741	694	-	715	669	-	-	-	-	-	-	-
Stage 2	708	667	-	727	693	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.8	12.8	0.4	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1308	-	-	550	467	1303	-	-
HCM Lane V/C Ratio	0.01	-	-	0.04	0.016	0.001	-	-
HCM Control Delay (s)	7.8	-	-	11.8	12.8	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	8	14	1	6	12	215	16	6	218	4
Future Vol, veh/h	2	1	8	14	1	6	12	215	16	6	218	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	9	15	1	7	13	234	17	7	237	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	526	530	239	527	524	243	241	0	0	251	0	0
Stage 1	253	253	-	269	269	-	-	-	-	-	-	-
Stage 2	273	277	-	258	255	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	462	455	800	462	458	796	1326	-	-	1314	-	-
Stage 1	751	698	-	737	687	-	-	-	-	-	-	-
Stage 2	733	681	-	747	696	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	452	448	800	451	451	796	1326	-	-	1314	-	-
Mov Cap-2 Maneuver	452	448	-	451	451	-	-	-	-	-	-	-
Stage 1	743	695	-	730	680	-	-	-	-	-	-	-
Stage 2	719	674	-	734	693	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	12.3	0.4	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1326	-	-	660	515	1314	-	-
HCM Lane V/C Ratio	0.01	-	-	0.018	0.044	0.005	-	-
HCM Control Delay (s)	7.7	-	-	10.6	12.3	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	13	33	1	11	10	53	170	1	10	195	20
Future Vol, veh/h	50	13	33	1	11	10	53	170	1	10	195	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	14	36	1	12	11	58	185	1	11	212	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	558	547	223	572	558	186	234	0	0	186	0	0
Stage 1	245	245	-	302	302	-	-	-	-	-	-	-
Stage 2	313	302	-	270	256	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	440	445	817	431	438	856	1333	-	-	1388	-	-
Stage 1	759	703	-	707	664	-	-	-	-	-	-	-
Stage 2	698	664	-	736	696	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	408	422	817	386	415	856	1333	-	-	1388	-	-
Mov Cap-2 Maneuver	408	422	-	386	415	-	-	-	-	-	-	-
Stage 1	726	697	-	676	635	-	-	-	-	-	-	-
Stage 2	647	635	-	684	690	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.2	12	1.9	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1333	-	-	495	539	1388	-	-
HCM Lane V/C Ratio	0.043	-	-	0.211	0.044	0.008	-	-
HCM Control Delay (s)	7.8	-	-	14.2	12	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.1	0	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	10	83	4	4	70	10	2	0	3	10	0	20
Future Vol, veh/h	10	83	4	4	70	10	2	0	3	10	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	90	4	4	76	11	2	0	3	11	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	87	0	0	94	0	0	215	209	92	206	206	82
Stage 1	-	-	-	-	-	-	114	114	-	90	90	-
Stage 2	-	-	-	-	-	-	101	95	-	116	116	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1509	-	-	1500	-	-	742	688	965	752	691	978
Stage 1	-	-	-	-	-	-	891	801	-	917	820	-
Stage 2	-	-	-	-	-	-	905	816	-	889	800	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1509	-	-	1500	-	-	720	680	965	743	683	978
Mov Cap-2 Maneuver	-	-	-	-	-	-	720	680	-	743	683	-
Stage 1	-	-	-	-	-	-	884	795	-	910	818	-
Stage 2	-	-	-	-	-	-	882	814	-	879	794	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.4	9.3	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	849	1509	-	-	1500	-	-	885
HCM Lane V/C Ratio	0.006	0.007	-	-	0.003	-	-	0.037
HCM Control Delay (s)	9.3	7.4	0	-	7.4	0	-	9.2
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	10	89	4	4	83	5	3	0	3	5	0	5
Future Vol, veh/h	10	89	4	4	83	5	3	0	3	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	97	4	4	90	5	3	0	3	5	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	95	0	0	101	0	0	224	224	99	224	224	93
Stage 1	-	-	-	-	-	-	121	121	-	101	101	-
Stage 2	-	-	-	-	-	-	103	103	-	123	123	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1499	-	-	1491	-	-	732	675	957	732	675	964
Stage 1	-	-	-	-	-	-	883	796	-	905	811	-
Stage 2	-	-	-	-	-	-	903	810	-	881	794	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1499	-	-	1491	-	-	722	668	957	723	668	964
Mov Cap-2 Maneuver	-	-	-	-	-	-	722	668	-	723	668	-
Stage 1	-	-	-	-	-	-	876	790	-	898	809	-
Stage 2	-	-	-	-	-	-	895	808	-	871	788	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.3	9.4	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	823	1499	-	-	1491	-	-	826
HCM Lane V/C Ratio	0.008	0.007	-	-	0.003	-	-	0.013
HCM Control Delay (s)	9.4	7.4	0	-	7.4	0	-	9.4
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	25	97	8	2	74	15	5	0	1	5	0	20
Future Vol, veh/h	25	97	8	2	74	15	5	0	1	5	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	105	9	2	80	16	5	0	1	5	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	96	0	0	114	0	0	267	264	110	256	260	88
Stage 1	-	-	-	-	-	-	164	164	-	92	92	-
Stage 2	-	-	-	-	-	-	103	100	-	164	168	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1498	-	-	1475	-	-	686	641	943	697	645	970
Stage 1	-	-	-	-	-	-	838	762	-	915	819	-
Stage 2	-	-	-	-	-	-	903	812	-	838	759	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1498	-	-	1475	-	-	661	628	943	686	632	970
Mov Cap-2 Maneuver	-	-	-	-	-	-	661	628	-	686	632	-
Stage 1	-	-	-	-	-	-	822	748	-	898	818	-
Stage 2	-	-	-	-	-	-	882	811	-	821	745	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.2	10.2	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	696	1498	-	-	1475	-	-	896
HCM Lane V/C Ratio	0.009	0.018	-	-	0.001	-	-	0.03
HCM Control Delay (s)	10.2	7.4	0	-	7.4	0	-	9.1
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	129	9	2	97	8	1
Future Vol, veh/h	129	9	2	97	8	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	10	2	105	9	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	150	0	254	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	109	-
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	-	-	1431	-	735	902
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1431	-	734	902
Mov Cap-2 Maneuver	-	-	-	-	734	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	915	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	750	-	-	1431	-
HCM Lane V/C Ratio	0.013	-	-	0.002	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	78	15	30	60	15	21	110	50	10	90	10
Future Vol, veh/h	30	78	15	30	60	15	21	110	50	10	90	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	85	16	33	65	16	23	120	54	11	98	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	81	0	0	101	0	0	353	306	93	385	306	73
Stage 1	-	-	-	-	-	-	159	159	-	139	139	-
Stage 2	-	-	-	-	-	-	194	147	-	246	167	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1517	-	-	1491	-	-	602	608	964	573	608	989
Stage 1	-	-	-	-	-	-	843	766	-	864	782	-
Stage 2	-	-	-	-	-	-	808	775	-	758	760	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1517	-	-	1491	-	-	501	581	964	440	581	989
Mov Cap-2 Maneuver	-	-	-	-	-	-	501	581	-	440	581	-
Stage 1	-	-	-	-	-	-	824	748	-	844	764	-
Stage 2	-	-	-	-	-	-	681	757	-	587	743	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	2.1	12.4	12.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	501	663	1517	-	-	1491	-	-	440	606
HCM Lane V/C Ratio	0.046	0.262	0.021	-	-	0.022	-	-	0.025	0.179
HCM Control Delay (s)	12.5	12.4	7.4	0	-	7.5	0	-	13.4	12.2
HCM Lane LOS	B	B	A	A	-	A	A	-	B	B
HCM 95th %tile Q(veh)	0.1	1	0.1	-	-	0.1	-	-	0.1	0.6

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	122	6	1	91	0	3
Future Vol, veh/h	122	6	1	91	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	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	133	7	1	99	0	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	140	0	-	137
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	1443	-	0	911
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1443	-	-	911
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	911	-	-	1443	-
HCM Lane V/C Ratio	0.004	-	-	0.001	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	125	7	0	91	0	3
Future Vol, veh/h	125	7	0	91	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	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	136	8	0	99	0	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	140
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	908
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	908
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	908	-	-	-
HCM Lane V/C Ratio	0.004	-	-	-
HCM Control Delay (s)	9	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1	59	26	1	8	55	160	25	8	124	3
Future Vol, veh/h	13	1	59	26	1	8	55	160	25	8	124	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	1	64	28	1	9	60	174	27	9	135	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	468	476	137	495	464	188	138	0	0	201	0	0
Stage 1	155	155	-	308	308	-	-	-	-	-	-	-
Stage 2	313	321	-	187	156	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	545	510	911	520	519	932	1446	-	-	1396	-	-
Stage 1	847	769	-	748	680	-	-	-	-	-	-	-
Stage 2	742	670	-	815	769	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	520	486	911	465	495	932	1446	-	-	1396	-	-
Mov Cap-2 Maneuver	520	486	-	465	495	-	-	-	-	-	-	-
Stage 1	812	764	-	717	652	-	-	-	-	-	-	-
Stage 2	704	643	-	752	764	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	12.4	1.7	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1446	-	-	795	526	1396	-	-
HCM Lane V/C Ratio	0.041	-	-	0.1	0.072	0.006	-	-
HCM Control Delay (s)	7.6	-	-	10	12.4	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	15	17	16	16	4
Future Vol, veh/h	3	15	17	16	16	4
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	3	16	18	17	17	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	72	19	21	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	53	-	-	-	-	-
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	932	1059	1595	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	922	1059	1595	-	-	-
Mov Cap-2 Maneuver	922	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	3.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1595	-	1033	-	-
HCM Lane V/C Ratio	0.012	-	0.019	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	6	6	13	14	9
Future Vol, veh/h	8	6	6	13	14	9
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	9	7	7	14	15	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	48	20	25	0	-	0
Stage 1	20	-	-	-	-	-
Stage 2	28	-	-	-	-	-
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	962	1058	1589	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	995	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	958	1058	1589	-	-	-
Mov Cap-2 Maneuver	958	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	995	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	2.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1589	-	998	-	-
HCM Lane V/C Ratio	0.004	-	0.015	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	22	36	36	5	25	5	35	0	5	5	5	25
Future Vol, veh/h	22	36	36	5	25	5	35	0	5	5	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	39	39	5	27	5	38	0	5	5	5	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	32	0	0	78	0	0	163	149	59	149	166	30
Stage 1	-	-	-	-	-	-	107	107	-	40	40	-
Stage 2	-	-	-	-	-	-	56	42	-	109	126	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1580	-	-	1520	-	-	802	743	1007	819	727	1044
Stage 1	-	-	-	-	-	-	898	807	-	975	862	-
Stage 2	-	-	-	-	-	-	956	860	-	896	792	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1580	-	-	1520	-	-	765	729	1007	803	713	1044
Mov Cap-2 Maneuver	-	-	-	-	-	-	765	729	-	803	713	-
Stage 1	-	-	-	-	-	-	884	794	-	959	859	-
Stage 2	-	-	-	-	-	-	922	857	-	877	779	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	1.1	9.8	9
HCM LOS			A	A

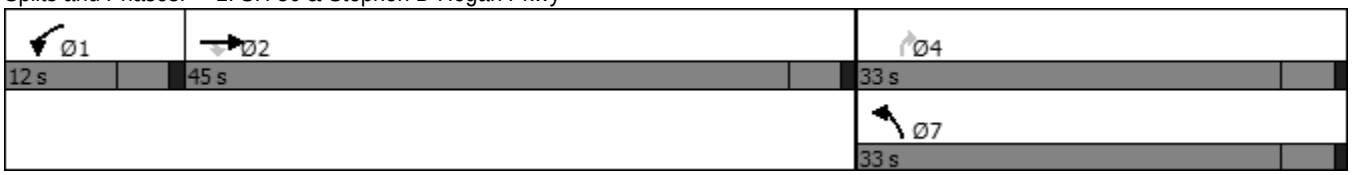
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	789	1580	-	-	1520	-	-	941
HCM Lane V/C Ratio	0.055	0.015	-	-	0.004	-	-	0.04
HCM Control Delay (s)	9.8	7.3	0	-	7.4	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection Capacity Worksheets: 2040 Background + Project

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1210	480	30	2370	950	20
Future Volume (vph)	1210	480	30	2370	950	20
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Detector Phase	2	2	1		7	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	9.5		22.5	22.5
Total Split (s)	45.0	45.0	12.0		33.0	33.0
Total Split (%)	50.0%	50.0%	13.3%		36.7%	36.7%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	Max	Max	None		None	None
Act Effct Green (s)	40.9	40.9	6.7	83.7	27.1	27.1
Actuated g/C Ratio	0.49	0.49	0.08	1.00	0.32	0.32
v/c Ratio	0.53	0.50	0.23	0.51	0.91	0.04

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 83.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 12.4
Intersection Capacity Utilization 80.0%
Analysis Period (min) 15
! Phase conflict between lane groups.

Splits and Phases: 1: SH 30 & Stephen D Hogan Pkwy



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1315	522	33	2576	1011	21
v/c Ratio	0.53	0.50	0.23	0.51	0.91	0.04
Control Delay	16.9	3.3	42.6	0.4	41.1	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	3.3	42.6	0.4	41.1	9.4
Queue Length 50th (ft)	194	0	18	0	282	0
Queue Length 95th (ft)	240	55	47	0	#409	16
Internal Link Dist (ft)	1030			1968	1006	
Turn Bay Length (ft)		340	225		470	250
Base Capacity (vph)	2482	1039	160	5085	1179	557
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.50	0.21	0.51	0.86	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1210	480	30	2370	950	20
Future Volume (vph)	1210	480	30	2370	950	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	1770	5085	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	1770	5085	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.94	0.94
Adj. Flow (vph)	1315	522	33	2576	1011	21
RTOR Reduction (vph)	0	273	0	0	0	14
Lane Group Flow (vph)	1315	249	33	2576	1011	7
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Actuated Green, G (s)	40.9	40.9	4.1	85.6	27.1	27.1
Effective Green, g (s)	40.9	40.9	4.1	85.6	27.1	27.1
Actuated g/C Ratio	0.48	0.48	0.05	1.00	0.32	0.32
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	2429	756	84	5085	1086	501
v/s Ratio Prot	0.26		0.02	0.51	c0.29	
v/s Ratio Perm		0.16				0.00
v/c Ratio	0.54	0.33	0.39	0.51	0.93	0.01
Uniform Delay, d1	15.7	13.9	39.5	0.0	28.3	20.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	1.2	3.0	0.4	13.8	0.0
Delay (s)	16.6	15.0	42.6	0.4	42.1	20.1
Level of Service	B	B	D	A	D	C
Approach Delay (s)	16.2			0.9	41.6	
Approach LOS	B			A	D	

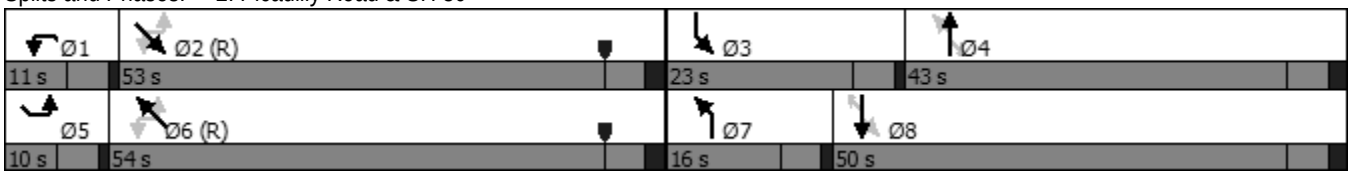
Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	85.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	50	400	100	320	320	20	50	440	20	80	900	520
Future Volume (vph)	50	400	100	320	320	20	50	440	20	80	900	520
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	30.0	30.0	10.0	30.0	30.0	10.0	26.0	26.0	10.0	26.0	26.0
Total Split (s)	16.0	43.0	43.0	23.0	50.0	50.0	10.0	53.0	53.0	11.0	54.0	54.0
Total Split (%)	12.3%	33.1%	33.1%	17.7%	38.5%	38.5%	7.7%	40.8%	40.8%	8.5%	41.5%	41.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	42.5	33.8	33.8	57.8	46.2	46.2	56.2	49.6	49.6	59.0	52.7	52.7
Actuated g/C Ratio	0.33	0.26	0.26	0.44	0.36	0.36	0.43	0.38	0.38	0.45	0.41	0.41
v/c Ratio	0.15	0.90	0.21	1.08	0.53	0.03	0.29	0.35	0.03	0.23	0.68	0.64

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:SETL and 6:NWTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 40.4
Intersection Capacity Utilization 86.2%
Analysis Period (min) 15

Splits and Phases: 2: Picadilly Road & SH 30



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	54	435	109	348	348	22	54	478	22	87	978	565
v/c Ratio	0.15	0.90	0.21	1.08	0.53	0.03	0.29	0.35	0.03	0.23	0.68	0.64
Control Delay	21.4	68.5	2.6	106.5	37.0	0.1	23.9	30.3	0.1	21.4	36.1	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	68.5	2.6	106.5	37.0	0.1	23.9	30.3	0.1	21.4	36.1	12.8
Queue Length 50th (ft)	25	347	0	~252	231	0	25	155	0	41	375	106
Queue Length 95th (ft)	49	#506	17	#444	333	0	51	203	0	75	457	243
Internal Link Dist (ft)		388			631			507			534	
Turn Bay Length (ft)	100		100	100		100	225		225	225		225
Base Capacity (vph)	404	530	558	321	664	634	185	1349	696	383	1433	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.82	0.20	1.08	0.52	0.03	0.29	0.35	0.03	0.23	0.68	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	50	400	100	320	320	20	50	440	20	80	900	520
Future Volume (veh/h)	50	400	100	320	320	20	50	440	20	80	900	520
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	54	435	109	348	348	22	54	478	22	87	978	565
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	472	400	324	669	567	175	1413	630	404	1446	645
Arrive On Green	0.03	0.25	0.25	0.14	0.36	0.36	0.03	0.40	0.40	0.04	0.41	0.41
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	54	435	109	348	348	22	54	478	22	87	978	565
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.9	29.5	7.2	18.0	19.1	1.2	2.3	12.2	1.1	3.7	29.3	42.7
Cycle Q Clear(g_c), s	2.9	29.5	7.2	18.0	19.1	1.2	2.3	12.2	1.1	3.7	29.3	42.7
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	328	472	400	324	669	567	175	1413	630	404	1446	645
V/C Ratio(X)	0.16	0.92	0.27	1.07	0.52	0.04	0.31	0.34	0.03	0.22	0.68	0.88
Avail Cap(c_a), veh/h	420	532	451	324	669	567	185	1413	630	411	1446	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	47.3	39.0	35.2	32.9	27.2	25.3	27.3	23.9	22.1	31.6	35.5
Incr Delay (d2), s/veh	0.2	20.2	0.4	70.7	0.7	0.0	1.0	0.7	0.1	0.3	2.6	15.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	15.9	2.8	13.8	8.5	0.4	1.0	5.0	0.4	1.5	12.3	18.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	67.6	39.4	105.9	33.6	27.2	26.3	27.9	24.0	22.3	34.1	51.0
LnGrp LOS	C	E	D	F	C	C	C	C	C	C	C	D
Approach Vol, veh/h		598			718			554			1630	
Approach Delay, s/veh		59.4			68.5			27.6			39.3	
Approach LOS		E			E			C			D	

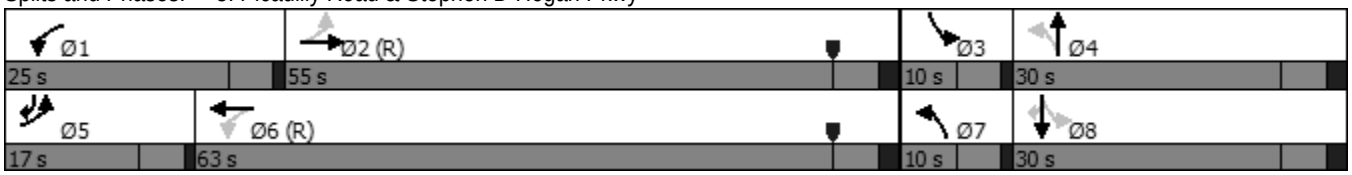
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	57.7	23.0	38.8	9.3	58.9	9.3	52.5
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	6.0	47.0	18.0	37.0	5.0	48.0	11.0	44.0
Max Q Clear Time (g_c+I1), s	5.7	14.2	20.0	31.5	4.3	44.7	4.9	21.1
Green Ext Time (p_c), s	0.0	2.9	0.0	1.4	0.0	2.3	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	260	870	249	1856	130	760	200	330	410
Future Volume (vph)	260	870	249	1856	130	760	200	330	410
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov
Protected Phases	5	2	1	6	7	4	3	8	5
Permitted Phases	2		6		4		8		8
Detector Phase	5	2	1	6	7	4	3	8	5
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	10.0	30.0	10.0	30.0	10.0	30.0	10.0	30.0	10.0
Total Split (s)	17.0	55.0	25.0	63.0	10.0	30.0	10.0	30.0	17.0
Total Split (%)	14.2%	45.8%	20.8%	52.5%	8.3%	25.0%	8.3%	25.0%	14.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	65.8	54.7	73.6	58.9	30.0	24.0	30.0	24.0	40.1
Actuated g/C Ratio	0.55	0.46	0.61	0.49	0.25	0.20	0.25	0.20	0.33
v/c Ratio	0.69	0.46	0.71	0.94	0.53	0.92	0.81	0.35	0.73

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 32.7
Intersection Capacity Utilization 90.5%
Analysis Period (min) 15

Splits and Phases: 3: Picadilly Road & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	283	1055	271	2321	141	935	217	359	446
v/c Ratio	0.69	0.46	0.71	0.94	0.53	0.92	0.81	0.35	0.73
Control Delay	31.0	23.3	33.0	21.0	43.4	61.2	58.2	42.5	33.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	23.3	33.0	21.0	43.4	61.2	58.2	42.5	33.4
Queue Length 50th (ft)	56	195	118	216	84	257	65	88	228
Queue Length 95th (ft)	108	260	m136	m243	140	#340	#118	120	348
Internal Link Dist (ft)		1158		287		427		245	
Turn Bay Length (ft)	325		275		100		100		
Base Capacity (vph)	465	2293	455	2461	265	1014	268	1017	630
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.46	0.60	0.94	0.53	0.92	0.81	0.35	0.71

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	870	100	249	1856	280	130	760	100	200	330	410
Future Volume (veh/h)	260	870	100	249	1856	280	130	760	100	200	330	410
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	283	946	109	271	2017	304	141	826	109	217	359	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	477	2215	254	422	2315	343	275	904	119	287	1010	
Arrive On Green	0.06	0.48	0.48	0.20	1.00	1.00	0.04	0.20	0.20	0.04	0.20	0.00
Sat Flow, veh/h	3456	4645	534	1781	4489	665	1781	4567	599	3456	5106	1585
Grp Volume(v), veh/h	283	693	362	271	1521	800	141	614	321	217	359	0
Grp Sat Flow(s),veh/h/ln	1728	1702	1774	1781	1702	1751	1781	1702	1762	1728	1702	1585
Q Serve(g_s), s	4.9	16.0	16.1	9.5	0.0	0.0	5.0	21.2	21.4	5.0	7.3	0.0
Cycle Q Clear(g_c), s	4.9	16.0	16.1	9.5	0.0	0.0	5.0	21.2	21.4	5.0	7.3	0.0
Prop In Lane	1.00		0.30	1.00		0.38	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	477	1623	846	422	1756	903	275	674	349	287	1010	
V/C Ratio(X)	0.59	0.43	0.43	0.64	0.87	0.89	0.51	0.91	0.92	0.76	0.36	
Avail Cap(c_a), veh/h	611	1623	846	540	1756	903	275	681	352	287	1021	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.9	20.6	20.6	12.8	0.0	0.0	40.6	47.1	47.2	42.5	41.5	0.0
Incr Delay (d2), s/veh	1.2	0.8	1.6	1.7	6.0	12.5	1.6	16.6	28.3	11.0	0.2	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	1.9	6.2	6.7	3.0	1.5	3.1	1.4	10.2	11.8	1.3	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.1	21.4	22.2	14.4	6.0	12.5	42.2	63.7	75.5	53.4	41.7	0.0
LnGrp LOS	B	C	C	B	A	B	D	E	E	D	D	
Approach Vol, veh/h		1338			2592			1076			576	A
Approach Delay, s/veh		20.3			8.9			64.4			46.1	
Approach LOS		C			A			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	63.2	10.0	29.7	12.4	67.9	10.0	29.7
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	49.0	5.0	24.0	12.0	57.0	5.0	24.0
Max Q Clear Time (g_c+I1), s	11.5	18.1	7.0	23.4	6.9	2.0	7.0	9.3
Green Ext Time (p_c), s	0.5	7.4	0.0	0.4	0.4	30.3	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

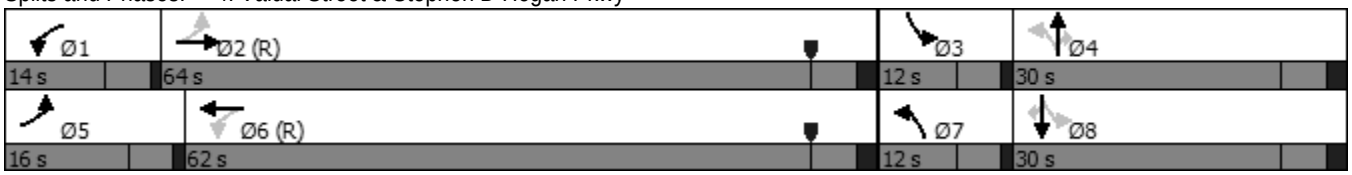
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	170	868	130	1780	120	10	50	220	10	320
Future Volume (vph)	170	868	130	1780	120	10	50	220	10	320
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases	2		6		4		4	8		8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.0	30.0	10.0	30.0	10.0	30.0	30.0	10.0	30.0	30.0
Total Split (s)	16.0	64.0	14.0	62.0	12.0	30.0	30.0	12.0	30.0	30.0
Total Split (%)	13.3%	53.3%	11.7%	51.7%	10.0%	25.0%	25.0%	10.0%	25.0%	25.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None
Act Effct Green (s)	75.8	63.6	70.1	60.7	27.1	19.1	19.1	27.1	19.1	19.1
Actuated g/C Ratio	0.63	0.53	0.58	0.51	0.23	0.16	0.16	0.23	0.16	0.16
v/c Ratio	0.81	0.40	0.41	0.85	0.65	0.06	0.26	0.71	0.04	0.89

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 22.0
Intersection Capacity Utilization 81.4%
Analysis Period (min) 15

Splits and Phases: 4: Valdai Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	185	1052	141	2158	218	18	91	239	11	348
v/c Ratio	0.81	0.40	0.41	0.85	0.65	0.06	0.26	0.71	0.04	0.89
Control Delay	45.3	18.0	7.9	13.1	47.7	40.3	5.3	51.6	39.7	48.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	18.0	7.9	13.2	47.7	40.3	5.3	51.6	39.7	48.7
Queue Length 50th (ft)	104	209	13	172	139	12	0	154	7	139
Queue Length 95th (ft)	#206	330	m35	312	116	20	0	225	24	#271
Internal Link Dist (ft)		350		557		352			320	
Turn Bay Length (ft)	275		225		100		100	100		100
Base Capacity (vph)	235	2661	355	2542	337	372	411	335	372	451
Starvation Cap Reductn	0	0	0	13	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.40	0.40	0.85	0.65	0.05	0.22	0.71	0.03	0.77

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	868	100	130	1780	205	120	10	50	220	10	320
Future Volume (veh/h)	170	868	100	130	1780	205	120	10	50	220	10	320
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	185	943	0	141	1935	223	218	18	91	239	11	348
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.55	0.55	0.55	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	2561		376	2279	260	364	374	317	411	374	317
Arrive On Green	0.05	0.34	0.00	0.11	0.98	0.98	0.06	0.20	0.20	0.06	0.20	0.20
Sat Flow, veh/h	1781	5274	0	1781	4648	531	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	185	943	0	141	1413	745	218	18	91	239	11	348
Grp Sat Flow(s),veh/h/ln	1781	1702	0	1781	1702	1775	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.1	16.8	0.0	4.8	5.7	6.1	7.0	0.9	5.8	7.0	0.6	24.0
Cycle Q Clear(g_c), s	6.1	16.8	0.0	4.8	5.7	6.1	7.0	0.9	5.8	7.0	0.6	24.0
Prop In Lane	1.00		0.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	262	2561		376	1669	870	364	374	317	411	374	317
V/C Ratio(X)	0.71	0.37		0.37	0.85	0.86	0.60	0.05	0.29	0.58	0.03	1.10
Avail Cap(c_a), veh/h	304	2561		409	1669	870	364	374	317	411	374	317
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	25.4	0.0	13.8	0.7	0.7	38.7	38.8	40.7	39.1	38.6	48.0
Incr Delay (d2), s/veh	6.1	0.4	0.0	0.4	4.0	7.9	2.7	0.1	0.5	2.1	0.0	79.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	7.2	0.0	1.7	1.3	2.3	2.5	0.4	0.0	3.0	0.3	16.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.7	25.8	0.0	14.2	4.7	8.6	41.4	38.8	41.2	41.2	38.7	127.3
LnGrp LOS	C	C		B	A	A	D	D	D	D	D	F
Approach Vol, veh/h		1128	A		2299			327			598	
Approach Delay, s/veh		25.3			6.5			41.2			91.3	
Approach LOS		C			A			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	66.2	12.0	30.0	13.2	64.8	12.0	30.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	9.0	58.0	7.0	24.0	11.0	56.0	7.0	24.0
Max Q Clear Time (g_c+I1), s	6.8	18.8	9.0	7.8	8.1	8.1	9.0	26.0
Green Ext Time (p_c), s	0.1	7.1	0.0	0.3	0.1	24.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

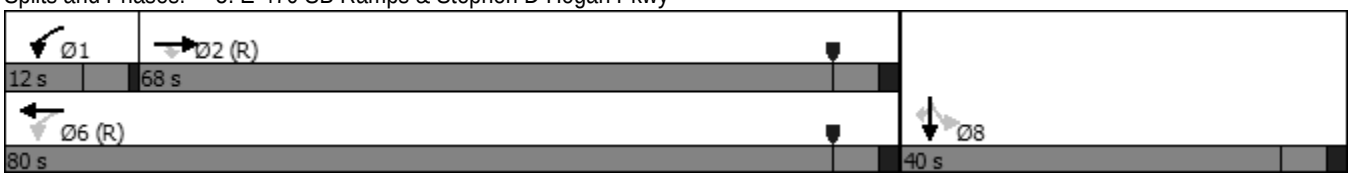
Notes

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

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	918	220	185	1925	0	190
Future Volume (vph)	918	220	185	1925	0	190
Turn Type	NA	Perm	pm+pt	NA	NA	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	5.0	5.0
Minimum Split (s)	24.0	24.0	10.0	24.0	30.0	30.0
Total Split (s)	68.0	68.0	12.0	80.0	40.0	40.0
Total Split (%)	56.7%	56.7%	10.0%	66.7%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	62.0	62.0	75.0	74.0	34.0	34.0
Actuated g/C Ratio	0.52	0.52	0.62	0.62	0.28	0.28
v/c Ratio	0.38	0.26	0.31	0.67	0.51	0.41

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 9.2
Intersection Capacity Utilization 71.4%
Analysis Period (min) 15

Splits and Phases: 5: E-470 SB Ramps & Stephen D Hogan Pkwy



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	998	239	201	2092	255	207
v/c Ratio	0.38	0.26	0.31	0.67	0.51	0.41
Control Delay	8.6	1.0	5.0	5.5	40.3	25.0
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	8.6	1.0	5.0	5.5	40.3	25.0
Queue Length 50th (ft)	70	1	12	98	166	82
Queue Length 95th (ft)	87	m9	m18	104	250	154
Internal Link Dist (ft)	557			525	689	
Turn Bay Length (ft)		225	200			235
Base Capacity (vph)	2629	933	646	3135	501	500
Starvation Cap Reductn	0	0	0	104	0	0
Spillback Cap Reductn	0	0	0	69	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.26	0.31	0.69	0.51	0.41

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	918	220	185	1925	0	0	0	0	235	0	190
Future Volume (veh/h)	0	918	220	185	1925	0	0	0	0	235	0	190
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	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	998	239	201	2092	0				255	0	207
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2715	843	734	3149	0				505	0	449
Arrive On Green	0.00	1.00	1.00	0.09	1.00	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	5274	1585	3456	5274	0				1781	0	1585
Grp Volume(v), veh/h	0	998	239	201	2092	0				255	0	207
Grp Sat Flow(s),veh/h/ln	0	1702	1585	1728	1702	0				1781	0	1585
Q Serve(g_s), s	0.0	0.0	0.0	3.1	0.0	0.0				14.4	0.0	12.9
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.1	0.0	0.0				14.4	0.0	12.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2715	843	734	3149	0				505	0	449
V/C Ratio(X)	0.00	0.37	0.28	0.27	0.66	0.00				0.51	0.00	0.46
Avail Cap(c_a), veh/h	0	2715	843	786	3149	0				505	0	449
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.90	0.90	0.61	0.61	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	10.2	0.0	0.0				36.0	0.0	35.4
Incr Delay (d2), s/veh	0.0	0.3	0.8	0.1	0.7	0.0				3.6	0.0	3.4
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	0.0	0.1	0.2	1.0	0.2	0.0				6.8	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.3	0.8	10.3	0.7	0.0				39.5	0.0	38.8
LnGrp LOS	A	A	A	B	A	A				D	A	D
Approach Vol, veh/h		1237			2293						462	
Approach Delay, s/veh		0.4			1.5						39.2	
Approach LOS		A			A						D	

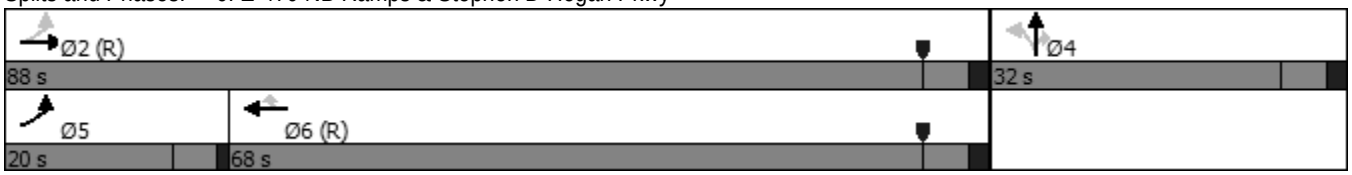
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	10.2	69.8				80.0		40.0				
Change Period (Y+Rc), s	5.0	6.0				6.0		6.0				
Max Green Setting (Gmax), s	7.0	62.0				74.0		34.0				
Max Q Clear Time (g_c+I1), s	5.1	2.0				2.0		16.4				
Green Ext Time (p_c), s	0.1	9.2				29.6		2.1				

Intersection Summary												
HCM 6th Ctrl Delay			5.6									
HCM 6th LOS			A									

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	150	1003	1885	175	0	210
Future Volume (vph)	150	1003	1885	175	0	210
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	10.0	24.0	24.0	24.0	30.0	30.0
Total Split (s)	20.0	88.0	68.0	68.0	32.0	32.0
Total Split (%)	16.7%	73.3%	56.7%	56.7%	26.7%	26.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max
Act Effct Green (s)	83.0	82.0	65.7	65.7	26.0	26.0
Actuated g/C Ratio	0.69	0.68	0.55	0.55	0.22	0.22
v/c Ratio	0.71	0.31	0.73	0.20	0.64	0.51

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 15.9
Intersection Capacity Utilization 71.4%
Analysis Period (min) 15

Splits and Phases: 6: E-470 NB Ramps & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	163	1090	2027	188	245	228
v/c Ratio	0.71	0.31	0.73	0.20	0.64	0.51
Control Delay	57.6	4.2	15.3	1.4	51.4	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	4.2	15.3	1.4	51.4	21.6
Queue Length 50th (ft)	94	70	513	11	174	62
Queue Length 95th (ft)	168	78	m584	m20	264	144
Internal Link Dist (ft)		525	1048		568	
Turn Bay Length (ft)	230			280		135
Base Capacity (vph)	281	3474	2782	951	383	447
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.31	0.73	0.20	0.64	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	1003	0	0	1885	175	225	0	210	0	0	0
Future Volume (veh/h)	150	1003	0	0	1885	175	225	0	210	0	0	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	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	163	1090	0	0	2027	188	245	0	228			
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	259	3489	0	0	2998	931	386	0	343			
Arrive On Green	0.11	1.00	0.00	0.00	1.00	1.00	0.22	0.00	0.22			
Sat Flow, veh/h	1781	5274	0	0	5274	1585	1781	0	1585			
Grp Volume(v), veh/h	163	1090	0	0	2027	188	245	0	228			
Grp Sat Flow(s),veh/h/ln	1781	1702	0	0	1702	1585	1781	0	1585			
Q Serve(g_s), s	4.3	0.0	0.0	0.0	0.0	0.0	15.0	0.0	15.8			
Cycle Q Clear(g_c), s	4.3	0.0	0.0	0.0	0.0	0.0	15.0	0.0	15.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	259	3489	0	0	2998	931	386	0	343			
V/C Ratio(X)	0.63	0.31	0.00	0.00	0.68	0.20	0.63	0.00	0.66			
Avail Cap(c_a), veh/h	385	3489	0	0	2998	931	386	0	343			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.93	0.93	0.00	0.00	0.41	0.41	1.00	0.00	1.00			
Uniform Delay (d), s/veh	7.4	0.0	0.0	0.0	0.0	0.0	42.7	0.0	43.0			
Incr Delay (d2), s/veh	2.3	0.2	0.0	0.0	0.5	0.2	7.7	0.0	9.7			
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	1.5	0.1	0.0	0.0	0.1	0.1	7.4	0.0	14.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.8	0.2	0.0	0.0	0.5	0.2	50.4	0.0	52.7			
LnGrp LOS	A	A	A	A	A	A	D	A	D			
Approach Vol, veh/h		1253			2215			473				
Approach Delay, s/veh		1.5			0.5			51.5				
Approach LOS		A			A			D				

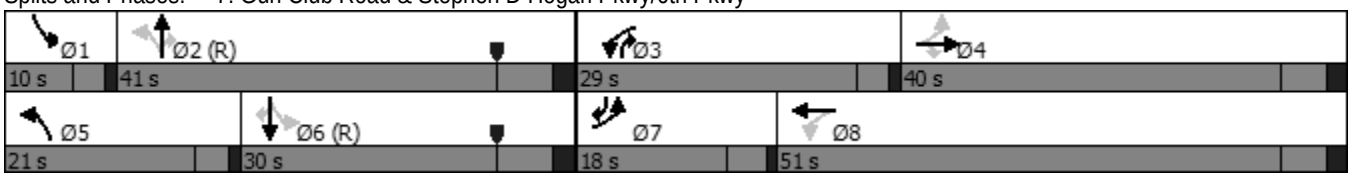
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		88.0		32.0	11.5	76.5						
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0						
Max Green Setting (Gmax), s		82.0		26.0	15.0	62.0						
Max Q Clear Time (g_c+I1), s		2.0		17.8	6.3	2.0						
Green Ext Time (p_c), s		9.1		1.5	0.2	28.0						

Intersection Summary												
HCM 6th Ctrl Delay			6.9									
HCM 6th LOS			A									

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	260	718	235	300	1500	300	490	300	165	280	260
Future Volume (vph)	260	718	235	300	1500	300	490	300	165	280	260
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	3.0	10.0	3.0	3.0	10.0	5.0
Minimum Split (s)	9.5	11.0	11.0	7.0	11.0	7.0	41.0	7.0	7.0	17.0	9.5
Total Split (s)	18.0	40.0	40.0	29.0	51.0	21.0	41.0	29.0	10.0	30.0	18.0
Total Split (%)	15.0%	33.3%	33.3%	24.2%	42.5%	17.5%	34.2%	24.2%	8.3%	25.0%	15.0%
Yellow Time (s)	3.5	4.0	4.0	3.0	4.0	3.0	5.0	3.0	3.0	5.0	3.5
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	1.0	2.0	1.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.0	6.0	4.0	7.0	4.0	4.0	7.0	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	55.6	40.6	40.6	63.4	45.0	47.0	34.0	59.4	32.5	23.5	44.0
Actuated g/C Ratio	0.46	0.34	0.34	0.53	0.38	0.39	0.28	0.50	0.27	0.20	0.37
v/c Ratio	1.08	0.45	0.36	0.74	0.94	0.72	0.53	0.40	0.65	0.43	0.42

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 41.4
Intersection Capacity Utilization 89.4%
Analysis Period (min) 15

Splits and Phases: 7: Gun Club Road & Stephen D Hogan Pkwy/6th Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	283	780	255	326	1782	326	533	326	177	301	280
v/c Ratio	1.08	0.45	0.36	0.74	0.94	0.72	0.53	0.40	0.65	0.43	0.42
Control Delay	108.1	39.8	16.9	26.3	47.2	38.1	38.6	15.9	42.3	44.9	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	108.1	39.8	16.9	26.3	47.2	38.1	38.6	15.9	42.3	44.9	16.4
Queue Length 50th (ft)	~196	186	68	136	480	186	183	123	92	109	79
Queue Length 95th (ft)	#395	228	121	199	#588	273	240	170	146	154	156
Internal Link Dist (ft)		1048			585		581			595	
Turn Bay Length (ft)	225		225	225		225		550	225		225
Base Capacity (vph)	263	1718	703	520	1891	454	1002	899	274	692	666
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.45	0.36	0.63	0.94	0.72	0.53	0.36	0.65	0.43	0.42

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	718	235	300	1500	140	300	490	300	165	280	260
Future Volume (veh/h)	260	718	235	300	1500	140	300	490	300	165	280	260
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	283	780	255	326	1630	152	326	533	326	177	301	280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	1787	555	430	1757	164	414	1025	674	254	700	490
Arrive On Green	0.11	0.35	0.35	0.14	0.37	0.37	0.14	0.29	0.29	0.05	0.20	0.20
Sat Flow, veh/h	1781	5106	1585	1781	4752	442	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	283	780	255	326	1167	615	326	533	326	177	301	280
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1791	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	13.5	14.1	15.0	13.7	39.4	39.6	17.0	15.1	17.9	6.0	8.9	17.8
Cycle Q Clear(g_c), s	13.5	14.1	15.0	13.7	39.4	39.6	17.0	15.1	17.9	6.0	8.9	17.8
Prop In Lane	1.00		1.00	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	271	1787	555	430	1259	662	414	1025	674	254	700	490
V/C Ratio(X)	1.04	0.44	0.46	0.76	0.93	0.93	0.79	0.52	0.48	0.70	0.43	0.57
Avail Cap(c_a), veh/h	271	1787	555	558	1277	672	414	1025	674	254	700	490
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)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	29.9	30.2	21.3	36.3	36.3	31.6	35.7	25.0	41.0	42.3	34.8
Incr Delay (d2), s/veh	65.3	0.2	0.6	4.4	11.6	19.3	9.7	1.9	2.5	8.1	1.9	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	5.6	5.6	5.9	17.5	19.9	8.2	6.6	6.9	2.4	4.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.8	30.1	30.8	25.7	47.9	55.6	41.2	37.6	27.4	49.1	44.2	39.5
LnGrp LOS	F	C	C	C	D	E	D	D	C	D	D	D
Approach Vol, veh/h		1318			2108			1185			758	
Approach Delay, s/veh		45.2			46.7			35.8			43.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	41.6	20.4	48.0	21.0	30.6	18.0	50.4
Change Period (Y+Rc), s	4.0	7.0	4.0	6.0	4.0	7.0	4.5	6.0
Max Green Setting (Gmax), s	6.0	34.0	25.0	34.0	17.0	23.0	13.5	45.0
Max Q Clear Time (g_c+I1), s	8.0	19.9	15.7	17.0	19.0	19.8	15.5	41.6
Green Ext Time (p_c), s	0.0	3.8	0.7	5.4	0.0	0.9	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	1	12	5	88	1	1281	19	44	928	0
Future Vol, veh/h	0	5	1	12	5	88	1	1281	19	44	928	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	2	13	5	96	1	1392	21	48	1009	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1666	2520	505	1910	2510	707	1009	0	0	1413	0	0
Stage 1	1105	1105	-	1405	1405	-	-	-	-	-	-	-
Stage 2	561	1415	-	505	1105	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*397	70	439	249	71	*632	388	-	-	779	-	-
Stage 1	*168	285	-	642	612	-	-	-	-	-	-	-
Stage 2	*648	603	-	473	285	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*300	65	439	208	66	*632	388	-	-	779	-	-
Mov Cap-2 Maneuver	*300	65	-	208	66	-	-	-	-	-	-	-
Stage 1	*167	267	-	640	611	-	-	-	-	-	-	-
Stage 2	*544	602	-	425	267	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	61.1	16.7	0	0.4
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	388	-	-	76	208	433	779	-	-
HCM Lane V/C Ratio	0.003	-	-	0.158	0.063	0.233	0.061	-	-
HCM Control Delay (s)	14.3	-	-	61.1	23.5	15.8	9.9	-	-
HCM Lane LOS	B	-	-	F	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.2	0.9	0.2	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	17	973	3	8	671
Future Vol, veh/h	0	17	973	3	8	671
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	-	-	100	-
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	18	1058	3	9	729

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	531	0	0	1061	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	493	-	-	652	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	493	-	-	652	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	493	652	-
HCM Lane V/C Ratio	-	-	0.037	0.013	-
HCM Control Delay (s)	-	-	12.6	10.6	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↳			↑↑↑↳				↱			↱
Traffic Vol, veh/h	0	1169	1	0	2370	15	0	0	2	0	0	15
Future Vol, veh/h	0	1169	1	0	2370	15	0	0	2	0	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1271	1	0	2576	16	0	0	2	0	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	636	-	-	1296
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	*653	0	0	*372
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-			1			1
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	*653	-	-	*372
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.5	15.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	653	-	-	-	-	372
HCM Lane V/C Ratio	0.003	-	-	-	-	0.044
HCM Control Delay (s)	10.5	-	-	-	-	15.1
HCM Lane LOS	B	-	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	-	0.1

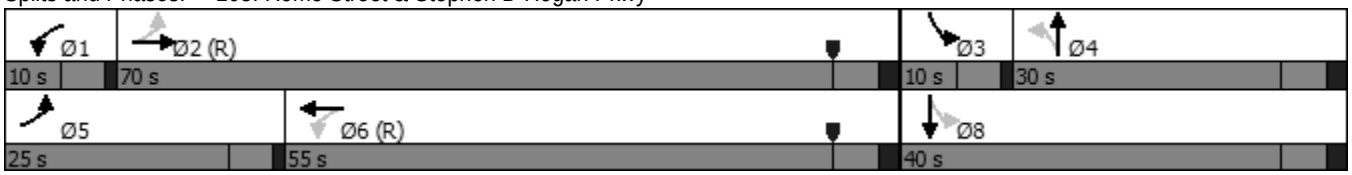
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	160	1007	14	2162	14	1	178	1
Future Volume (vph)	160	1007	14	2162	14	1	178	1
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	pm+pt	NA
Protected Phases	5	2	1	6		4	3	8
Permitted Phases	2		6		4		8	
Detector Phase	5	2	1	6	4	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	25.0	26.0	10.0	16.0	30.0	30.0	10.0	30.0
Total Split (s)	25.0	70.0	10.0	55.0	30.0	30.0	10.0	40.0
Total Split (%)	20.8%	58.3%	8.3%	45.8%	25.0%	25.0%	8.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	Max	Max	None	Max
Act Effct Green (s)	75.0	70.0	62.7	56.7	24.0	24.0	35.0	34.0
Actuated g/C Ratio	0.62	0.58	0.52	0.47	0.20	0.20	0.29	0.28
v/c Ratio	0.71	0.37	0.05	1.04	0.07	0.08	0.54	0.37

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 135
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 38.1
Intersection Capacity Utilization 84.0%
Analysis Period (min) 15

Splits and Phases: 103: Rome Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	174	1099	15	2478	15	27	193	228
v/c Ratio	0.71	0.37	0.05	1.04	0.07	0.08	0.54	0.37
Control Delay	54.6	10.3	3.4	52.4	40.0	15.1	41.2	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	10.3	3.4	52.4	40.0	15.1	41.2	6.1
Queue Length 50th (ft)	105	109	1	~776	10	1	119	1
Queue Length 95th (ft)	m174	m137	m3	#950	29	26	187	60
Internal Link Dist (ft)		606		202		162		261
Turn Bay Length (ft)	130		100		100		80	
Base Capacity (vph)	350	2963	294	2386	229	339	358	611
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.37	0.05	1.04	0.07	0.08	0.54	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	1007	4	14	2162	118	14	1	24	178	1	209
Future Volume (veh/h)	160	1007	4	14	2162	118	14	1	24	178	1	209
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	174	1095	4	15	2350	128	15	1	26	193	1	227
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	202	2934	11	345	2471	133	248	12	307	392	2	447
Arrive On Green	0.15	1.00	1.00	0.02	0.50	0.50	0.20	0.20	0.20	0.04	0.28	0.28
Sat Flow, veh/h	1781	5252	19	1781	4958	268	1153	59	1535	1781	7	1579
Grp Volume(v), veh/h	174	710	389	15	1607	871	15	0	27	193	0	228
Grp Sat Flow(s),veh/h/ln	1781	1702	1867	1781	1702	1822	1153	0	1594	1781	0	1586
Q Serve(g_s), s	6.9	0.0	0.0	0.5	53.8	55.1	1.3	0.0	1.7	5.0	0.0	14.4
Cycle Q Clear(g_c), s	6.9	0.0	0.0	0.5	53.8	55.1	5.8	0.0	1.7	5.0	0.0	14.4
Prop In Lane	1.00		0.01	1.00		0.15	1.00		0.96	1.00		1.00
Lane Grp Cap(c), veh/h	202	1902	1043	345	1697	908	248	0	319	392	0	449
V/C Ratio(X)	0.86	0.37	0.37	0.04	0.95	0.96	0.06	0.00	0.08	0.49	0.00	0.51
Avail Cap(c_a), veh/h	362	1902	1043	390	1697	908	248	0	319	392	0	449
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.1	0.0	0.0	14.2	28.6	28.9	42.6	0.0	39.1	39.2	0.0	36.0
Incr Delay (d2), s/veh	10.4	0.6	1.0	0.1	12.5	21.5	0.5	0.0	0.5	1.0	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.1	0.3	0.2	22.9	27.4	0.4	0.0	0.7	2.7	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.5	0.6	1.0	14.3	41.1	50.4	43.1	0.0	39.6	40.1	0.0	40.0
LnGrp LOS	D	A	A	B	D	D	D	A	D	D	A	D
Approach Vol, veh/h		1273			2493			42			421	
Approach Delay, s/veh		6.2			44.2			40.8			40.1	
Approach LOS		A			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	73.0	10.0	30.0	14.2	65.8		40.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	64.0	5.0	24.0	20.0	49.0		34.0
Max Q Clear Time (g_c+I1), s	2.5	2.0	7.0	7.8	8.9	57.1		16.4
Green Ext Time (p_c), s	0.0	8.3	0.0	0.1	0.3	0.0		1.4

Intersection Summary	
HCM 6th Ctrl Delay	32.3
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	42	2252	21	23	1187
Future Vol, veh/h	20	42	2252	21	23	1187
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	130	-
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	22	46	2448	23	25	1290

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3026	1236	0	0	2471	0
Stage 1	2460	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	*177	*394	-	-	*495	-
Stage 1	*404	-	-	-	-	-
Stage 2	*670	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*168	*394	-	-	*495	-
Mov Cap-2 Maneuver	*168	-	-	-	-	-
Stage 1	*404	-	-	-	-	-
Stage 2	*636	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.9	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	168	394	* 495	-
HCM Lane V/C Ratio	-	-	0.129	0.116	0.051	-
HCM Control Delay (s)	-	-	29.6	15.3	12.7	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.4	0.2	-

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↑↑↳		↰	↑↑↑
Traffic Vol, veh/h	0	1	2272	2	2	1205
Future Vol, veh/h	0	1	2272	2	2	1205
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	-	-	100	-
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	1	2470	2	2	1310

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1236	0	0	2472	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	144	-	-	72	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	144	-	-	72	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

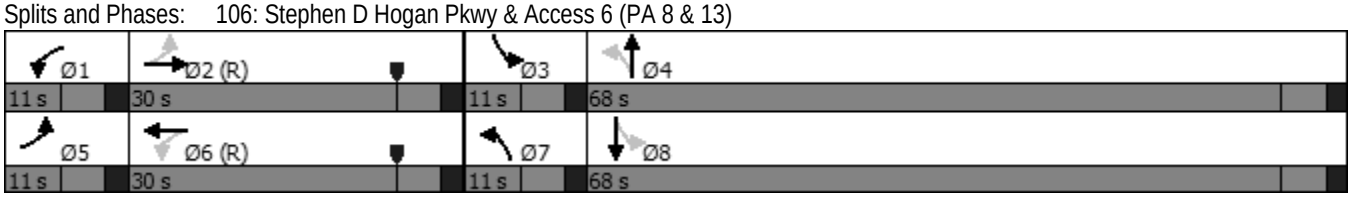
Approach	WB	NB	SB
HCM Control Delay, s	30.2	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	144	72	-
HCM Lane V/C Ratio	-	-	0.008	0.03	-
HCM Control Delay (s)	-	-	30.2	56.6	-
HCM Lane LOS	-	-	D	F	-
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	24	1	31	1	5	2196	54	1148
Future Volume (vph)	24	1	31	1	5	2196	54	1148
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6	7	4	3	8
Permitted Phases	2		6		4		8	
Detector Phase	5	2	1	6	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.0	28.0	11.0	28.0	11.0	30.0	11.0	30.0
Total Split (s)	11.0	30.0	11.0	30.0	11.0	68.0	11.0	68.0
Total Split (%)	9.2%	25.0%	9.2%	25.0%	9.2%	56.7%	9.2%	56.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	None	Max
Act Effct Green (s)	31.4	28.4	31.4	28.4	68.2	64.2	71.8	70.8
Actuated g/C Ratio	0.26	0.24	0.26	0.24	0.57	0.54	0.60	0.59
v/c Ratio	0.07	0.04	0.09	0.14	0.02	0.88	0.45	0.42
Approach LOS								

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 34.7
Intersection Capacity Utilization 63.3%
Analysis Period (min) 15

Splits and Phases: 106: Stephen D Hogan Pkwy & Access 6 (PA 8 & 13)



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	16	34	60	5	2404	59	1251
v/c Ratio	0.07	0.04	0.09	0.14	0.02	0.88	0.45	0.42
Control Delay	31.4	18.4	31.6	11.1	12.6	43.4	28.1	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.4	18.4	31.6	11.1	12.6	43.4	28.1	19.9
Queue Length 50th (ft)	15	1	19	1	2	726	28	196
Queue Length 95th (ft)	37	20	45	38	m3	777	m60	369
Internal Link Dist (ft)		193		174		203		364
Turn Bay Length (ft)	100		100		235		235	
Base Capacity (vph)	368	390	379	420	256	2718	131	3000
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.09	0.14	0.02	0.88	0.45	0.42

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1	14	31	1	54	5	2196	16	54	1148	3
Future Volume (veh/h)	24	1	14	31	1	54	5	2196	16	54	1148	3
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	26	1	15	34	1	59	5	2387	17	59	1248	3
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	362	22	329	406	6	349	220	2702	19	140	2872	7
Arrive On Green	0.02	0.22	0.22	0.03	0.22	0.22	0.01	0.52	0.52	0.01	0.18	0.18
Sat Flow, veh/h	1781	100	1500	1781	26	1563	1781	5231	37	1781	5259	13
Grp Volume(v), veh/h	26	0	16	34	0	60	5	1553	851	59	808	443
Grp Sat Flow(s),veh/h/ln	1781	0	1600	1781	0	1589	1781	1702	1864	1781	1702	1868
Q Serve(g_s), s	1.3	0.0	0.9	1.8	0.0	3.7	0.2	48.6	48.8	1.8	25.3	25.3
Cycle Q Clear(g_c), s	1.3	0.0	0.9	1.8	0.0	3.7	0.2	48.6	48.8	1.8	25.3	25.3
Prop In Lane	1.00		0.94	1.00		0.98	1.00		0.02	1.00		0.01
Lane Grp Cap(c), veh/h	362	0	351	406	0	355	220	1759	963	140	1859	1020
V/C Ratio(X)	0.07	0.00	0.05	0.08	0.00	0.17	0.02	0.88	0.88	0.42	0.43	0.43
Avail Cap(c_a), veh/h	393	0	351	430	0	355	283	1759	963	150	1859	1020
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	36.9	34.6	0.0	37.6	15.7	25.8	25.8	27.4	32.7	32.7
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.1	0.0	1.0	0.0	6.8	11.7	2.0	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	0.8	0.0	1.5	0.1	19.6	22.8	0.9	11.7	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.0	0.0	37.2	34.7	0.0	38.6	15.7	32.6	37.5	29.4	33.4	34.1
LnGrp LOS	C	A	D	C	A	D	B	C	D	C	C	C
Approach Vol, veh/h		42			94			2409			1310	
Approach Delay, s/veh		35.8			37.2			34.3			33.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	32.3	10.3	68.0	8.9	32.8	6.8	71.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	24.0	5.0	62.0	5.0	24.0	5.0	62.0
Max Q Clear Time (g_c+I1), s	3.8	2.9	3.8	50.8	3.3	5.7	2.2	27.3
Green Ext Time (p_c), s	0.0	0.0	0.0	9.6	0.0	0.2	0.0	9.4

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑↳			↱
Traffic Vol, veh/h	0	1193	2199	24	0	18
Future Vol, veh/h	0	1193	2199	24	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1297	2390	26	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1208
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	150
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	150
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	32.6
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	150
HCM Lane V/C Ratio	-	-	-	0.13
HCM Control Delay (s)	-	-	-	32.6
HCM Lane LOS	-	-	-	D
HCM 95th %tile Q(veh)	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	1146	6	6	2186	19	0	0	11	0	0	37
Future Vol, veh/h	41	1146	6	6	2186	19	0	0	11	0	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	130	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	1246	7	7	2376	21	0	0	12	0	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2397	0	0	1253	0	0	-	-	627	-	-	1199
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	5.34	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.12	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	*276	-	-	*821	-	-	0	0	*653	0	0	*184
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	*276	-	-	*821	-	-	-	-	*653	-	-	*184
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	10.6	30
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	653	* 276	-	-	* 821	-	-	184
HCM Lane V/C Ratio	0.018	0.161	-	-	0.008	-	-	0.219
HCM Control Delay (s)	10.6	20.5	-	-	9.4	-	-	30
HCM Lane LOS	B	C	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.1	0.6	-	-	0	-	-	0.8

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑↳			↱
Traffic Vol, veh/h	0	1157	2198	20	0	13
Future Vol, veh/h	0	1157	2198	20	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1258	2389	22	0	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1206
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	*416
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*416
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	416
HCM Lane V/C Ratio	-	-	-	0.034
HCM Control Delay (s)	-	-	-	14
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Notes

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

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	53	40	345	497	5
Future Vol, veh/h	5	53	40	345	497	5
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	-	100	-	-	-
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	5	58	43	375	540	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1004	543	545	0	-	0
Stage 1	543	-	-	-	-	-
Stage 2	461	-	-	-	-	-
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	251	540	1024	-	-	-
Stage 1	582	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	241	540	1024	-	-	-
Mov Cap-2 Maneuver	241	-	-	-	-	-
Stage 1	558	-	-	-	-	-
Stage 2	691	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1024	-	488	-	-
HCM Lane V/C Ratio	0.042	-	0.129	-	-
HCM Control Delay (s)	8.7	-	13.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	55	22	1	2	19	309	17	1	420	2
Future Vol, veh/h	5	1	55	22	1	2	19	309	17	1	420	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	2	0	416
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	60	24	1	2	21	336	18	1	457	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1265	1274	874	880	1266	347	875	0	0	356	0	0
Stage 1	876	876	-	389	389	-	-	-	-	-	-	-
Stage 2	389	398	-	491	877	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	146	167	349	268	169	696	771	-	-	1203	-	-
Stage 1	344	367	-	635	608	-	-	-	-	-	-	-
Stage 2	635	603	-	559	366	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	84	96	211	183	97	695	466	-	-	1201	-	-
Mov Cap-2 Maneuver	84	96	-	183	97	-	-	-	-	-	-	-
Stage 1	198	221	-	605	579	-	-	-	-	-	-	-
Stage 2	603	575	-	398	221	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.9	27.5	0.7	0
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	466	-	-	185	187	1201	-	-
HCM Lane V/C Ratio	0.044	-	-	0.358	0.145	0.001	-	-
HCM Control Delay (s)	13.1	-	-	34.9	27.5	8	-	-
HCM Lane LOS	B	-	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.5	0.5	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	9	2	2	0	5	310	1	1	412	4
Future Vol, veh/h	3	1	9	2	2	0	5	310	1	1	412	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	10	2	2	0	5	337	1	1	448	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	801	800	450	806	802	338	452	0	0	338	0	0
Stage 1	452	452	-	348	348	-	-	-	-	-	-	-
Stage 2	349	348	-	458	454	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	303	318	609	300	317	704	1109	-	-	1221	-	-
Stage 1	587	570	-	668	634	-	-	-	-	-	-	-
Stage 2	667	634	-	583	569	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	300	316	609	293	315	704	1109	-	-	1221	-	-
Mov Cap-2 Maneuver	300	316	-	293	315	-	-	-	-	-	-	-
Stage 1	584	569	-	665	631	-	-	-	-	-	-	-
Stage 2	662	631	-	572	568	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	17	0.1	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1109	-	-	465	304	1221	-	-
HCM Lane V/C Ratio	0.005	-	-	0.03	0.014	0.001	-	-
HCM Control Delay (s)	8.3	-	-	13	17	8	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	12	10	1	4	4	304	5	3	394	2
Future Vol, veh/h	3	1	12	10	1	4	4	304	5	3	394	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	13	11	1	4	4	330	5	3	428	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	778	778	429	783	777	333	430	0	0	335	0	0
Stage 1	435	435	-	341	341	-	-	-	-	-	-	-
Stage 2	343	343	-	442	436	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	314	328	626	311	328	709	1129	-	-	1224	-	-
Stage 1	600	580	-	674	639	-	-	-	-	-	-	-
Stage 2	672	637	-	594	580	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	310	326	626	302	326	709	1129	-	-	1224	-	-
Mov Cap-2 Maneuver	310	326	-	302	326	-	-	-	-	-	-	-
Stage 1	598	579	-	671	636	-	-	-	-	-	-	-
Stage 2	664	634	-	579	579	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	15.5	0.1	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1129	-	-	501	359	1224	-	-
HCM Lane V/C Ratio	0.004	-	-	0.035	0.045	0.003	-	-
HCM Control Delay (s)	8.2	-	-	12.4	15.5	7.9	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	4	58	1	8	10	92	219	1	10	341	40
Future Vol, veh/h	45	4	58	1	8	10	92	219	1	10	341	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	4	63	1	9	11	100	238	1	11	371	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	864	854	393	887	875	239	414	0	0	239	0	0
Stage 1	415	415	-	439	439	-	-	-	-	-	-	-
Stage 2	449	439	-	448	436	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	274	296	656	265	288	800	1145	-	-	1328	-	-
Stage 1	615	592	-	597	578	-	-	-	-	-	-	-
Stage 2	589	578	-	590	580	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	244	268	656	219	261	800	1145	-	-	1328	-	-
Mov Cap-2 Maneuver	244	268	-	219	261	-	-	-	-	-	-	-
Stage 1	561	587	-	545	528	-	-	-	-	-	-	-
Stage 2	522	528	-	525	575	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	14.5	2.5	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1145	-	-	372	398	1328	-	-
HCM Lane V/C Ratio	0.087	-	-	0.313	0.052	0.008	-	-
HCM Control Delay (s)	8.4	-	-	19	14.5	7.7	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	20	93	1	1	119	21	4	1	4	10	1	30
Future Vol, veh/h	20	93	1	1	119	21	4	1	4	10	1	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	101	1	1	129	23	4	1	4	11	1	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	152	0	0	102	0	0	306	300	102	291	289	141
Stage 1	-	-	-	-	-	-	146	146	-	143	143	-
Stage 2	-	-	-	-	-	-	160	154	-	148	146	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1429	-	-	1490	-	-	646	612	953	661	621	907
Stage 1	-	-	-	-	-	-	857	776	-	860	779	-
Stage 2	-	-	-	-	-	-	842	770	-	855	776	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1429	-	-	1490	-	-	614	602	953	648	610	907
Mov Cap-2 Maneuver	-	-	-	-	-	-	614	602	-	648	610	-
Stage 1	-	-	-	-	-	-	843	764	-	846	778	-
Stage 2	-	-	-	-	-	-	810	769	-	836	764	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.1	10	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	727	1429	-	-	1490	-	-	818
HCM Lane V/C Ratio	0.013	0.015	-	-	0.001	-	-	0.054
HCM Control Delay (s)	10	7.6	0	-	7.4	0	-	9.7
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	20	90	2	1	127	25	4	1	4	20	1	26
Future Vol, veh/h	20	90	2	1	127	25	4	1	4	20	1	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	98	2	1	138	27	4	1	4	22	1	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	165	0	0	100	0	0	311	310	99	300	298	152
Stage 1	-	-	-	-	-	-	143	143	-	154	154	-
Stage 2	-	-	-	-	-	-	168	167	-	146	144	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1413	-	-	1493	-	-	642	605	957	652	614	894
Stage 1	-	-	-	-	-	-	860	779	-	848	770	-
Stage 2	-	-	-	-	-	-	834	760	-	857	778	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1413	-	-	1493	-	-	613	595	957	640	604	894
Mov Cap-2 Maneuver	-	-	-	-	-	-	613	595	-	640	604	-
Stage 1	-	-	-	-	-	-	846	767	-	834	769	-
Stage 2	-	-	-	-	-	-	806	759	-	838	766	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0	10	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	727	1413	-	-	1493	-	-	758
HCM Lane V/C Ratio	0.013	0.015	-	-	0.001	-	-	0.067
HCM Control Delay (s)	10	7.6	0	-	7.4	0	-	10.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	25	85	3	1	125	30	8	1	2	25	1	45
Future Vol, veh/h	25	85	3	1	125	30	8	1	2	25	1	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	92	3	1	136	33	9	1	2	27	1	49

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	169	0	0	95	0	0	328	319	94	304	304	153
Stage 1	-	-	-	-	-	-	148	148	-	155	155	-
Stage 2	-	-	-	-	-	-	180	171	-	149	149	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1409	-	-	1499	-	-	625	598	963	648	609	893
Stage 1	-	-	-	-	-	-	855	775	-	847	769	-
Stage 2	-	-	-	-	-	-	822	757	-	854	774	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1409	-	-	1499	-	-	581	585	963	635	596	893
Mov Cap-2 Maneuver	-	-	-	-	-	-	581	585	-	635	596	-
Stage 1	-	-	-	-	-	-	838	760	-	830	768	-
Stage 2	-	-	-	-	-	-	775	756	-	834	759	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0	10.9	10.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	627	1409	-	-	1499	-	-	776
HCM Lane V/C Ratio	0.019	0.019	-	-	0.001	-	-	0.099
HCM Control Delay (s)	10.9	7.6	0	-	7.4	0	-	10.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	111	5	1	177	7	2
Future Vol, veh/h	111	5	1	177	7	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	121	5	1	192	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	126	0	318	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	194	-
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	-	-	1460	-	675	927
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1460	-	674	927
Mov Cap-2 Maneuver	-	-	-	-	674	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	838	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	718	-	-	1460	-
HCM Lane V/C Ratio	0.014	-	-	0.001	-
HCM Control Delay (s)	10.1	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	12.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	36	12	110	64	10	16	130	70	10	215	25
Future Vol, veh/h	10	36	12	110	64	10	16	130	70	10	215	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	39	13	120	70	11	17	141	76	11	234	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	81	0	0	52	0	0	514	389	46	492	390	76
Stage 1	-	-	-	-	-	-	68	68	-	316	316	-
Stage 2	-	-	-	-	-	-	446	321	-	176	74	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1517	-	-	1554	-	-	471	546	1023	487	545	985
Stage 1	-	-	-	-	-	-	942	838	-	695	655	-
Stage 2	-	-	-	-	-	-	591	652	-	826	833	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1517	-	-	1554	-	-	272	498	1023	330	498	985
Mov Cap-2 Maneuver	-	-	-	-	-	-	272	498	-	330	498	-
Stage 1	-	-	-	-	-	-	935	832	-	690	602	-
Stage 2	-	-	-	-	-	-	323	599	-	630	827	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	4.5	14.6	18.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	272	607	1517	-	-	1554	-	-	330	525
HCM Lane V/C Ratio	0.064	0.358	0.007	-	-	0.077	-	-	0.033	0.497
HCM Control Delay (s)	19.1	14.2	7.4	0	-	7.5	0	-	16.3	18.4
HCM Lane LOS	C	B	A	A	-	A	A	-	C	C
HCM 95th %tile Q(veh)	0.2	1.6	0	-	-	0.2	-	-	0.1	2.7

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	6	5	105	0	1
Future Vol, veh/h	57	6	5	105	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	7	5	114	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	69	0	-	66
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	1532	-	0	998
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1532	-	-	998
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	998	-	-	1532	-
HCM Lane V/C Ratio	0.001	-	-	0.004	-
HCM Control Delay (s)	8.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	7	0	105	0	2
Future Vol, veh/h	61	7	0	105	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	8	0	114	0	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	70
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	993
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	993
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	993	-	-	-
HCM Lane V/C Ratio	0.002	-	-	-
HCM Control Delay (s)	8.6	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	40	19	1	6	59	200	20	6	328	3
Future Vol, veh/h	10	1	40	19	1	6	59	200	20	6	328	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	43	21	1	7	64	217	22	7	357	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	733	740	359	751	730	228	360	0	0	239	0	0
Stage 1	373	373	-	356	356	-	-	-	-	-	-	-
Stage 2	360	367	-	395	374	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	353	351	685	342	356	*913	1199	-	-	1363	-	-
Stage 1	648	618	-	725	656	-	-	-	-	-	-	-
Stage 2	720	648	-	630	618	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	334	330	685	306	335	*913	1199	-	-	1363	-	-
Mov Cap-2 Maneuver	334	330	-	306	335	-	-	-	-	-	-	-
Stage 1	614	615	-	686	622	-	-	-	-	-	-	-
Stage 2	676	614	-	586	615	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	15.8	1.7	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1199	-	-	558	363	1363	-	-
HCM Lane V/C Ratio	0.053	-	-	0.099	0.078	0.005	-	-
HCM Control Delay (s)	8.2	-	-	12.2	15.8	7.7	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.3	0	-	-

Notes

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

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	10	6	12	14	1
Future Vol, veh/h	2	10	6	12	14	1
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	2	11	7	13	15	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	43	16	16	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	27	-	-	-	-	-
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	968	1063	1602	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	964	1063	1602	-	-	-
Mov Cap-2 Maneuver	964	-	-	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	996	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	2.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1602	-	1045	-	-
HCM Lane V/C Ratio	0.004	-	0.012	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	4	2	12	11	3
Future Vol, veh/h	6	4	2	12	11	3
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	7	4	2	13	12	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	31	14	15	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	17	-	-	-	-	-
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	983	1066	1603	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	982	1066	1603	-	-	-
Mov Cap-2 Maneuver	982	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1006	-	-	-	-	-

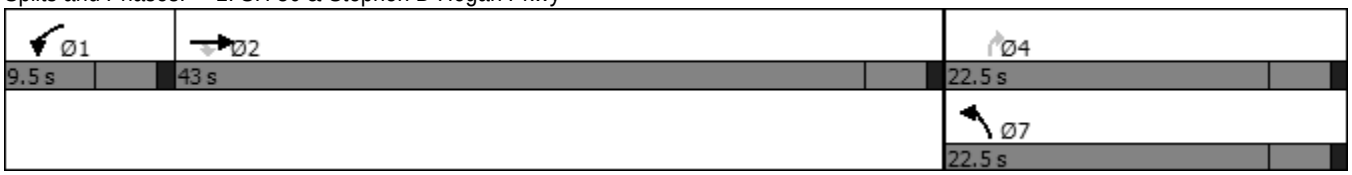
Approach	EB	NB	SB
HCM Control Delay, s	8.6	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1603	-	1014	-	-
HCM Lane V/C Ratio	0.001	-	0.011	-	-
HCM Control Delay (s)	7.2	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2380	890	20	1371	540	30
Future Volume (vph)	2380	890	20	1371	540	30
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Detector Phase	2	2	1		7	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	9.5		22.5	22.5
Total Split (s)	43.0	43.0	9.5		22.5	22.5
Total Split (%)	57.3%	57.3%	12.7%		30.0%	30.0%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	Max	Max	None		None	None
Act Effct Green (s)	38.9	38.9	5.1	66.8	15.4	15.4
Actuated g/C Ratio	0.58	0.58	0.08	1.00	0.23	0.23
v/c Ratio	0.87	0.73	0.16	0.29	0.74	0.08

Intersection Summary
Cycle Length: 75
Actuated Cycle Length: 66.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 12.6
Intersection Capacity Utilization 68.9%
Analysis Period (min) 15
! Phase conflict between lane groups.

Splits and Phases: 1: SH 30 & Stephen D Hogan Pkwy



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2587	967	22	1490	587	33
v/c Ratio	0.87	0.73	0.16	0.29	0.74	0.08
Control Delay	18.5	4.7	35.0	0.1	30.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.5	4.7	35.0	0.1	30.8	9.3
Queue Length 50th (ft)	252	0	8	0	105	0
Queue Length 95th (ft)	#558	55	31	0	183	20
Internal Link Dist (ft)	1030			1968	1006	
Turn Bay Length (ft)		340	225		470	250
Base Capacity (vph)	2963	1325	134	5085	935	455
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.73	0.16	0.29	0.63	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2380	890	20	1371	540	30
Future Volume (vph)	2380	890	20	1371	540	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	1770	5085	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	1770	5085	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2587	967	22	1490	587	33
RTOR Reduction (vph)	0	427	0	0	0	26
Lane Group Flow (vph)	2587	540	22	1490	587	7
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	Free!	7!	
Permitted Phases		2				4
Actuated Green, G (s)	38.9	38.9	1.8	69.6	15.4	15.4
Effective Green, g (s)	38.9	38.9	1.8	69.6	15.4	15.4
Actuated g/C Ratio	0.56	0.56	0.03	1.00	0.22	0.22
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	2842	884	45	5085	759	350
v/s Ratio Prot	c0.51		0.01	0.29	c0.17	
v/s Ratio Perm		0.34				0.00
v/c Ratio	0.91	0.61	0.49	0.29	0.77	0.02
Uniform Delay, d1	13.8	10.3	33.4	0.0	25.5	21.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.6	3.1	8.1	0.1	4.9	0.0
Delay (s)	19.4	13.4	41.6	0.1	30.4	21.2
Level of Service	B	B	D	A	C	C
Approach Delay (s)	17.8			0.7	29.9	
Approach LOS	B			A	C	

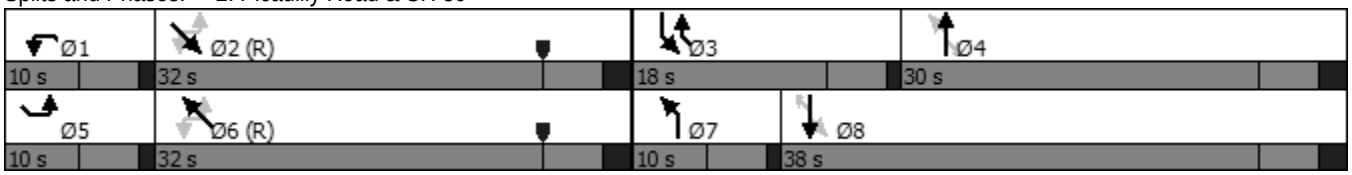
Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	30	350	60	345	440	20	40	800	70	70	520	450
Future Volume (vph)	30	350	60	345	440	20	40	800	70	70	520	450
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	3
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	3
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	10.0	30.0	30.0	10.0	30.0	30.0	10.0	26.0	26.0	10.0	26.0	10.0
Total Split (s)	10.0	30.0	30.0	18.0	38.0	38.0	10.0	32.0	32.0	10.0	32.0	18.0
Total Split (%)	11.1%	33.3%	33.3%	20.0%	42.2%	42.2%	11.1%	35.6%	35.6%	11.1%	35.6%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	None
Act Effct Green (s)	27.8	21.8	21.8	40.8	33.8	33.8	35.0	29.8	29.8	36.2	32.1	51.1
Actuated g/C Ratio	0.31	0.24	0.24	0.45	0.38	0.38	0.39	0.33	0.33	0.40	0.36	0.57
v/c Ratio	0.11	0.84	0.12	0.97	0.68	0.03	0.13	0.73	0.11	0.38	0.45	0.48

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SETL and 6:NWTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 30.4
Intersection Capacity Utilization 82.1%
Analysis Period (min) 15

Splits and Phases: 2: Picadilly Road & SH 30



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	33	380	65	375	478	22	43	860	75	76	565	489
v/c Ratio	0.11	0.84	0.12	0.97	0.68	0.03	0.13	0.73	0.11	0.38	0.45	0.48
Control Delay	14.7	50.1	0.4	60.8	30.2	0.1	17.0	32.8	0.3	22.0	25.3	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	50.1	0.4	60.8	30.2	0.1	17.0	32.8	0.3	22.0	25.3	7.5
Queue Length 50th (ft)	10	200	0	137	234	0	14	241	0	26	142	67
Queue Length 95th (ft)	25	#331	0	#299	348	0	35	#338	0	54	195	151
Internal Link Dist (ft)		388			631			507			534	
Turn Bay Length (ft)	100		100	100		100	225		225	225		225
Base Capacity (vph)	287	496	582	385	701	694	326	1171	669	199	1263	1018
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.77	0.11	0.97	0.68	0.03	0.13	0.73	0.11	0.38	0.45	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	30	350	60	345	440	20	40	800	70	70	520	450
Future Volume (veh/h)	30	350	60	345	440	20	40	800	70	70	520	450
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	33	380	65	375	478	22	43	860	75	76	565	489
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	428	363	368	640	542	264	1190	531	238	1228	777
Arrive On Green	0.03	0.23	0.23	0.14	0.34	0.34	0.04	0.33	0.33	0.05	0.35	0.35
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	33	380	65	375	478	22	43	860	75	76	565	489
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.3	17.7	3.0	13.0	20.3	0.8	1.4	19.1	3.0	2.5	11.1	20.5
Cycle Q Clear(g_c), s	1.3	17.7	3.0	13.0	20.3	0.8	1.4	19.1	3.0	2.5	11.1	20.5
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	240	428	363	368	640	542	264	1190	531	238	1228	777
V/C Ratio(X)	0.14	0.89	0.18	1.02	0.75	0.04	0.16	0.72	0.14	0.32	0.46	0.63
Avail Cap(c_a), veh/h	283	499	423	368	665	564	298	1190	531	252	1228	777
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	33.6	27.9	24.5	26.2	19.7	18.8	26.3	20.9	20.3	22.9	16.9
Incr Delay (d2), s/veh	0.3	15.8	0.2	52.0	4.5	0.0	0.3	3.8	0.6	0.8	1.2	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	9.4	1.1	10.6	9.1	0.3	0.5	7.8	1.1	1.0	4.4	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	49.4	28.1	76.5	30.6	19.8	19.1	30.1	21.4	21.0	24.2	20.8
LnGrp LOS	C	D	C	F	C	B	B	C	C	C	C	C
Approach Vol, veh/h		478			875			978			1130	
Approach Delay, s/veh		44.9			50.0			28.9			22.5	
Approach LOS		D			D			C			C	

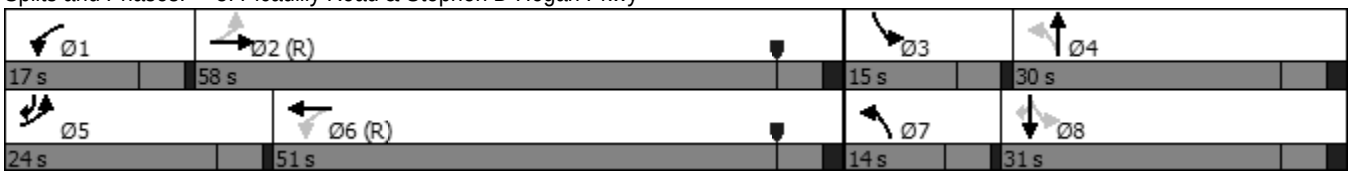
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	36.1	18.0	26.6	8.3	37.1	7.8	36.8
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	26.0	13.0	24.0	5.0	26.0	5.0	32.0
Max Q Clear Time (g_c+I1), s	4.5	21.1	15.0	19.7	3.4	22.5	3.3	22.3
Green Ext Time (p_c), s	0.0	2.3	0.0	0.9	0.0	1.7	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	510	1800	180	916	110	460	315	530	365
Future Volume (vph)	510	1800	180	916	110	460	315	530	365
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov
Protected Phases	5	2	1	6	7	4	3	8	5
Permitted Phases	2		6		4		8		8
Detector Phase	5	2	1	6	7	4	3	8	5
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	10.0	30.0	10.0	30.0	10.0	30.0	10.0	30.0	10.0
Total Split (s)	24.0	58.0	17.0	51.0	14.0	30.0	15.0	31.0	24.0
Total Split (%)	20.0%	48.3%	14.2%	42.5%	11.7%	25.0%	12.5%	25.8%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effct Green (s)	71.6	54.1	60.4	47.9	32.0	22.3	34.6	23.6	47.4
Actuated g/C Ratio	0.60	0.45	0.50	0.40	0.27	0.19	0.29	0.20	0.40
v/c Ratio	0.84	0.90	0.84	0.69	0.49	0.80	0.83	0.58	0.59

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 35.6
Intersection Capacity Utilization 89.0%
Analysis Period (min) 15

Splits and Phases: 3: Picadilly Road & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	548	2043	196	1376	120	783	342	576	397
v/c Ratio	0.84	0.90	0.84	0.69	0.49	0.80	0.83	0.58	0.59
Control Delay	39.7	37.0	69.1	15.8	37.0	46.8	49.7	46.0	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	37.0	69.1	15.8	37.0	46.8	49.7	46.0	25.3
Queue Length 50th (ft)	151	539	119	72	66	183	100	146	179
Queue Length 95th (ft)	#216	#622	m#197	200	114	232	#150	187	280
Internal Link Dist (ft)		1158		287		427		245	
Turn Bay Length (ft)	325		275		100		100		
Base Capacity (vph)	686	2280	242	2000	248	1047	411	1059	692
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.90	0.81	0.69	0.48	0.75	0.83	0.54	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	1800	100	180	916	350	110	460	260	315	530	365
Future Volume (veh/h)	510	1800	100	180	916	350	110	460	260	315	530	365
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	548	1935	108	196	996	380	120	500	283	342	576	0
Peak Hour Factor	0.93	0.93	0.93	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	764	2260	126	226	1547	590	274	666	310	436	1074	
Arrive On Green	0.11	0.46	0.46	0.16	0.85	0.85	0.07	0.20	0.20	0.08	0.21	0.00
Sat Flow, veh/h	3456	4949	275	1781	3637	1387	1781	3404	1585	3456	5106	1585
Grp Volume(v), veh/h	548	1329	714	196	932	444	120	500	283	342	576	0
Grp Sat Flow(s),veh/h/ln	1728	1702	1821	1781	1702	1621	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.3	41.8	42.1	7.6	10.9	10.9	6.4	16.6	21.0	9.5	12.0	0.0
Cycle Q Clear(g_c), s	10.3	41.8	42.1	7.6	10.9	10.9	6.4	16.6	21.0	9.5	12.0	0.0
Prop In Lane	1.00		0.15	1.00		0.86	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	764	1554	831	226	1447	689	274	666	310	436	1074	
V/C Ratio(X)	0.72	0.86	0.86	0.87	0.64	0.64	0.44	0.75	0.91	0.78	0.54	
Avail Cap(c_a), veh/h	923	1554	831	260	1447	689	286	681	317	436	1074	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.8	29.1	29.1	24.2	6.0	6.0	35.3	45.5	47.2	36.8	42.2	0.0
Incr Delay (d2), s/veh	2.1	6.2	11.2	22.9	2.2	4.6	1.1	4.6	29.0	9.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	17.2	19.7	4.0	2.5	2.8	2.8	7.2	10.5	4.4	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	35.3	40.3	47.2	8.2	10.6	36.4	50.1	76.2	45.9	42.7	0.0
LnGrp LOS	B	D	D	D	A	B	D	D	E	D	D	
Approach Vol, veh/h		2591			1572			903			918	A
Approach Delay, s/veh		33.2			13.7			56.4			43.9	
Approach LOS		C			B			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	60.8	15.0	29.5	18.5	57.0	13.2	31.2
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	12.0	52.0	10.0	24.0	19.0	45.0	9.0	25.0
Max Q Clear Time (g_c+I1), s	9.6	44.1	11.5	23.0	12.3	12.9	8.4	14.0
Green Ext Time (p_c), s	0.1	6.4	0.0	0.5	1.2	11.0	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

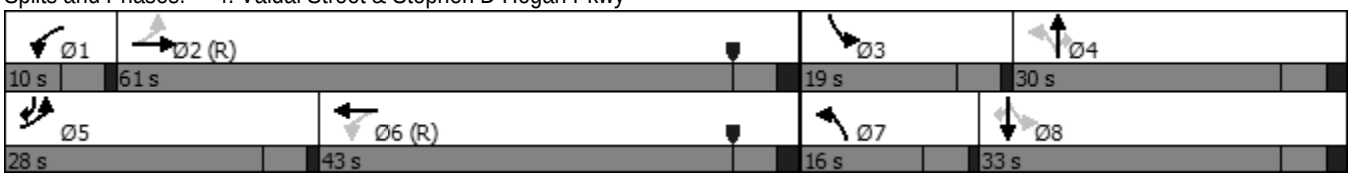
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	300	1760	50	1025	150	30	120	250	20	300
Future Volume (vph)	300	1760	50	1025	150	30	120	250	20	300
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	5	2	1	6	7	4		3	8	5
Permitted Phases	2		6		4		4	8		8
Detector Phase	5	2	1	6	7	4	4	3	8	5
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	10.0	30.0	10.0	30.0	10.0	30.0	30.0	10.0	30.0	10.0
Total Split (s)	28.0	61.0	10.0	43.0	16.0	30.0	30.0	19.0	33.0	28.0
Total Split (%)	23.3%	50.8%	8.3%	35.8%	13.3%	25.0%	25.0%	15.8%	27.5%	23.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	Max	None	None	None	None	None
Act Effct Green (s)	76.7	65.8	51.7	43.7	28.5	13.3	13.3	25.7	15.1	41.7
Actuated g/C Ratio	0.64	0.55	0.43	0.36	0.24	0.11	0.11	0.21	0.13	0.35
v/c Ratio	0.73	0.76	0.33	0.79	0.83	0.29	0.73	1.09	0.12	0.74

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 65 (54%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 42.1
Intersection Capacity Utilization 77.1%
Analysis Period (min) 15

Splits and Phases: 4: Valdai Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	337	2113	56	1455	294	59	235	368	29	441
v/c Ratio	0.73	0.76	0.33	0.79	0.83	0.29	0.73	1.09	0.12	0.74
Control Delay	52.3	25.5	15.6	35.6	61.3	51.0	30.1	117.6	44.9	34.7
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0	1.3	35.4	0.0	0.0
Total Delay	52.3	26.2	15.6	35.6	61.3	51.0	31.5	152.9	44.9	34.7
Queue Length 50th (ft)	237	243	15	347	~233	43	53	267	20	243
Queue Length 95th (ft)	m300	420	32	#345	134	44	17	238	34	192
Internal Link Dist (ft)		350		557		352			320	
Turn Bay Length (ft)	275		225		100		100	100		100
Base Capacity (vph)	464	2767	169	1831	354	372	447	337	419	597
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	318	0	0	0	0	83	273	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.86	0.33	0.79	0.83	0.16	0.65	5.75	0.07	0.74

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	1760	120	50	1025	270	150	30	120	250	20	300
Future Volume (veh/h)	300	1760	120	50	1025	270	150	30	120	250	20	300
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	337	1978	0	56	1152	303	294	59	235	368	29	441
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.51	0.51	0.51	0.68	0.68	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	360	2373		198	1424	375	408	374	317	457	421	588
Arrive On Green	0.29	0.93	0.00	0.05	0.47	0.47	0.09	0.20	0.20	0.12	0.22	0.22
Sat Flow, veh/h	1781	5274	0	1781	4025	1059	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	337	1978	0	56	974	481	294	59	235	368	29	441
Grp Sat Flow(s),veh/h/ln	1781	1702	0	1781	1702	1680	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	15.0	14.5	0.0	2.4	29.4	29.4	11.0	3.1	16.7	14.0	1.5	27.0
Cycle Q Clear(g_c), s	15.0	14.5	0.0	2.4	29.4	29.4	11.0	3.1	16.7	14.0	1.5	27.0
Prop In Lane	1.00		0.00	1.00		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	2373		198	1204	594	408	374	317	457	421	588
V/C Ratio(X)	0.94	0.83		0.28	0.81	0.81	0.72	0.16	0.74	0.81	0.07	0.75
Avail Cap(c_a), veh/h	441	2373		210	1204	594	408	374	317	457	421	588
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	2.8	0.0	22.9	28.3	28.3	37.0	39.7	45.1	37.3	36.6	32.9
Incr Delay (d2), s/veh	24.6	3.6	0.0	0.7	5.4	10.4	10.5	0.2	9.0	10.2	0.1	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	2.1	0.0	1.0	11.1	11.7	3.5	1.5	7.4	4.5	0.7	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	6.4	0.0	23.6	33.7	38.7	47.5	39.8	54.1	47.5	36.7	38.2
LnGrp LOS	D	A		C	C	D	D	D	D	D	D	D
Approach Vol, veh/h		2315	A		1511			588			838	
Approach Delay, s/veh		12.2			34.9			49.4			42.2	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	61.8	19.0	30.0	22.5	48.5	16.0	33.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	55.0	14.0	24.0	23.0	37.0	11.0	27.0
Max Q Clear Time (g_c+I1), s	4.4	16.5	16.0	18.7	17.0	31.4	13.0	29.0
Green Ext Time (p_c), s	0.0	20.6	0.0	0.5	0.5	3.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	27.7
HCM 6th LOS	C

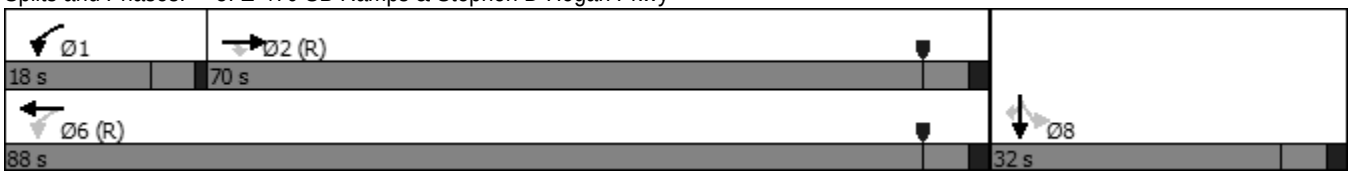
Notes

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

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1830	300	370	1195	0	150
Future Volume (vph)	1830	300	370	1195	0	150
Turn Type	NA	Perm	pm+pt	NA	NA	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	5.0	5.0
Minimum Split (s)	24.0	24.0	10.0	24.0	24.0	24.0
Total Split (s)	70.0	70.0	18.0	88.0	32.0	32.0
Total Split (%)	58.3%	58.3%	15.0%	73.3%	26.7%	26.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Act Effct Green (s)	64.1	64.1	83.0	82.0	26.0	26.0
Actuated g/C Ratio	0.53	0.53	0.69	0.68	0.22	0.22
v/c Ratio	1.05	0.48	0.91	0.41	0.77	0.48

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 53.2
Intersection Capacity Utilization 72.8%
Analysis Period (min) 15

Splits and Phases: 5: E-470 SB Ramps & Stephen D Hogan Pkwy



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	2859	469	446	1440	295	192
v/c Ratio	1.05	0.48	0.91	0.41	0.77	0.48
Control Delay	63.4	10.3	62.9	5.6	58.9	29.6
Queue Delay	20.3	0.0	0.0	0.0	0.0	0.0
Total Delay	83.7	10.3	62.9	5.6	58.9	29.6
Queue Length 50th (ft)	~910	137	157	78	216	79
Queue Length 95th (ft)	543	113	#207	135	268	122
Internal Link Dist (ft)	557			525	689	
Turn Bay Length (ft)		225	200			235
Base Capacity (vph)	2716	979	494	3474	383	400
Starvation Cap Reductn	410	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.24	0.48	0.90	0.41	0.77	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1830	300	370	1195	0	0	0	0	230	0	150
Future Volume (veh/h)	0	1830	300	370	1195	0	0	0	0	230	0	150
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	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	2859	469	446	1440	0				295	0	192
Peak Hour Factor	0.64	0.64	0.64	0.83	0.83	0.83				0.78	0.78	0.78
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2730	848	490	3489	0				386	0	343
Arrive On Green	0.00	0.71	0.71	0.21	1.00	0.00				0.22	0.00	0.22
Sat Flow, veh/h	0	5274	1585	3456	5274	0				1781	0	1585
Grp Volume(v), veh/h	0	2859	469	446	1440	0				295	0	192
Grp Sat Flow(s),veh/h/ln	0	1702	1585	1728	1702	0				1781	0	1585
Q Serve(g_s), s	0.0	64.2	16.9	10.8	0.0	0.0				18.7	0.0	13.0
Cycle Q Clear(g_c), s	0.0	64.2	16.9	10.8	0.0	0.0				18.7	0.0	13.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2730	848	490	3489	0				386	0	343
V/C Ratio(X)	0.00	1.05	0.55	0.91	0.41	0.00				0.76	0.00	0.56
Avail Cap(c_a), veh/h	0	2730	848	494	3489	0				386	0	343
HCM Platoon Ratio	1.00	1.33	1.33	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.49	0.49	0.55	0.55	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.3	10.5	33.9	0.0	0.0				44.1	0.0	41.9
Incr Delay (d2), s/veh	0.0	26.9	1.3	13.2	0.2	0.0				13.4	0.0	6.4
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	0.0	22.2	4.6	6.4	0.1	0.0				9.6	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	44.2	11.8	47.1	0.2	0.0				57.6	0.0	48.3
LnGrp LOS	A	F	B	D	A	A				E	A	D
Approach Vol, veh/h		3328			1886						487	
Approach Delay, s/veh		39.6			11.3						53.9	
Approach LOS		D			B						D	

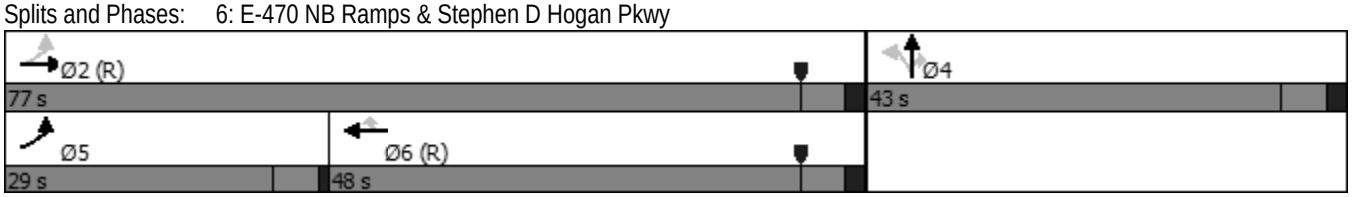
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	17.8	70.2				88.0		32.0				
Change Period (Y+Rc), s	5.0	6.0				6.0		6.0				
Max Green Setting (Gmax), s	13.0	64.0				82.0		26.0				
Max Q Clear Time (g_c+I1), s	12.8	66.2				2.0		20.7				
Green Ext Time (p_c), s	0.0	0.0				14.3		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			31.5									
HCM 6th LOS			C									

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	250	1810	1375	270	0	290
Future Volume (vph)	250	1810	1375	270	0	290
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	10.0	24.0	24.0	24.0	30.0	30.0
Total Split (s)	29.0	77.0	48.0	48.0	43.0	43.0
Total Split (%)	24.2%	64.2%	40.0%	40.0%	35.8%	35.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max
Act Effct Green (s)	72.0	71.0	43.8	43.8	37.0	37.0
Actuated g/C Ratio	0.60	0.59	0.36	0.36	0.31	0.31
v/c Ratio	0.91	0.86	0.77	0.37	0.48	0.74

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 22.2
Intersection Capacity Utilization 72.8%
Analysis Period (min) 15

Splits and Phases: 6: E-470 NB Ramps & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	357	2586	1432	281	260	397
v/c Ratio	0.91	0.86	0.77	0.37	0.48	0.74
Control Delay	55.6	9.3	30.4	10.3	37.2	39.5
Queue Delay	0.0	1.0	0.0	0.0	0.0	0.0
Total Delay	55.6	10.3	30.4	10.3	37.2	39.5
Queue Length 50th (ft)	214	175	407	104	163	227
Queue Length 95th (ft)	m203	145	452	m163	190	250
Internal Link Dist (ft)		525	1048		568	
Turn Bay Length (ft)	230			280		135
Base Capacity (vph)	415	3008	1855	756	545	538
Starvation Cap Reductn	0	199	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.92	0.77	0.37	0.48	0.74

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	1810	0	0	1375	270	190	0	290	0	0	0
Future Volume (veh/h)	250	1810	0	0	1375	270	190	0	290	0	0	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	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	357	2586	0	0	1432	281	260	0	397			
Peak Hour Factor	0.70	0.70	0.70	0.96	0.96	0.96	0.73	0.73	0.73			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	379	3021	0	0	1991	618	549	0	489			
Arrive On Green	0.32	1.00	0.00	0.00	0.13	0.13	0.31	0.00	0.31			
Sat Flow, veh/h	1781	5274	0	0	5274	1585	1781	0	1585			
Grp Volume(v), veh/h	357	2586	0	0	1432	281	260	0	397			
Grp Sat Flow(s),veh/h/ln	1781	1702	0	0	1702	1585	1781	0	1585			
Q Serve(g_s), s	16.7	0.0	0.0	0.0	32.3	19.7	14.2	0.0	27.7			
Cycle Q Clear(g_c), s	16.7	0.0	0.0	0.0	32.3	19.7	14.2	0.0	27.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	379	3021	0	0	1991	618	549	0	489			
V/C Ratio(X)	0.94	0.86	0.00	0.00	0.72	0.45	0.47	0.00	0.81			
Avail Cap(c_a), veh/h	451	3021	0	0	1991	618	549	0	489			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.60	0.60	1.00	0.00	1.00			
Uniform Delay (d), s/veh	23.3	0.0	0.0	0.0	46.0	40.5	33.6	0.0	38.3			
Incr Delay (d2), s/veh	4.0	0.3	0.0	0.0	1.4	1.4	2.9	0.0	13.7			
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	5.1	0.1	0.0	0.0	14.9	8.6	6.6	0.0	24.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	0.3	0.0	0.0	47.3	41.9	36.5	0.0	52.0			
LnGrp LOS	C	A	A	A	D	D	D	A	D			
Approach Vol, veh/h		2943			1713			657				
Approach Delay, s/veh		3.6			46.5			45.9				
Approach LOS		A			D			D				

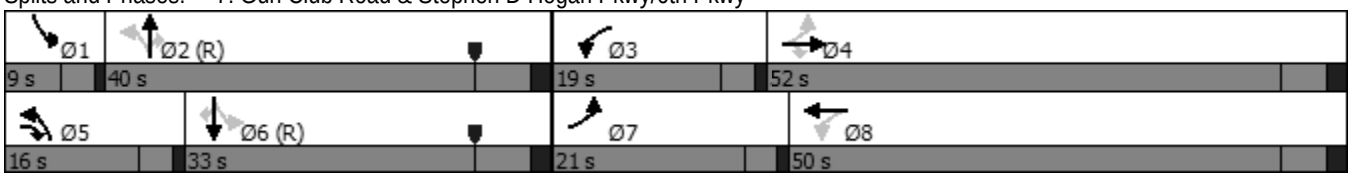
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		77.0		43.0	24.2	52.8
Change Period (Y+Rc), s		6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s		71.0		37.0	24.0	42.0
Max Q Clear Time (g_c+I1), s		2.0		29.7	18.7	34.3
Green Ext Time (p_c), s		43.8		1.9	0.5	5.4

Intersection Summary			
HCM 6th Ctrl Delay			22.6
HCM 6th LOS			C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	220	1530	350	320	1205	230	415	295	210	410	210
Future Volume (vph)	220	1530	350	320	1205	230	415	295	210	410	210
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	5	3	8	5	2		1	6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	7	4	5	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	3.0	5.0	3.0	3.0	5.0	3.0	10.0	10.0	3.0	10.0	10.0
Minimum Split (s)	7.0	11.0	7.0	7.0	11.0	7.0	41.0	41.0	7.0	17.0	17.0
Total Split (s)	21.0	52.0	16.0	19.0	50.0	16.0	40.0	40.0	9.0	33.0	33.0
Total Split (%)	17.5%	43.3%	13.3%	15.8%	41.7%	13.3%	33.3%	33.3%	7.5%	27.5%	27.5%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	2.0	1.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	4.0	6.0	4.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	63.6	45.9	64.0	62.2	45.2	45.1	33.0	33.0	34.1	26.0	26.0
Actuated g/C Ratio	0.53	0.38	0.53	0.52	0.38	0.38	0.28	0.28	0.28	0.22	0.22
v/c Ratio	0.86	0.92	0.46	1.22	0.77	0.77	0.47	0.52	0.80	0.60	0.45

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.22
Intersection Signal Delay: 47.0
Intersection Capacity Utilization 88.9%
Analysis Period (min) 15

Splits and Phases: 7: Gun Club Road & Stephen D Hogan Pkwy/6th Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	256	1779	407	348	1462	256	461	328	236	461	236
v/c Ratio	0.86	0.92	0.46	1.22	0.77	0.77	0.47	0.52	0.80	0.60	0.45
Control Delay	44.0	53.6	23.1	157.6	36.0	45.6	38.2	10.8	56.2	46.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	53.6	23.1	157.6	36.0	45.6	38.2	10.8	56.2	46.2	7.8
Queue Length 50th (ft)	174	495	183	~281	363	144	156	34	131	170	0
Queue Length 95th (ft)	m214	524	m221	#471	423	#246	208	119	#235	224	63
Internal Link Dist (ft)		1048			585		581			595	
Turn Bay Length (ft)	225		225	225		225		550	225		225
Base Capacity (vph)	315	1949	878	285	1895	331	973	631	294	766	527
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.91	0.46	1.22	0.77	0.77	0.47	0.52	0.80	0.60	0.45

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	1530	350	320	1205	140	230	415	295	210	410	210
Future Volume (veh/h)	220	1530	350	320	1205	140	230	415	295	210	410	210
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	256	1779	407	348	1310	152	256	461	328	236	461	236
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.90	0.90	0.90	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	1944	762	289	1868	217	315	986	440	251	779	348
Arrive On Green	0.03	0.13	0.13	0.13	0.40	0.40	0.10	0.28	0.28	0.04	0.22	0.22
Sat Flow, veh/h	1781	5106	1585	1781	4639	538	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	256	1779	407	348	961	501	256	461	328	236	461	236
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1773	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.1	41.3	24.7	15.0	28.2	28.2	12.0	12.9	22.6	5.0	14.0	16.4
Cycle Q Clear(g_c), s	10.1	41.3	24.7	15.0	28.2	28.2	12.0	12.9	22.6	5.0	14.0	16.4
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	305	1944	762	289	1371	714	315	986	440	251	779	348
V/C Ratio(X)	0.84	0.92	0.53	1.20	0.70	0.70	0.81	0.47	0.75	0.94	0.59	0.68
Avail Cap(c_a), veh/h	373	1957	766	289	1371	714	315	986	440	251	779	348
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.42	0.42	0.42	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	50.5	31.9	37.2	29.8	29.8	34.3	36.0	39.5	45.9	42.0	43.0
Incr Delay (d2), s/veh	6.1	3.3	0.3	119.6	1.6	3.1	14.9	1.6	10.9	40.8	3.3	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	19.4	10.4	18.0	11.3	12.0	6.8	5.7	9.8	7.4	6.3	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	53.8	32.2	156.9	31.5	32.9	49.1	37.6	50.4	86.7	45.3	53.2
LnGrp LOS	C	D	C	F	C	C	D	D	D	F	D	D
Approach Vol, veh/h		2442			1810			1045			933	
Approach Delay, s/veh		48.1			56.0			44.4			57.8	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	40.3	19.0	51.7	16.0	33.3	16.4	54.3
Change Period (Y+Rc), s	4.0	7.0	4.0	6.0	4.0	7.0	4.0	6.0
Max Green Setting (Gmax), s	5.0	33.0	15.0	46.0	12.0	26.0	17.0	44.0
Max Q Clear Time (g_c+I1), s	7.0	24.6	17.0	43.3	14.0	18.4	12.1	30.2
Green Ext Time (p_c), s	0.0	2.6	0.0	2.4	0.0	2.2	0.3	7.6

Intersection Summary	
HCM 6th Ctrl Delay	51.2
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	17	5	74	2	1270	51	100	1193	2
Future Vol, veh/h	1	1	1	17	5	74	2	1270	51	100	1193	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	33	33	33	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	3	3	18	5	80	2	1380	55	109	1297	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2075	2955	650	2150	2929	718	1299	0	0	1435	0	0
Stage 1	1516	1516	-	1412	1412	-	-	-	-	-	-	-
Stage 2	559	1439	-	738	1517	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*181	28	353	156	30	*632	280	-	-	754	-	-
Stage 1	*86	180	-	632	606	-	-	-	-	-	-	-
Stage 2	*648	584	-	341	180	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*117	24	353	124	25	*632	280	-	-	754	-	-
Mov Cap-2 Maneuver	*117	24	-	124	25	-	-	-	-	-	-	-
Stage 1	*85	154	-	628	602	-	-	-	-	-	-	-
Stage 2	*557	579	-	284	154	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	79.8	29.1	0	0.8
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	280	-	-	57	124	249	754	-	-
HCM Lane V/C Ratio	0.008	-	-	0.159	0.149	0.345	0.144	-	-
HCM Control Delay (s)	18	-	-	79.8	39.1	26.9	10.6	-	-
HCM Lane LOS	C	-	-	F	E	D	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.5	1.5	0.5	-	-

Notes

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

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	18	812	10	22	788
Future Vol, veh/h	0	18	812	10	22	788
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	-	-	100	-
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	20	883	11	24	857

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	447	0	0	894	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	559	-	-	755	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	559	-	-	755	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	559	755	-
HCM Lane V/C Ratio	-	-	0.035	0.032	-
HCM Control Delay (s)	-	-	11.7	9.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	2367	8	0	1361	14	0	0	14	0	0	18
Future Vol, veh/h	0	2367	8	0	1361	14	0	0	14	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2573	9	0	1479	15	0	0	15	0	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	1291	-	-	747
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	*372	0	0	*610
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-			1			1
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	*372	-	-	*610
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	15.1	11.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	372	-	-	-	-	610
HCM Lane V/C Ratio	0.041	-	-	-	-	0.032
HCM Control Delay (s)	15.1	-	-	-	-	11.1
HCM Lane LOS	C	-	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.1

Notes

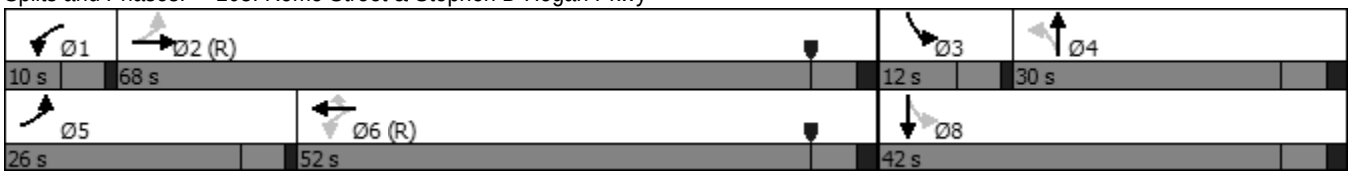
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	195	2174	40	1259	238	5	1	143	5
Future Volume (vph)	195	2174	40	1259	238	5	1	143	5
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases	5	2	1	6			4	3	8
Permitted Phases	2		6		6	4		8	
Detector Phase	5	2	1	6	6	4	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	25.0	26.0	10.0	16.0	16.0	30.0	30.0	10.0	30.0
Total Split (s)	26.0	68.0	10.0	52.0	52.0	30.0	30.0	12.0	42.0
Total Split (%)	21.7%	56.7%	8.3%	43.3%	43.3%	25.0%	25.0%	10.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	Max	Max	None	Max
Act Effct Green (s)	73.0	64.0	58.4	52.4	52.4	24.0	24.0	37.0	36.0
Actuated g/C Ratio	0.61	0.53	0.49	0.44	0.44	0.20	0.20	0.31	0.30
v/c Ratio	0.68	0.88	0.31	0.62	0.33	0.02	0.07	0.40	0.22

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 20.5
Intersection Capacity Utilization 75.2%
Analysis Period (min) 15

Splits and Phases: 103: Rome Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	212	2376	43	1368	259	5	23	155	126
v/c Ratio	0.68	0.88	0.31	0.62	0.33	0.02	0.07	0.40	0.22
Control Delay	39.0	19.4	18.9	21.2	9.9	39.0	16.2	35.2	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.0	19.4	18.9	21.2	9.9	39.0	16.2	35.2	7.1
Queue Length 50th (ft)	118	283	4	353	85	3	1	91	3
Queue Length 95th (ft)	m145	334	m16	454	120	15	24	149	48
Internal Link Dist (ft)		606		202			162		261
Turn Bay Length (ft)	130		100		100	100		80	
Base Capacity (vph)	394	2710	137	2218	783	251	336	389	563
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.88	0.31	0.62	0.33	0.02	0.07	0.40	0.22

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	2174	12	40	1259	238	5	1	20	143	5	111
Future Volume (veh/h)	195	2174	12	40	1259	238	5	1	20	143	5	111
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	212	2363	13	43	1368	259	5	1	22	155	5	121
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	275	2760	15	187	2439	757	313	14	305	425	19	459
Arrive On Green	0.16	1.00	1.00	0.01	0.16	0.16	0.20	0.20	0.20	0.06	0.30	0.30
Sat Flow, veh/h	1781	5240	29	1781	5106	1585	1265	69	1526	1781	63	1531
Grp Volume(v), veh/h	212	1534	842	43	1368	259	5	0	23	155	0	126
Grp Sat Flow(s),veh/h/ln	1781	1702	1865	1781	1702	1585	1265	0	1596	1781	0	1595
Q Serve(g_s), s	7.3	0.0	0.0	1.5	29.7	17.5	0.4	0.0	1.4	7.0	0.0	7.2
Cycle Q Clear(g_c), s	7.3	0.0	0.0	1.5	29.7	17.5	0.4	0.0	1.4	7.0	0.0	7.2
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.96	1.00		0.96
Lane Grp Cap(c), veh/h	275	1793	982	187	2439	757	313	0	319	425	0	478
V/C Ratio(X)	0.77	0.86	0.86	0.23	0.56	0.34	0.02	0.00	0.07	0.36	0.00	0.26
Avail Cap(c_a), veh/h	443	1793	982	205	2439	757	313	0	319	425	0	478
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	0.0	15.1	38.9	33.8	38.6	0.0	39.0	35.1	0.0	31.9
Incr Delay (d2), s/veh	4.6	5.5	9.6	0.6	0.9	1.2	0.1	0.0	0.4	0.5	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	1.4	2.6	0.6	13.7	7.6	0.1	0.0	0.6	3.9	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	5.5	9.6	15.7	39.9	35.0	38.6	0.0	39.4	35.6	0.0	33.3
LnGrp LOS	C	A	A	B	D	C	D	A	D	D	A	C
Approach Vol, veh/h		2588			1670			28			281	
Approach Delay, s/veh		8.4			38.5			39.3			34.5	
Approach LOS		A			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	8.8	69.2	12.0	30.0	14.7	63.3		42.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	5.0	62.0	7.0	24.0	21.0	46.0		36.0
Max Q Clear Time (g_c+I1), s	3.5	2.0	9.0	3.4	9.3	31.7		9.2
Green Ext Time (p_c), s	0.0	32.4	0.0	0.1	0.4	8.3		0.8

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	55	1482	40	54	2283
Future Vol, veh/h	30	55	1482	40	54	2283
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	-	130	-
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	33	60	1611	43	59	2482

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2744	827	0	0	1654	0
Stage 1	1633	-	-	-	-	-
Stage 2	1111	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	*97	*588	-	-	691	-
Stage 1	*580	-	-	-	-	-
Stage 2	*404	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*89	*588	-	-	691	-
Mov Cap-2 Maneuver	*89	-	-	-	-	-
Stage 1	*580	-	-	-	-	-
Stage 2	*370	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.4	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	89	588	691	-
HCM Lane V/C Ratio	-	-	0.366	0.102	0.085	-
HCM Control Delay (s)	-	-	67.2	11.8	10.7	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	1.4	0.3	0.3	-

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	6	1516	6	6	2307
Future Vol, veh/h	0	6	1516	6	6	2307
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	-	-	100	-
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	7	1648	7	7	2508

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	828	0	0	1655	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	270	-	-	187	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	270	-	-	187	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

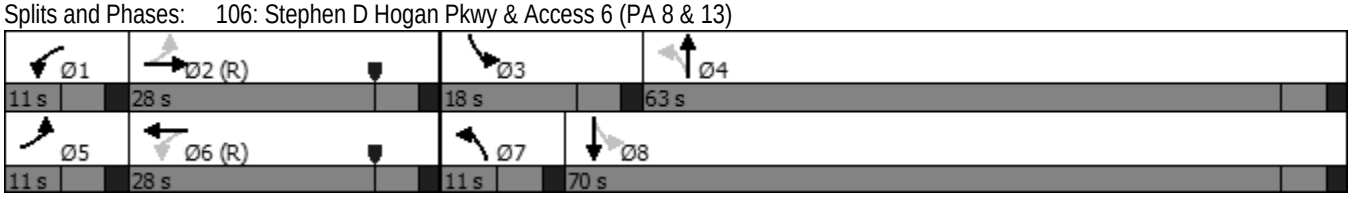
Approach	WB	NB	SB
HCM Control Delay, s	18.7	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	270	187	-
HCM Lane V/C Ratio	-	-	0.024	0.035	-
HCM Control Delay (s)	-	-	18.7	24.9	-
HCM Lane LOS	-	-	C	C	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	25	5	46	5	14	1435	79	2219
Future Volume (vph)	25	5	46	5	14	1435	79	2219
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6	7	4	3	8
Permitted Phases	2		6		4		8	
Detector Phase	5	2	1	6	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	11.0	28.0	11.0	28.0	11.0	30.0	11.0	30.0
Total Split (s)	11.0	28.0	11.0	28.0	11.0	63.0	18.0	70.0
Total Split (%)	9.2%	23.3%	9.2%	23.3%	9.2%	52.5%	15.0%	58.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	31.5	27.3	32.8	29.8	64.1	60.1	70.9	67.2
Actuated g/C Ratio	0.26	0.23	0.27	0.25	0.53	0.50	0.59	0.56
v/c Ratio	0.07	0.04	0.13	0.16	0.11	0.62	0.42	0.85

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 33.8
Intersection Capacity Utilization 71.5%
Analysis Period (min) 15

Splits and Phases: 106: Stephen D Hogan Pkwy & Access 6 (PA 8 & 13)



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	15	50	72	15	1581	86	2422
v/c Ratio	0.07	0.04	0.13	0.16	0.11	0.62	0.42	0.85
Control Delay	32.6	24.9	33.3	12.2	8.6	15.6	21.9	47.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	24.9	33.3	12.2	8.6	15.6	21.9	47.1
Queue Length 50th (ft)	15	3	29	3	3	188	47	703
Queue Length 95th (ft)	39	23	62	44	m5	261	m56	757
Internal Link Dist (ft)		193		174		203		364
Turn Bay Length (ft)	100		100		235		235	
Base Capacity (vph)	366	388	379	448	132	2553	261	2844
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.13	0.16	0.11	0.62	0.33	0.85

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	5	9	46	5	62	14	1435	19	79	2219	9
Future Volume (veh/h)	25	5	9	46	5	62	14	1435	19	79	2219	9
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	27	5	10	50	5	67	15	1560	21	86	2412	10
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	366	125	250	424	26	348	100	2608	35	223	2757	11
Arrive On Green	0.02	0.22	0.22	0.03	0.23	0.23	0.02	0.50	0.50	0.01	0.17	0.17
Sat Flow, veh/h	1781	557	1113	1781	111	1491	1781	5192	70	1781	5249	22
Grp Volume(v), veh/h	27	0	15	50	0	72	15	1023	558	86	1564	858
Grp Sat Flow(s),veh/h/ln	1781	0	1670	1781	0	1602	1781	1702	1858	1781	1702	1866
Q Serve(g_s), s	1.4	0.0	0.8	2.6	0.0	4.3	0.5	25.6	25.7	2.8	53.7	53.8
Cycle Q Clear(g_c), s	1.4	0.0	0.8	2.6	0.0	4.3	0.5	25.6	25.7	2.8	53.7	53.8
Prop In Lane	1.00		0.67	1.00		0.93	1.00		0.04	1.00		0.01
Lane Grp Cap(c), veh/h	366	0	375	424	0	374	100	1710	933	223	1788	980
V/C Ratio(X)	0.07	0.00	0.04	0.12	0.00	0.19	0.15	0.60	0.60	0.38	0.87	0.88
Avail Cap(c_a), veh/h	397	0	375	438	0	374	145	1710	933	332	1815	995
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	36.4	34.0	0.0	36.9	26.1	21.2	21.2	17.5	45.7	45.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.1	0.0	1.1	0.7	0.6	1.1	1.1	5.0	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	1.1	0.0	1.8	0.2	9.7	10.7	1.2	25.6	29.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	0.0	36.6	34.1	0.0	38.0	26.8	21.8	22.3	18.6	50.8	54.5
LnGrp LOS	C	A	D	C	A	D	C	C	C	B	D	D
Approach Vol, veh/h		42			122			1596			2508	
Approach Delay, s/veh		35.2			36.4			22.0			51.0	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	32.9	10.7	66.3	9.0	34.0	8.0	69.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	22.0	12.0	57.0	5.0	22.0	5.0	64.0
Max Q Clear Time (g_c+I1), s	4.6	2.8	4.8	27.7	3.4	6.3	2.5	55.8
Green Ext Time (p_c), s	0.0	0.0	0.1	12.4	0.0	0.3	0.0	7.3

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑↳			↱
Traffic Vol, veh/h	0	2274	1450	24	0	18
Future Vol, veh/h	0	2274	1450	24	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2472	1576	26	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	801
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	281
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	281
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	281
HCM Lane V/C Ratio	-	-	-	0.07
HCM Control Delay (s)	-	-	-	18.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	2215	20	18	1435	18	0	0	16	0	0	39
Future Vol, veh/h	39	2215	20	18	1435	18	0	0	16	0	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	130	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	2408	22	20	1560	20	0	0	17	0	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1580	0	0	2430	0	0	-	-	1215	-	-	790
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	5.34	-	-	-	-	7.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.12	-	-	-	-	3.92	-	-	3.32
Pot Cap-1 Maneuver	*734	-	-	*495	-	-	0	0	*394	0	0	*491
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %	1	-	-	1	-	-			1			1
Mov Cap-1 Maneuver	*734	-	-	*495	-	-	-	-	*394	-	-	*491
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	14.6	13
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	394	* 734	-	-	* 495	-	-	491
HCM Lane V/C Ratio	0.044	0.058	-	-	0.04	-	-	0.086
HCM Control Delay (s)	14.6	10.2	-	-	12.6	-	-	13
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.1	-	-	0.3

Notes

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑↳			↱
Traffic Vol, veh/h	0	2231	1457	18	0	14
Future Vol, veh/h	0	2231	1457	18	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2425	1584	20	0	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	802
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	*588
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*588
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	588
HCM Lane V/C Ratio	-	-	-	0.026
HCM Control Delay (s)	-	-	-	11.3
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Notes

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	58	36	564	512	5
Future Vol, veh/h	5	58	36	564	512	5
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	-	100	-	-	-
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	5	63	39	613	557	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1251	560	562	0	-	0
Stage 1	560	-	-	-	-	-
Stage 2	691	-	-	-	-	-
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	140	528	1009	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	135	528	1009	-	-	-
Mov Cap-2 Maneuver	135	-	-	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	542	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1009	-	429	-	-
HCM Lane V/C Ratio	0.039	-	0.16	-	-
HCM Control Delay (s)	8.7	-	15	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	34	27	1	4	55	480	29	4	451	5
Future Vol, veh/h	3	1	34	27	1	4	55	480	29	4	451	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	37	29	1	4	60	522	32	4	490	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1162	1175	493	1178	1161	538	495	0	0	554	0	0
Stage 1	501	501	-	658	658	-	-	-	-	-	-	-
Stage 2	661	674	-	520	503	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	172	192	576	168	195	543	1069	-	-	1016	-	-
Stage 1	552	543	-	453	461	-	-	-	-	-	-	-
Stage 2	452	454	-	539	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	162	180	576	149	183	543	1069	-	-	1016	-	-
Mov Cap-2 Maneuver	162	180	-	149	183	-	-	-	-	-	-	-
Stage 1	521	541	-	428	435	-	-	-	-	-	-	-
Stage 2	422	429	-	501	539	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	32.6	0.8	0.1
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1069	-	-	457	165	1016	-	-
HCM Lane V/C Ratio	0.056	-	-	0.09	0.211	0.004	-	-
HCM Control Delay (s)	8.6	-	-	13.7	32.6	8.6	-	-
HCM Lane LOS	A	-	-	B	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.8	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	4	9	3	3	1	12	471	4	1	448	7
Future Vol, veh/h	7	4	9	3	3	1	12	471	4	1	448	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	4	10	3	3	1	13	512	4	1	487	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1035	1035	491	1040	1037	514	495	0	0	516	0	0
Stage 1	493	493	-	540	540	-	-	-	-	-	-	-
Stage 2	542	542	-	500	497	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	210	232	578	208	231	560	1069	-	-	1050	-	-
Stage 1	558	547	-	526	521	-	-	-	-	-	-	-
Stage 2	525	520	-	553	545	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	205	229	578	199	228	560	1069	-	-	1050	-	-
Mov Cap-2 Maneuver	205	229	-	199	228	-	-	-	-	-	-	-
Stage 1	551	546	-	520	515	-	-	-	-	-	-	-
Stage 2	514	514	-	539	544	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18	21	0.2	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1069	-	-	298	233	1050	-	-
HCM Lane V/C Ratio	0.012	-	-	0.073	0.033	0.001	-	-
HCM Control Delay (s)	8.4	-	-	18	21	8.4	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	8	14	1	6	12	450	16	6	433	4
Future Vol, veh/h	2	1	8	14	1	6	12	450	16	6	433	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	9	15	1	7	13	489	17	7	471	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1015	1019	473	1016	1013	498	475	0	0	506	0	0
Stage 1	487	487	-	524	524	-	-	-	-	-	-	-
Stage 2	528	532	-	492	489	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	217	237	591	216	239	572	1087	-	-	1059	-	-
Stage 1	562	550	-	537	530	-	-	-	-	-	-	-
Stage 2	534	526	-	558	549	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	211	232	591	209	234	572	1087	-	-	1059	-	-
Mov Cap-2 Maneuver	211	232	-	209	234	-	-	-	-	-	-	-
Stage 1	555	546	-	531	524	-	-	-	-	-	-	-
Stage 2	521	520	-	545	545	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.2	20.4	0.2	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1087	-	-	403	257	1059	-	-
HCM Lane V/C Ratio	0.012	-	-	0.03	0.089	0.006	-	-
HCM Control Delay (s)	8.4	-	-	14.2	20.4	8.4	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	13	63	1	11	10	113	345	1	10	380	20
Future Vol, veh/h	60	13	63	1	11	10	113	345	1	10	380	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	14	68	1	12	11	123	375	1	11	413	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1079	1068	424	1109	1079	376	435	0	0	376	0	0
Stage 1	446	446	-	622	622	-	-	-	-	-	-	-
Stage 2	633	622	-	487	457	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	196	222	630	187	218	670	1125	-	-	1182	-	-
Stage 1	591	574	-	474	479	-	-	-	-	-	-	-
Stage 2	468	479	-	562	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	167	196	630	143	192	670	1125	-	-	1182	-	-
Mov Cap-2 Maneuver	167	196	-	143	192	-	-	-	-	-	-	-
Stage 1	527	569	-	422	427	-	-	-	-	-	-	-
Stage 2	399	427	-	484	563	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35.9	19.2	2.1	0.2
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1125	-	-	259	278	1182	-	-
HCM Lane V/C Ratio	0.109	-	-	0.571	0.086	0.009	-	-
HCM Control Delay (s)	8.6	-	-	35.9	19.2	8.1	-	-
HCM Lane LOS	A	-	-	E	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	3.2	0.3	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	20	123	4	4	115	25	2	1	3	10	1	20
Future Vol, veh/h	20	123	4	4	115	25	2	1	3	10	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	134	4	4	125	27	2	1	3	11	1	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	152	0	0	138	0	0	338	340	136	329	329	139
Stage 1	-	-	-	-	-	-	180	180	-	147	147	-
Stage 2	-	-	-	-	-	-	158	160	-	182	182	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1429	-	-	1446	-	-	616	582	913	624	590	909
Stage 1	-	-	-	-	-	-	822	750	-	856	775	-
Stage 2	-	-	-	-	-	-	844	766	-	820	749	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1429	-	-	1446	-	-	591	570	913	612	578	909
Mov Cap-2 Maneuver	-	-	-	-	-	-	591	570	-	612	578	-
Stage 1	-	-	-	-	-	-	808	737	-	841	773	-
Stage 2	-	-	-	-	-	-	820	764	-	802	736	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.2	10.1	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	712	1429	-	-	1446	-	-	774
HCM Lane V/C Ratio	0.009	0.015	-	-	0.003	-	-	0.044
HCM Control Delay (s)	10.1	7.6	0	-	7.5	0	-	9.9
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	15	134	4	4	113	20	3	1	3	10	1	10
Future Vol, veh/h	15	134	4	4	113	20	3	1	3	10	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	146	4	4	123	22	3	1	3	11	1	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	145	0	0	150	0	0	328	333	148	324	324	134
Stage 1	-	-	-	-	-	-	180	180	-	142	142	-
Stage 2	-	-	-	-	-	-	148	153	-	182	182	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1437	-	-	1431	-	-	625	587	899	629	594	915
Stage 1	-	-	-	-	-	-	822	750	-	861	779	-
Stage 2	-	-	-	-	-	-	855	771	-	820	749	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1437	-	-	1431	-	-	609	578	899	619	585	915
Mov Cap-2 Maneuver	-	-	-	-	-	-	609	578	-	619	585	-
Stage 1	-	-	-	-	-	-	812	741	-	851	777	-
Stage 2	-	-	-	-	-	-	841	769	-	806	740	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.2	10.2	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	700	1437	-	-	1431	-	-	729
HCM Lane V/C Ratio	0.011	0.011	-	-	0.003	-	-	0.031
HCM Control Delay (s)	10.2	7.5	0	-	7.5	0	-	10.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	35	142	8	2	104	20	5	1	1	10	1	30
Future Vol, veh/h	35	142	8	2	104	20	5	1	1	10	1	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	154	9	2	113	22	5	1	1	11	1	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	135	0	0	163	0	0	380	374	159	364	367	124
Stage 1	-	-	-	-	-	-	235	235	-	128	128	-
Stage 2	-	-	-	-	-	-	145	139	-	236	239	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1449	-	-	1416	-	-	578	557	886	592	562	927
Stage 1	-	-	-	-	-	-	768	710	-	876	790	-
Stage 2	-	-	-	-	-	-	858	782	-	767	708	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1449	-	-	1416	-	-	544	540	886	577	545	927
Mov Cap-2 Maneuver	-	-	-	-	-	-	544	540	-	577	545	-
Stage 1	-	-	-	-	-	-	746	689	-	851	788	-
Stage 2	-	-	-	-	-	-	825	780	-	743	687	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.1	11.3	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	575	1449	-	-	1416	-	-	796
HCM Lane V/C Ratio	0.013	0.026	-	-	0.002	-	-	0.056
HCM Control Delay (s)	11.3	7.6	0	-	7.5	0	-	9.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	184	9	2	137	8	1
Future Vol, veh/h	184	9	2	137	8	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	200	10	2	149	9	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	210	0	358	205
Stage 1	-	-	-	-	205	-
Stage 2	-	-	-	-	153	-
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	-	-	1361	-	640	836
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1361	-	639	836
Mov Cap-2 Maneuver	-	-	-	-	639	-
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	873	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	656	-	-	1361	-
HCM Lane V/C Ratio	0.015	-	-	0.002	-
HCM Control Delay (s)	10.6	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	14.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	83	15	60	60	25	21	253	100	10	105	15
Future Vol, veh/h	45	83	15	60	60	25	21	253	100	10	105	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	90	16	65	65	27	23	275	109	11	114	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	92	0	0	106	0	0	470	418	98	597	413	79
Stage 1	-	-	-	-	-	-	196	196	-	209	209	-
Stage 2	-	-	-	-	-	-	274	222	-	388	204	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1503	-	-	1485	-	-	504	526	958	415	529	981
Stage 1	-	-	-	-	-	-	806	739	-	793	729	-
Stage 2	-	-	-	-	-	-	732	720	-	636	733	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1503	-	-	1485	-	-	383	484	958	191	487	981
Mov Cap-2 Maneuver	-	-	-	-	-	-	383	484	-	191	487	-
Stage 1	-	-	-	-	-	-	778	713	-	765	695	-
Stage 2	-	-	-	-	-	-	574	687	-	334	707	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	3.1	23.5	15
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	383	563	1503	-	-	1485	-	-	191	520
HCM Lane V/C Ratio	0.06	0.682	0.033	-	-	0.044	-	-	0.057	0.251
HCM Control Delay (s)	15	24	7.5	0	-	7.5	0	-	25	14.2
HCM Lane LOS	C	C	A	A	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.2	5.2	0.1	-	-	0.1	-	-	0.2	1

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	142	6	5	96	0	1
Future Vol, veh/h	142	6	5	96	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	154	7	5	104	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	161	0	-	158
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	1418	-	0	887
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	-	887
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	887	-	-	1418	-
HCM Lane V/C Ratio	0.001	-	-	0.004	-
HCM Control Delay (s)	9.1	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	145	7	0	96	0	3
Future Vol, veh/h	145	7	0	96	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	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	158	8	0	104	0	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	162
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	883
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	883
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	883	-	-	-
HCM Lane V/C Ratio	0.004	-	-	-
HCM Control Delay (s)	9.1	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1	59	26	1	8	55	353	25	8	169	3
Future Vol, veh/h	13	1	59	26	1	8	55	353	25	8	169	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	80	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	1	64	28	1	9	60	384	27	9	184	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	727	735	186	754	723	398	187	0	0	411	0	0
Stage 1	204	204	-	518	518	-	-	-	-	-	-	-
Stage 2	523	531	-	236	205	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	388	369	856	366	377	*779	1387	-	-	*1165	-	-
Stage 1	798	733	-	625	565	-	-	-	-	-	-	-
Stage 2	620	555	-	767	732	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	368	350	856	325	358	*779	1387	-	-	*1165	-	-
Mov Cap-2 Maneuver	368	350	-	325	358	-	-	-	-	-	-	-
Stage 1	764	727	-	598	540	-	-	-	-	-	-	-
Stage 2	585	531	-	703	726	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	15.4	1	0.4
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1387	-	-	368	836	325	689	* 1165	-	-
HCM Lane V/C Ratio	0.043	-	-	0.038	0.078	0.087	0.014	0.007	-	-
HCM Control Delay (s)	7.7	-	-	15.2	9.7	17.1	10.3	8.1	-	-
HCM Lane LOS	A	-	-	C	A	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.3	0.3	0	0	-	-

Notes

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

Intersection						
Int Delay, s/veh	3.9					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	15	17	16	16	4
Future Vol, veh/h	3	15	17	16	16	4
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	3	16	18	17	17	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	72	19	21	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	53	-	-	-	-	-
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	932	1059	1595	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	922	1059	1595	-	-	-
Mov Cap-2 Maneuver	922	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	3.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1595	-	1033	-	-
HCM Lane V/C Ratio	0.012	-	0.019	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	6	6	13	14	9
Future Vol, veh/h	8	6	6	13	14	9
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	9	7	7	14	15	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	48	20	25	0	-	0
Stage 1	20	-	-	-	-	-
Stage 2	28	-	-	-	-	-
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	962	1058	1589	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	995	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	958	1058	1589	-	-	-
Mov Cap-2 Maneuver	958	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	995	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	2.3	0
HCM LOS	A		

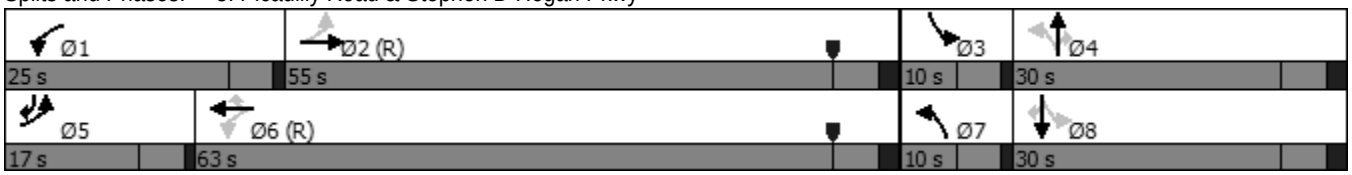
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1589	-	998	-	-
HCM Lane V/C Ratio	0.004	-	0.015	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection Capacity Worksheets: 2040 Background + Project With Improvements

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	260	870	249	1856	280	130	760	100	200	330	410
Future Volume (vph)	260	870	249	1856	280	130	760	100	200	330	410
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	5	2	1	6		7	4		3	8	5
Permitted Phases	2		6		6	4		4	8		8
Detector Phase	5	2	1	6	6	7	4	4	3	8	5
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	10.0	30.0	10.0	30.0	30.0	10.0	30.0	30.0	10.0	30.0	10.0
Total Split (s)	17.0	55.0	25.0	63.0	63.0	10.0	30.0	30.0	10.0	30.0	17.0
Total Split (%)	14.2%	45.8%	20.8%	52.5%	52.5%	8.3%	25.0%	25.0%	8.3%	25.0%	14.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	66.5	55.4	74.2	59.5	59.5	29.4	23.4	23.4	29.4	23.4	39.5
Actuated g/C Ratio	0.55	0.46	0.62	0.50	0.50	0.24	0.20	0.20	0.24	0.20	0.33
v/c Ratio	0.69	0.45	0.70	0.80	0.35	0.54	0.83	0.25	0.81	0.36	0.74

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 29.0
Intersection Capacity Utilization 82.0%
Analysis Period (min) 15

Splits and Phases: 3: Picadilly Road & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	283	1055	271	2017	304	141	826	109	217	359	446
v/c Ratio	0.69	0.45	0.70	0.80	0.35	0.54	0.83	0.25	0.81	0.36	0.74
Control Delay	31.3	23.0	32.6	17.5	8.2	44.0	54.8	2.6	58.5	42.9	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	23.0	32.6	17.5	8.2	44.0	54.8	2.6	58.5	42.9	34.0
Queue Length 50th (ft)	57	195	118	195	45	84	226	0	65	88	228
Queue Length 95th (ft)	109	260	m136	m219	m55	140	276	12	#117	120	348
Internal Link Dist (ft)		1158		287			427			245	
Turn Bay Length (ft)	325		275		225	100		250	100		
Base Capacity (vph)	465	2322	459	2522	862	260	1017	447	268	1017	622
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.45	0.59	0.80	0.35	0.54	0.81	0.24	0.81	0.35	0.72

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	870	100	249	1856	280	130	760	100	200	330	410
Future Volume (veh/h)	260	870	100	249	1856	280	130	760	100	200	330	410
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	283	946	109	271	2017	304	141	826	109	217	359	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	478	2272	261	427	2693	836	263	956	297	299	956	
Arrive On Green	0.06	0.49	0.49	0.20	1.00	1.00	0.04	0.19	0.19	0.04	0.19	0.00
Sat Flow, veh/h	3456	4645	534	1781	5106	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	283	693	362	271	2017	304	141	826	109	217	359	0
Grp Sat Flow(s),veh/h/ln	1728	1702	1774	1781	1702	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	4.8	15.7	15.7	9.3	0.0	0.0	5.0	18.8	7.2	5.0	7.4	0.0
Cycle Q Clear(g_c), s	4.8	15.7	15.7	9.3	0.0	0.0	5.0	18.8	7.2	5.0	7.4	0.0
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	478	1665	868	427	2693	836	263	956	297	299	956	
V/C Ratio(X)	0.59	0.42	0.42	0.63	0.75	0.36	0.54	0.86	0.37	0.73	0.38	
Avail Cap(c_a), veh/h	614	1665	868	548	2693	836	263	1021	317	299	1021	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.3	19.7	19.7	12.2	0.0	0.0	41.8	47.3	42.6	43.1	42.6	0.0
Incr Delay (d2), s/veh	1.2	0.8	1.5	1.6	2.0	1.2	2.1	7.5	0.8	8.4	0.2	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	1.8	6.0	6.5	2.9	0.5	0.3	1.5	8.4	2.8	1.2	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	20.4	21.1	13.8	2.0	1.2	44.0	54.8	43.3	51.6	42.9	0.0
LnGrp LOS	B	C	C	B	A	A	D	D	D	D	D	
Approach Vol, veh/h		1338			2592			1076			576	A
Approach Delay, s/veh		19.3			3.1			52.2			46.2	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.8	64.7	10.0	28.5	12.2	69.3	10.0	28.5
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	49.0	5.0	24.0	12.0	57.0	5.0	24.0
Max Q Clear Time (g_c+I1), s	11.3	17.7	7.0	20.8	6.8	2.0	7.0	9.4
Green Ext Time (p_c), s	0.5	7.4	0.0	1.6	0.4	28.0	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

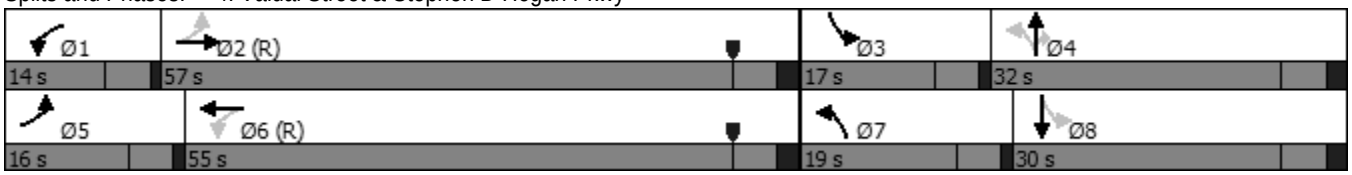
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	170	868	130	1780	120	10	50	220	10	320
Future Volume (vph)	170	868	130	1780	120	10	50	220	10	320
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases	2		6		4		4	8		Free
Detector Phase	5	2	1	6	7	4	4	3	8	
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	10.0	30.0	10.0	30.0	10.0	30.0	30.0	10.0	30.0	
Total Split (s)	16.0	57.0	14.0	55.0	19.0	32.0	32.0	17.0	30.0	
Total Split (%)	13.3%	47.5%	11.7%	45.8%	15.8%	26.7%	26.7%	14.2%	25.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	
Act Effct Green (s)	80.4	66.8	72.1	62.3	27.8	10.4	10.4	14.2	10.0	120.0
Actuated g/C Ratio	0.67	0.56	0.60	0.52	0.23	0.09	0.09	0.12	0.08	1.00
v/c Ratio	0.70	0.38	0.39	0.83	0.55	0.11	0.37	1.13	0.07	0.22

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 21.2
Intersection Capacity Utilization 81.4%
Analysis Period (min) 15

Splits and Phases: 4: Valdai Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	185	1052	141	2158	218	18	91	239	11	348
v/c Ratio	0.70	0.38	0.39	0.83	0.55	0.11	0.37	1.13	0.07	0.22
Control Delay	32.6	13.4	6.6	11.7	46.3	51.9	8.7	148.3	52.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	13.4	6.6	11.8	46.3	51.9	8.7	148.3	52.0	0.3
Queue Length 50th (ft)	68	216	12	171	149	13	0	~243	8	0
Queue Length 95th (ft)	63	326	m34	349	126	22	0	243	27	0
Internal Link Dist (ft)		350		557		352			320	
Turn Bay Length (ft)	275		225		100		100	100		100
Base Capacity (vph)	271	2793	373	2606	395	403	435	211	372	1583
Starvation Cap Reductn	0	0	0	19	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.38	0.38	0.83	0.55	0.04	0.21	1.13	0.03	0.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	868	100	130	1780	205	120	10	50	220	10	320
Future Volume (veh/h)	170	868	100	130	1780	205	120	10	50	220	10	320
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	185	943	0	141	1935	223	218	18	91	239	11	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.55	0.55	0.55	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	2884		393	2583	295	377	187	159	345	156	
Arrive On Green	0.02	0.19	0.00	0.10	1.00	1.00	0.12	0.10	0.10	0.10	0.08	0.00
Sat Flow, veh/h	1781	5274	0	1781	4648	531	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	185	943	0	141	1413	745	218	18	91	239	11	0
Grp Sat Flow(s),veh/h/ln	1781	1702	0	1781	1702	1775	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.2	19.2	0.0	4.2	0.0	0.0	13.4	1.0	6.6	12.0	0.7	0.0
Cycle Q Clear(g_c), s	5.2	19.2	0.0	4.2	0.0	0.0	13.4	1.0	6.6	12.0	0.7	0.0
Prop In Lane	1.00		0.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	271	2884		393	1892	986	377	187	159	345	156	
V/C Ratio(X)	0.68	0.33		0.36	0.75	0.76	0.58	0.10	0.57	0.69	0.07	
Avail Cap(c_a), veh/h	326	2884		434	1892	986	377	405	343	345	374	
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.1	29.1	0.0	11.2	0.0	0.0	43.8	49.1	51.6	46.3	50.7	0.0
Incr Delay (d2), s/veh	4.5	0.3	0.0	0.4	2.0	3.9	2.2	0.2	3.3	5.8	0.2	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	2.3	8.8	0.0	1.4	0.5	1.1	6.1	0.5	2.8	7.3	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	29.4	0.0	11.6	2.0	3.9	45.9	49.3	54.8	52.2	50.9	0.0
LnGrp LOS	B	C		B	A	A	D	D	D	D	D	
Approach Vol, veh/h		1128	A		2299			327			250	A
Approach Delay, s/veh		27.1			3.2			48.6			52.1	
Approach LOS		C			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	73.8	17.0	18.0	12.3	72.7	19.0	16.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	9.0	51.0	12.0	26.0	11.0	49.0	14.0	24.0
Max Q Clear Time (g_c+I1), s	6.2	21.2	14.0	8.6	7.2	2.0	15.4	2.7
Green Ext Time (p_c), s	0.1	6.8	0.0	0.3	0.2	24.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑	↱		↱
Traffic Vol, veh/h	0	1131	2186	38	0	29
Future Vol, veh/h	0	1131	2186	38	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	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	1229	2376	41	0	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1188
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	*416
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*416
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	416
HCM Lane V/C Ratio	-	-	-	0.076
HCM Control Delay (s)	-	-	-	14.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

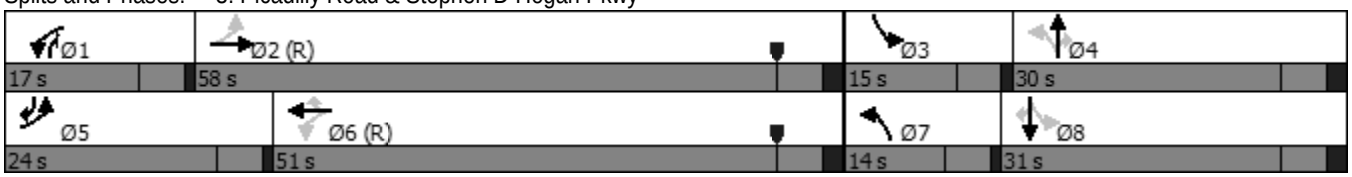
Notes

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	510	1800	180	916	350	110	460	260	315	530	365
Future Volume (vph)	510	1800	180	916	350	110	460	260	315	530	365
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	1	6		7	4	1	3	8	5
Permitted Phases	2		6		6	4		4	8		8
Detector Phase	5	2	1	6	6	7	4	1	3	8	5
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	30.0	10.0	30.0	30.0	10.0	30.0	10.0	10.0	30.0	10.0
Total Split (s)	24.0	58.0	17.0	51.0	51.0	14.0	30.0	17.0	15.0	31.0	24.0
Total Split (%)	20.0%	48.3%	14.2%	42.5%	42.5%	11.7%	25.0%	14.2%	12.5%	25.8%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	1.0	2.0	1.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	6.0	5.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	72.7	56.6	68.5	54.3	54.3	28.0	18.2	37.4	30.5	19.5	41.0
Actuated g/C Ratio	0.61	0.47	0.57	0.45	0.45	0.23	0.15	0.31	0.25	0.16	0.34
v/c Ratio	0.68	0.86	0.76	0.43	0.45	0.56	0.65	0.49	0.73	0.70	0.67

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 31.8
Intersection Capacity Utilization 83.2%
Analysis Period (min) 15

Splits and Phases: 3: Picadilly Road & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	548	2043	196	996	380	120	500	283	342	576	397
v/c Ratio	0.68	0.86	0.76	0.43	0.45	0.56	0.65	0.49	0.73	0.70	0.67
Control Delay	14.9	33.5	57.7	17.4	8.5	43.1	51.6	21.2	44.0	52.1	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.9	33.5	57.7	17.4	8.5	43.1	51.6	21.2	44.0	52.1	31.2
Queue Length 50th (ft)	90	520	124	83	38	71	134	97	107	155	209
Queue Length 95th (ft)	129	#622	m#179	162	m120	116	167	176	142	190	283
Internal Link Dist (ft)		1158		287			427			245	
Turn Bay Length (ft)	325		275		225	100		250	100		
Base Capacity (vph)	908	2383	267	2300	851	217	1017	582	469	1059	642
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.86	0.73	0.43	0.45	0.55	0.49	0.49	0.73	0.54	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	1800	100	180	916	350	110	460	260	315	530	365
Future Volume (veh/h)	510	1800	100	180	916	350	110	460	260	315	530	365
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	548	1935	108	196	996	380	120	500	283	342	576	0
Peak Hour Factor	0.93	0.93	0.93	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	806	2314	129	228	2229	692	266	950	421	539	1021	
Arrive On Green	0.11	0.47	0.47	0.16	0.87	0.87	0.07	0.19	0.19	0.08	0.20	0.00
Sat Flow, veh/h	3456	4949	275	1781	5106	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	548	1329	714	196	996	380	120	500	283	342	576	0
Grp Sat Flow(s),veh/h/ln	1728	1702	1821	1781	1702	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.1	40.9	41.2	7.5	4.9	7.0	6.5	10.6	19.1	9.6	12.2	0.0
Cycle Q Clear(g_c), s	10.1	40.9	41.2	7.5	4.9	7.0	6.5	10.6	19.1	9.6	12.2	0.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	806	1591	851	228	2229	692	266	950	421	539	1021	
V/C Ratio(X)	0.68	0.84	0.84	0.86	0.45	0.55	0.45	0.53	0.67	0.63	0.56	
Avail Cap(c_a), veh/h	970	1591	851	264	2229	692	276	1021	444	539	1064	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.7	27.9	28.0	23.9	4.6	4.7	36.2	44.1	39.4	36.2	43.3	0.0
Incr Delay (d2), s/veh	1.5	5.3	9.7	21.6	0.7	3.1	1.2	0.5	3.7	2.4	0.6	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	3.8	16.7	19.0	3.9	1.3	2.0	2.8	4.4	7.6	4.1	5.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.2	33.3	37.7	45.5	5.3	7.9	37.4	44.5	43.0	38.6	43.9	0.0
LnGrp LOS	B	C	D	D	A	A	D	D	D	D	D	
Approach Vol, veh/h		2591			1572			903			918	A
Approach Delay, s/veh		30.9			10.9			43.1			41.9	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	62.1	15.0	28.3	18.3	58.4	13.3	30.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	12.0	52.0	10.0	24.0	19.0	45.0	9.0	25.0
Max Q Clear Time (g_c+I1), s	9.5	43.2	11.6	21.1	12.1	9.0	8.5	14.2
Green Ext Time (p_c), s	0.1	7.0	0.0	1.2	1.2	9.5	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

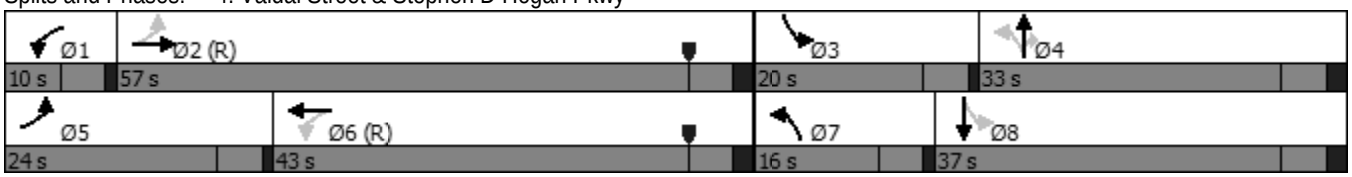
Notes

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	300	1760	50	1025	150	30	120	250	20	300
Future Volume (vph)	300	1760	50	1025	150	30	120	250	20	300
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases	2		6		4		4	8		Free
Detector Phase	5	2	1	6	7	4	4	3	8	
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	10.0	30.0	10.0	30.0	10.0	30.0	30.0	10.0	30.0	
Total Split (s)	24.0	57.0	10.0	43.0	16.0	33.0	33.0	20.0	37.0	
Total Split (%)	20.0%	47.5%	8.3%	35.8%	13.3%	27.5%	27.5%	16.7%	30.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	Max	None	None	None	None	
Act Effct Green (s)	75.7	64.8	52.9	44.9	28.9	13.3	13.3	27.3	15.7	120.0
Actuated g/C Ratio	0.63	0.54	0.44	0.37	0.24	0.11	0.11	0.23	0.13	1.00
v/c Ratio	0.78	0.78	0.33	0.77	0.81	0.29	0.73	1.03	0.12	0.28

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 65 (54%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 40.3
Intersection Capacity Utilization 77.1%
Analysis Period (min) 15

Splits and Phases: 4: Valdai Street & Stephen D Hogan Pkwy



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	337	2113	56	1455	294	59	235	368	29	441
v/c Ratio	0.78	0.78	0.33	0.77	0.81	0.29	0.73	1.03	0.12	0.28
Control Delay	51.8	29.2	15.4	34.4	57.9	50.9	30.1	97.1	44.0	0.4
Queue Delay	0.0	0.9	0.0	0.0	0.0	0.0	0.7	55.3	0.0	0.0
Total Delay	51.8	30.1	15.4	34.4	57.9	50.9	30.8	152.3	44.0	0.4
Queue Length 50th (ft)	246	363	14	348	~225	43	53	264	20	0
Queue Length 95th (ft)	m290	428	35	#345	132	44	17	234	34	0
Internal Link Dist (ft)		350		557		352			320	
Turn Bay Length (ft)	275		225		100		100	100		100
Base Capacity (vph)	431	2721	170	1878	365	419	483	359	481	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	320	0	0	0	0	71	288	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.88	0.33	0.77	0.81	0.14	0.57	5.18	0.06	0.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	1760	120	50	1025	270	150	30	120	250	20	300
Future Volume (veh/h)	300	1760	120	50	1025	270	150	30	120	250	20	300
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	337	1978	0	56	1152	303	294	59	235	368	29	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.51	0.51	0.51	0.68	0.68	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	363	2498		208	1561	411	454	313	265	435	375	
Arrive On Green	0.27	0.98	0.00	0.05	0.52	0.52	0.09	0.17	0.17	0.13	0.20	0.00
Sat Flow, veh/h	1781	5274	0	1781	4025	1059	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	337	1978	0	56	974	481	294	59	235	368	29	0
Grp Sat Flow(s),veh/h/ln	1781	1702	0	1781	1702	1680	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	14.1	4.4	0.0	2.2	26.9	26.9	11.0	3.3	17.4	15.0	1.5	0.0
Cycle Q Clear(g_c), s	14.1	4.4	0.0	2.2	26.9	26.9	11.0	3.3	17.4	15.0	1.5	0.0
Prop In Lane	1.00		0.00	1.00		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	363	2498		208	1320	651	454	313	265	435	375	
V/C Ratio(X)	0.93	0.79		0.27	0.74	0.74	0.65	0.19	0.89	0.85	0.08	
Avail Cap(c_a), veh/h	402	2498		220	1320	651	454	421	357	435	483	
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.9	0.7	0.0	20.4	24.3	24.3	39.8	43.0	48.9	39.3	39.0	0.0
Incr Delay (d2), s/veh	26.2	2.7	0.0	0.6	3.4	6.7	7.0	0.3	18.2	14.4	0.1	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	6.6	1.0	0.0	0.9	9.6	10.0	3.2	1.5	8.2	4.9	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	3.4	0.0	21.0	27.7	31.0	46.8	43.3	67.1	53.6	39.0	0.0
LnGrp LOS	D	A		C	C	C	D	D	E	D	D	
Approach Vol, veh/h		2315	A		1511			588			397	A
Approach Delay, s/veh		9.6			28.5			54.6			52.6	
Approach LOS		A			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	64.7	20.0	26.1	21.4	52.5	16.0	30.1
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	51.0	15.0	27.0	19.0	37.0	11.0	31.0
Max Q Clear Time (g_c+I1), s	4.2	6.4	17.0	19.4	16.1	28.9	13.0	3.5
Green Ext Time (p_c), s	0.0	22.1	0.0	0.7	0.3	5.2	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑	↱		↱
Traffic Vol, veh/h	0	2180	1437	44	0	37
Future Vol, veh/h	0	2180	1437	44	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	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	2370	1562	48	0	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	781
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	*588
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*588
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	588
HCM Lane V/C Ratio	-	-	-	0.068
HCM Control Delay (s)	-	-	-	11.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Notes

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

Signal Warrant Worksheets

MUTCD Signal Warrant Evaluation Summary

Aurora One Project

Intersection	Existing			2030 Bkgrd			2030 Project			2040 Bkgrd			2040 Project		
	Peak Hour		4-Hour	Peak Hour		4-Hour	Peak Hour		4-Hour	Peak Hour		4-Hour	Peak Hour		4-Hour
	AM	PM		AM	PM		AM	PM		AM	PM		AM	PM	
Stephen D. Hogan Pkwy at Rome St.	-	-	-	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stephen D. Hogan Pkwy at Picadilly Rd	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stephen D. Hogan Pkwy at Valdai St.			No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6th Parkway at E-470 SB Ramps	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6th Parkway at E-470 NB Ramps				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SH 30 at Picadilly Road	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stephen D. Hogan Pkwy at Access 6	-	-	-	-	-	-	No	Yes	No	-	-	-	No	Yes	No
Stephen D. Hogan Pkwy at Access 5	-	-	-	-	-	-	No	No	No	-	-	-	No	No	No
Picadilly Road at 6th Avenue	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Intersection: Stephen D. Hogan Pkwy at Valdai Street

Warrant 2: 4 Hour Analysis - Existing Volumes

	Major Stephen D. Hogan Pkwy	Minor* Valdai Street		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	609	29		no
8:00	1,050	50		no
9:00	672	32		no
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	712	35		no
17:00	925	45		no
18:00	759	37		no
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**4,727**	**228**	**0**	**Not Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: Stephen D. Hogan Pkwy at Picadilly Road

Warrant 2: 4 Hour Analysis - Existing Volumes

	Major Stephen D. Hogan Pkwy	Minor* Picadilly Road		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	586	127		no
8:00	945	205		Yes
9:00	558	121		no
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	884	301		Yes
17:00	940	320		Yes
18:00	743	253		Yes
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**4,656**	**1,327**	**4**	**Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: **6th Parkway at E-470 SB Ramps**

Warrant 2: 4 Hour Analysis - Existing Volumes

Time of Day	Major 6th Parkway Number of Lanes 2	Minor* E-470 SB Ramp 1	Warrant is Met (yes/no)	Warrant 2 (Figure 4C-1)
0:00				no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	641	84		no
8:00	1,105	145		Yes
9:00	707	93		no
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	739	64		no
17:00	960	83		n
18:00	787	68		no
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**4,939**	**537**	**1**	**Not Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: 6th Parkway at E-470 NB Ramps

Warrant 2: 4 Hour Analysis - Existing Volumes

Time of Day	Major 6th Parkway Number of Lanes 2	Minor* E-470 NB Ramps 1	Warrant is Met (yes/no)	Warrant 2 (Figure 4C-1)
0:00				no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	600	113		no
8:00	1,035	195		Yes
9:00	662	125		no
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	662	85		no
17:00	860	110		no
18:00	705	90		no
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**4,524**	**718**	**1**	**Not Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: **State Highway 30 at Picadilly Road**

Warrant 2: 4 Hour Analysis - Existing Volumes

	Major SH 30	Minor* Picadilly Rd		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	702	96		no
8:00	900	123		no
9:00	648	88		no
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	753	189		no
17:00	865	218		Yes
18:00	770	194		no
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**4,638**	**907**	**1**	**Not Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: Stephen D. Hogan Pkwy at Rome Street

Warrant 2: 4 Hour Analysis - 2030 Background Volumes

	Major Stephen D. Hogan Pkwy	Minor* Rome Street		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	1,088	91		no
8:00	1,755	148		Yes
9:00	1,035	87		no
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00				no
17:00	1,785	88		Yes
18:00	1,410	69		no
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**7,073**	**482**	**2**	**Not Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: Stephen D. Hogan Pkwy at Picadilly Road

Warrant 2: 4 Hour Analysis - 2030 Background Volumes

	Major Stephen D. Hogan Pkwy	Minor* Picadilly Road		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	1,076	256		Yes
8:00	1,735	413		Yes
9:00	1,024	243		Yes
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	1,706	489		Yes
17:00	1,815	520		Yes
18:00	1,434	411		Yes
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**8,790**	**2,332**	**6**	**Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: Stephen D. Hogan Pkwy at Valdai Street

Warrant 2: 4 Hour Analysis - 2030 Background Volumes

	Major Stephen D. Hogan Pkwy	Minor* Valdai Street		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	1,009	88		Yes
8:00	1,740	153		Yes
9:00	1,114	98		Yes
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	1,282	81		Yes
17:00	1,665	105		Yes
18:00	1,365	86		Yes
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**8,175**	**611**	**6**	**Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: 6th Parkway at E-470 SB Ramps

Warrant 2: 4 Hour Analysis - 2030 Background Volumes

Time of Day	Major 6th Parkway Number of Lanes 2	Minor* E-470 SB Ramp 1	Warrant is Met (yes/no)	Warrant 2 (Figure 4C-1)
0:00				no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	1,053	119		no
8:00	1,815	205		Yes
9:00	1,162	131		Yes
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	1,348	114		no
17:00	1,750	148		Yes
18:00	1,435	121		Yes
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**8,563**	**838**	**4**	**Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: 6th Parkway at E-470 NB Ramps

Warrant 2: 4 Hour Analysis - 2030 Background Volumes

Time of Day	Major 6th Parkway Number of Lanes 2	Minor* E-470 NB Ramps 1	Warrant is Met (yes/no)	Warrant 2 (Figure 4C-1)
0:00				no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	1,050	128		no
8:00	1,810	220		Yes
9:00	1,158	141		Yes
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	1,332	123		Yes
17:00	1,730	160		Yes
18:00	1,419	131		Yes
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**8,499**	**903**	**5**	**Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: **State Highway 30 at Picadilly Road**

Warrant 2: 4 Hour Analysis - 2030 Background Volumes

	Major SH 30	Minor* Picadilly Rd		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	 1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	1,100	199		Yes
8:00	1,410	255		Yes
9:00	1,015	184		Yes
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	1,153	350		Yes
17:00	1,325	403		Yes
18:00	1,179	358		Yes
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**7,182**	**1,749**	**6**	**Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: Stephen D. Hogan Pkwy at Rome Street

Warrant 2: 4 Hour Analysis - 2030 Bkgrd + Project Volumes

	Major Stephen D. Hogan Pkwy	Minor* Rome Street		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	1,401	124		Yes
8:00	2,260	200		Yes
9:00	1,333	118		Yes
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00				no
17:00	2,534	199		Yes
18:00	2,002	157		Yes
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**9,530**	**798**	**5**	**Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: Stephen D. Hogan Pkwy at Access 6

Warrant 2: 4 Hour Analysis - 2030 Bkgrd + Project Volumes

	Major Stephen D. Hogan Pkwy	Minor* Access 6		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	1,349	36		no
8:00	2,176	59		no
9:00	1,284	35		no
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00				no
17:00	2,420	100		Yes
18:00	1,912	79		no
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**9,141**	**309**	**1**	**Not Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: Stephen D. Hogan Pkwy at Access 5

Warrant 2: 4 Hour Analysis - 2030 Bkgrd + Project Volumes

	Major Stephen D. Hogan Pkwy	Minor* Access 6		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	2,156	24		no
8:00	3,478	38		no
9:00	2,052	22		no
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00				no
17:00	3,861	85		Yes
18:00	3,050	67		no
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**14,597**	**236**	**1**	**Not Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: Stephen D. Hogan Pkwy at Rome Street

Warrant 2: 4 Hour Analysis - 2040 Background Volumes

	Major Stephen D. Hogan Pkwy	Minor* Rome Street		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	1,846	147		Yes
8:00	2,977	237		Yes
9:00	1,756	140		Yes
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00				no
17:00	3,169	133		Yes
18:00	2,504	105		no
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**12,252**	**762**	**4**	**Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: Stephen D. Hogan Pkwy at Access 6

Warrant 2: 4 Hour Analysis - 2040 Bkgrd + Project Volumes

	Major Stephen D. Hogan Pkwy	Minor* Access 6		Warrant 2 (Figure 4C-1)
Time of Day	Number of Lanes 2	1		
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	2,114	48		no
8:00	3,410	77		no
9:00	2,012	45		no
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00	1,848	49		no
16:00	2,904	77		no
17:00	3,771	100		Yes
18:00	2,979	79		no
19:00	1,697	45		no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**20,735**	**520**	**1**	**Not Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: **Picadilly Road at 6th Avenue**

Warrant 2: 4 Hour Analysis - 2040 Background Volumes

Time of Day	Major Picadilly Road Number of Lanes 2	Minor* 6th Avenue 1	Warrant is Met (yes/no)	Warrant 2 (Figure 4C-1)
0:00				no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	1,259	17		no
8:00	2,030	28		no
9:00	1,198	16		no
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	2,094	21		no
17:00	2,228	23		no
18:00	1,760	18		no
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**10,569**	**122**	**0**	**Not Met**

*The minor volume for each hour represents the higher of either minor approach.

Intersection: **Picadilly Road at 6th Avenue**

Warrant 2: 4 Hour Analysis - 2040 Bkgrd + Project Volumes

Time of Day	Major Picadilly Road Number of Lanes 2	Minor* 6th Avenue 1		Warrant 2 (Figure 4C-1)
0:00			Warrant is Met (yes/no)	no
1:00				no
2:00				no
3:00				no
4:00				no
5:00				no
6:00				no
7:00	1,410	35		no
8:00	2,274	56		no
9:00	1,342	33		no
10:00				no
11:00				no
12:00				no
13:00				no
14:00				no
15:00				no
16:00	2,454	72		no
17:00	2,611	77		no
18:00	2,063	60		no
19:00				no
20:00				no
21:00				no
22:00				no
23:00				no
Total	**12,154**	**333**	**0**	**Not Met**

*The minor volume for each hour represents the higher of either minor approach.