TRAFFIC ANALYSIS TECHNICAL REPORT

FOR THE

6TH AVENUE PARKWAY EXTENSION ENVIRONMENTAL ASSESSMENT

Prepared for:
City of Aurora
15151 East Alameda Parkway, Suite 3200
Aurora, CO 80012

Prepared by:
Felsburg Holt & Ullevig
6300 S. Syracuse Way, Suite 600
Centennial, CO 80111

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LIST OF ACRONYMS

AADT ..... Annual Average Daily Traffic
AFB..... Air Force Base
CDOT ..... Colorado Department of Transportation
DRCOG ..... Denver Regional Council of Governments
E-470 ..... E-470 Tollway
HCM ..... Highway Capacity Manual
I-70 ..... Interstate 70
I-225 ..... Interstate 225
LOS ..... Level of Service
LOSS..... level of service of safety
mph..... miles per hour
NCHRP..... National Cooperative Highway Research Program
NR-A..... Non Rural Principal Arterial
SH 30 ..... State Highway 30
SPF..... Safety Performance Function
TAZ..... Traffic Analysis Zone
vpd..... vehicles per day
vph..... vehicles per hour

SUMMARY

This report presents the traffic analysis completed to support the evaluation of design alternatives for the 6th Avenue Parkway Extension project. The analysis included travel demand forecasting and the evaluation of traffic operations for existing conditions, and the 2035 No Action Alternative and Build Alternative (Proposed Action). Traffic analysis goals include:

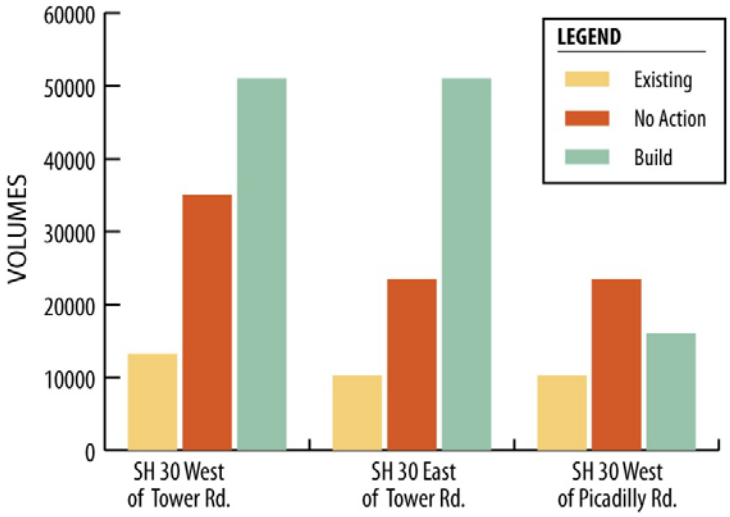
- Establish travel demand estimates for the various alternatives
- Analyze traffic in a consistent way to identify differences among alternatives
- Determine traffic control needs and intersection lanes for the Year 2035 Build Alternative (Proposed Action).
- Analyze the operational characteristics of different intersection configurations at the future State Highway 30 (SH 30)/6th Avenue Parkway Extension intersection.

Current average daily traffic along SH 30 ranges from 10,300 vehicles per day (vpd) to 17,300 vpd. Currently, signalized intersections at Airport Boulevard, Telluride Street, and Tower Road mostly operate at Level of Service (LOS) D or better in the peak hours. In the PM peak hour, the Airport Boulevard intersection currently operates at LOS F. Generally, at stop controlled intersections in the study area, turn movements from stop controlled approaches operate at LOS D or better.

The future year evaluation focused on the No Action Alternative and the Proposed Action. The No Action Alternative and Proposed Action include identified Denver Regional Council of Governments (DRCOG) Long Range Plan fiscally constrained roadway improvements. These include the Tower Road extension, Picadilly Road widening, SH 30 widening between Tower Road and Airport Boulevard and 6th Parkway widening from E-470 Public Highway Authority (E-470) to Gun Club Road.

Figure S-1 shows Existing, No Action, and Build daily traffic projections for various study area roadway segments. The No Action Alternative shows robust traffic growth in the SH 30 corridor is expected over the next 20 plus years. The rate of growth is about four to five percent per year and is the result of new development and network enhancements such as the Tower Road extension to 6th Avenue and extension of Picadilly Road north of Interstate 70 (I-70).

Figure S-1 Daily Traffic Projections



As expected, this growth will impact operations at study intersections. The operational analysis of the No Action Alternative shows future operational deficiencies at the SH 30 intersections with Picadilly Road and Airport Boulevard. Both intersections show LOS F conditions in the both peak hours.

Figure S-1 shows projected daily traffic volumes for the Proposed Action. These projected traffic volumes capture the pent up demand for the 6th Avenue Parkway Extension. The extension is a key missing east-west link in this area of Aurora and when constructed it creates a more robust transportation system that will reduce travel, time, and emergency response; create a new truck route; and better allocate traffic among roadways in the area.

For example, it is estimated that the extension could reduce travel time in the area by 30 to 50 percent and reduce trip lengths by one to three miles for routes between the Interstate 225 (I-225) corridor and the Gun Club Road/6th Parkway intersection. **Table S-1** shows the long range implications this connection will have on nearby roadways. As shown, the parallel facilities of SH 30, Colfax Avenue, and Jewell Road could experience decreases in the 2035 traffic projections with the 6th Avenue Parkway Extension.

Table S-1 Long Range Implications on Nearby Roadways

Roadway Segment	No Action Alternative	Proposed Action	Percent Decrease
Colfax Avenue East of Tower Road	43,000	34,500	-20%
Jewell Road West of E-470	39,200	32,000	-19%
SH 30 between Tower Road and Picadilly Road	23,500	16,000	-32%

In general, intersection operations show at least LOS D conditions at study intersections in both the No Action Alternative and Build Alternative. Two intersections, the SH 30 intersections with Picadilly Road and Airport Boulevard, will experience poor operating conditions. These conditions can initially be partially mitigated with changes in traffic control, signal timing, and additional lanes at the intersection. Ultimately, mitigation at the SH 30/Picadilly Road intersection would require additional through lanes on SH 30. Mitigation to at least a LOS D or E condition at the Airport Boulevard intersection could not be achieved with additional lanes to the current at-grade intersection but would require higher capacity intersections such as a counter flow intersection or a grade-separated interchange.

At the SH 30/6th Avenue Parkway Extension intersection several configurations were considered to provide sufficient capacity in Year 2035. **Table S-2** compares operational and other characteristics of the configurations to each other with a “1” as the best among the configurations and “4” as the worst among the configurations. 6th Avenue Parkway as the through with the westbound bypass is the 2035 recommended intersection configuration as it will have the best operations of the alternatives and it will be relatively safer when compared to most alternatives.

Table S-2 Ranking Comparison of Configurations for the SH 30/6th Avenue Parkway Extension Intersection

Approach & Other Factors	6th Avenue Parkway as Thru	Roundabout	6th Avenue Parkway as Thru with Westbound Bypass	SH 30 Thru with Eastbound Bypass
Build 2035 Operational Analysis Comparison (Based on the AM peak hour since it is the critical peak period)				
Overall	2	4	1	3
Westbound 6th Avenue	3	4	1	2
Eastbound 6th Avenue	2	1	3	4
SH 30	2	4	1	3
Total	**9**	**13**	**6**	**12**
Maintenance				
Maintenance and Operation Required	**2**	**1**	**2**	**2**
Safety				
Safety – number of conflict points	**4**	**1**	**2**	**2**
Total Score	**15**	**15**	**10**	**16**

Legend:
"1": Best among the configurations.
"4": Worst among the configurations.
Note: Configurations can have the same ranking.

1. INTRODUCTION

This technical report has been prepared in support of the 6th Avenue Parkway Extension Environmental Assessment (EA) extending 6th Avenue from State Highway 30 (SH 30) to the E-470 Tollway (E-470). This technical report evaluates the effects of the Proposed Action and the No Action Alternative with respect to traffic and transportation.

1.1 Proposed Action

The Proposed Action would extend the 6th Avenue Parkway for approximately 2 miles along a new alignment, connecting existing 6th Avenue/SH 30 to the west with the existing 6th Avenue Parkway at E-470 to the east. This would close a gap in the existing major arterial street system, reducing out of direction travel and improving the efficiency and reliability of the transportation system. The Proposed Action would be a six-lane arterial roadway with a raised median and sidewalks.

Six initial alternatives were developed and screened through three screening levels to identify the Proposed Action. The alternatives screening is summarized in **Appendix A1** *Alternatives Technical Report* of the EA. Details of the Proposed Action are presented in **Appendix A2** *Conceptual Design Plans* of the EA.

The Proposed Action is shown on **Figure 1**. Major elements of the Proposed Action are identified by number from west to east on **Figure 1**, and include the following:

Element 1. Tie into existing 6th Avenue/SH 30: 6th Avenue/SH 30 is an existing two-lane arterial. At the western end of the Proposed Action, a signalized "thru-tee" type intersection would be constructed connecting the Proposed Action roadway to existing 6th Avenue/ SH 30. This new signalized intersection would include bypass lanes for the eastbound SH 30 through movement or a thru-tee signalized intersection with bypass lanes for both the eastbound SH 30 through movement. The tie-in would be an urban curb and gutter section with three 12-foot travel lanes in each direction to connect to future 6-lane section to the west. A 10-foot sidewalk would be located on both the north and south sides of the roadway.

Element 2. Triple Creek Trail realignment and connections: A portion of the existing Triple Creek Trail would be realigned and would pass beneath the Proposed Action roadway which would be on a bridge at this location (see Element 3 in **Figure 1**). The Triple Creek Trail would be connected to 6th Avenue via a spur trail to the sidewalk constructed along the south side of the new roadway. The Triple Creek Trail is a 10–foot wide soft surface trail that serves equestrians, bicyclists and pedestrians. The realigned portion would match the existing width and surface. A 10-foot sidewalk on both sides of the bridge (Element 3) would provide connections to the trail. The southern terminus of the trail is currently at the Coal Creek Arena, and further extension to the south is planned by the City of Aurora.

Element 3. Roadway bridge over Sand Creek: Immediately east of the new intersection with existing 6th Avenue/SH 30 (Element 1 in **Figure 1**), the roadway would be elevated onto a six-lane bridge crossing over Sand Creek and its associated floodplain/floodway, and over the Triple Creek Trail. The bridge length and profile would be set to minimize impacts to Sand Creek, while still providing a minimum 10-foot vertical clearance over the Triple Creek Trail. The bridge would have a median and sidewalks. The bridge would be approximately 680 feet in length with 5 variable length spans supported on four piers. The bridge would be

designed to be compatible with the surrounding environment and to allow wildlife connectivity along Sand Creek and the Triple Creek Trail.

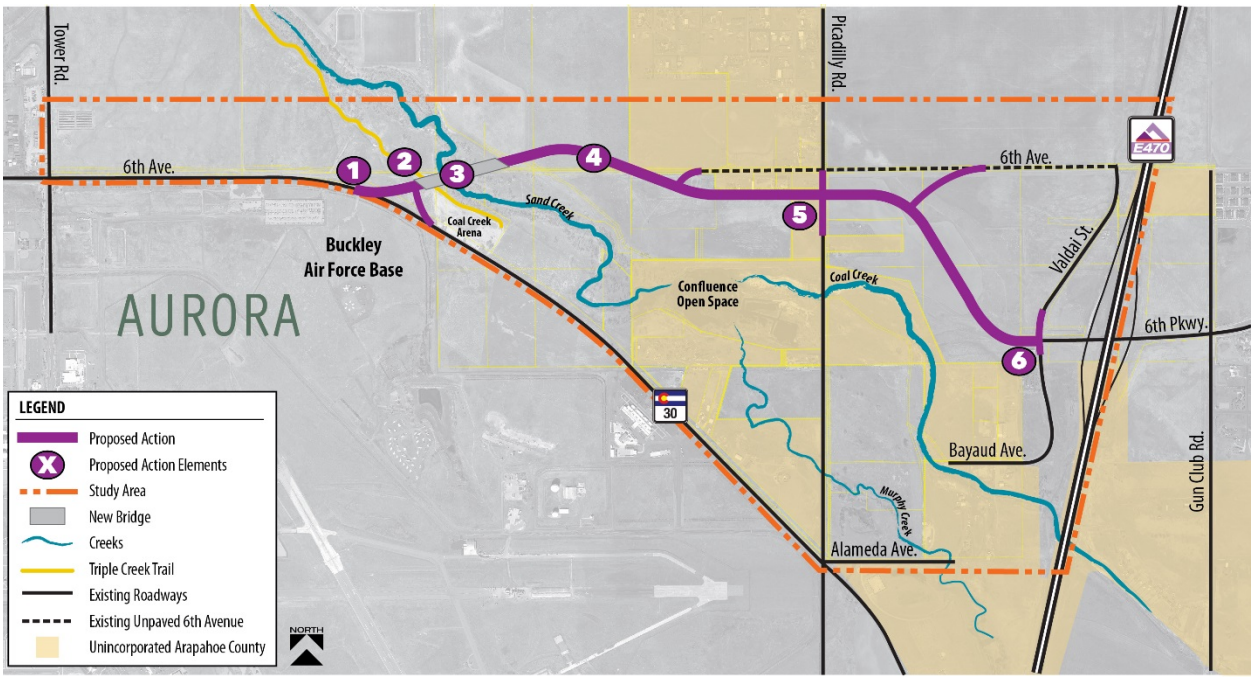
Element 4. 6th Avenue Parkway arterial roadway: The 6th Avenue Parkway extension would consist of a 144-foot wide, six-lane arterial roadway (three lanes in each direction) with a raised vegetated median. There would be curb and gutter and 10-foot wide sidewalks on the north and south sides of the roadway. The Proposed Action would provide two new access connections from the Proposed Action to two existing portions of 6th Avenue**.** One of these connections would provide access to the existing residences along unpaved 6th Avenue, west of Picadilly Road. The second connection would extend northeast from the Proposed Action to unpaved 6th Avenue to areas planned for development east of Picadilly Road.

Element 5. Intersection with Picadilly Road: The Proposed Action roadway would cross Picadilly Road, which is an existing north-south road. A signalized intersection would be constructed at this location. Picadilly Road is currently two lanes, but the City of Aurora anticipates that expansion to six lanes would occur in the future as a different project. Therefore, the intersection would be configured such that future expansion of Picadilly Road to six lanes can be accommodated and is not precluded.

Element 6. Tie into existing 6th Avenue Parkway at E-470: On its eastern end, the Proposed Action roadway would tie into the existing E-470 interchange, which currently truncates at this location, forming a connection with the existing 6th Parkway to the east of the interchange. The intersection tie-in at Valdai Street and 6th Avenue Parkway would be signalized. This connection would allow access from the west via the Proposed Action to the E-470 interchange and to the existing 6th Avenue Parkway extending to the east of E-470.

In addition to these transportation elements, the Proposed Action would include permanent roadway stormwater drainage with water quality features for roadway runoff and accommodate offsite stormwater flows. Details of drainage and water quality features are presented in **Appendix A6** *Floodplains and Drainage Assessment Technical Report* of the EA.

Figure 1 Proposed Action and Study Area



Note: Numbers in graphic correspond with text above.

1.2 No Action Alternative

If the Proposed Action is not selected for implementation, there would be no improvements made to 6th Avenue. The No Action Alternative was carried forward as a baseline comparison for environmental analysis purposes.

1.3 Report Overview

This report describes work undertaken as a portion of the evaluation of design and operational alternatives for the 6th Avenue Parkway Extension. Specifically, it addresses existing study area conditions, travel demand forecasting, and the evaluation of traffic conditions with and without the proposed connection. The purpose of the traffic analysis was to provide a view of the traffic volumes and operations of the different alternatives. To that end, the goals of the traffic analysis were to:

- Establish travel demand estimates for the No Action Alternative and the Proposed Action
- Analyze traffic in a consistent way to identify differences between the No Action Alternative and the Proposed Action
- Determine traffic control needs and intersection lanes for the Proposed Action
- Analyze the operational characteristics of different intersection configurations at the future SH 30/6th Avenue Parkway Extension intersection

Alternatives considered and evaluated in this report are existing conditions, No Action Alternative, and the Proposed Action. These alternatives are further described as follows:

- **No Action Alternative** – This alternative considers the future traffic conditions without the proposed project. This alternative includes all long-range fiscally constrained transportation improvements in the region.
- **Proposed Action** – This alternative considers traffic conditions with the 6th Avenue Parkway Extension in its planned 6-lane typical section. This scenario also includes all long-range fiscally constrained transportation improvements in the region.

For the traffic evaluation, the anticipated roadway network for the Proposed Action (as well as a "No Action" scenario for comparative purposes) was coded into DRCOG's travel demand model. The AM and the PM weekday peak hours were selected as the analysis period for the No Action Alternative and the Proposed Action and were modeled from Gun Club Road to SH 30 and along SH 30 from Picadilly Road to Airport Boulevard. For the No Action Alternative and the Proposed Action, all intersections and other study area corridors were modeled to gauge the impact to traffic volume forecasts along SH 30 and the 6th Avenue Parkway Extension.

Outputs from the travel demand model, calibrated against existing traffic volumes, were translated into turn movement forecasts at study area intersections. These forecasts were entered into traffic operational analysis software, which were, in turn, used to assess the operational implications of these forecasted intersection traffic volumes. Traffic operations were evaluated using the Synchro software package. Level of service and delay presented in this report were pulled from the Highway Capacity Manual (HCM) 2010 output worksheets generated by Synchro.

In this report, **Section 2** describes the existing traffic conditions in the study area. **Section 3** describes the future traffic conditions of the No Action Alternative. **Section 4** describes the Proposed Action, and also provides a comparative analysis between the Proposed Action and No Action Alternative and recommendations for intersection lanes and traffic control.

1.4 General Operational Analysis Assumptions

To be consistent in the analysis of each alternative, the following assumptions, parameters, and approaches were used in analysis results presented in this report:

- Operational analysis:
  - All operational analyses were done using Synchro.
  - Delay and level of service were recorded from the HCM output reports generated by Synchro.
  - Roundabout analysis was conducted using HCM 2010 methodologies.
- Peak Hour Factors:
  - Used existing factors for the analysis of existing conditions.
  - For 2035 conditions, the following approaches were used to develop peak hour factors:
    - Used existing peak hour factor if it was equal to or greater than the Synchro default value of 0.92.

- If existing peak hour factor was less than 0.92, then the peak hour factor used was the average between 0.92 and the existing peak hour factor.
- In cases where the existing peak hour factor was zero or very low, then averaging with 0.92 resulted in a peak hour factor too low for 2035 conditions. In these situations, the peak hour factor used was consistent with other peak hour factors for turn movements at the intersection.

- Truck percentages: Colorado Department of Transportation (CDOT) data show existing truck percentages on SH 30 are about four to five percent. In all alternatives, the truck percentage was globally set at five percent.

- Signal Timing: The following assumptions were used for signal timing in alternatives.
  - For existing conditions, used existing signal timings provided by the City of Aurora.
  - No Action Alternative and Proposed Action – the following approach was used:
    - Cycle lengths and splits optimized using Synchro
    - Cycle length range was between 110 and 150 seconds
    - Yellow clearance set at 3 seconds for left turn lanes
    - Yellow clearance set at 4 seconds for through movements
    - Red clearance set at 1 second for single left turn lanes
    - Red clearance set at 2 seconds for dual left turn lanes and through movements

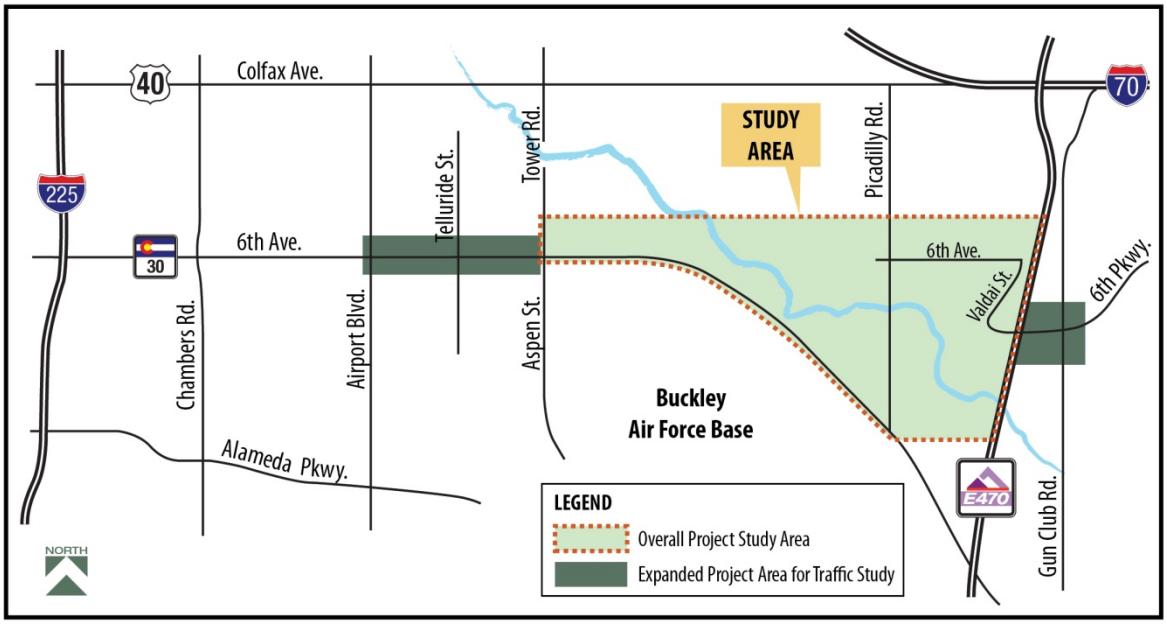
2. EXISTING TRAFFIC CONDITIONS

2.1 Roadway Network

Figure 2 defines the study area. However, for this traffic report, the study area was expanded to Airport Boulevard to the west and Gun Club Road to the east. The primary roadways in the study area are described as follows:

- **Airport Boulevard** – This six-lane arterial runs north-south and is the western edge of this project's study area. It has a posted speed of 40 miles per hour (mph) and carries about 42,000 vehicles per day (vpd).
- **SH 30** – This state highway has a Non Rural Principal Arterial (NR-A) access classification and consists of two travel lanes. It runs east-west from Airport Boulevard to Tower Road and then turns and follows a southeast-northwest alignment through its intersection with Picadilly Road within the study area. The east-west section has a posted speed limit of 40 mph, carries between 13,000 and 17,000 vpd, and has turn lanes and traffic signals at major intersections. The section with the southeast-northwest alignment has a posted speed of 55 mph, carries between 10,000 and 12,000 vpd and has no turn lanes with side-street stop control on the minor street at intersections.
- **Picadilly Road** – This north-south roadway runs south from the I-70 frontage road to SH 30. It has two travel lanes and a posted speed of 45 mph. It carries only about 3,000 vpd and has stop control but no turn lanes at its intersections with cross streets.
- **6th Parkway** – The east-west roadway currently runs east from Valdai Street and has an interchange with E-470. It has two lanes between Valdai Street and Gun Club Road and additional through lanes east of Gun Club Road. This roadway carries about 1,800 vpd west of Gun Club Road and 4,800 vpd east of Gun Club Road. All intersections along this roadway have stop control.

Figure 2 Study Area



2.2 Safety Assessment

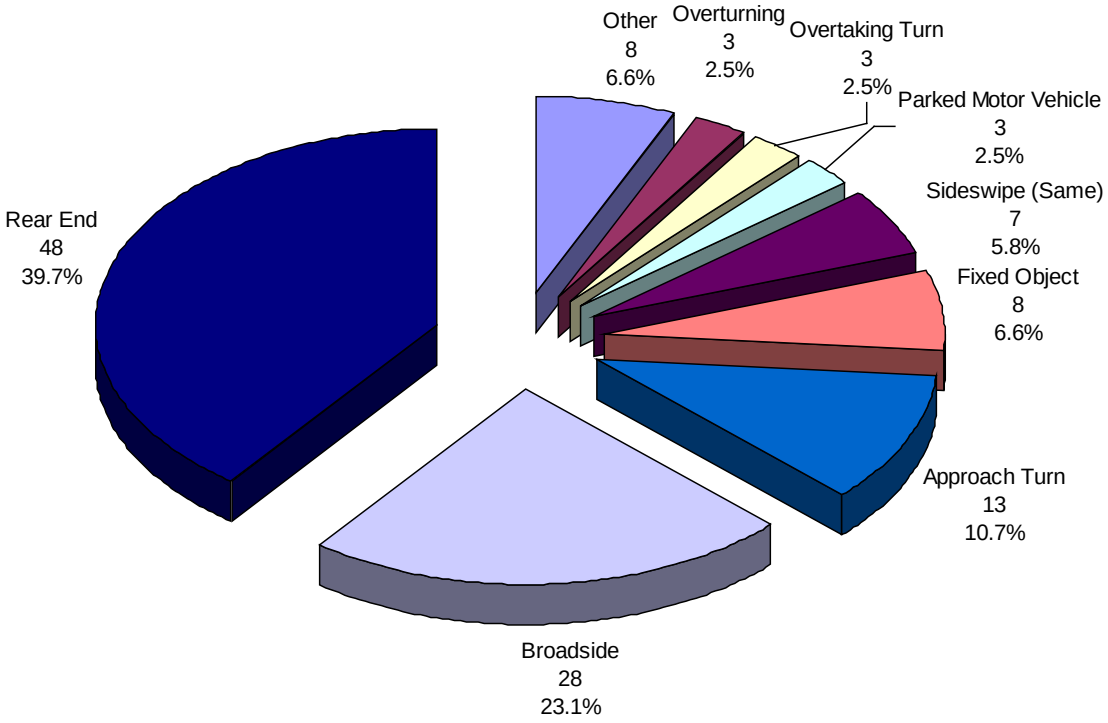
2.2.1 All Crashes

Crash reports for SH 30 between Airport Boulevard and Picadilly Road were analyzed for the period between January 1, 2009, and December 31, 2013. **Figure 3** shows the breakdown of crash types of the 121 total crashes in the study area. Rear-end crashes are the most predominant, followed by broadside, approach turn, and fixed object type crashes.

A level of service of safety (LOSS) analysis was conducted for the study area. The assessment of the magnitude of safety problems at intersections has been refined through the use of Safety Performance Functions (SPFs). SPFs reflect the complex relationship between traffic exposure measured in Annual Average Daily Traffic (AADT) and crash counts for each intersection measured in accidents per year. SPFs also are used for corridors reflecting the relationship between traffic in AADT and crash counts measured in accidents per mile per year. The SPF models provide an estimate of the normal or expected crash frequency and severity for a range of AADT among similar intersections or corridors.

This analysis uses two kinds of SPFs. The first one addresses the total number of crashes and the second one looks only at crashes involving an injury or a fatality. Together, they allow an assessment of the magnitude of the safety problem from the frequency and severity standpoint.

Figure 3 All Crashes



Development of the SPF lends itself well to the conceptual formulation of the LOSS. The concept of LOSS uses qualitative measures that characterize safety of a roadway segment in reference to its expected frequency and severity. If the level of safety predicted by the SPF will represent a normal or an expected number of crashes at a specific level of AADT, then the degree of deviation from the norm can be stratified to represent specific levels of safety.

- LOSS I – Indicates low potential for crash reduction
- LOSS II – Indicates low to moderate potential for crash reduction
- LOSS III – Indicates moderate to high potential for crash reduction
- LOSS IV – Indicates high potential for crash reduction

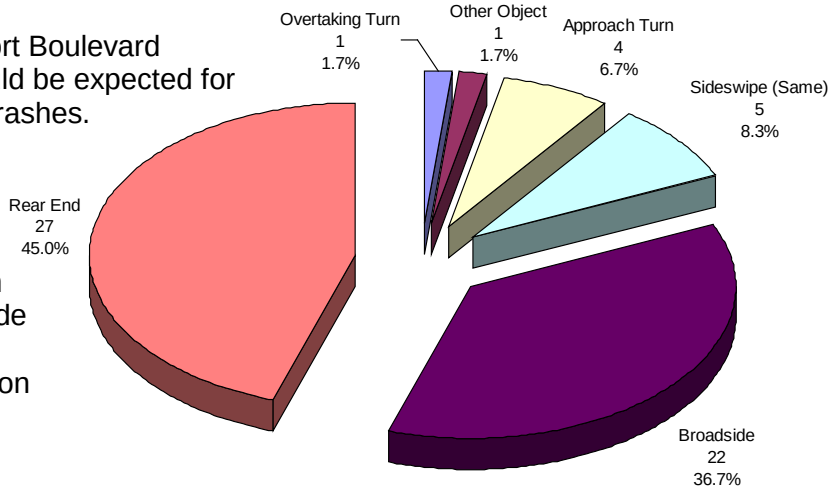
Several intersections along the corridor could not be analyzed using an SPF because there is not yet an SPF developed that reflects the intersection type. Of the five intersections in the study area with crashes, only the intersection of SH 30 with Airport Boulevard had worse than expected safety performance, as shown in **Table 1**. The overall corridor has a slightly better than expected safety performance.

Table 1 Intersection Safety Performance

MP	Intersection	Crashes				LOSS	
		PDO	INJ	FAT	Total	Total	Severity
11.57	Airport Boulevard	42	18	0	60	IV	IV
12.2	Telluride Street	5	4	0	9	-	-
12.36	Ventura Street	2	1	0	3	-	-
12.59	Tower Road	4	7	0	11	-	-
15.04	Picadilly Road	6	1	0	7	II	II
11.57 –15.04	Non-Intersection Crashes	19	12	0	31	II	II
Study Area Total		**78**	**43**	**0**	**121**	**-**	**-**

2.2.2 Airport Boulevard

As shown in the SPF analysis, Airport Boulevard experiences more crashes than would be expected for this intersection type, with 60 total crashes. The predominant crash type at this intersection is rear-ends followed by broadsides and same direction sideswipes. An analysis of the crash types at the intersection shows that the frequency of broadside crashes is significantly higher than would be expected for this intersection type.



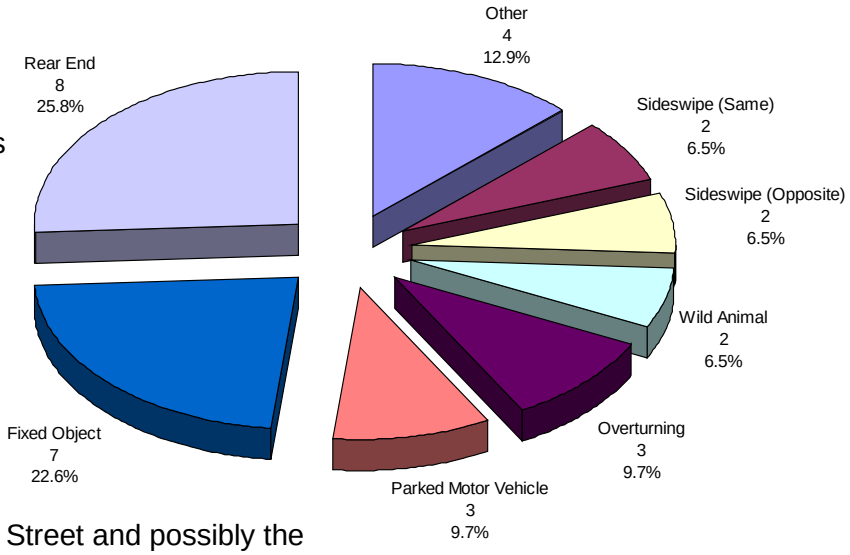
Crash reports indicated that of the 22 broadside crashes, 19 involved an eastbound vehicle, although in most cases the crash was not the fault of the eastbound vehicle. Broadside crashes typically indicate that people are not stopping at red lights. The cause of the higher frequency of broadsides could not be determined from reviewing the crash records because the database used does not include statements from drivers or officers. However, most of these crashes appear to be occurring just after the northbound/southbound phase when eastbound vehicles first get a green light. Due to the higher frequency of broadsides, it is recommended that:

- The yellow/all-red clearance times be reviewed to verify they are appropriate for the intersection size and vehicle speeds for the northbound/southbound approaches.
- Consider installing reflective backplates to increase signal visibility. In addition, consider placing a “Be Prepared to Stop” (W3-4) sign on the southbound approach with a flashing beacon that indicates the light is changing.
- Review the northbound/southbound green time and the signal coordination with the signals further south on Airport Boulevard.

The frequency of rear-end crashes is not higher than expected, but it is worth noting that 13 of the 27 rear-ends occurred in the southbound direction.

2.2.3 Non-Intersection Crashes

There were 31 non-intersection related crashes in the corridor. The predominant crash type was rear-ends followed by fixed objects. The frequency of rear-end crashes is higher than expected for this corridor type. Most of these rear-end crashes occurred in the eastbound direction between Telluride Street and Ventura Street with the majority occurring at Ventura Street.



This pattern is likely due to the lack of an eastbound left-turn lane at Ventura Street and possibly the lack of eastbound left-turn lanes at Waco Street and Walden Street. Due to the amount of congestion on SH 30, a single left-turning vehicle can cause a stop in traffic that may be unexpected to drivers further back in a platoon, which leads to rear-end crashes.

2.3 Traffic Operations

Existing peak hour and daily volume traffic counts were collected in November 2014 at study area roadways and intersections. These counts are summarized on **Figure 4** and show roadway traffic volumes increase in the study area from east to west. Airport Boulevard currently carries 42,000 vpd while SH 30 ranges from 10,300 vpd to 17,300 vpd east of Airport Boulevard. Gun Club Road traffic is currently about 8,000 vpd and 6th Parkway traffic is about 5,000 vpd east of Gun Club Road. In general, the peak period is relatively low at seven to nine percent across most of the study area.

Figure 5 shows intersection lanes and traffic control at study area intersections. The only signalized intersections in the study area are at the west end along SH 30 at the Tower Road, Telluride Street, and Airport Boulevard intersections. The Tower Road and Telluride Street intersections provide access to Buckley Air Force Base (AFB). At the east end of the study area, intersections along SH 30, Picadilly Road, and 6th Parkway all have stop sign control.

The peak hour counts on **Figure 4**, the intersection information of **Figure 5**, and existing signal timing were the basis for evaluating existing intersection operations. In this assessment of existing conditions, intersection LOS was determined from the HCM 2010 output developed by Synchro with results summarized on **Figure 5**. **Appendix A** provides detailed analysis worksheets.

Figure 4 Existing Traffic Volumes

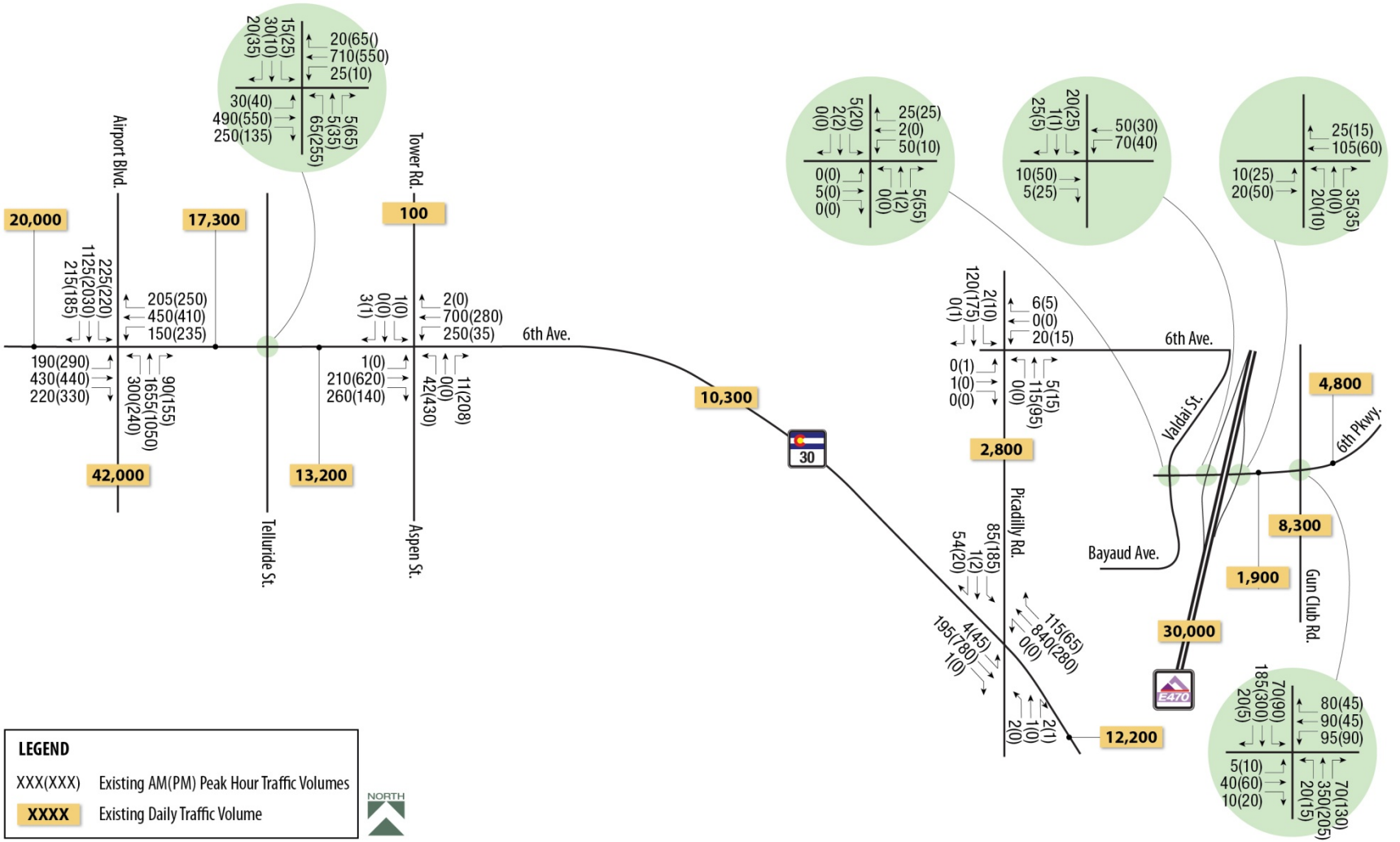
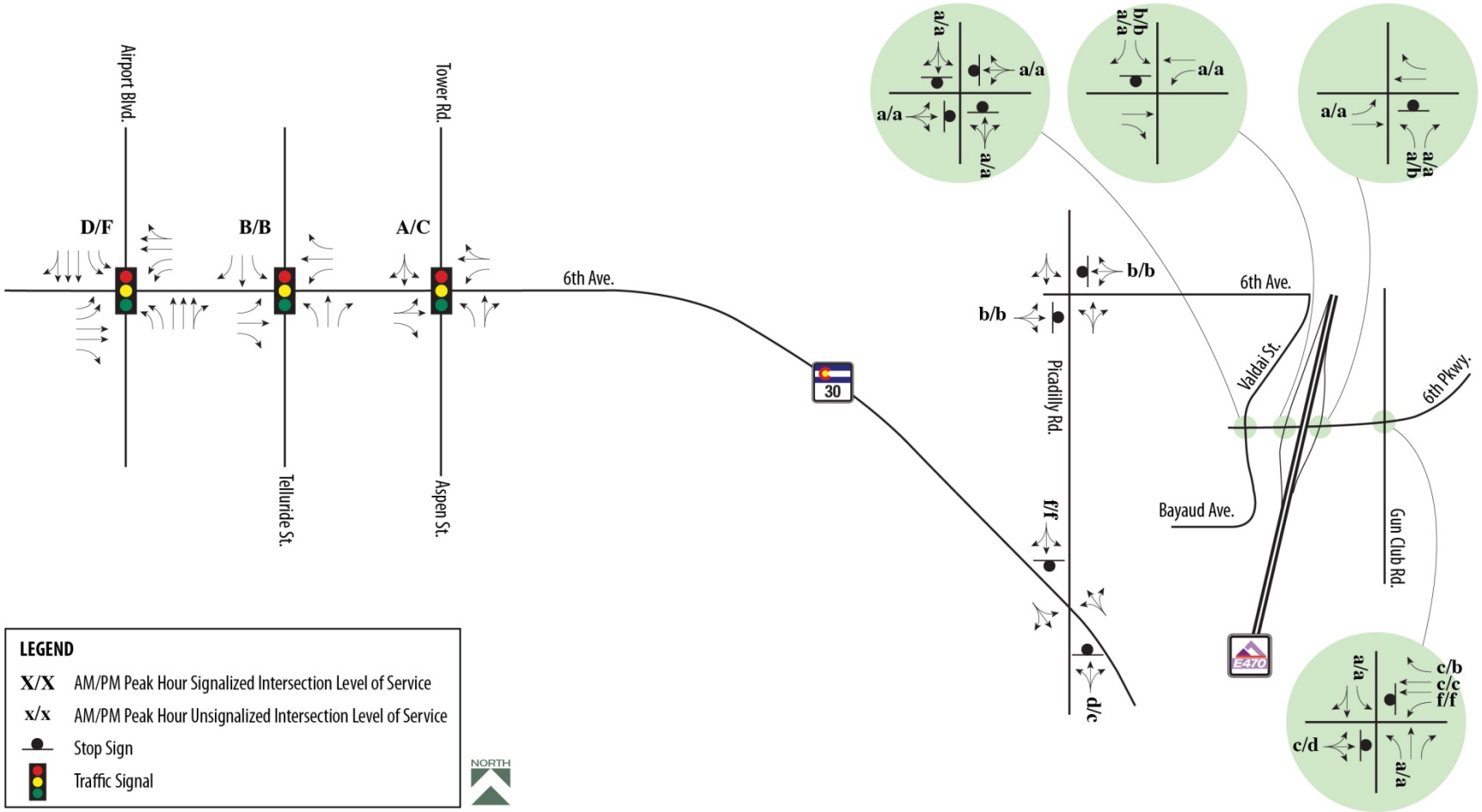


Figure 5 Existing Lanes, Traffic Control and Operations



In summary, the operations analysis did not reveal any significant operational issues at any study area intersections. As shown on **Figure 5**, the signalized intersections at the Telluride Street and Tower Road intersections currently operate at LOS B during the peak hours. The intersection of SH 30 and Airport Boulevard is the intersection of two higher volume arterial roadways. As expected, peak hour levels of service are lower than at other signalized intersections with the AM peak hour at LOS D and the PM peak hour at LOS F.

At the stop controlled intersections on the east end of the study area, most turn movements that yield to other turn movements show LOS D or better conditions in the peak hour. The westbound left turn at the 6th Avenue/Gun Club Road intersection shows LOS F conditions during the peak hours but the City of Aurora is addressing this condition by installing a traffic signal, restriping the west approach, and constructing geometric improvements on the west leg to provide a left turn lane and to better align the westbound departure lane with the westbound approach lane. The only other LOS F condition is for turn movements from Picadilly Road to eastbound SH 30.

3. FUTURE CONDITIONS

3.1 Land Use

In this largely undeveloped section of Aurora, a significant amount of new development is expected to occur over the next 20 to 25 years. DRCOG compiles existing data on population and employment region wide and works with member agencies to develop long range population and employment forecasts for the Denver metropolitan area. These forecasts are grouped by Traffic Analysis Zones (TAZs) and are reevaluated every five years to reflect changing development patterns across the region. DRCOG recently UPDATED its Year 2035 forecasts to Year 2040. **Figure 6** and **Figure 7** show TAZs in the study area and respectively show year 2035 and 2040 population and employment statistics within the study area.

Table 2 shows that within the study area the estimated existing population is 35,500 people and the estimated employment is 8,250 jobs. DRCOG forecasts for 2035 in the study area anticipate population nearly doubling and employment more than doubling. These forecasts were the basis in initially developing long range traffic projections with and without the Proposed Action. Since the development of these project traffic projections, DRCOG issued and adopted new population and employment forecasts for year 2040. As shown, these forecasts are substantially lower than the 2035 forecasts but are still higher than existing population and employment numbers.

Table 2 Population and Employment within Study Area

Scenario	Population		Employment	
	Total	Percent Change from Existing	Total	Percent Change from Existing
Existing	35,532	-	8,261	-
Year 2035	68,107	93%	18,872	128%
Year 2040	45,176	28%	13,389	62%

3.1.1 Land Use Forecasts Comparison

Figure 6 and **Figure 7** compare 2035 and 2040 forecasts for population and employment in the study area. **Table 3** shows a sum of these forecasts for the study area and for two smaller sub areas. In general, overall population forecasts for 2040 are about 23,000 people and 5,500 jobs lower than the 2035 forecasts.

The majority of population decrease occurs in the E-470 corridor and east of E-470 with an estimated 97 percent decrease in population forecasts in the TAZs. Employment in these areas as a percentage of the total employment decrease is much lower at 37 percent. It appears that about 50 percent of the employment decrease occurs in the TAZs defining Buckley AFB. Furthermore, 2040 forecasts for TAZs west of E-470 and between I-70 and 6th Avenue Parkway Extension do not reflect current planning associated with the Horizon Uptown development.

Figure 6 Population Comparison by TAZ – 2035 vs. 2040

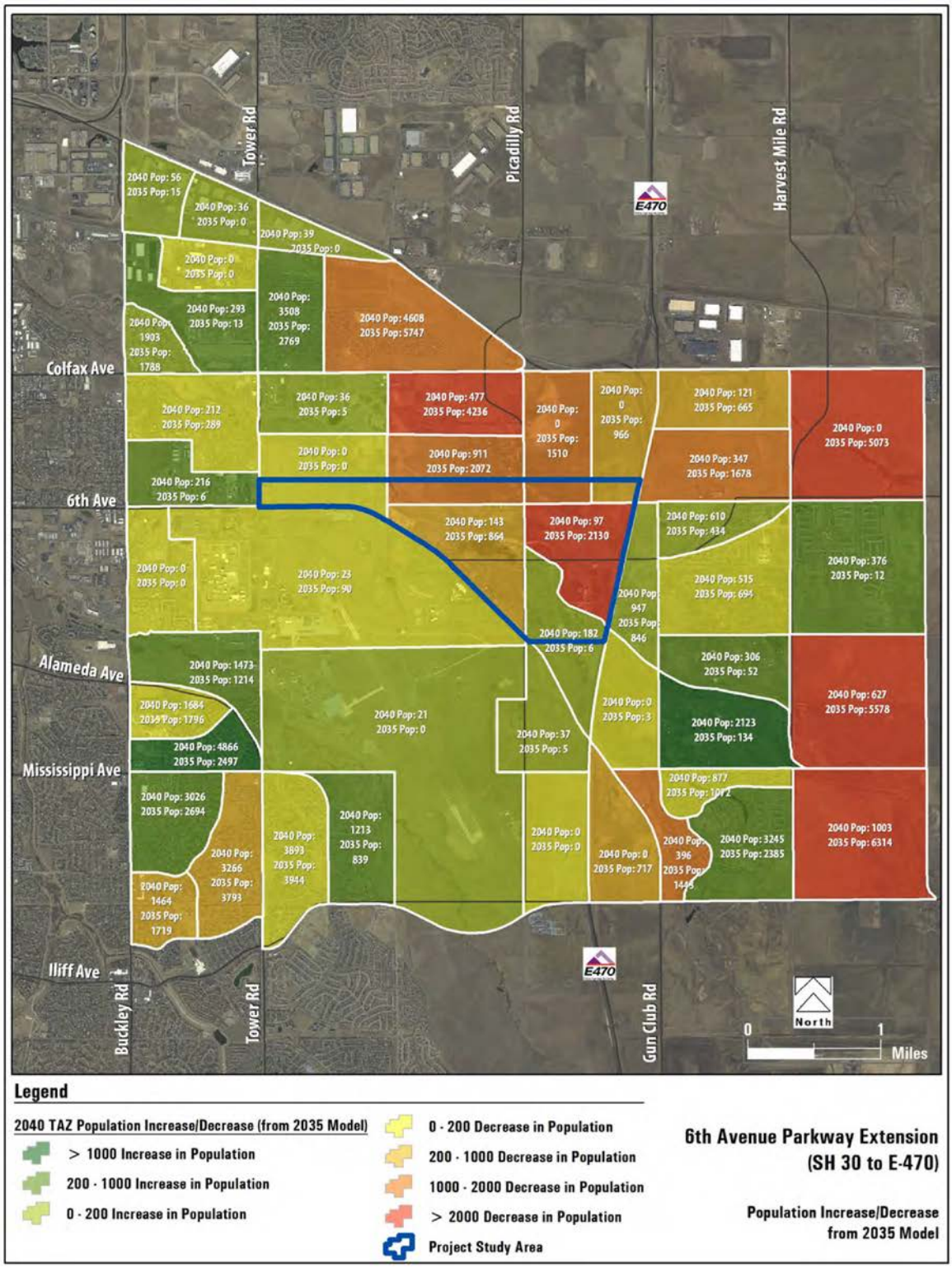


Figure 7 Employment Comparison by TAZ – 2035 vs. 2040

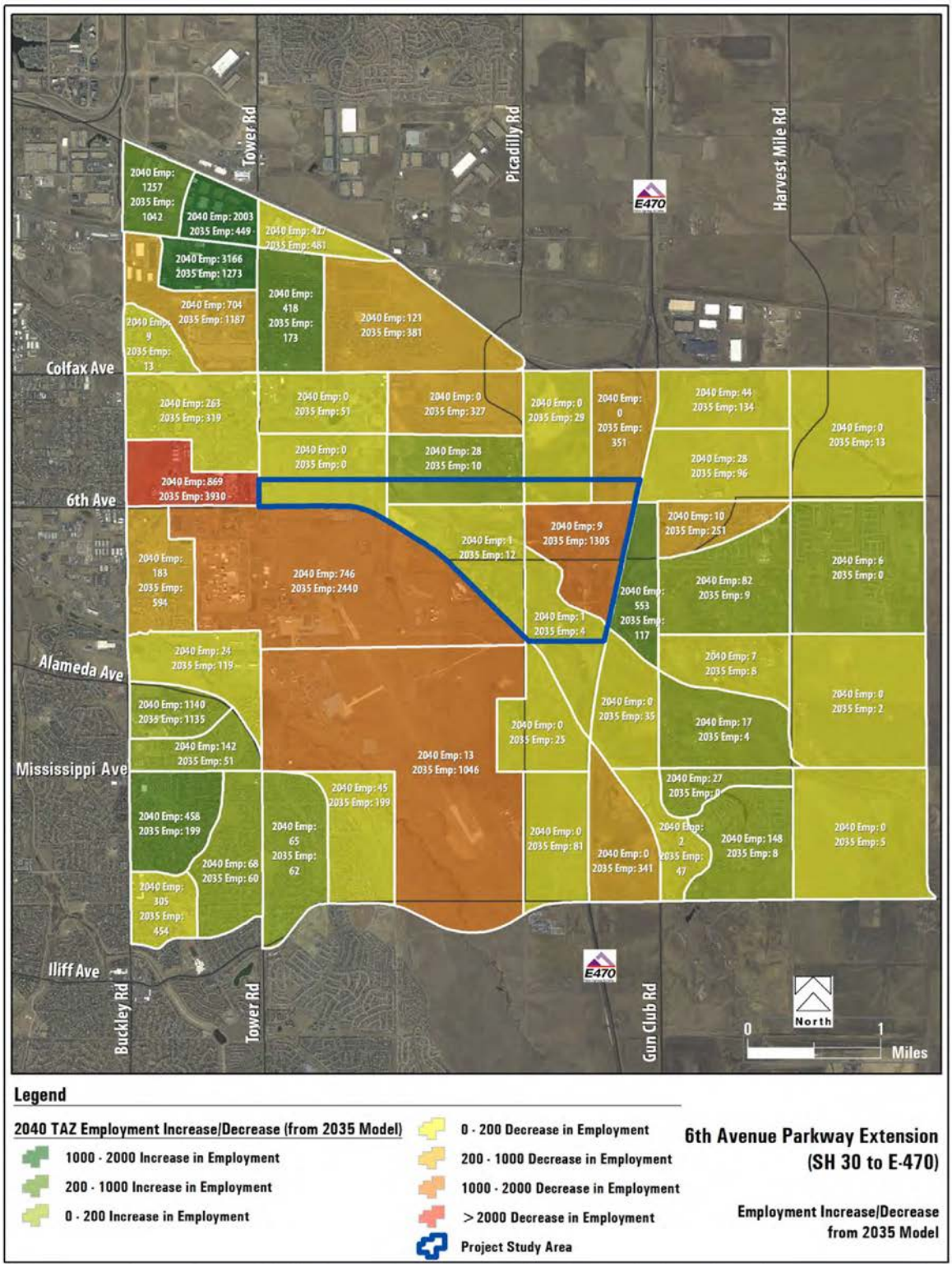


Table 3 Population and Employment Comparisons

Area	Population			Employment		
	2035*	2040*	Numerical Decrease (% Decrease)	2035*	2040*	Numerical Decrease (% Decrease)
Study Area	68,107	45,176	22,931 (34%)	18,872	13,389	5,483 (29%)
Adjacent to E-470 Corridor	8,526	1,731	6,795 (80%)	2,518	635	1,883 (75%)
East of E-470	27,040	11,492	15,548 (58%)	1,070	922	146 (14%)
Buckley AFB TAZs	90	44	46 (51%)	3,486	759	2,727 (78%)

*Population and employment forecasts from DRCOG 2035 and 2040 land use projections, respectively.

3.1.2 Impacts to Traffic Projections

As expected, a 34 percent decrease in population and a 29 percent decrease in jobs between 2035 and 2040 in the study area will have a noticeable impact on long-range traffic projections for the 6th Avenue Parkway Extension project. **Table 4** compares traffic projections on study area roadways based on 2035 and 2040 land use projections. As shown, 2040 projections are lower by 20 to 50 percent than projections for 2035.

Table 4 Land Use Implications to Daily Traffic Projections

Roadway	2035 Daily Projections	2040 Daily Projections	Percent Decrease from 2035 Projections
SH 30 west of Tower Road	54,000	32,000	41%
SH 30 east of Tower Road	51,000	40,700	19%
SH 30 north of Picadilly Road	16,000	7,500	53%
SH 30 south of Picadilly Road	25,500	13,000	49%
6th Avenue Parkway Extension west of Picadilly Road	35,000	33,000	6%
6th Avenue Parkway Extension east of Picadilly Road	37,400	24,400	35%
6th Parkway east of Gun Club Road	34,000	17,000	50%
Picadilly Road north of 6th Avenue Parkway Extension	31,000	17,500	44%

3.1.3 Recommendation

Based on this comparison between 2035 and 2040 land use and traffic volumes, the initial development of 2035 projections should continue to be used for traffic operational analyses and decisions on roadway and intersection lanes. The justifications for this recommendation are as follows:

- Year 2040 population and employment forecasts are not consistent with current City of Aurora planning. For example,
  - Within the City of Aurora development review process is the Lend/Lease (Horizon Uptown) project located at the southwest corner of the I-70/E-470 interchange. This project is anticipated to include over 5 million square feet of commercial development and over 3,000 new homes. This is not represented in the 2040 forecasts but is better represented in the 2035 forecasts.
- Long range 2035 traffic projections were developed in October 2014 several months before the adoption of the 2040 land use forecasts. In this time the project team used projections to develop intersection lanes and traffic control at study intersections.
- Year 2035 population and employment forecasts result in higher traffic projections and, therefore, it can be reasonably assured that impacts and roadway needs are being properly assessed.
- The Year 2035 forecasts are a valid forecast prepared by DRCOG.

The approach to use the 2035 land use projections over the 2040 land use projections was discussed with both the Federal Highway Administration (FHWA) and DRCOG. Both agencies stated the approach was acceptable for the reasons stated above.

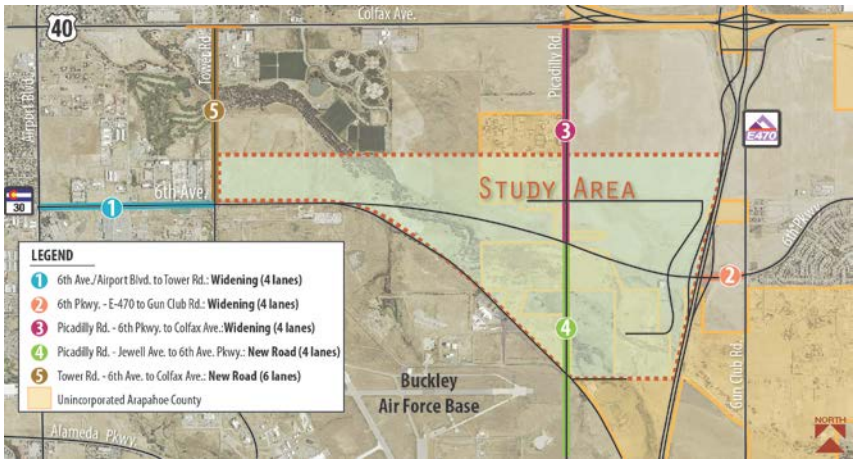
3.2 No Action Alternative

3.2.1 No Action Roadway Network

The No Action Alternative includes all projects identified in DRCOG's fiscally constrained transportation plan and all locally funded projects except for the project being analyzed. The No Action Alternative includes those improvements shown on **Figure 8**, which are all locally funded and include the following:

- **6th Avenue (SH 30)** – Airport Boulevard to Tower Road: widening to add four new through lanes. This would also include additional eastbound and westbound through lanes at the Airport Boulevard intersection. CDOT has no plans for widening SH 30 from Tower Road to Mississippi Avenue.

Figure 8 Fiscally Constrained Projects

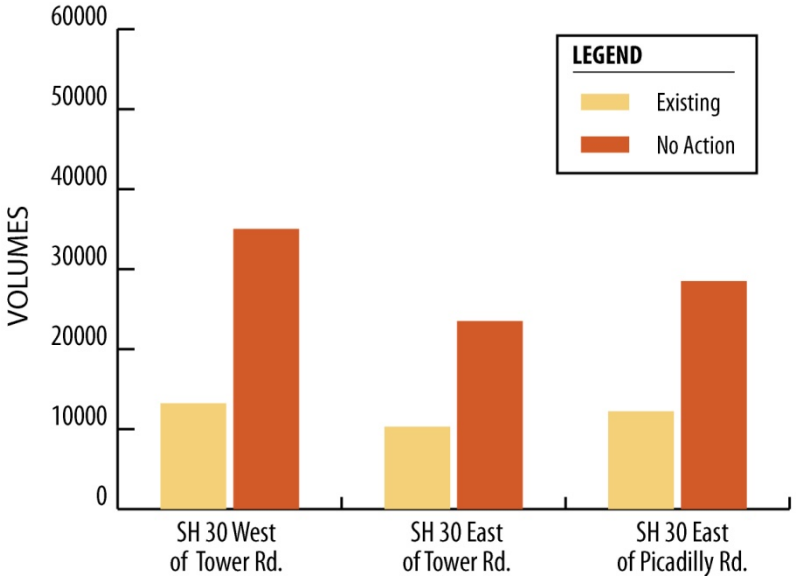


- **6th Parkway** – E-470 to Gun Club Road: widening to add four new through lanes
- **Picadilly Road** – Colfax Avenue to existing 6th Avenue: widening to add four new through lanes
- **Picadilly Road** – Jewell Avenue to existing 6th Avenue: constructing new road with four through lanes
- **Tower Road** – Colfax Avenue to 6th Avenue (SH 30): constructing new road with six through lanes
- **SH 30/Gun Club Road** – Mississippi Avenue to Yale Avenue (not shown on **Figure 8**): widening from 2/4 lanes to 6 lanes

3.2.2 Traffic Volumes

Figure 9 provides an overview of existing daily traffic volumes and No Action daily traffic projections at locations along the SH 30 corridor. These projections were developed from the 2035 DRCOG regional transportation demand model and by calibrating model results against existing traffic volumes. These calibrated results were adjusted in some cases through engineering judgment to be consistent with directional distributions and peak hour factor patterns observed in the existing data. In summary, SH 30 traffic volumes are expected to grow at a rate of four to five percent per year, which is a reasonable rate for rapidly developing suburban areas.

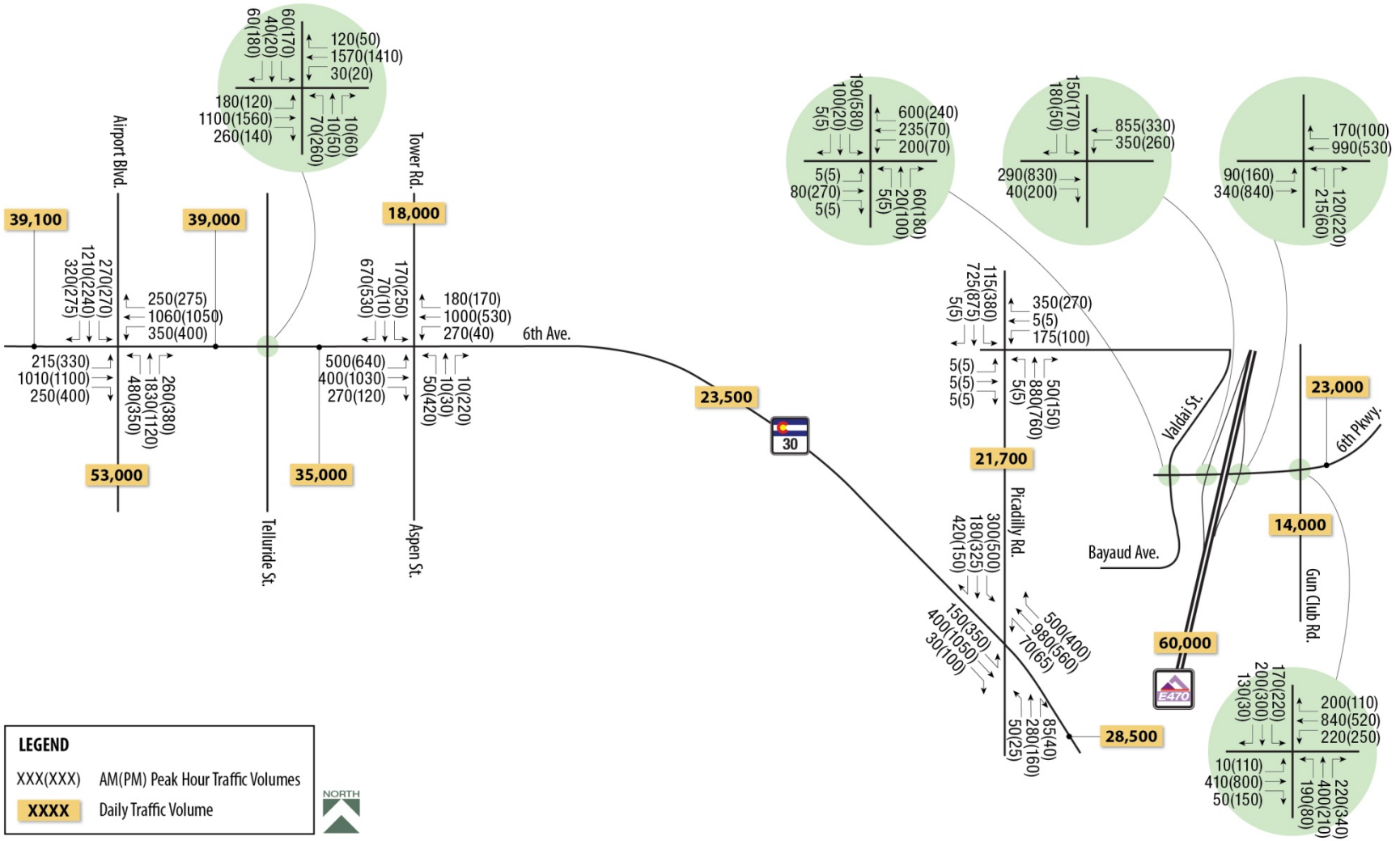
Figure 9 No Action Alternative Daily Traffic Projections by Year



In addition to these No Action daily traffic volumes, peak hour volume projections were developed at each study intersection. These intersection volumes are shown on **Figure 10** and were developed through the process of initially applying National Cooperative Highway Research Program (NCHRP) 255 procedures and then adjusting these estimates using engineering judgment to be consistent with existing peak hour travel patterns at intersections. For example, it was generally assumed that the following conditions would exist in the development of peak hour No Action traffic volumes:

- Peak hour intersection turn movement volumes would be higher than existing turn movement volumes.
- Peak hour direction distributions would not exactly match existing percentages but would be consistent with existing percentages. For example, along SH 30 west of Picadilly Road, the existing AM peak directional distribution is 20 percent eastbound and 80 percent westbound. In the No Action Alternative, these directional distributions are at 30 percent eastbound and 70 percent westbound in the AM peak hour.
- Peak hour percentages in the No Action Alternative would also be consistent with existing peak hour factors and would fall into the typical range of 8 to 11 percent. For example, on SH 30 west of Tower Road, the existing peak hour percentage in the AM peak hour is about 9 percent while by 2035 this factor will just be over 8 percent. Even though these peak hour percentages are not equal, it is reasonable to assume that over time peak hour percentages will decrease due to peak period traffic spreading out over longer periods of time.

Figure 10 No Action Alternative Year 2035 Projected Traffic Volumes



3.2.3 Operations

Anticipated peak hour traffic operations were determined for each study intersection. **Figure 11** shows intersection lane and traffic control anticipated for the No Action Alternative. Based on these conditions and using the HCM 2010 procedures in Synchro, an overall LOS was determined for each signalized intersection and for each yielding turn movement at stop controlled intersections. **Figure 11** is a summary of LOS at intersections while **Table 5** in **Section 4.4.3** provides additional LOS and delay information for intersection approach and turn movements. **Appendix B** provides the detailed traffic operational analysis output.

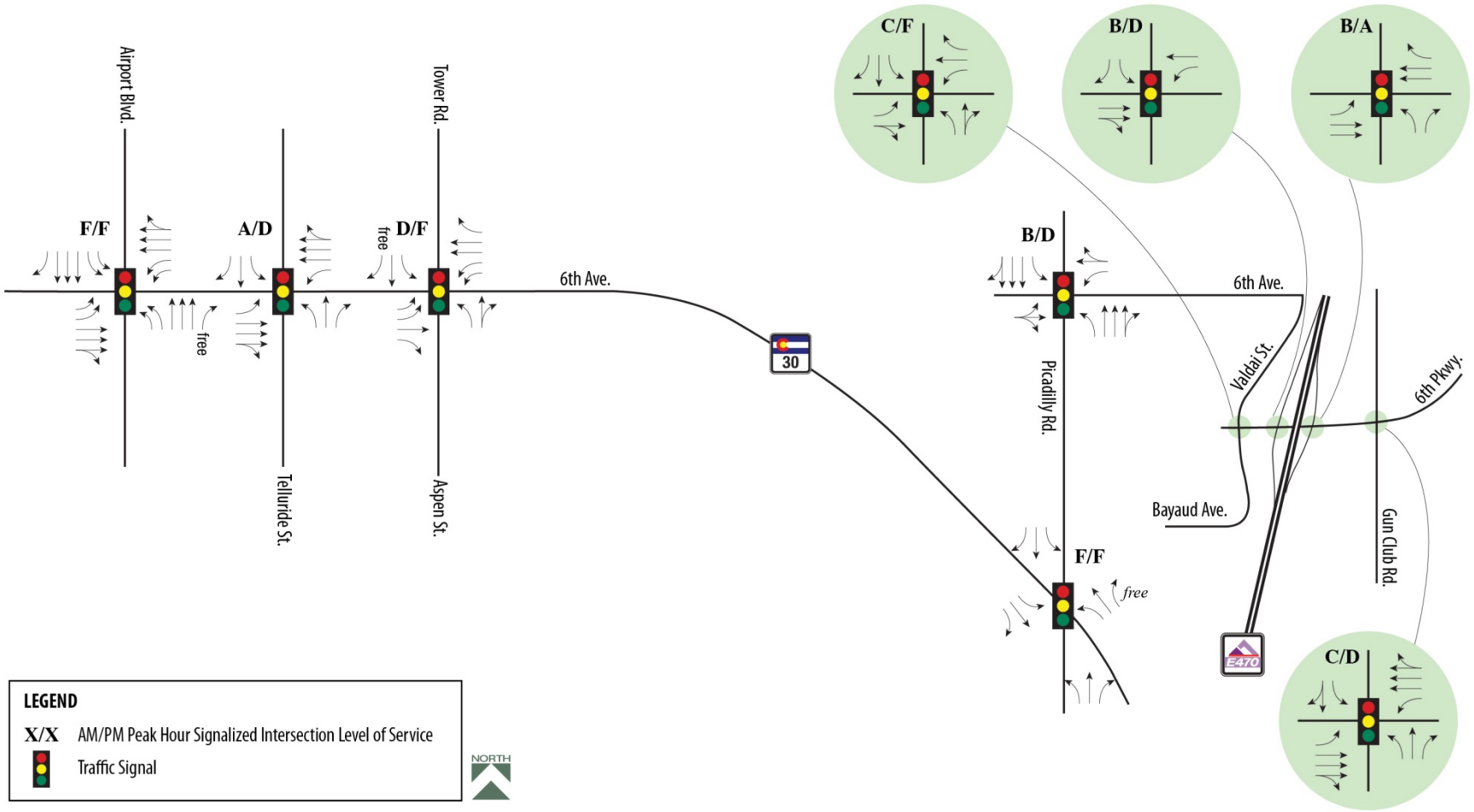
In the No Action Alternative, it is anticipated the Picadilly Road/existing 6th Avenue intersection will need signalization in the future and it should operate well at LOS D or better during the peak hours. Plans to widen SH 30 between Tower Road and Airport Boulevard identified in DRCOG's Long Range Transportation Plan help to maintain at least LOS D operations at the Telluride Street and Tower Road intersections. Intersections expected to operate poorly in the No Action Alternative include: Airport Boulevard/SH 30, SH 30/Picadilly Road, and the 6th Parkway/Valdai Street.

3.2.4 Bicycle and Pedestrian System

The Aurora Bicycle and Pedestrian Master Plan was reviewed as part of the traffic process. The report was developed in 2012 in order to provide a coordinated vision for accommodating and encouraging bicycling as a viable transportation mode in the City of Aurora. This plan details various considerations and recommendations that need to be taken into account in order to develop the bike and pedestrian travel network in the city. Additionally, it maps out early action and short-term project recommendations for the city.

The location of proposed improvements to bike and pedestrian trails in relation to the study area were reviewed. This was done in order to ensure that the Proposed Action would not negatively impact future improvements to the bike and pedestrian trail system. The review found that there are no planned improvements in the near future that are located in the study area. The nearest area recommended for enhancement is on the southwest side of the Buckley AFB which is not impacted by the Proposed Action.

Figure 11 No Action Year 2035 Alternative Lanes and Level of Service



4. PROPOSED ACTION

Section 4 describes Year 2035 future traffic conditions with the construction of the 6th Avenue Parkway Extension. The future traffic conditions are described in terms of travel time enhancements with the connection, future traffic volumes, and traffic operations.

Appendix E provides a compiled table of the impacts and **Appendix F** provides a compiled table of mitigation measures for insertion into the EA.

4.1 Travel Time Enhancement

The Proposed Action would reduce travel time and travel distance between the growing areas of northeast Aurora to the I-225 corridor. **Figure 12** compares distance and travel time from the Gun Club Road/6th Parkway intersection. If this connection is made, then regional travel in the study area could expect a 30 to nearly 50 percent decrease in travel time and a reduction in the trip length of 1 mile to 3 miles depending on the route between the I-225 corridor and the Gun Club Road/6th Parkway intersection.

4.2 Travel Patterns

In addition, to the improvements to travel time, the Proposed Action would complete a vital east-west connection for this growing area of the Denver metropolitan area. The traffic modeling of the Proposed Action shows the extension reducing traffic on parallel routes and attracting existing traffic to the SH 30 corridor. The primary reason for this effect is that the extension connects E-470 and rapidly growing areas of Aurora to the I-225 corridor. Therefore, this section and its graphics attempt, through the use of the DRCOG model, to document impacts to traffic volumes using study area roadways and the magnitude of traffic already in the roadway network attracted to the SH 30 corridor.

Figure 13 depicts potential travel pattern changes in response to completing the Proposed Action. The results were developed by using the DRCOG travel demand model to conduct a select link analysis for the SH 30 section between the Tower Road intersection and the Proposed Action. The select link analysis tracts the number of vehicles on every segment in the model that travel through a specific link. For example, this analysis provides an estimate of the projected number of trips on Airport Boulevard that will travel through the select link. Therefore, in running a select link analysis for the No Action Alternative and the Proposed Action and by comparing the results, it is possible to estimate where the additional trips to SH 30 are coming from within the surrounding network.

Figure 13 depicts the select link analysis results and the resulting change in study area daily traffic volumes for the Proposed Action. As shown, the daily volume on the parallel facilities of Colfax Avenue and Jewell Avenue are estimated to decrease by as much as 20 percent when the extension is built to its ultimate 6-lane configuration. The select link analysis shows the extension attracting existing projected traffic from the east and the west into the corridor. As has been stated previously, this connection provides a more direct east-west route between future development east of SH 30 and the I-225 corridor than the existing roadway network and therefore it makes the corridor attractive to vehicle-trips.

Figure 12 Travel Distance and Time Comparison

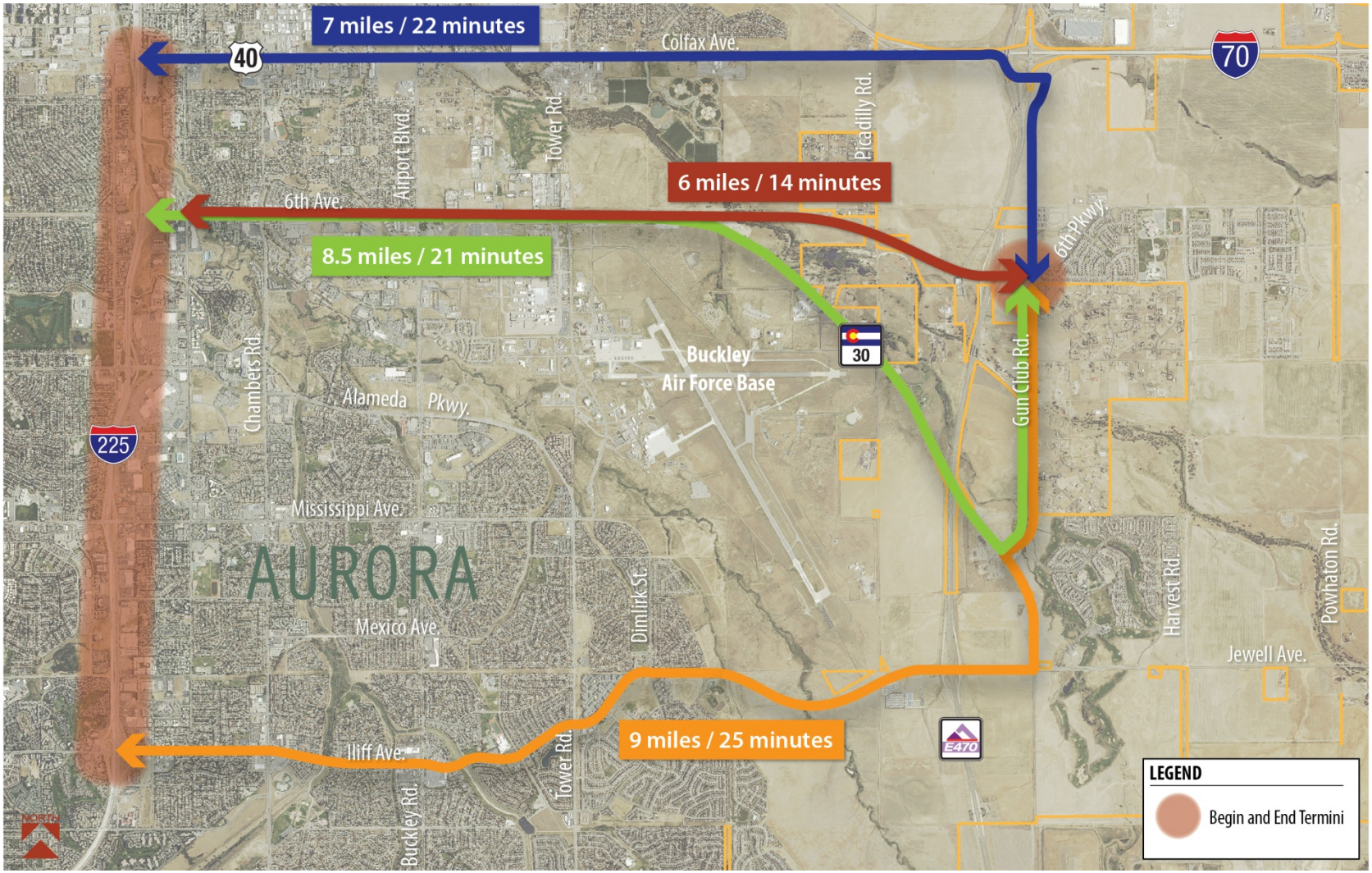
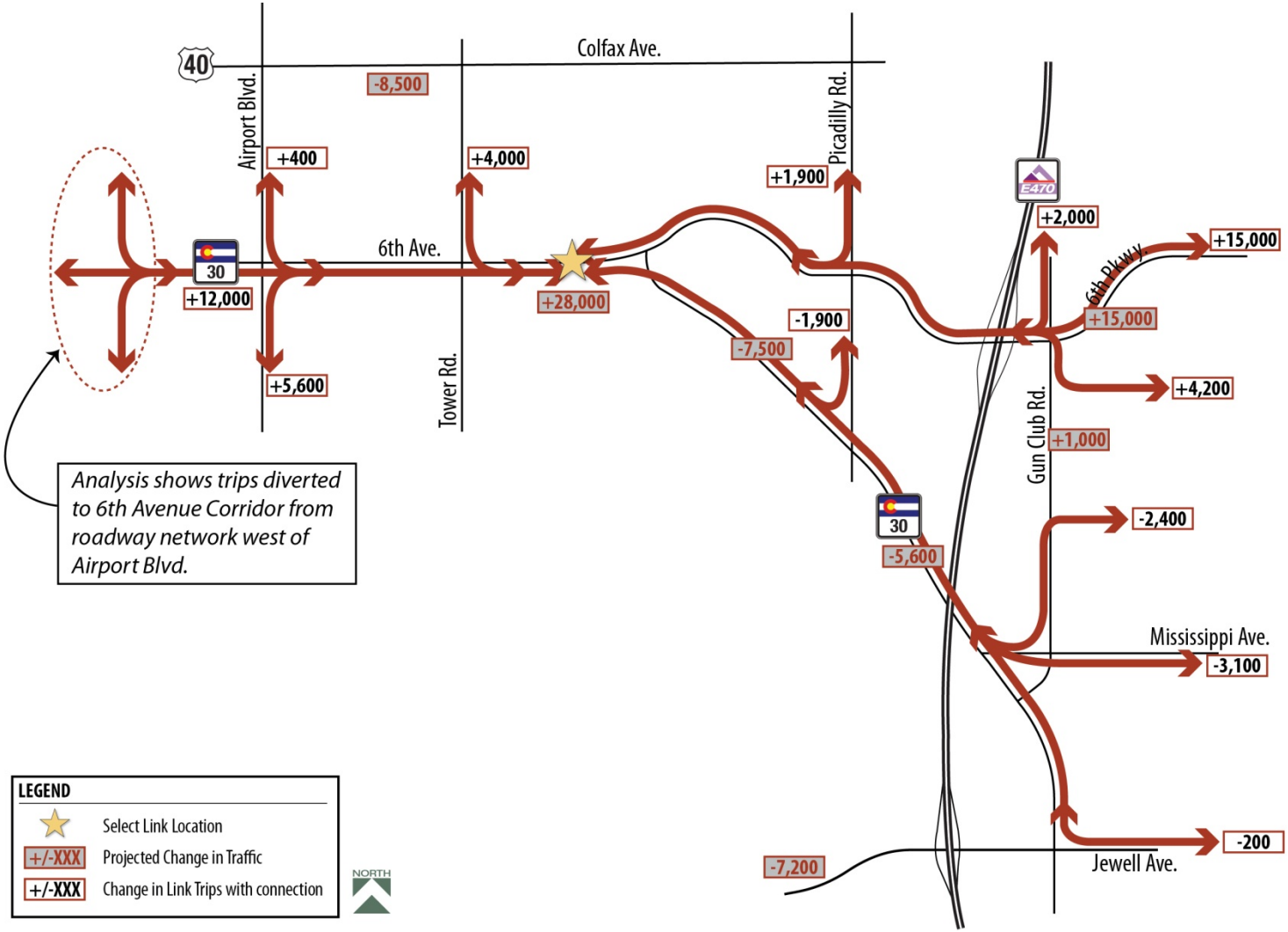


Figure 13 Select Link Analysis/Diverted Traffic – Year 2035

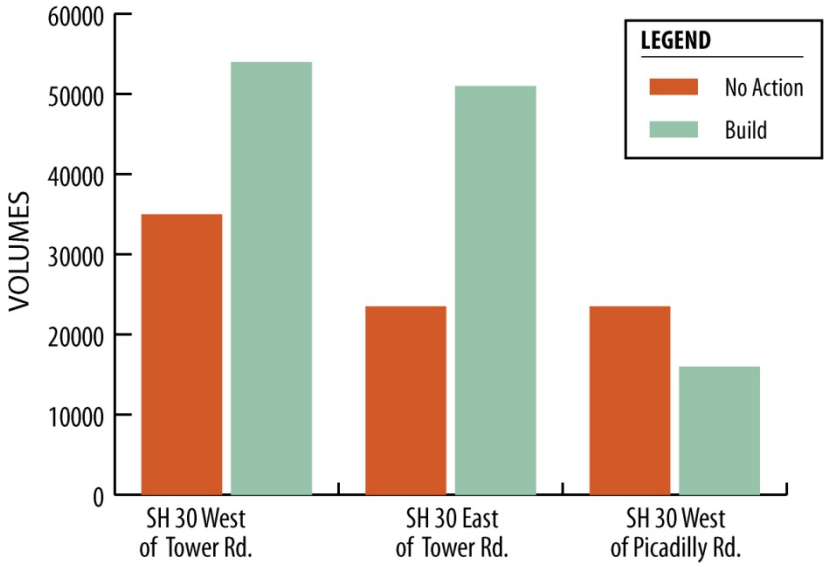


It should be pointed out that the total number of new trips on the select link is greater than the total decrease in traffic volumes on parallel facilities of Colfax Avenue and Jewell Avenue. The reason for this is that the travel demand model reassigns new vehicle-trips to parallel facilities to utilize the excess capacity available on these facilities as a result of vehicle-trips diverting to the 6th Avenue/SH 30 corridor. This illustrates one of the benefits of the Proposed Action. The Proposed Action collectively with other roadways in the area increases the vehicle carrying capacity of the area, thus reducing system delay and vehicle-miles of travel.

4.3 Traffic Volumes

Figure 14 represents anticipated traffic projections along SH 30 with the construction of the Proposed Action. As with the development of No Action Alternative projections, these daily traffic volumes are based on the 2035 DRCOG regional transportation demand model. These daily volume projections are post-model calibrated volumes using NCHRP 255 procedures and engineering judgment to be consistent with directional distributions and peak hour percentage patterns observed in the existing data. In general, Proposed Action traffic projections along SH 30 between Tower Road and Airport Boulevard are higher as the connection attracts regional east-west traffic using other roadways and connects rapidly growing areas in the E-470 corridor and to the east to the SH 30/6th Avenue corridor.

Figure 14 Proposed Action Daily Traffic Volume Projections



4.4 Proposed Action Conditions

The Proposed Action includes all No Action Alternative projects described on **Figure 8** plus the Proposed Action between SH 30 and E-470. Like the No Action Alternative, the Proposed Action also includes three westbound and three eastbound lanes through the Airport Boulevard/ 6th Avenue intersection. All peak hour volumes and operational analyses discussed in this section are built upon this anticipated network.

4.4.1 Traffic Volumes

Projected peak hour volumes for the Proposed Action are shown on **Figure 15**. These projections were developed from these daily traffic forecasts and were adjusted to be consistent with existing turning movement patterns, peak hour percentages, and directional distributions while taking into account planned improvements to the Tower Road and Picadilly Road corridors. As a result, these build projections should be consistent with No Action projections.

4.4.2 Intersection Lanes and Traffic Control

Figure 16 shows recommended traffic control and intersection lanes at study intersection for the Proposed Action. Since all roadways are anticipated to carry relatively high traffic volumes, then it is likely that all intersections would have traffic signal control.

The development of intersection lanes generally followed these guidelines.

- Through lanes were based on the long range planned typical section. For example, the Proposed Action, Tower Road, and Picadilly Road are all planned as six-lane facilities. Therefore, it was generally assumed that intersections along these roadways would consist of three through lanes.
- When projected left-turn volume exceeded 300 vehicles per hour (vph), dual left turn lanes were included for that turn movement and for the opposing left turn movement.
- When right-turn volume exceeded 500 vph, a free-right turn lane with a lane added were included at the intersection and in the operational analysis when feasible.
- On roadways with three through lanes in one direction, exclusive right-turn lanes were not provided at intersections. This assumption is based on guidance given in the *State Highway Access Code*. Exceptions to this rule were provided eastbound at the Telluride Street and Tower Road intersections to allow movements into Buckley AFB to not stack on 6th Avenue (SH 30).
- On roadways with less than three through lanes, all approaches had left and right turn lanes at intersections.

Based on these traffic control and intersection lane assumptions, traffic operations for the Proposed Action are based on the HCM 2010 output from Synchro. **Figure 16** summarizes overall intersection levels of service and **Appendix C** has the detailed output sheets from Synchro.

As shown, most study intersections in the peak hours are anticipated to operate at LOS C. The SH 30 and Picadilly Road intersection is anticipated to approach its capacity in operating at LOS E in the peak hours. The 6th Avenue (SH 30)/Airport Boulevard intersection is expected to exceed capacity as it is an intersection to two roadways carrying over 50,000 vpd. This intersection, as an at grade, does not have much room for expansion as all approaches have three through lanes, dual left turn lanes, and right turn lanes on all but the eastbound approach. One potential at grade improvement that would likely require additional right-of-way are triple left turn lanes on all approaches. This improvement would reduce overall delay by about 30 seconds but the intersection would continue to be congested in both the No Action Alternative and the Proposed Action. Given these long range future conditions, higher capacity intersection types such as counter-flow and grade separations would be needed to achieve better levels of service.

Figure 15 Proposed Action Traffic Volumes

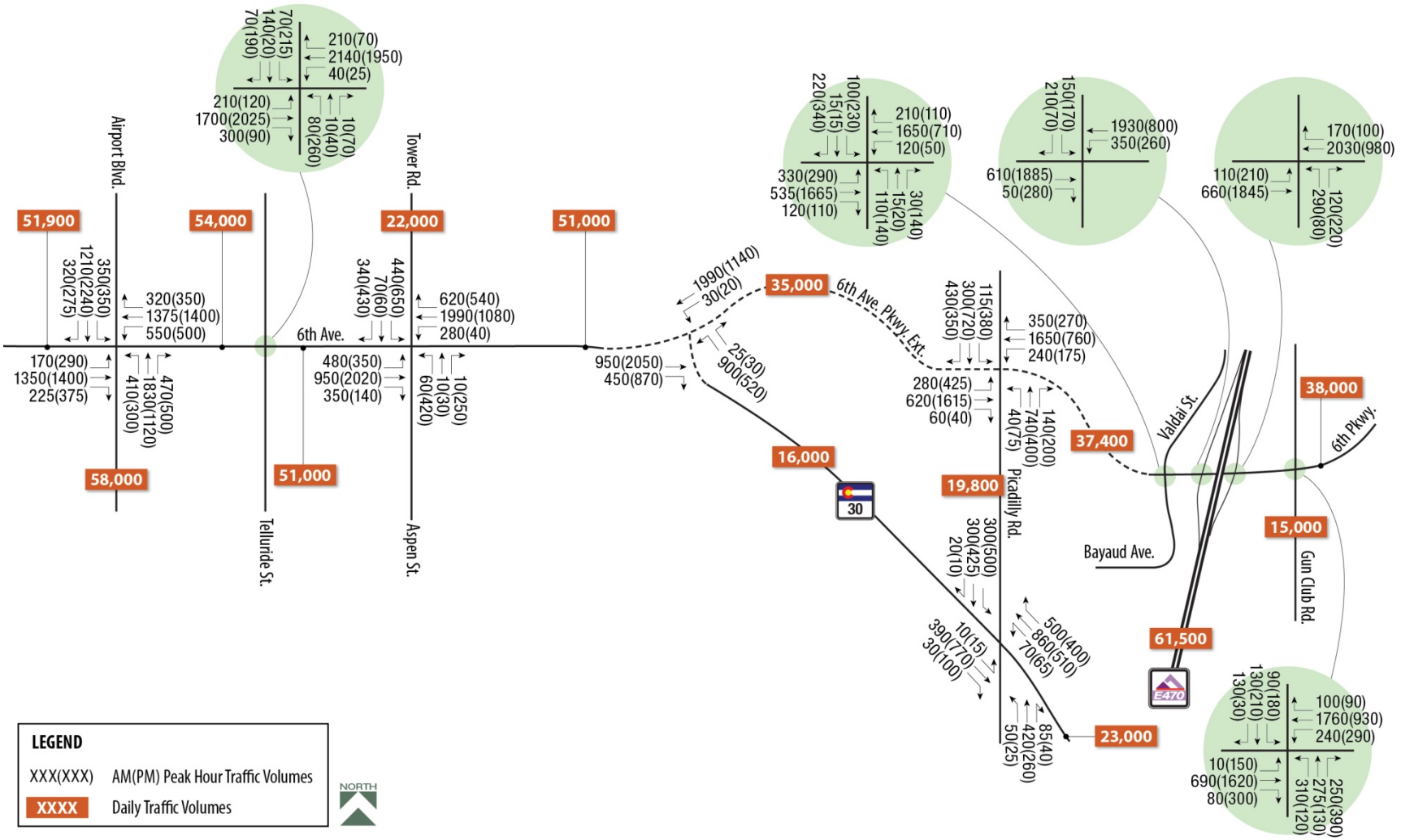
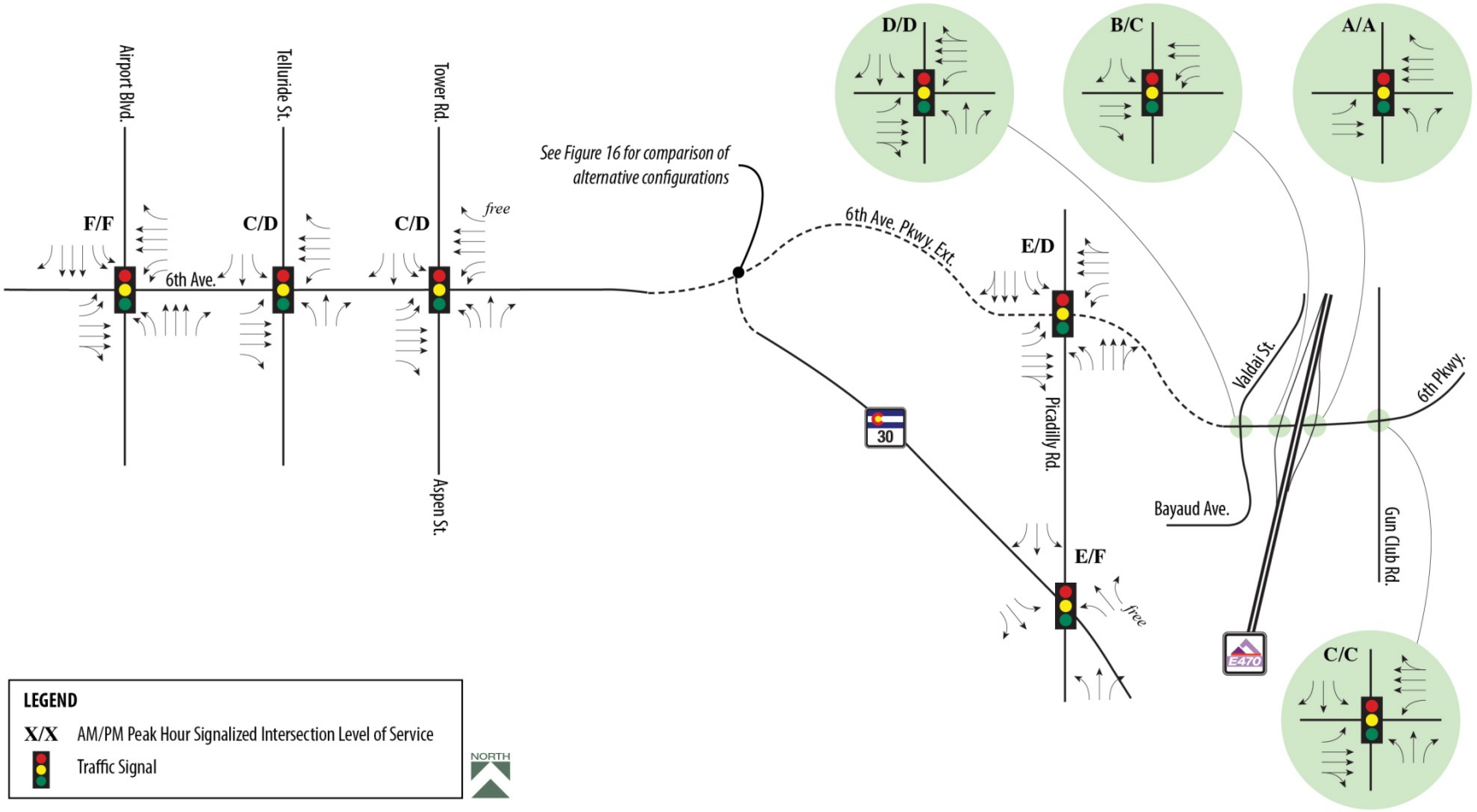


Figure 16 Proposed Action Lane Geometry, Traffic Control and Level of Service



4.4.3 Comparative Analysis

Table 5 provides a detailed comparison of intersection operations between the No Action Alternative and the Proposed Action. As discussed, the SH 30 intersections with Airport Boulevard and Picadilly Road will continue to experience lower LOS. However, most intersections would still operate acceptably at LOS D or better during the peak hours if the Proposed Action is built to its ultimate configuration. Using the No Action Alternative as the baseline, it appears that the Proposed Action would not require mitigation at most intersections.

Table 5 Proposed Action/No Action Alternative Comparative Analysis

Movement/Intersection	Operational Comparison									
	Delay					Level of Service				
	No Action Alternative			Proposed Action		No Action Alternative			Proposed Action	
	AM	PM		AM	PM	AM	PM		AM	PM
Airport Boulevard/SH 30 – Signalized										
Overall Intersection	131	148		112	150	F	F		F	F
Northbound Approach	115	84		111	89	F	F		F	F
Southbound Approach	105	142		74	165	F	F		F	F
Eastbound Approach	151	177		192	226	F	F		F	F
Westbound Approach	171	177		87	111	F	F		F	F
Airport Boulevard/SH 30 – Signalized with triple lefts										
Overall Intersection	99	118		85	123	F	F		F	F
Northbound Approach	92	60		87	69	F	E		F	E
Southbound Approach	63	125		85	140	E	F		F	F
Eastbound Approach	130	162		111	194	F	F		F	F
Westbound Approach	128	106		63	84	F	F		E	F
Telluride Street/SH 30 – Signalized										
Overall Intersection	8	42		26	39	A	D		C	D
Northbound Approach	47	32		59	58	D	C		E	E
Southbound Approach	65	58		63	106	E	E		E	F
Eastbound Approach	2	30		19	30	A	C		B	C
Westbound Approach	2	54		28	29	A	D		C	C
Tower Road/SH 30 – Signalized										
Overall Intersection	39	101		32	51	D	F		C	D
Northbound Approach	55	193		60	84	E	F		E	F
Southbound Approach	73	300		63	127	E	F		E	F
Eastbound Approach	38	53		13	5	D	D		B	A
Westbound Approach	32	24		37	51	C	C		D	D
Picadilly Road/SH 30 – Traffic Signal										
Overall Intersection	145	153		70	84	F	F		E	F
Northbound Approach	44	36		103	128	D	D		F	F
Southbound Approach	220	221		55	71	F	F		E	F
Southeastbound Approach	129	135		57	96	F	F		E	F
Northwestbound Approach	142	146		68	53	F	F		E	D

Table 5 Proposed Action/No Action Alternative Comparative Analysis

Movement/Intersection	Operational Comparison									
	Delay						Level of Service			
	No Action Alternative			Proposed Action			No Action Alternative			Proposed Action
	AM	PM		AM	PM		AM	PM		AM	PM
Picadilly Road/6th Avenue Parkway Extension – Traffic Signal											
Overall Intersection	15	37		71	52		B	D		E	D
Northbound Approach	18	39		57	61		B	D		E	E
Southbound Approach	10	21		133	59		A	C		F	E
Eastbound Approach	14	34		79	47		B	C		E	D
Westbound Approach	20	83		49	47		C	F		D	D
Valdai Street/6th Parkway – Traffic Signal											
Overall Intersection	28	82		52	38		C	F		D	D
Northbound Approach	57	52		70	48		E	D		E	D
Southbound Approach	38	46		190	59		D	D		F	E
Eastbound Approach	15	94		27	28		B	F		C	C
Westbound Approach	24	145		30	46		C	F		C	D
6th Parkway/E-470 Northbound Ramps – Traffic Signal											
Overall Intersection	10	8		7	2		B	A		A	A
Northbound Approach	54	51		65	68		D	D		E	E
Eastbound Approach	1	1		2	1		A	A		A	A
Westbound Approach	1	1		1	1		A	A		A	A
6th Parkway/E-470 Southbound Ramps – Traffic Signal											
Overall Intersection	18	35		13	24		B	D		B	C
Southbound Approach	79	62		62	83		E	E		F	F
Eastbound Approach	1	44		2	21		A	D		A	C
Westbound Approach	4	11		8	17		A	B		A	B
6th Parkway/Gun Club Road – Traffic Signal											
Overall Intersection	32	47		35	33		C	D		C	C
Northbound Approach	36	54		39	67		D	D		D	E
Southbound Approach	45	47		58	92		D	D		E	F
Eastbound Approach	21	82		12	9		C	F		B	A
Westbound Approach	29	28		38	37		C	C		D	D

4.5 SH 30 Intersection/Proposed Action Evaluation

A key aspect of traffic operations for both SH 30 and the Proposed Action is the intersection configuration of these two roadways. It is anticipated that SH 30 after the initial construction of the extension will carry slightly more traffic than the Proposed Action. Over time, as existing vacant land to the east develops with new homes and commercial business, traffic volumes in the Proposed Action would grow more rapidly than traffic on SH 30 such that it will exceed SH 30 traffic by more than a factor of two.

To accommodate the higher volumes on the Proposed Action, several intersection configurations were considered. **Figure 17** shows lane diagrams of each intersection configuration and lanes reflect the number of through lanes in the Proposed Action and the number of turn lanes needed to accommodate projected peak hour turn movement volume.

Appendix D contains LOS worksheets and conceptual designs of these configurations. The intersection configurations are as follows:

- **6th Avenue Parkway as Thru.** A traditional signalized intersection where SH 30 tees into the 6th Avenue Parkway Extension. Given the projected SH 30 left turn volume to 6th Avenue, dual left turn lanes were evaluated on the SH 30 approach.
- **Roundabout.** The roundabout would need dual left turn lanes from SH 30 to 6th Avenue (SH 30) and would need to accommodate three eastbound and three westbound lanes.
- **6th Avenue Parkway as Thru with Westbound Bypass.** This signalized intersection is configured to allow continuous flow of westbound traffic. The SH 30 to westbound 6th Avenue movement needs two turn lanes.
- **SH 30 as Thru with Eastbound Bypass.** Similar to the 6th Avenue thru tee configuration, SH 30 eastbound traffic would bypass the intersection. This configuration would also need a free right and a yield right to facilitate the high peak hour volume from westbound 6th Avenue Parkway Extension to westbound 6th Avenue.

Figure 17 shows conditions for each of these configurations. **Table 6** compares these conditions through a relative scoring of operations and other factors for each intersection configuration. As shown, all tee intersections operate well but the 6th Avenue Parkway with westbound bypass provides the best operations and is relatively safe when compared to other alternatives. Therefore, the recommended Year 2035 intersection configuration is the 6th Avenue through with the westbound bypass.

During final design, the details of the intersection configuration will need to be determined. This will include the possible use of median barrier to initially separate westbound 6th Avenue through traffic from SH 30 northbound to westbound left turn traffic, as well as the length and configuration of the merge of left turn traffic with through traffic. The final configuration will be determined by the City of Aurora and CDOT during final design, based on detailed operations analysis and safety considerations.

4.6 Temporary Construction Impacts

During construction of the Proposed Action, detours and traffic delays would be relatively minor because the 6th Avenue roadway would be constructed along a new alignment, off-line from current roadway. The existing SH 30 and local streets would remain open and largely unaffected during construction. Lane closures and detours may be needed for a limited time to tie the new 6th Avenue roadway into the existing SH 30 and at the crossing with Picadilly Road. A way-finding and signage system will be implemented to ease travel conditions for motorists during the times when lane closures, detours, and/or delays are required.

Figure 17 2035 6th Avenue Parkway Extension/SH 30 Intersection Operational Comparison

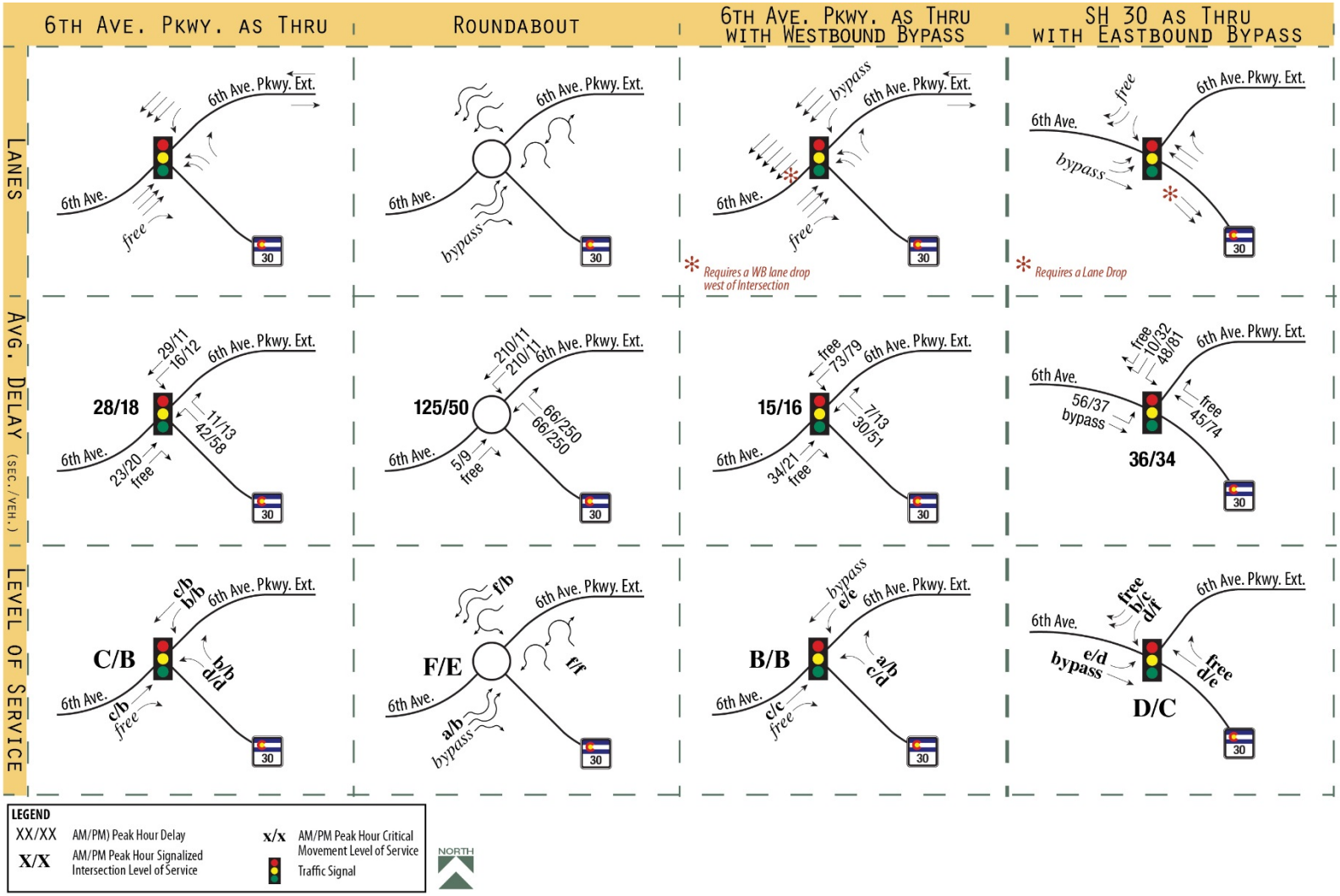


Table 6 Comparison of Configurations for the SH 30/6th Avenue Parkway Extension Intersection

Approach & Other Factors	6th Avenue Parkway as Thru	Roundabout	6th Avenue Parkway as Thru with Westbound Bypass	SH 30 Thru with Eastbound Bypass
Operational Analysis Comparison (Based on the AM peak hour since it is the critical peak period)				
Overall	2	4	1	3
Westbound 6th Avenue	3	4	1	2
Eastbound 6th Avenue	2	1	3	4
SH 30	2	4	1	3
Total	**9**	**13**	**6**	**12**
Maintenance and Operations				
Maintenance and Operation Required	High	Low	High	High
	2	**1**	**2**	**2**
Safety				
Safety – number of conflict points	**4**	**1**	**2**	**2**
Total Points	**15**	**15**	**10**	**16**

Legend:

"1": Best among the configurations.

"4": Worst among the configurations.

Note: Configurations can have the same ranking.

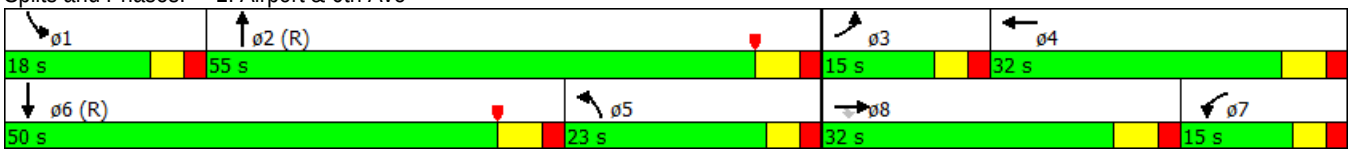
Appendix A Level of Service Output – Existing Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	432	220	148	449	203	300	1655	89	225	1123	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	16	12	12
Storage Length (ft)	370		370	235		0	215		0	300		0
Storage Lanes	2		1	1		0	2		0	2		0
Taper Length (ft)	150			150			150			150		
Satd. Flow (prot)	3335	3438	1538	3335	3263	0	3335	4900	0	3780	4816	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	3438	1538	3335	3263	0	3335	4900	0	3780	4816	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			232		69			9			41	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1333			500			1429			1106	
Travel Time (s)		20.2			7.6			32.5			25.1	
Peak Hour Factor	0.98	0.96	0.95	0.69	0.88	0.78	0.84	0.96	0.86	0.83	0.88	0.82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	192	450	232	214	770	0	357	1827	0	271	1536	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8									
Detector Phase	3	8	8	7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	3.0	3.0	3.0	3.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0		9.0	39.0		9.0	10.0	
Total Split (s)	15.0	32.0	32.0	15.0	32.0		23.0	55.0		18.0	50.0	
Total Split (%)	12.5%	26.7%	26.7%	12.5%	26.7%		19.2%	45.8%		15.0%	41.7%	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	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)	5.0	6.0	6.0	5.0	6.0		5.0	6.0		5.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min		None	C-Max		None	C-Max	
Act Effct Green (s)	9.4	20.3	20.3	15.7	26.6		18.0	50.3		11.7	44.0	
Actuated g/C Ratio	0.08	0.17	0.17	0.13	0.22		0.15	0.42		0.10	0.37	
v/c Ratio	0.74	0.77	0.51	0.49	0.99		0.71	0.89		0.74	0.86	
Control Delay	71.3	56.8	9.3	54.0	72.8		57.4	38.7		65.2	40.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	71.3	56.8	9.3	54.0	72.8		57.4	38.7		65.2	40.0	
LOS	E	E	A	D	E		E	D		E	D	
Approach Delay		47.4			68.7			41.8			43.8	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	75	177	0	80	~298		137	475		106	390	
Queue Length 95th (ft)	#121	223	66	95	#417		175	551		138	439	
Internal Link Dist (ft)		1253			420			1349			1026	
Turn Bay Length (ft)	370		370	235			215			300		
Base Capacity (vph)	277	744	514	435	777		500	2060		409	1791	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	0.60	0.45	0.49	0.99		0.71	0.89		0.66	0.86	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 47.8		Intersection LOS: D	
Intersection Capacity Utilization 83.0%		ICU Level of Service E	
Analysis Period (min) 15			
~ 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.			

Splits and Phases: 1: Airport & 6th Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	188	432	220	148	449	203	300	1655	89	225	1123	213
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1900	1810	1810	1900	1882	1810	1900
Adj Flow Rate, veh/h	192	450	232	214	510	260	357	1724	103	271	1276	260
Adj No. of Lanes	2	2	1	2	2	0	2	3	0	2	3	0
Peak Hour Factor	0.98	0.96	0.95	0.69	0.88	0.78	0.84	0.96	0.86	0.83	0.88	0.82
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	246	541	242	435	491	250	437	2009	120	328	1549	316
Arrive On Green	0.07	0.16	0.16	0.13	0.22	0.22	0.13	0.42	0.42	0.09	0.38	0.38
Sat Flow, veh/h	3343	3438	1538	3343	2209	1122	3343	4768	285	3477	4116	839
Grp Volume(v), veh/h	192	450	232	214	397	373	357	1190	637	271	1021	515
Grp Sat Flow(s),veh/h/ln	1672	1719	1538	1672	1719	1612	1672	1647	1759	1739	1647	1662
Q Serve(g_s), s	6.6	14.8	13.6	7.0	26.0	26.0	12.1	38.3	38.4	8.9	32.7	32.8
Cycle Q Clear(g_c), s	6.6	14.8	13.6	7.0	26.0	26.0	12.1	38.3	38.4	8.9	32.7	32.8
Prop In Lane	1.00		1.00	1.00		0.70	1.00		0.16	1.00		0.50
Lane Grp Cap(c), veh/h	246	541	242	435	382	358	437	1387	741	328	1240	625
V/C Ratio(X)	0.78	0.83	0.96	0.49	1.04	1.04	0.82	0.86	0.86	0.83	0.82	0.82
Avail Cap(c_a), veh/h	286	765	342	435	382	358	486	1387	741	387	1240	625
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	53.2	47.7	29.4	47.3	45.4	45.4	49.4	30.6	30.7	52.0	32.9	32.9
Incr Delay (d2), s/veh	9.3	3.8	27.9	0.3	55.9	58.9	8.5	7.0	12.4	10.3	6.3	11.7
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	3.4	7.3	8.1	3.2	18.2	17.3	6.1	18.7	21.1	4.8	16.0	17.1
LnGrp Delay(d),s/veh	62.5	51.5	57.3	47.6	101.4	104.3	58.0	37.7	43.1	62.3	39.2	44.7
LnGrp LOS	E	D	E	D	F	F	E	D	D	E	D	D
Approach Vol, veh/h		874			984			2184			1807	
Approach Delay, s/veh		55.5			90.8			42.6			44.2	
Approach LOS		E			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	58.4	13.6	32.0	24.4	50.0	21.2	24.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	6.0	* 6	6.0	* 6
Max Green Setting (Gmax), s	13.0	49.0	10.0	26.0	17.0	* 44	9.0	* 26
Max Q Clear Time (g_c+I1), s	10.9	40.4	8.6	28.0	14.1	34.8	9.0	16.8
Green Ext Time (p_c), s	0.1	7.0	0.0	0.0	1.1	6.4	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	53.1
HCM 2010 LOS	D

Notes

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

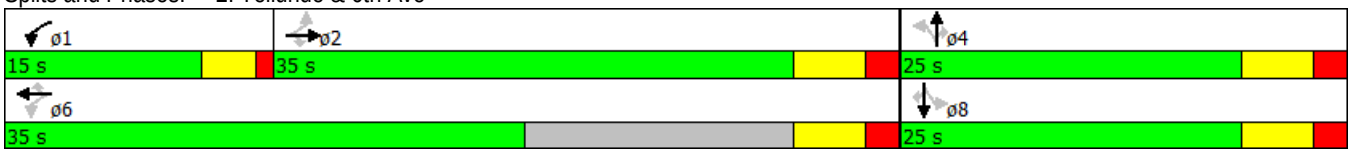
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	487	250	26	709	21	64	5	6	16	30	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	250		250	0		0	200		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			150			25			100		
Satd. Flow (prot)	1719	1810	1538	1719	1810	1538	1719	1810	1538	1719	1810	1538
Flt Permitted	0.285			0.319			0.718			0.752		
Satd. Flow (perm)	516	1810	1538	577	1810	1538	1299	1810	1538	1361	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			269			44			102			102
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1830			500			441			584	
Travel Time (s)		27.7			7.6			10.0			13.3	
Peak Hour Factor	0.54	0.81	0.93	0.72	0.82	0.58	0.76	0.63	0.50	0.57	0.50	0.59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	601	269	36	865	36	84	8	12	28	60	32
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	2	2	2	1	6	6	4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	7.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	35.0	35.0	35.0	15.0	35.0	35.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	46.7%	46.7%	46.7%	20.0%	46.7%	46.7%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	3.0	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	1.0	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	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Max	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	35.8	35.8	35.8	39.8	39.1	39.1	8.0	8.0	8.0	8.0	8.0	8.0
Actuated g/C Ratio	0.65	0.65	0.65	0.72	0.70	0.70	0.14	0.14	0.14	0.14	0.14	0.14
v/c Ratio	0.17	0.51	0.25	0.07	0.68	0.03	0.45	0.03	0.04	0.14	0.23	0.10
Control Delay	10.1	11.2	2.2	3.9	11.0	1.6	30.0	20.6	0.2	22.4	23.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	11.2	2.2	3.9	11.0	1.6	30.0	20.6	0.2	22.4	23.3	0.7
LOS	B	B	A	A	B	A	C	C	A	C	C	A
Approach Delay		8.5			10.4			25.8			17.1	
Approach LOS		A			B			C			B	
Queue Length 50th (ft)	6	85	0	3	156	0	22	2	0	7	15	0
Queue Length 95th (ft)	18	236	34	9	289	3	53	8	0	17	25	0
Internal Link Dist (ft)		1750			420			361			504	
Turn Bay Length (ft)	225		225	250		250				200		
Base Capacity (vph)	333	1168	1088	642	1491	1275	448	625	598	470	625	598
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.51	0.25	0.06	0.58	0.03	0.19	0.01	0.02	0.06	0.10	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 55.5			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 59.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Telluride & 6th Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	30	487	250	26	709	21	64	5	6	16	30	19
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	56	601	269	36	865	36	84	8	12	28	60	32
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.54	0.81	0.93	0.72	0.82	0.58	0.76	0.63	0.50	0.57	0.50	0.59
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	346	1010	859	388	1192	1013	239	199	169	282	199	169
Arrive On Green	0.56	0.56	0.56	0.02	0.66	0.66	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	598	1810	1538	1723	1810	1538	1262	1810	1538	1347	1810	1538
Grp Volume(v), veh/h	56	601	269	36	865	36	84	8	12	28	60	32
Grp Sat Flow(s),veh/h/ln	598	1810	1538	1723	1810	1538	1262	1810	1538	1347	1810	1538
Q Serve(g_s), s	3.5	11.4	4.9	0.4	16.2	0.4	3.4	0.2	0.4	1.0	1.6	1.0
Cycle Q Clear(g_c), s	14.5	11.4	4.9	0.4	16.2	0.4	5.0	0.2	0.4	1.2	1.6	1.0
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	346	1010	859	388	1192	1013	239	199	169	282	199	169
V/C Ratio(X)	0.16	0.59	0.31	0.09	0.73	0.04	0.35	0.04	0.07	0.10	0.30	0.19
Avail Cap(c_a), veh/h	346	1010	859	712	1192	1013	562	662	563	626	662	563
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	12.2	7.6	6.1	5.7	5.8	3.1	23.6	20.7	20.7	21.2	21.3	21.0
Incr Delay (d2), s/veh	1.0	2.6	1.0	0.0	3.9	0.1	0.3	0.0	0.1	0.1	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	6.2	2.2	0.2	9.2	0.2	1.2	0.1	0.2	0.4	0.8	0.4
LnGrp Delay(d),s/veh	13.2	10.2	7.1	5.7	9.7	3.2	23.9	20.7	20.8	21.2	21.6	21.2
LnGrp LOS	B	B	A	A	A	A	C	C	C	C	C	C
Approach Vol, veh/h		926			937			104			120	
Approach Delay, s/veh		9.5			9.3			23.3			21.4	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	5.2	35.0		11.7		40.2		11.7
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	11.0	29.0		19.0		29.0		19.0
Max Q Clear Time (g_c+I1), s	2.4	16.5		7.0		18.2		3.6
Green Ext Time (p_c), s	0.0	8.3		0.4		7.4		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	209	259	248	697	2	42	1	11	1	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		500	300		0	0		0	0		0
Storage Lanes	0		1	1		0	1		0	0		0
Taper Length (ft)	25			150			25			25		
Satd. Flow (prot)	0	1808	1538	1719	1808	0	1719	1583	0	0	1666	0
Flt Permitted		0.991		0.565			0.642				0.926	
Satd. Flow (perm)	0	1793	1538	1022	1808	0	1162	1583	0	0	1562	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			316					20			8	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2130			3513			1186			573	
Travel Time (s)		32.3			53.2			27.0			13.0	
Peak Hour Factor	0.25	0.79	0.82	0.91	0.87	0.50	0.96	0.25	0.55	0.25	0.25	0.38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	269	316	273	805	0	44	24	0	0	16	0
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6			4			8		
Detector Phase	2	2	2	1	6		7	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	4.0	5.0		3.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0		7.0	11.0		10.0	10.0	
Total Split (s)	84.5	84.5	84.5	8.0	84.5		9.0	35.5		26.5	26.5	
Total Split (%)	66.0%	66.0%	66.0%	6.3%	66.0%		7.0%	27.7%		20.7%	20.7%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	0.5	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			0.0	
Total Lost Time (s)		6.0	6.0	4.0	6.0		4.0	6.0			6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes			Yes	Yes	
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	
Act Effct Green (s)		79.0	79.0	89.1	88.4		11.0	9.6			6.3	
Actuated g/C Ratio		0.74	0.74	0.84	0.83		0.10	0.09			0.06	
v/c Ratio		0.20	0.26	0.31	0.53		0.29	0.15			0.16	
Control Delay		5.6	1.2	3.5	5.9		48.2	22.2			38.8	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		5.6	1.2	3.5	5.9		48.2	22.2			38.8	
LOS		A	A	A	A		D	C			D	
Approach Delay		3.2			5.3			39.0			38.8	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)		43	0	22	118		28	3			5	
Queue Length 95th (ft)		88	17	72	304		63	0			4	
Internal Link Dist (ft)		2050			3433			1106			493	
Turn Bay Length (ft)			500	300								
Base Capacity (vph)		1335	1226	884	1507		152	457			310	
Starvation Cap Reductn		0	0	0	0		0	0			0	
Spillback Cap Reductn		0	0	0	0		0	0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.20	0.26	0.31	0.53		0.29	0.05			0.05	

Intersection Summary			
Area Type:	Other		
Cycle Length: 128			
Actuated Cycle Length: 106.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 6.2		Intersection LOS: A	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Tower & 6th Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	209	259	248	697	2	42	1	11	1	1	3
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1810	1810	1810	1810	1900	1810	1810	1900	1900	1810	1900
Adj Flow Rate, veh/h	4	265	316	273	801	4	44	4	20	4	4	8
Adj No. of Lanes	0	1	1	1	1	0	1	1	0	0	1	0
Peak Hour Factor	0.25	0.79	0.82	0.91	0.87	0.50	0.96	0.25	0.55	0.25	0.25	0.38
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	38	1294	1111	673	1431	7	142	25	123	50	11	20
Arrive On Green	0.72	0.72	0.72	0.04	0.80	0.80	0.03	0.09	0.09	0.03	0.03	0.03
Sat Flow, veh/h	7	1791	1538	1723	1799	9	1723	263	1315	353	422	775
Grp Volume(v), veh/h	269	0	316	273	0	805	44	0	24	16	0	0
Grp Sat Flow(s),veh/h/ln	1798	0	1538	1723	0	1808	1723	0	1578	1550	0	0
Q Serve(g_s), s	0.0	0.0	7.8	4.0	0.0	17.8	2.6	0.0	1.5	0.9	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	7.8	4.0	0.0	17.8	2.6	0.0	1.5	1.1	0.0	0.0
Prop In Lane	0.01		1.00	1.00		0.00	1.00		0.83	0.25		0.50
Lane Grp Cap(c), veh/h	1332	0	1111	673	0	1439	142	0	148	81	0	0
V/C Ratio(X)	0.20	0.00	0.28	0.41	0.00	0.56	0.31	0.00	0.16	0.20	0.00	0.00
Avail Cap(c_a), veh/h	1332	0	1111	673	0	1439	167	0	428	332	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.9	0.0	5.3	3.9	0.0	4.1	47.7	0.0	45.3	52.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.6	0.4	0.0	1.6	1.2	0.0	0.5	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	3.4	1.2	0.0	9.4	1.3	0.0	0.7	0.5	0.0	0.0
LnGrp Delay(d),s/veh	5.3	0.0	5.9	4.3	0.0	5.7	48.9	0.0	45.8	53.3	0.0	0.0
LnGrp LOS	A		A	A		A	D		D	D		
Approach Vol, veh/h		585			1078			68			16	
Approach Delay, s/veh		5.6			5.3			47.8			53.3	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	8.0	84.5		16.2		92.5	7.4	8.8
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0	4.0	6.0
Max Green Setting (Gmax), s	4.0	78.5		29.5		78.5	5.0	20.5
Max Q Clear Time (g_c+I1), s	6.0	9.8		3.5		19.8	4.6	3.1
Green Ext Time (p_c), s	0.0	10.6		0.2		10.6	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	7.5
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	15

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER
Vol, veh/h	2	1	2	85	1	54	4	195	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	25	50	83	25	90	50	75	25
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5
Mvmt Flow	4	4	4	102	4	60	8	260	4

Major/Minor	Minor1			Minor2			Major1		
Conflicting Flow All	1337	1378	262	1309	1307	1027	1100	0	0
Stage 1	278	278	-	1027	1027	-	-	-	-
Stage 2	1059	1100	-	282	280	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-
Pot Cap-1 Maneuver	128	143	769	134	157	281	624	-	-
Stage 1	722	675	-	279	308	-	-	-	-
Stage 2	268	284	-	718	674	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	98	141	769	129	155	281	624	-	-
Mov Cap-2 Maneuver	98	141	-	129	155	-	-	-	-
Stage 1	711	665	-	275	308	-	-	-	-
Stage 2	208	284	-	699	664	-	-	-	-

Approach	NB	SB	SE
HCM Control Delay, s	29.2	137.2	0.3
HCM LOS	D	F	

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	NWR	SEL	SET	SER	SBLn1
Capacity (veh/h)	161	1283	-	-	624	-	-	161
HCM Lane V/C Ratio	0.075	-	-	-	0.013	-	-	1.034
HCM Control Delay (s)	29.2	0	-	-	10.8	0	-	137.2
HCM Lane LOS	D	A	-	-	B	A	-	F
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	8.2

Intersection	
Int Delay, s/veh	

Movement	NWL	NWT	NWR
Vol, veh/h	0	840	115
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	25	88	79
Heavy Vehicles, %	5	5	5
Mvmt Flow	0	955	146

Major/Minor	Major2		
Conflicting Flow All	264	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.15	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.245	-	-
Pot Cap-1 Maneuver	1283	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1283	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	NW
HCM Control Delay, s	0
HCM LOS	

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	1	0	20	0	6	0	125	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5
Mvmt Flow	0	1	0	22	0	7	0	136	5

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	277	276	130	274	274	139	130	0	0
Stage 1	135	135	-	139	139	-	-	-	-
Stage 2	142	141	-	135	135	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-
Pot Cap-1 Maneuver	669	626	912	672	628	901	1437	-	-
Stage 1	861	779	-	857	776	-	-	-	-
Stage 2	854	774	-	861	779	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	663	625	912	670	627	901	1437	-	-
Mov Cap-2 Maneuver	663	625	-	670	627	-	-	-	-
Stage 1	861	777	-	857	776	-	-	-	-
Stage 2	848	774	-	858	777	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	10.8	10.3	0
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1437	-	-	625	712	1424	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.04	0.002	-	-
HCM Control Delay (s)	0	-	-	10.8	10.3	7.5	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	2	120	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	5	5	5
Mvmt Flow	2	130	0

Major/Minor	Major2		
Conflicting Flow All	141	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.15	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.245	-	-
Pot Cap-1 Maneuver	1424	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1424	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	0.1
HCM LOS	

Minor Lane/Major Mvmt

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	1	5	1	0	50	2	25	0	1	1	5
Peak Hour Factor	0.92	0.25	0.25	0.25	0.92	0.91	0.25	0.81	0.92	0.25	0.25	0.38
Heavy Vehicles, %	2	5	5	5	2	5	5	5	2	5	5	5
Mvmt Flow	0	4	20	4	0	55	8	31	0	4	4	13
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.2	7.5	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	14%	65%	71%
Vol Thru, %	14%	71%	3%	29%
Vol Right, %	71%	14%	32%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	7	77	7
LT Vol	1	5	2	2
Through Vol	5	1	25	0
RT Vol	1	1	50	5
Lane Flow Rate	21	28	94	21
Geometry Grp	1	1	1	1
Degree of Util (X)	0.022	0.032	0.105	0.026
Departure Headway (Hd)	3.811	4.073	4.016	4.355
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	930	876	892	816
Service Time	1.874	2.111	2.041	2.414
HCM Lane V/C Ratio	0.023	0.032	0.105	0.026
HCM Control Delay	7	7.2	7.5	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.4	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	5	2	0
Peak Hour Factor	0.92	0.38	0.25	0.25
Heavy Vehicles, %	2	5	5	5
Mvmt Flow	0	13	8	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.5
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	10	5	70	50	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	250	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	56	100	78	82	25	25	25	25
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5
Mvmt Flow	0	18	5	90	61	0	0	0	0

Major/Minor	Major1			Major2		
Conflicting Flow All	61	0	0	18	0	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	1523	-	-	1579	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-		-	-
Mov Cap-1 Maneuver	1523	-	-	1579	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB
HCM Control Delay, s	0	4.4
HCM LOS		

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1523	-	-	1579	-	-	683	996
HCM Lane V/C Ratio	-	-	-	0.057	-	-	0.067	0.036
HCM Control Delay (s)	0	-	-	7.4	-	-	10.6	8.8
HCM Lane LOS	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	0.2	-	-	0.2	0.1

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	20	1	25
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	44	25	78
Heavy Vehicles, %	5	5	5
Mvmt Flow	45	4	32

Major/Minor	Minor2		
Conflicting Flow All	258	258	61
Stage 1	240	240	-
Stage 2	18	18	-
Critical Hdwy	6.45	6.55	6.25
Critical Hdwy Stg 1	5.45	5.55	-
Critical Hdwy Stg 2	5.45	5.55	-
Follow-up Hdwy	3.545	4.045	3.345
Pot Cap-1 Maneuver	724	641	996
Stage 1	793	701	-
Stage 2	997	874	-
Platoon blocked, %			
Mov Cap-1 Maneuver	683	0	996
Mov Cap-2 Maneuver	683	0	-
Stage 1	748	0	-
Stage 2	997	0	-

Approach	SB
HCM Control Delay, s	9.8
HCM LOS	A

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	10	20	0	0	105	25	20	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	250	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	71	25	25	85	65	79	25	62
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5
Mvmt Flow	20	28	0	0	124	38	25	0	56

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	124	0	0	28	0	0	192	192	28
Stage 1	-	-	-	-	-	-	68	68	-
Stage 2	-	-	-	-	-	-	124	124	-
Critical Hdwy	4.15	-	-	4.15	-	-	6.45	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	5.45	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.45	5.55	-
Follow-up Hdwy	2.245	-	-	2.245	-	-	3.545	4.045	3.345
Pot Cap-1 Maneuver	1444	-	-	1566	-	-	790	698	1039
Stage 1	-	-	-	-	-	-	947	832	-
Stage 2	-	-	-	-	-	-	894	788	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1444	-	-	1566	-	-	779	0	1039
Mov Cap-2 Maneuver	-	-	-	-	-	-	779	0	-
Stage 1	-	-	-	-	-	-	934	0	-
Stage 2	-	-	-	-	-	-	894	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.1	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	779	1039	1444	-	-	1566	-	-
HCM Lane V/C Ratio	0.032	0.054	0.014	-	-	-	-	-
HCM Control Delay (s)	9.8	8.7	7.5	-	-	0	-	-
HCM Lane LOS	A	A	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.1	0.2	0	-	-	0	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	0	0	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	25	25	25
Heavy Vehicles, %	5	5	5
Mvmt Flow	0	0	0

Major/Minor	
Conflicting Flow All	
Stage 1	
Stage 2	
Critical Hdwy	
Critical Hdwy Stg 1	
Critical Hdwy Stg 2	
Follow-up Hdwy	
Pot Cap-1 Maneuver	
Stage 1	
Stage 2	
Platoon blocked, %	
Mov Cap-1 Maneuver	
Mov Cap-2 Maneuver	
Stage 1	
Stage 2	

Approach	
HCM Control Delay, s	
HCM LOS	

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	11.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	40	10	95	90	80	20	350	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	75	44	77	74	89	71	85	72
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5
Mvmt Flow	8	53	23	123	122	90	28	412	97

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1000	894	232	932	910	412	248	0	0
Stage 1	426	426	-	468	468	-	-	-	-
Stage 2	574	468	-	464	442	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-
Pot Cap-1 Maneuver	219	277	800	244	271	633	1300	-	-
Stage 1	601	581	-	570	556	-	-	-	-
Stage 2	499	556	-	573	571	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	105	248	800	182	242	633	1300	-	-
Mov Cap-2 Maneuver	105	248	-	182	242	-	-	-	-
Stage 1	588	531	-	558	544	-	-	-	-
Stage 2	325	544	-	458	522	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	25	35.2	0.4
HCM LOS	D	E	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1300	-	-	263	182	242	383	1131	-	-
HCM Lane V/C Ratio	0.022	-	-	0.32	0.678	0.251	0.393	0.086	-	-
HCM Control Delay (s)	7.8	-	-	25	58.5	24.8	20.4	8.5	-	-
HCM Lane LOS	A	-	-	D	F	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	4.1	1	1.8	0.3	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	70	185	20
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	150	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	72	86	61
Heavy Vehicles, %	5	5	5
Mvmt Flow	97	215	33

Major/Minor	Major2		
Conflicting Flow All	412	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.15	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.245	-	-
Pot Cap-1 Maneuver	1131	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1131	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	2.4
HCM LOS	

Minor Lane/Major Mvmt

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	440	330	235	410	250	240	1050	155	220	2030	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	16	12	12
Storage Length (ft)	370		370	235		0	215		0	300		0
Storage Lanes	2		1	1		0	2		0	2		0
Taper Length (ft)	150			150			150			150		
Satd. Flow (prot)	3335	3438	1538	3335	3235	0	3335	4841	0	3780	4876	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	3438	1538	3335	3235	0	3335	4841	0	3780	4876	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			219		109			29			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1333			500			1429			1106	
Travel Time (s)		30.3			11.4			32.5			25.1	
Peak Hour Factor	0.90	0.86	0.80	0.77	0.91	0.85	0.92	0.93	0.87	0.79	0.88	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	322	512	412	305	745	0	261	1307	0	278	2525	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8									
Detector Phase	3	8	8	7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.0		4.0	5.0	
Minimum Split (s)	9.0	10.0	10.0	9.0	10.0		9.0	11.0		9.0	11.0	
Total Split (s)	16.0	28.0	28.0	15.0	27.0		19.0	52.0		25.0	58.0	
Total Split (%)	13.3%	23.3%	23.3%	12.5%	22.5%		15.8%	43.3%		20.8%	48.3%	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	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)	5.0	6.0	6.0	5.0	6.0		5.0	6.0		5.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max		None	C-Max		None	C-Max	
Act Effct Green (s)	11.0	22.0	22.0	10.0	21.0		12.4	53.3		12.7	53.6	
Actuated g/C Ratio	0.09	0.18	0.18	0.08	0.18		0.10	0.44		0.11	0.45	
v/c Ratio	1.06	0.81	0.90	1.10	1.14		0.76	0.60		0.69	1.15	
Control Delay	119.0	58.4	45.5	134.3	117.2		66.7	26.5		61.0	107.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	119.0	58.4	45.5	134.3	117.2		66.7	26.5		61.0	107.0	
LOS	F	E	D	F	F		E	C		E	F	
Approach Delay		69.8			122.2			33.2			102.4	
Approach LOS		E			F			C			F	
Queue Length 50th (ft)	~140	202	156	~138	~315		102	269		108	~855	
Queue Length 95th (ft)	#235	252	#247	#180	#442		147	338		129	#923	
Internal Link Dist (ft)		1253			420			1349			1026	
Turn Bay Length (ft)	370		370	235			215			300		
Base Capacity (vph)	305	630	460	277	656		389	2166		630	2187	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	1.06	0.81	0.90	1.10	1.14		0.67	0.60		0.44	1.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 18 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 83.2		Intersection LOS: F	
Intersection Capacity Utilization 96.1%		ICU Level of Service F	
Analysis Period (min) 15			
~ 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.			

Splits and Phases: 1: Airport & 6th Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	290	440	330	235	410	250	240	1050	155	220	2030	185
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1900	1810	1810	1900	1882	1810	1900
Adj Flow Rate, veh/h	322	512	412	305	451	294	261	1129	178	278	2307	218
Adj No. of Lanes	2	2	1	2	2	0	2	3	0	2	3	0
Peak Hour Factor	0.90	0.86	0.80	0.77	0.91	0.85	0.92	0.93	0.87	0.79	0.88	0.85
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	314	646	289	257	359	233	317	1899	299	339	2043	190
Arrive On Green	0.09	0.19	0.19	0.08	0.18	0.18	0.09	0.44	0.44	0.10	0.44	0.44
Sat Flow, veh/h	3343	3438	1538	3343	2002	1297	3343	4305	678	3477	4600	428
Grp Volume(v), veh/h	322	512	412	305	387	358	261	864	443	278	1641	884
Grp Sat Flow(s),veh/h/ln	1672	1719	1538	1672	1719	1581	1672	1647	1690	1739	1647	1734
Q Serve(g_s), s	11.0	16.6	16.8	9.0	21.0	21.0	9.0	23.3	23.3	9.2	52.0	52.0
Cycle Q Clear(g_c), s	11.0	16.6	16.8	9.0	21.0	21.0	9.0	23.3	23.3	9.2	52.0	52.0
Prop In Lane	1.00		1.00	1.00		0.82	1.00		0.40	1.00		0.25
Lane Grp Cap(c), veh/h	314	646	289	257	308	283	317	1453	746	339	1463	770
V/C Ratio(X)	1.03	0.79	1.43	1.19	1.25	1.26	0.82	0.59	0.59	0.82	1.12	1.15
Avail Cap(c_a), veh/h	314	646	289	257	308	283	400	1453	746	594	1463	770
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	53.0	45.4	27.8	54.0	48.0	48.0	52.0	24.8	24.8	51.8	32.5	32.5
Incr Delay (d2), s/veh	57.4	9.6	210.5	116.2	138.4	143.7	8.7	1.8	3.5	1.9	64.6	81.3
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	7.6	8.8	24.4	8.3	21.8	20.4	4.5	10.9	11.6	4.5	36.7	42.2
LnGrp Delay(d),s/veh	110.4	55.0	238.3	170.3	186.5	191.7	60.7	26.6	28.3	53.7	97.1	113.8
LnGrp LOS	F	E	F	F	F	F	E	C	C	D	F	F
Approach Vol, veh/h		1246			1050			1568			2803	
Approach Delay, s/veh		129.9			183.6			32.7			98.1	
Approach LOS		F			F			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	60.6	16.0	27.0	16.1	60.9	15.0	28.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	6.0	* 6
Max Green Setting (Gmax), s	20.0	46.0	11.0	21.0	14.0	52.0	9.0	* 22
Max Q Clear Time (g_c+I1), s	11.2	25.3	13.0	23.0	11.0	54.0	11.0	18.8
Green Ext Time (p_c), s	0.2	20.1	0.0	0.0	0.1	0.0	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	102.1
HCM 2010 LOS	F

Notes

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

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	550	135	10	550	65	255	35	65	25	10	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	250		250	0		0	200		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			150			25			100		
Satd. Flow (prot)	1719	1810	1538	1719	1810	1538	1719	1810	1538	1719	1810	1538
Flt Permitted	0.418			0.288			0.748			0.728		
Satd. Flow (perm)	756	1810	1538	521	1810	1538	1354	1810	1538	1317	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			78			102			102
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1830			500			441			584	
Travel Time (s)		41.6			11.4			10.0			13.3	
Peak Hour Factor	0.68	0.92	0.87	0.45	0.94	0.83	0.90	0.77	0.80	0.55	0.67	0.71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	598	155	22	585	78	283	45	81	45	15	49
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	2	2	2	1	6	6	4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	3.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	7.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	35.0	35.0	35.0	15.0	50.0	50.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	46.7%	46.7%	46.7%	20.0%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	3.0	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	1.0	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	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Max	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	41.8	41.8	41.8	47.4	45.4	45.4	17.7	17.7	17.7	17.7	17.7	17.7
Actuated g/C Ratio	0.56	0.56	0.56	0.63	0.60	0.60	0.24	0.24	0.24	0.24	0.24	0.24
v/c Ratio	0.14	0.59	0.17	0.06	0.54	0.08	0.89	0.11	0.18	0.15	0.04	0.11
Control Delay	11.4	15.8	2.7	6.0	11.3	2.0	57.8	22.3	4.7	23.2	21.5	1.3
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	11.4	15.8	2.7	6.0	11.3	2.0	57.8	22.3	4.7	23.2	21.5	1.3
LOS	B	B	A	A	B	A	E	C	A	C	C	A
Approach Delay		13.0			10.1			43.4			13.1	
Approach LOS		B			B			D			B	
Queue Length 50th (ft)	11	155	0	4	151	0	124	16	0	16	5	0
Queue Length 95th (ft)	27	331	26	6	236	13	#253	34	16	25	14	0
Internal Link Dist (ft)		1750			420			361			504	
Turn Bay Length (ft)	225		225	250		250				200		
Base Capacity (vph)	421	1008	925	504	1093	960	343	458	465	333	458	465
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.59	0.17	0.04	0.54	0.08	0.83	0.10	0.17	0.14	0.03	0.11

Intersection Summary

Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75.1			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 64.0%		ICU Level of Service C	
Analysis Period (min) 15			

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

Splits and Phases: 2: Telluride & 6th Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	550	135	10	550	65	255	35	65	25	10	35
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	59	598	155	22	585	78	283	45	81	45	15	49
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.68	0.92	0.87	0.45	0.94	0.83	0.90	0.77	0.80	0.55	0.67	0.71
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	393	946	804	320	1070	910	409	447	380	376	447	380
Arrive On Green	0.52	0.52	0.52	0.01	0.59	0.59	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	747	1810	1538	1723	1810	1538	1294	1810	1538	1224	1810	1538
Grp Volume(v), veh/h	59	598	155	22	585	78	283	45	81	45	15	49
Grp Sat Flow(s),veh/h/ln	747	1810	1538	1723	1810	1538	1294	1810	1538	1224	1810	1538
Q Serve(g_s), s	3.8	17.5	4.0	0.4	14.5	1.6	15.8	1.4	3.1	2.2	0.5	1.8
Cycle Q Clear(g_c), s	13.3	17.5	4.0	0.4	14.5	1.6	16.3	1.4	3.1	3.6	0.5	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	946	804	320	1070	910	409	447	380	376	447	380
V/C Ratio(X)	0.15	0.63	0.19	0.07	0.55	0.09	0.69	0.10	0.21	0.12	0.03	0.13
Avail Cap(c_a), veh/h	393	946	804	549	1070	910	419	462	393	386	462	393
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	14.7	12.6	9.4	9.8	9.2	6.5	27.4	21.6	22.3	23.0	21.3	21.8
Incr Delay (d2), s/veh	0.8	3.2	0.5	0.0	2.0	0.2	3.9	0.0	0.1	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	9.5	1.8	0.2	7.7	0.7	6.1	0.7	1.3	0.7	0.2	0.8
LnGrp Delay(d),s/veh	15.5	15.8	9.9	9.8	11.2	6.7	31.3	21.7	22.4	23.1	21.3	21.8
LnGrp LOS	B	B	A	A	B	A	C	C	C	C	C	C
Approach Vol, veh/h		812			685			409			109	
Approach Delay, s/veh		14.7			10.6			28.5			22.3	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	5.1	44.9		24.4		50.0		24.4
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	11.0	29.0		19.0		44.0		19.0
Max Q Clear Time (g_c+I1), s	2.4	19.5		18.3		16.5		5.6
Green Ext Time (p_c), s	0.0	5.9		0.1		11.1		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Notes

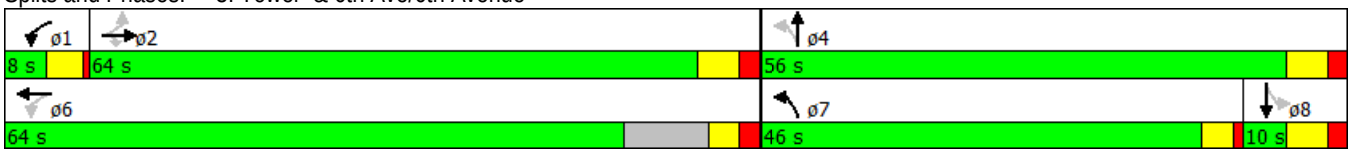
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	620	140	35	280	0	430	0	208	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		500	300		0	0		0	0		0
Storage Lanes	0		1	1		0	1		0	0		0
Taper Length (ft)	25			150			25			25		
Satd. Flow (prot)	0	1810	1538	1719	1810	0	1719	1538	0	0	1565	0
Flt Permitted				0.189			0.851					
Satd. Flow (perm)	0	1810	1538	342	1810	0	1540	1538	0	0	1565	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173					212			366	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2130			2882			1186			573	
Travel Time (s)		48.4			65.5			27.0			13.0	
Peak Hour Factor	0.25	0.91	0.81	0.88	0.85	0.25	0.81	0.25	0.83	0.25	0.25	0.25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	681	173	40	329	0	531	251	0	0	4	0
Turn Type		NA	Perm	pm+pt	NA		pm+pt	NA			NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6			4			8		
Detector Phase	2	2	2	1	6		7	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	4.0	5.0		3.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	11.0	11.0	8.0	11.0		7.0	10.0		10.0	10.0	
Total Split (s)	64.0	64.0	64.0	8.0	64.0		46.0	56.0		10.0	10.0	
Total Split (%)	50.0%	50.0%	50.0%	6.3%	50.0%		35.9%	43.8%		7.8%	7.8%	
Yellow Time (s)	4.0	4.0	4.0	3.5	3.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	0.5	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			0.0	
Total Lost Time (s)		6.0	6.0	4.0	5.0		4.0	6.0			6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes			Yes	Yes	
Recall Mode	Max	Max	Max	None	None		None	None		None	None	
Act Effct Green (s)		58.8	58.8	65.2	64.2		38.3	36.2			4.1	
Actuated g/C Ratio		0.53	0.53	0.58	0.58		0.34	0.32			0.04	
v/c Ratio		0.71	0.19	0.16	0.32		0.91	0.39			0.01	
Control Delay		28.2	3.3	13.6	14.7		55.3	7.7			0.0	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		28.2	3.3	13.6	14.7		55.3	7.7			0.0	
LOS		C	A	B	B		E	A			A	
Approach Delay		23.2			14.6			40.0			0.0	
Approach LOS		C			B			D			A	
Queue Length 50th (ft)		398	0	12	121		374	20			0	
Queue Length 95th (ft)		664	28	33	205		440	0			0	
Internal Link Dist (ft)		2050			2802			1106			493	
Turn Bay Length (ft)			500	300								
Base Capacity (vph)		953	891	249	1100		679	813			409	
Starvation Cap Reductn		0	0	0	0		0	0			0	
Spillback Cap Reductn		0	0	0	0		0	0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.71	0.19	0.16	0.30		0.78	0.31			0.01	

Intersection Summary			
Area Type:	Other		
Cycle Length: 128			
Actuated Cycle Length: 111.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 28.1		Intersection LOS: C	
Intersection Capacity Utilization 73.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Tower & 6th Ave/6th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	620	140	35	280	0	430	0	208	0	0	1
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1810	1810	1810	1810	1900	1810	1810	1900	1900	1810	1900
Adj Flow Rate, veh/h	0	681	173	40	329	0	531	0	251	0	0	4
Adj No. of Lanes	0	1	1	1	1	0	1	1	0	0	1	0
Peak Hour Factor	0.25	0.91	0.81	0.88	0.85	0.25	0.81	0.25	0.83	0.25	0.25	0.25
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	0	857	728	198	960	0	628	0	571	0	0	50
Arrive On Green	0.00	0.47	0.47	0.02	0.53	0.00	0.31	0.00	0.37	0.00	0.00	0.03
Sat Flow, veh/h	0	1810	1538	1723	1810	0	1723	0	1538	0	0	1538
Grp Volume(v), veh/h	0	681	173	40	329	0	531	0	251	0	0	4
Grp Sat Flow(s),veh/h/ln	0	1810	1538	1723	1810	0	1723	0	1538	0	0	1538
Q Serve(g_s), s	0.0	38.9	8.2	1.4	12.8	0.0	35.2	0.0	15.0	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.0	38.9	8.2	1.4	12.8	0.0	35.2	0.0	15.0	0.0	0.0	0.3
Prop In Lane	0.00		1.00	1.00		0.00	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	0	857	728	198	960	0	628	0	571	0	0	50
V/C Ratio(X)	0.00	0.79	0.24	0.20	0.34	0.00	0.85	0.00	0.44	0.00	0.00	0.08
Avail Cap(c_a), veh/h	0	857	728	213	960	0	691	0	628	0	0	50
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.2	19.1	22.1	16.5	0.0	36.8	0.0	28.9	0.0	0.0	57.4
Incr Delay (d2), s/veh	0.0	7.5	0.8	0.5	0.2	0.0	8.1	0.0	0.2	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	21.1	3.6	0.7	6.5	0.0	17.9	0.0	6.4	0.0	0.0	0.1
LnGrp Delay(d),s/veh	0.0	34.7	19.9	22.6	16.7	0.0	44.9	0.0	29.1	0.0	0.0	57.7
LnGrp LOS		C	B	C	B		D		C			E
Approach Vol, veh/h		854			369			782			4	
Approach Delay, s/veh		31.7			17.3			39.9			57.7	
Approach LOS		C			B			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	7.0	64.0		51.5		71.0	41.5	10.0
Change Period (Y+Rc), s	4.0	6.0		6.0		* 6	4.0	6.0
Max Green Setting (Gmax), s	4.0	58.0		50.0		* 58	42.0	4.0
Max Q Clear Time (g_c+I1), s	3.4	40.9		17.0		14.8	37.2	2.3
Green Ext Time (p_c), s	0.0	7.1		1.2		9.5	0.3	0.2

Intersection Summary		
HCM 2010 Ctrl Delay		32.3
HCM 2010 LOS		C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	77.9

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER
Vol, veh/h	0	0	1	185	2	20	45	780	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	86	50	88	72	92	25
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5
Mvmt Flow	0	0	4	215	4	23	62	848	0

Major/Minor	Minor1			Minor2			Major1		
Conflicting Flow All	1350	1378	848	1339	1337	364	405	0	0
Stage 1	973	973	-	364	364	-	-	-	-
Stage 2	377	405	-	975	973	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-
Pot Cap-1 Maneuver	126	143	357	~ 128	151	674	1138	-	-
Stage 1	299	327	-	649	619	-	-	-	-
Stage 2	638	593	-	299	327	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	109	128	357	~ 116	135	674	1138	-	-
Mov Cap-2 Maneuver	109	128	-	~ 116	135	-	-	-	-
Stage 1	268	293	-	581	619	-	-	-	-
Stage 2	613	593	-	265	293	-	-	-	-

Approach	NB	SB	SE
HCM Control Delay, s	15.2	$ 500.2	0.6
HCM LOS	C	F	

Minor Lane/Major Mvmt	NBLn1	NWL	NWT	NWR	SEL	SET	SER	SBLn1
Capacity (veh/h)	357	777	-	-	1138	-	-	126
HCM Lane V/C Ratio	0.011	-	-	-	0.055	-	-	1.919
HCM Control Delay (s)	15.2	0	-	-	8.3	0	-	$ 500.2
HCM Lane LOS	C	A	-	-	A	A	-	F
HCM 95th %tile Q(veh)	0	0	-	-	0.2	-	-	19.2

Notes

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

Intersection	
Int Delay, s/veh	

Movement	NWL	NWT	NWR
Vol, veh/h	0	280	65
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	25	87	78
Heavy Vehicles, %	5	5	5
Mvmt Flow	0	322	83

Major/Minor	Major2		
Conflicting Flow All	848	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.15	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.245	-	-
Pot Cap-1 Maneuver	777	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	777	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	NW
HCM Control Delay, s	0
HCM LOS	

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	0	0	15	0	5	0	95	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	83	25	50	25	84	50
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5
Mvmt Flow	4	0	0	18	0	10	0	113	30

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	399	409	186	394	396	128	188	0	0
Stage 1	266	266	-	128	128	-	-	-	-
Stage 2	133	143	-	266	268	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-
Pot Cap-1 Maneuver	556	527	849	560	536	914	1368	-	-
Stage 1	733	683	-	869	784	-	-	-	-
Stage 2	863	773	-	733	682	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	537	511	849	547	519	914	1368	-	-
Mov Cap-2 Maneuver	537	511	-	547	519	-	-	-	-
Stage 1	733	662	-	869	784	-	-	-	-
Stage 2	854	773	-	710	661	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	11.8	10.9	0
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1368	-	-	537	638	1421	-	-
HCM Lane V/C Ratio	-	-	-	0.007	0.044	0.028	-	-
HCM Control Delay (s)	0	-	-	11.8	10.9	7.6	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	10	175	1
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	25	95	25
Heavy Vehicles, %	5	5	5
Mvmt Flow	40	184	4

Major/Minor	Major2		
Conflicting Flow All	143	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.15	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.245	-	-
Pot Cap-1 Maneuver	1421	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1421	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	1.3
HCM LOS	

Minor Lane/Major Mvmt

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	1	1	1	0	10	1	25	0	1	2	55
Peak Hour Factor	0.92	0.25	0.25	0.25	0.92	0.60	0.25	0.69	0.92	0.25	0.50	0.78
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	0	4	4	4	0	17	4	36	0	4	4	71
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.2	7.1	6.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	33%	28%	87%
Vol Thru, %	3%	33%	3%	9%
Vol Right, %	95%	33%	69%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	3	36	23
LT Vol	2	1	1	2
Through Vol	55	1	25	1
RT Vol	1	1	10	20
Lane Flow Rate	79	12	57	40
Geometry Grp	1	1	1	1
Degree of Util (X)	0.078	0.014	0.061	0.048
Departure Headway (Hd)	3.571	4.103	3.839	4.315
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	999	868	929	829
Service Time	1.607	2.15	1.88	2.347
HCM Lane V/C Ratio	0.079	0.014	0.061	0.048
HCM Control Delay	6.9	7.2	7.1	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0	0.2	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	20	2	1
Peak Hour Factor	0.92	0.71	0.25	0.25
Heavy Vehicles, %	5	5	5	5
Mvmt Flow	0	28	8	4
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.6
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	50	25	40	30	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	250	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	77	69	77	68	25	25	25	25
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5
Mvmt Flow	0	65	36	52	44	0	0	0	0

Major/Minor	Major1			Major2		
Conflicting Flow All	44	0	0	65	0	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	1545	-	-	1518	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-		-	-
Mov Cap-1 Maneuver	1545	-	-	1518	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB
HCM Control Delay, s	0	4
HCM LOS		

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1545	-	-	1518	-	-	743	1018
HCM Lane V/C Ratio	-	-	-	0.034	-	-	0.037	0.016
HCM Control Delay (s)	0	-	-	7.5	-	-	10	8.6
HCM Lane LOS	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-	-	0.1	0

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	25	1	5
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	0	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	25	42
Heavy Vehicles, %	5	5	5
Mvmt Flow	27	4	12

Major/Minor	Minor2		
Conflicting Flow All	213	213	44
Stage 1	148	148	-
Stage 2	65	65	-
Critical Hdwy	6.45	6.55	6.25
Critical Hdwy Stg 1	5.45	5.55	-
Critical Hdwy Stg 2	5.45	5.55	-
Follow-up Hdwy	3.545	4.045	3.345
Pot Cap-1 Maneuver	769	679	1018
Stage 1	872	769	-
Stage 2	950	835	-
Platoon blocked, %			
Mov Cap-1 Maneuver	743	0	1018
Mov Cap-2 Maneuver	743	0	-
Stage 1	842	0	-
Stage 2	950	0	-

Approach	SB
HCM Control Delay, s	9.5
HCM LOS	A

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	25	50	0	0	60	15	10	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	-	-	250	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	56	71	25	25	82	50	58	25	73
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5
Mvmt Flow	45	70	0	0	73	30	17	0	48

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	73	0	0	70	0	0	233	233	70
Stage 1	-	-	-	-	-	-	160	160	-
Stage 2	-	-	-	-	-	-	73	73	-
Critical Hdwy	4.15	-	-	4.15	-	-	6.45	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	5.45	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.45	5.55	-
Follow-up Hdwy	2.245	-	-	2.245	-	-	3.545	4.045	3.345
Pot Cap-1 Maneuver	1508	-	-	1512	-	-	749	662	984
Stage 1	-	-	-	-	-	-	861	760	-
Stage 2	-	-	-	-	-	-	942	828	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1508	-	-	1512	-	-	727	0	984
Mov Cap-2 Maneuver	-	-	-	-	-	-	727	0	-
Stage 1	-	-	-	-	-	-	835	0	-
Stage 2	-	-	-	-	-	-	942	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.9	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	727	984	1508	-	-	1512	-	-
HCM Lane V/C Ratio	0.024	0.049	0.03	-	-	-	-	-
HCM Control Delay (s)	10.1	8.8	7.5	-	-	0	-	-
HCM Lane LOS	B	A	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.1	0.2	0.1	-	-	0	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	0	0	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	25	25	25
Heavy Vehicles, %	5	5	5
Mvmt Flow	0	0	0

Major/Minor	
Conflicting Flow All	
Stage 1	
Stage 2	
Critical Hdwy	
Critical Hdwy Stg 1	
Critical Hdwy Stg 2	
Follow-up Hdwy	
Pot Cap-1 Maneuver	
Stage 1	
Stage 2	
Platoon blocked, %	
Mov Cap-1 Maneuver	
Mov Cap-2 Maneuver	
Stage 1	
Stage 2	

Approach	
HCM Control Delay, s	
HCM LOS	

Minor Lane/Major Mvmt

Intersection	
Int Delay, s/veh	10.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	5	60	20	90	55	45	15	205	130
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	33	81	79	73	81	75	63	77	80
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5
Mvmt Flow	15	74	25	123	68	60	24	266	162

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	902	838	318	888	843	266	323	0	0
Stage 1	524	524	-	314	314	-	-	-	-
Stage 2	378	314	-	574	529	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.15	6.55	6.25	4.15	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.15	5.55	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.15	5.55	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.545	4.045	3.345	2.245	-	-
Pot Cap-1 Maneuver	255	299	716	261	297	765	1220	-	-
Stage 1	531	525	-	690	651	-	-	-	-
Stage 2	638	651	-	499	522	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	175	270	716	184	268	765	1220	-	-
Mov Cap-2 Maneuver	175	270	-	184	268	-	-	-	-
Stage 1	521	483	-	676	638	-	-	-	-
Stage 2	515	638	-	375	480	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	25.4	36.4	0.4
HCM LOS	D	E	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1220	-	-	289	184	268	458	1281	-	-
HCM Lane V/C Ratio	0.02	-	-	0.396	0.67	0.127	0.205	0.081	-	-
HCM Control Delay (s)	8	-	-	25.4	57.1	20.4	14.9	8.1	-	-
HCM Lane LOS	A	-	-	D	F	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.8	4	0.4	0.8	0.3	-	-

Intersection	
Int Delay, s/veh	

Movement	SBL	SBT	SBR
Vol, veh/h	90	300	5
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	150	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	87	96	50
Heavy Vehicles, %	5	5	5
Mvmt Flow	103	312	10

Major/Minor	Major2		
Conflicting Flow All	266	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.15	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.245	-	-
Pot Cap-1 Maneuver	1281	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1281	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	2
HCM LOS	

Minor Lane/Major Mvmt

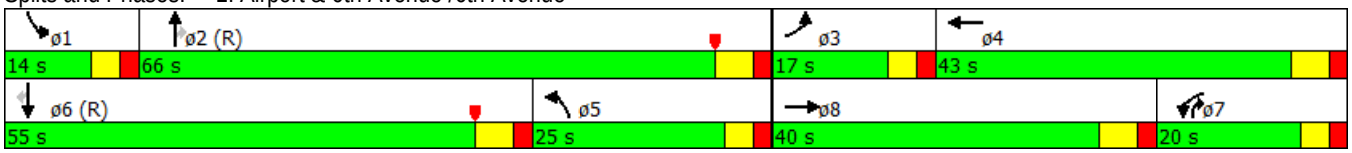
Appendix B Level of Service Output – No Action Alternative

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	215	1010	250	350	1060	250	480	1830	260	270	1210	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	16	12	12
Storage Length (ft)	370		370	235		235	215		0	300		0
Storage Lanes	2		0	1		0	2		1	2		1
Taper Length (ft)	150			150			150			150		
Satd. Flow (prot)	3335	4802	0	3335	4782	0	3335	4940	1538	3780	4940	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4802	0	3335	4782	0	3335	4940	1538	3780	4940	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			48				101			213
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1333			2646			1429			1106	
Travel Time (s)		20.2			40.1			21.7			16.8	
Peak Hour Factor	0.73	0.87	0.92	0.82	0.87	0.75	0.84	0.78	0.71	0.75	0.71	0.76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	295	1433	0	427	1551	0	571	2346	366	360	1704	421
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	3	8		7	4		5	2	7	1	6	
Permitted Phases									2			6
Detector Phase	3	8		7	4		5	2	7	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	10.0		9.0	10.0		9.0	11.0	9.0	9.0	11.0	11.0
Total Split (s)	17.0	40.0		20.0	43.0		25.0	66.0	20.0	14.0	55.0	55.0
Total Split (%)	12.1%	28.6%		14.3%	30.7%		17.9%	47.1%	14.3%	10.0%	39.3%	39.3%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	3.0	3.0	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	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	5.0	5.0	6.0	6.0
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	None	C-Max	C-Max
Act Effct Green (s)	12.0	34.0		15.0	37.0		20.0	60.0	76.0	9.0	49.0	49.0
Actuated g/C Ratio	0.09	0.24		0.11	0.26		0.14	0.43	0.54	0.06	0.35	0.35
v/c Ratio	1.04	1.20		1.20	1.19		1.20	1.11	0.42	1.48	0.99	0.62
Control Delay	123.6	142.3		150.7	127.7		158.4	94.0	9.4	280.4	63.5	22.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	123.6	142.3		150.7	127.7		158.4	94.0	9.4	280.4	63.5	22.4
LOS	F	F		F	F		F	F	A	F	E	C
Approach Delay		139.1			132.7			95.8			87.9	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	~147	~571		~248	~627		~324	~891	89	~232	563	157
Queue Length 95th (ft)	#172	#633		#310	#684		#397	#730	92	#260	445	185
Internal Link Dist (ft)		1253			2566			1349			1026	
Turn Bay Length (ft)	370			235			215			300		
Base Capacity (vph)	285	1194		357	1299		476	2117	881	243	1729	676
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	1.04	1.20		1.20	1.19		1.20	1.11	0.42	1.48	0.99	0.62

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.48			
Intersection Signal Delay: 109.3		Intersection LOS: F	
Intersection Capacity Utilization 96.5%		ICU Level of Service F	
Analysis Period (min) 15			
~ 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.			

Splits and Phases: 1: Airport & 6th Avenue /6th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	215	1010	250	350	1060	250	480	1830	260	270	1210	320
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1810	1882	1810	1810
Adj Flow Rate, veh/h	295	1161	272	427	1218	333	571	2346	0	360	1704	421
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	3	1
Peak Hour Factor	0.73	0.87	0.92	0.82	0.87	0.75	0.84	0.78	0.71	0.75	0.71	0.76
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	287	972	228	334	1020	279	454	2117	791	224	1729	538
Arrive On Green	0.09	0.24	0.24	0.03	0.09	0.09	0.14	0.43	0.00	0.06	0.35	0.35
Sat Flow, veh/h	3343	4000	937	3343	3861	1055	3343	4940	1538	3477	4940	1538
Grp Volume(v), veh/h	295	956	477	427	1039	512	571	2346	0	360	1704	421
Grp Sat Flow(s),veh/h/ln	1672	1647	1644	1672	1647	1623	1672	1647	1538	1739	1647	1538
Q Serve(g_s), s	12.0	34.0	34.0	14.0	37.0	37.0	19.0	60.0	0.0	9.0	47.9	34.3
Cycle Q Clear(g_c), s	12.0	34.0	34.0	14.0	37.0	37.0	19.0	60.0	0.0	9.0	47.9	34.3
Prop In Lane	1.00		0.57	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	800	399	334	870	429	454	2117	791	224	1729	538
V/C Ratio(X)	1.03	1.20	1.20	1.28	1.19	1.19	1.26	1.11	0.00	1.61	0.99	0.78
Avail Cap(c_a), veh/h	287	800	399	334	870	429	454	2117	791	224	1729	538
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.64	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.0	53.0	53.0	67.7	63.9	63.9	60.5	40.0	0.0	65.5	45.1	40.7
Incr Delay (d2), s/veh	61.0	99.9	109.9	138.9	94.6	101.4	133.2	56.2	0.0	294.6	18.5	10.8
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	8.0	26.5	27.6	12.9	28.3	28.7	17.2	38.3	0.0	13.5	24.7	16.1
LnGrp Delay(d),s/veh	125.0	152.9	162.9	206.6	158.4	165.3	193.7	96.2	0.0	360.1	63.6	51.5
LnGrp LOS	F	F	F	F	F	F	F	F		F	E	D
Approach Vol, veh/h		1728			1978			2917			2485	
Approach Delay, s/veh		150.9			170.6			115.3			104.5	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	66.0	17.0	43.0	25.0	55.0	20.0	40.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	6.0	* 6	6.0	* 6
Max Green Setting (Gmax), s	9.0	60.0	12.0	37.0	19.0	* 49	14.0	* 34
Max Q Clear Time (g_c+I1), s	11.0	62.0	14.0	39.0	21.0	49.9	16.0	36.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		131.1
HCM 2010 LOS		F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

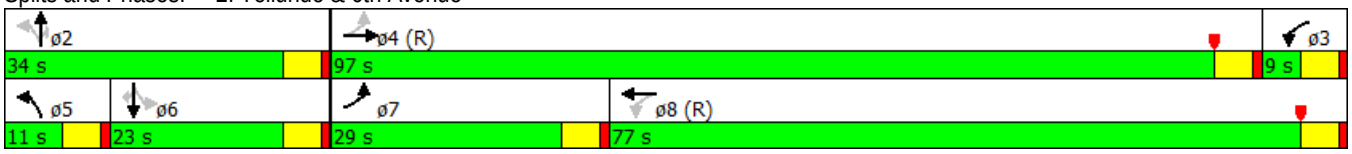
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	1100	260	30	1570	120	70	10	10	60	40	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	250		250	0		0	200		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	150			150			25			100		
Satd. Flow (prot)	1719	4802	0	1719	4876	0	1719	1810	1538	1719	1810	1538
Flt Permitted	0.056			0.150			0.531			0.746		
Satd. Flow (perm)	101	4802	0	271	4876	0	961	1810	1538	1350	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			16				94			132
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2646			2633			441			584	
Travel Time (s)		40.1			39.9			6.7			8.8	
Peak Hour Factor	0.58	0.86	0.88	0.91	0.90	0.75	0.92	0.58	0.85	0.50	0.50	0.50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	310	1574	0	33	1904	0	76	17	12	120	80	120
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	29.0	97.0		9.0	77.0		11.0	34.0	34.0	23.0	23.0	23.0
Total Split (%)	20.7%	69.3%		6.4%	55.0%		7.9%	24.3%	24.3%	16.4%	16.4%	16.4%
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	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Act Effct Green (s)	95.6	95.6		73.2	73.2		29.0	29.0	29.0	18.0	18.0	18.0
Actuated g/C Ratio	0.68	0.68		0.52	0.52		0.21	0.21	0.21	0.13	0.13	0.13
v/c Ratio	0.93	0.48		0.18	0.74		0.33	0.05	0.03	0.69	0.34	0.38
Control Delay	47.4	1.4		11.1	13.5		50.5	45.0	0.1	79.5	60.3	10.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	1.4		11.1	13.5		50.5	45.0	0.1	79.5	60.3	10.5
LOS	D	A		B	B		D	D	A	E	E	B
Approach Delay		9.0			13.4			43.9			48.8	
Approach LOS		A			B			D			D	
Queue Length 50th (ft)	166	29		8	243		58	13	0	106	67	0
Queue Length 95th (ft)	m102	m22		m11	281		106	22	0	93	66	0
Internal Link Dist (ft)		2566			2553			361			504	
Turn Bay Length (ft)	225			250						200		
Base Capacity (vph)	346	3304		182	2556		231	374	393	173	232	312
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.48		0.18	0.74		0.33	0.05	0.03	0.69	0.34	0.38

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 21 (15%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 66.0%		ICU Level of Service C	
Analysis Period (min) 15			

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

Splits and Phases: 2: Telluride & 6th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	1100	260	30	1570	120	70	10	10	60	40	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	310	1279	295	33	1744	160	76	17	12	120	80	120
Adj No. of Lanes	1	3	0	1	3	0	1	1	1	1	1	1
Peak Hour Factor	0.58	0.86	0.88	0.91	0.90	0.75	0.92	0.58	0.85	0.50	0.50	0.50
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	356	2693	621	229	2640	242	232	383	325	228	237	202
Arrive On Green	0.21	1.00	1.00	0.02	1.00	1.00	0.04	0.21	0.21	0.13	0.13	0.13
Sat Flow, veh/h	1723	4014	925	1723	4607	422	1723	1810	1538	1336	1810	1538
Grp Volume(v), veh/h	310	1049	525	33	1245	659	76	17	12	120	80	120
Grp Sat Flow(s),veh/h/ln	1723	1647	1646	1723	1647	1735	1723	1810	1538	1336	1810	1538
Q Serve(g_s), s	11.9	0.0	0.0	0.0	0.0	0.0	5.1	1.0	0.9	11.8	5.5	10.1
Cycle Q Clear(g_c), s	11.9	0.0	0.0	0.0	0.0	0.0	5.1	1.0	0.9	11.8	5.5	10.1
Prop In Lane	1.00		0.56	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	356	2209	1104	229	1887	994	232	383	325	228	237	202
V/C Ratio(X)	0.87	0.47	0.48	0.14	0.66	0.66	0.33	0.04	0.04	0.53	0.34	0.59
Avail Cap(c_a), veh/h	475	2209	1104	265	1887	994	232	383	325	228	237	202
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.69	0.69	0.69	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	0.0	0.0	17.3	0.0	0.0	47.3	43.0	43.0	56.9	54.1	56.1
Incr Delay (d2), s/veh	1.4	0.1	0.1	0.2	1.3	2.4	0.8	0.2	0.2	8.5	3.8	12.2
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	5.7	0.0	0.0	0.7	0.3	0.7	2.5	0.5	0.4	4.9	3.0	5.0
LnGrp Delay(d),s/veh	14.3	0.1	0.1	17.5	1.3	2.4	48.2	43.3	43.2	65.3	58.0	68.4
LnGrp LOS	B	A	A	B	A	A	D	D	D	E	E	E
Approach Vol, veh/h		1884			1937			105			320	
Approach Delay, s/veh		2.4			1.9			46.8			64.6	
Approach LOS		A			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		34.0	9.0	97.0	11.0	23.0	19.6	86.4
Change Period (Y+Rc), s		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s		29.0	4.0	92.0	6.0	18.0	24.0	72.0
Max Q Clear Time (g_c+I1), s		3.0	2.0	2.0	7.1	13.8	13.9	2.0
Green Ext Time (p_c), s		1.2	0.0	16.0	0.0	0.5	0.6	22.7

Intersection Summary	
HCM 2010 Ctrl Delay	8.0
HCM 2010 LOS	A

Notes

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

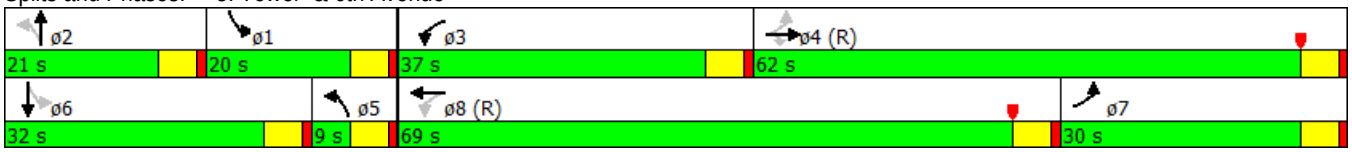
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	400	270	270	1000	180	50	10	10	170	10	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		500	300		300	200		0	0		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			150			25			25		
Satd. Flow (prot)	3335	1810	1538	1719	3438	1538	3335	1674	0	1719	1810	1538
Flt Permitted	0.238			0.191			0.746			0.735		
Satd. Flow (perm)	835	1810	1538	346	3438	1538	2619	1674	0	1330	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			310			210		17				454
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2633			4027			1045			573	
Travel Time (s)		39.9			61.0			15.8			8.7	
Peak Hour Factor	0.58	0.86	0.87	0.91	0.90	0.71	0.96	0.58	0.58	0.58	0.58	0.65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	862	465	310	297	1111	254	52	34	0	293	17	1031
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA		pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		Free	2			6		Free
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	30.0	62.0	62.0	37.0	69.0		9.0	21.0		20.0	32.0	
Total Split (%)	21.4%	44.3%	44.3%	26.4%	49.3%		6.4%	15.0%		14.3%	22.9%	
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	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	Max		None	Max	
Act Effct Green (s)	67.6	67.6	67.6	65.8	65.8	140.0	20.0	16.0		34.2	27.0	140.0
Actuated g/C Ratio	0.48	0.48	0.48	0.47	0.47	1.00	0.14	0.11		0.24	0.19	1.00
v/c Ratio	1.02	0.53	0.34	0.76	0.69	0.17	0.13	0.17		0.81	0.05	0.67
Control Delay	69.9	21.1	2.8	23.9	18.5	0.0	41.3	36.0		68.8	46.7	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	69.9	21.1	2.8	23.9	18.5	0.0	41.3	36.0		68.8	46.7	2.3
LOS	E	C	A	C	B	A	D	D		E	D	A
Approach Delay		43.3			16.7			39.2			17.4	
Approach LOS		D			B			D			B	
Queue Length 50th (ft)	~313	168	14	138	318	0	18	14		241	13	0
Queue Length 95th (ft)	210	343	27	m130	m278	m0	36	26		202	23	0
Internal Link Dist (ft)		2553			3947			965			493	
Turn Bay Length (ft)	400		500	300		300	200					
Base Capacity (vph)	849	873	902	476	1615	1538	394	206		383	349	1538
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.02	0.53	0.34	0.62	0.69	0.17	0.13	0.17		0.77	0.05	0.67

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 130 (93%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 26.5 Intersection LOS: C
Intersection Capacity Utilization 70.5% ICU Level of Service C
Analysis Period (min) 15
~ 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.

Splits and Phases: 3: Tower & 6th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	500	400	270	270	1000	180	50	10	10	170	10	670
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810	1810	1810	1900	1810	1810	1810
Adj Flow Rate, veh/h	862	465	310	297	1111	0	52	17	17	293	17	0
Adj No. of Lanes	2	1	1	1	2	1	2	1	0	1	1	1
Peak Hour Factor	0.58	0.86	0.87	0.91	0.90	0.71	0.96	0.58	0.58	0.58	0.58	0.65
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	880	908	772	431	1578	706	467	95	95	339	350	298
Arrive On Green	0.30	0.84	0.84	0.14	0.46	0.00	0.02	0.11	0.11	0.10	0.19	0.00
Sat Flow, veh/h	3343	1810	1538	1723	3438	1538	3343	831	831	1723	1810	1538
Grp Volume(v), veh/h	862	465	310	297	1111	0	52	0	34	293	17	0
Grp Sat Flow(s),veh/h/ln	1672	1810	1538	1723	1719	1538	1672	0	1663	1723	1810	1538
Q Serve(g_s), s	23.7	10.2	5.5	16.3	36.0	0.0	0.0	0.0	2.6	10.0	1.1	0.0
Cycle Q Clear(g_c), s	23.7	10.2	5.5	16.3	36.0	0.0	0.0	0.0	2.6	10.0	1.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	880	908	772	431	1578	706	467	0	191	339	350	298
V/C Ratio(X)	0.98	0.51	0.40	0.69	0.70	0.00	0.11	0.00	0.18	0.86	0.05	0.00
Avail Cap(c_a), veh/h	880	908	772	591	1578	706	480	0	191	346	350	298
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.9	6.5	4.0	27.6	30.2	0.0	53.6	0.0	55.8	55.6	45.8	0.0
Incr Delay (d2), s/veh	23.3	1.8	1.4	2.0	2.7	0.0	0.1	0.0	2.0	19.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.1	5.4	2.6	7.9	17.7	0.0	0.9	0.0	1.3	12.7	0.6	0.0
LnGrp Delay(d),s/veh	65.2	8.3	5.4	29.6	32.8	0.0	53.7	0.0	57.8	75.0	46.0	0.0
LnGrp LOS	E	A	A	C	C		D		E	E	D	
Approach Vol, veh/h		1637			1408			86			310	
Approach Delay, s/veh		37.7			32.2			55.3			73.4	
Approach LOS		D			C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.5	21.0	24.0	75.5	8.5	32.0	30.5	69.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	16.0	32.0	57.0	4.0	27.0	25.0	64.0
Max Q Clear Time (g_c+I1), s	12.0	4.6	18.3	12.2	2.0	3.1	25.7	38.0
Green Ext Time (p_c), s	0.3	0.1	0.7	8.9	0.2	0.0	0.0	8.2

Intersection Summary	
HCM 2010 Ctrl Delay	39.1
HCM 2010 LOS	D

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	50	280	85	300	180	420	150	400	30	70	980	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	250		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	1810	1538	1719	1810	1538	1719	1810	1538	1719	1810	1538
Flt Permitted	0.420			0.223			0.055			0.369		
Satd. Flow (perm)	760	1810	1538	404	1810	1538	100	1810	1538	668	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			111			138			52			151
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1299			5266			3105			1936	
Travel Time (s)		19.7			79.8			47.0			29.3	
Peak Hour Factor	0.71	0.58	0.71	0.88	0.58	0.90	0.71	0.84	0.58	0.58	0.90	0.86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	483	120	341	310	467	211	476	52	121	1089	581
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Free
Protected Phases		2			6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		Free
Detector Phase	2	2	2	6	6	6	7	4	4	8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0	9.0	21.0	21.0	21.0	21.0	
Total Split (s)	56.0	56.0	56.0	56.0	56.0	56.0	11.0	84.0	84.0	73.0	73.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	7.9%	60.0%	60.0%	52.1%	52.1%	
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	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	
Act Effct Green (s)	51.0	51.0	51.0	51.0	51.0	51.0	79.0	79.0	79.0	68.0	68.0	140.0
Actuated g/C Ratio	0.36	0.36	0.36	0.36	0.36	0.36	0.56	0.56	0.56	0.49	0.49	1.00
v/c Ratio	0.25	0.73	0.19	2.32	0.47	0.72	1.69	0.47	0.06	0.37	1.24	0.38
Control Delay	34.3	46.4	6.9	636.9	33.0	30.0	364.2	13.4	2.5	26.9	150.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	46.4	6.9	636.9	33.0	30.0	364.2	13.4	2.5	26.9	150.0	0.7
LOS	C	D	A	F	C	C	F	B	A	C	F	A
Approach Delay		38.1			215.9			112.8			93.3	
Approach LOS		D			F			F			F	
Queue Length 50th (ft)	45	380	5	~512	233	262	~227	203	2	68	~1227	0
Queue Length 95th (ft)	66	283	23	#695	137	422	#277	179	4	70	#1490	0
Internal Link Dist (ft)		1219			5186			3025			1856	
Turn Bay Length (ft)							250			250		
Base Capacity (vph)	276	659	630	147	659	648	125	1021	890	324	879	1538
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

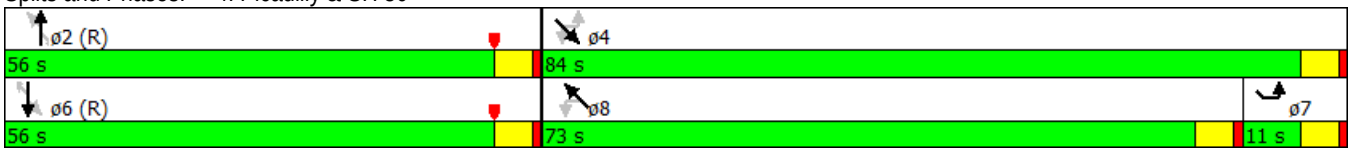
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.73	0.19	2.32	0.47	0.72	1.69	0.47	0.06	0.37	1.24	0.38

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 7 (5%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.32			
Intersection Signal Delay: 119.8		Intersection LOS: F	
Intersection Capacity Utilization 107.9%		ICU Level of Service G	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 4: Picadilly & SH 30



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	50	280	85	300	180	420	150	400	30	70	980	500
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	70	483	120	341	310	467	211	476	52	121	1089	0
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.71	0.58	0.71	0.88	0.58	0.90	0.71	0.84	0.58	0.58	0.90	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	208	659	560	156	659	560	125	1021	868	331	879	747
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.04	0.56	0.56	0.49	0.49	0.00
Sat Flow, veh/h	672	1810	1538	790	1810	1538	1723	1810	1538	847	1810	1538
Grp Volume(v), veh/h	70	483	120	341	310	467	211	476	52	121	1089	0
Grp Sat Flow(s),veh/h/ln	672	1810	1538	790	1810	1538	1723	1810	1538	847	1810	1538
Q Serve(g_s), s	12.5	32.4	7.5	18.6	18.4	38.8	6.0	21.8	2.1	15.6	68.0	0.0
Cycle Q Clear(g_c), s	30.9	32.4	7.5	51.0	18.4	38.8	6.0	21.8	2.1	37.4	68.0	0.0
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	208	659	560	156	659	560	125	1021	868	331	879	747
V/C Ratio(X)	0.34	0.73	0.21	2.18	0.47	0.83	1.68	0.47	0.06	0.37	1.24	0.00
Avail Cap(c_a), veh/h	208	659	560	156	659	560	125	1021	868	331	879	747
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	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.0	38.6	30.7	63.8	34.1	40.6	65.8	18.0	13.8	36.6	36.0	0.0
Incr Delay (d2), s/veh	4.3	7.1	0.9	551.1	2.3	13.1	339.9	0.3	0.0	0.7	117.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	17.5	3.3	30.0	9.6	18.5	16.7	10.9	0.9	3.7	62.6	0.0
LnGrp Delay(d),s/veh	50.3	45.7	31.6	614.9	36.4	53.7	405.7	18.4	13.8	37.3	153.3	0.0
LnGrp LOS	D	D	C	F	D	D	F	B	B	D	F	
Approach Vol, veh/h		673			1118			739			1210	
Approach Delay, s/veh		43.6			220.1			128.6			141.7	
Approach LOS		D			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		56.0		84.0		56.0	11.0	73.0
Change Period (Y+Rc), s		5.0		5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s		51.0		79.0		51.0	6.0	68.0
Max Q Clear Time (g_c+I1), s		34.4		23.8		53.0	8.0	70.0
Green Ext Time (p_c), s		9.0		3.8		0.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		144.9
HCM 2010 LOS		F

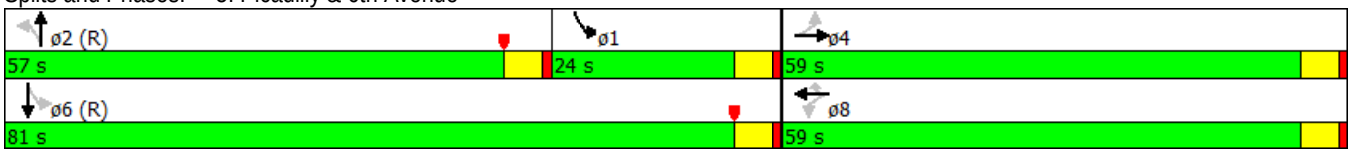
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	5	175	5	350	5	880	50	115	725	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		200	150		0	250		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1700	0	1719	1810	1538	1719	4900	0	1719	4935	0
Flt Permitted		0.948		0.748			0.333			0.252		
Satd. Flow (perm)	0	1638	0	1354	1810	1538	603	4900	0	456	4935	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				317		7			1	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		694			4066			5266			1945	
Travel Time (s)		10.5			61.6			79.8			29.5	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	190	5	380	5	1011	0	125	793	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	21.0	21.0	21.0		9.0	21.0	
Total Split (s)	59.0	59.0		59.0	59.0	59.0	57.0	57.0		24.0	81.0	
Total Split (%)	42.1%	42.1%		42.1%	42.1%	42.1%	40.7%	40.7%		17.1%	57.9%	
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	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lead		Lag		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None	None	C-Min	C-Min		None	C-Min	
Act Effct Green (s)		26.1		26.1	26.1	26.1	93.4	93.4		103.9	103.9	
Actuated g/C Ratio		0.19		0.19	0.19	0.19	0.67	0.67		0.74	0.74	
v/c Ratio		0.05		0.75	0.01	0.70	0.01	0.31		0.32	0.22	
Control Delay		32.1		65.7	42.0	20.1	6.8	6.0		10.9	6.3	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		32.1		65.7	42.0	20.1	6.8	6.0		10.9	6.3	
LOS		C		E	D	C	A	A		B	A	
Approach Delay		32.1			35.3			6.0			7.0	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)		8		164	4	110	1	69		28	72	
Queue Length 95th (ft)		26		248	m7	207	m2	m129		62	117	
Internal Link Dist (ft)		614			3986			5186			1865	
Turn Bay Length (ft)				200		200	150			250		
Base Capacity (vph)		634		522	698	787	402	3271		553	3662	
Starvation Cap Reductn		0		0	0	0	0	0		0	0	
Spillback Cap Reductn		0		0	0	0	0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.02		0.36	0.01	0.48	0.01	0.31		0.23	0.22	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 135 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 55.6%		ICU Level of Service B	
Analysis Period (min) 15			

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

Splits and Phases: 5: Picadilly & 6th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	5	5	175	5	350	5	880	50	115	725	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1810	1900	1810	1810	1810	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	5	5	5	190	5	380	5	957	54	125	788	5
Adj No. of Lanes	0	1	0	1	1	1	1	3	0	1	3	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, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	189	182	143	528	544	463	289	1590	90	372	2644	17
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.33	0.33	0.33	0.10	0.52	0.52
Sat Flow, veh/h	345	605	475	1359	1810	1538	662	4786	270	1723	5065	32
Grp Volume(v), veh/h	15	0	0	190	5	380	5	658	353	125	512	281
Grp Sat Flow(s),veh/h/ln	1424	0	0	1359	1810	1538	662	1647	1762	1723	1647	1804
Q Serve(g_s), s	0.0	0.0	0.0	6.5	0.1	13.0	0.3	9.4	9.4	0.0	5.0	5.0
Cycle Q Clear(g_c), s	0.3	0.0	0.0	6.8	0.1	13.0	5.3	9.4	9.4	0.0	5.0	5.0
Prop In Lane	0.33		0.33	1.00		1.00	1.00		0.15	1.00		0.02
Lane Grp Cap(c), veh/h	514	0	0	528	544	463	289	1094	585	372	1719	942
V/C Ratio(X)	0.03	0.00	0.00	0.36	0.01	0.82	0.02	0.60	0.60	0.34	0.30	0.30
Avail Cap(c_a), veh/h	1392	0	0	1418	1730	1470	678	3032	1622	777	4431	2427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.61	0.61	0.61	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	0.0	0.0	16.3	13.8	18.3	16.3	15.7	15.8	20.8	7.6	7.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	3.7	0.1	1.5	2.8	0.5	0.4	0.8
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	0.2	0.0	0.0	2.5	0.1	5.9	0.1	4.4	5.1	1.8	2.3	2.6
LnGrp Delay(d),s/veh	14.0	0.0	0.0	16.7	13.8	22.0	16.3	17.2	18.6	21.3	8.1	8.4
LnGrp LOS	B			B	B	C	B	B	B	C	A	A
Approach Vol, veh/h		15			575			1016			918	
Approach Delay, s/veh		13.9			20.2			17.7			10.0	
Approach LOS		B			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	94.2	23.8		22.0		118.0		22.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s	19.0	52.0		54.0		76.0		54.0
Max Q Clear Time (g_c+I1), s	2.0	11.4		2.3		7.0		15.0
Green Ext Time (p_c), s	4.7	7.3		2.0		5.8		2.0

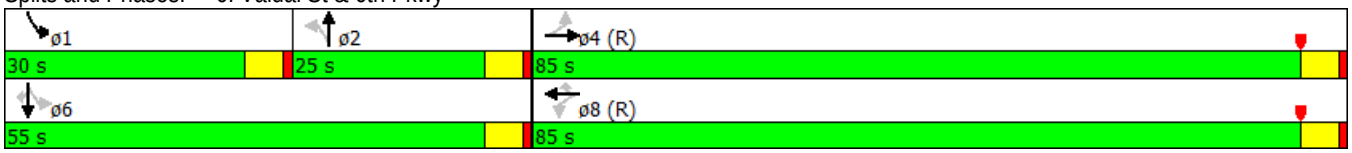
Intersection Summary	
HCM 2010 Ctrl Delay	15.4
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	80	5	200	235	600	5	20	60	190	100	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	1793	0	1719	1810	1538	1719	1610	0	1719	1810	1538
Flt Permitted	0.443			0.661			0.649			0.463		
Satd. Flow (perm)	802	1793	0	1196	1810	1538	1174	1610	0	838	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				698		81				16
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		650			648			1130			2574	
Travel Time (s)		9.8			9.8			17.1			39.0	
Peak Hour Factor	0.58	0.58	0.58	0.91	0.58	0.86	0.58	0.58	0.65	0.65	0.58	0.58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	147	0	220	405	698	9	126	0	292	172	9
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		21.0	21.0	21.0	21.0	21.0		9.0	21.0	21.0
Total Split (s)	85.0	85.0		85.0	85.0	85.0	25.0	25.0		30.0	55.0	55.0
Total Split (%)	60.7%	60.7%		60.7%	60.7%	60.7%	17.9%	17.9%		21.4%	39.3%	39.3%
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	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	Max	Max		None	Max	Max
Act Effct Green (s)	80.0	80.0		80.0	80.0	80.0	22.9	22.9		50.0	50.0	50.0
Actuated g/C Ratio	0.57	0.57		0.57	0.57	0.57	0.16	0.16		0.36	0.36	0.36
v/c Ratio	0.02	0.14		0.32	0.39	0.59	0.05	0.38		0.67	0.27	0.02
Control Delay	13.2	14.1		11.0	11.3	3.0	52.6	25.1		46.7	36.1	8.6
Queue Delay	0.0	0.0		0.0	0.0	0.3	0.0	0.0		0.0	0.0	0.0
Total Delay	13.2	14.1		11.0	11.3	3.3	52.6	25.1		46.7	36.1	8.6
LOS	B	B		B	B	A	D	C		D	D	A
Approach Delay		14.0			7.0			26.9			42.1	
Approach LOS		B			A			C			D	
Queue Length 50th (ft)	3	58		76	141	56	7	36		227	124	0
Queue Length 95th (ft)	8	57		127	117	42	16	38		211	113	4
Internal Link Dist (ft)		570			568			1050			2494	
Turn Bay Length (ft)	150			150		150	150			150		150
Base Capacity (vph)	458	1026		683	1034	1178	191	331		456	646	559
Starvation Cap Reductn	0	0		0	0	119	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.02	0.14		0.32	0.39	0.66	0.05	0.38		0.64	0.27	0.02

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 40 (29%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 16.8		Intersection LOS: B	
Intersection Capacity Utilization 57.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: Valdai St & 6th Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	80	5	200	235	600	5	20	60	190	100	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1810	1810	1810	1900	1810	1810	1810
Adj Flow Rate, veh/h	9	138	9	220	405	698	9	34	92	292	172	9
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	1	1	1
Peak Hour Factor	0.58	0.58	0.58	0.91	0.58	0.86	0.58	0.58	0.65	0.65	0.58	0.58
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	273	960	63	691	1034	879	248	73	198	434	646	549
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.17	0.17	0.17	0.15	0.36	0.36
Sat Flow, veh/h	494	1681	110	1200	1810	1538	1164	433	1170	1723	1810	1538
Grp Volume(v), veh/h	9	0	147	220	405	698	9	0	126	292	172	9
Grp Sat Flow(s),veh/h/ln	494	0	1790	1200	1810	1538	1164	0	1603	1723	1810	1538
Q Serve(g_s), s	1.4	0.0	5.4	14.7	17.3	49.9	0.9	0.0	9.9	19.0	9.5	0.5
Cycle Q Clear(g_c), s	18.7	0.0	5.4	20.0	17.3	49.9	0.9	0.0	9.9	19.0	9.5	0.5
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.73	1.00		1.00
Lane Grp Cap(c), veh/h	273	0	1023	691	1034	879	248	0	271	434	646	549
V/C Ratio(X)	0.03	0.00	0.14	0.32	0.39	0.79	0.04	0.00	0.46	0.67	0.27	0.02
Avail Cap(c_a), veh/h	273	0	1023	691	1034	879	248	0	271	480	646	549
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	0.65	0.65	0.65	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	14.0	18.7	16.6	23.5	48.7	0.0	52.4	37.9	32.0	29.1
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.8	0.7	4.9	0.3	0.0	5.6	3.2	1.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.7	5.0	8.9	22.3	0.3	0.0	4.8	9.4	4.9	0.2
LnGrp Delay(d),s/veh	22.0	0.0	14.3	19.5	17.3	28.4	49.0	0.0	58.0	41.1	33.0	29.2
LnGrp LOS	C		B	B	B	C	D		E	D	C	C
Approach Vol, veh/h		156			1323			135			473	
Approach Delay, s/veh		14.7			23.5			57.4			37.9	
Approach LOS		B			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	26.3	28.7		85.0		55.0		85.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s	25.0	20.0		80.0		50.0		80.0
Max Q Clear Time (g_c+I1), s	21.0	11.9		20.7		11.5		51.9
Green Ext Time (p_c), s	0.3	1.0		8.6		1.7		7.8

Intersection Summary		
HCM 2010 Ctrl Delay		28.3
HCM 2010 LOS		C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	290	40	350	855	0	0	0	0	150	1	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	0		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3387	0	1719	1810	0	0	0	0	1719	1544	0
Flt Permitted				0.481						0.950		
Satd. Flow (perm)	0	3387	0	870	1810	0	0	0	0	1719	1544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14									199	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		648			594			879			589	
Travel Time (s)		9.8			9.0			13.3			8.9	
Peak Hour Factor	0.25	0.74	0.96	0.85	0.87	0.25	0.25	0.25	0.25	0.68	0.25	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	434	0	412	983	0	0	0	0	221	216	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8						6	
Permitted Phases				8						6		
Detector Phase		4		3	8					6	6	
Switch Phase												
Minimum Initial (s)		4.0		4.0	4.0					4.0	4.0	
Minimum Split (s)		21.0		9.0	21.0					21.0	21.0	
Total Split (s)		86.0		25.0	111.0					29.0	29.0	
Total Split (%)		61.4%		17.9%	79.3%					20.7%	20.7%	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
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)		5.0		5.0	5.0					5.0	5.0	
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	
Act Effct Green (s)		83.4		108.4	108.4					21.6	21.6	
Actuated g/C Ratio		0.60		0.77	0.77					0.15	0.15	
v/c Ratio		0.21		0.52	0.70					0.84	0.53	
Control Delay		8.8		6.1	7.9					82.9	13.8	
Queue Delay		0.0		1.2	0.7					0.0	0.0	
Total Delay		8.8		7.3	8.6					82.9	13.8	
LOS		A		A	A					F	B	
Approach Delay		8.8			8.2						48.7	
Approach LOS		A			A						D	
Queue Length 50th (ft)		128		79	236					194	13	
Queue Length 95th (ft)		89		28	319					208	0	
Internal Link Dist (ft)		568			514			799			509	
Turn Bay Length (ft)												
Base Capacity (vph)		2023		795	1401					294	429	
Starvation Cap Reductn		0		191	161					0	0	
Spillback Cap Reductn		0		0	0					0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0		0	0					0	0	
Reduced v/c Ratio		0.21		0.68	0.79					0.75	0.50	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 12 (9%), Referenced to phase 4:EBT and 8:WBTL, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 61.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: NB Ramps & 6th Pkwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	290	40	350	855	0	0	0	0	150	1	180
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1810	1900	1810	1810	0				1810	1810	1900
Adj Flow Rate, veh/h	0	392	42	412	983	0				221	4	212
Adj No. of Lanes	0	2	0	1	1	0				1	1	0
Peak Hour Factor	0.25	0.74	0.96	0.85	0.87	0.25				0.68	0.25	0.85
Percent Heavy Veh, %	0	5	5	5	5	0				5	5	5
Cap, veh/h	0	1849	197	834	1396	0				268	4	235
Arrive On Green	0.00	1.00	1.00	0.29	1.00	0.00				0.16	0.16	0.16
Sat Flow, veh/h	0	3226	334	1723	1810	0				1723	29	1514
Grp Volume(v), veh/h	0	214	220	412	983	0				221	0	216
Grp Sat Flow(s),veh/h/ln	0	1719	1751	1723	1810	0				1723	0	1542
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0				17.1	0.0	18.9
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0				17.1	0.0	18.9
Prop In Lane	0.00		0.19	1.00		0.00				1.00		0.98
Lane Grp Cap(c), veh/h	0	1014	1032	834	1396	0				268	0	240
V/C Ratio(X)	0.00	0.21	0.21	0.49	0.70	0.00				0.82	0.00	0.90
Avail Cap(c_a), veh/h	0	1014	1032	834	1396	0				301	0	270
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	0.86	0.86	0.81	0.81	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	7.1	0.0	0.0				56.2	0.0	57.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.4	2.4	0.0				15.4	0.0	28.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.1	5.8	0.9	0.0				9.3	0.0	9.9
LnGrp Delay(d),s/veh	0.0	0.4	0.4	7.4	2.4	0.0				71.6	0.0	85.6
LnGrp LOS		A	A	A	A					E		F
Approach Vol, veh/h		434			1395						437	
Approach Delay, s/veh		0.4			3.9						78.5	
Approach LOS		A			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			27.6	86.0		26.4		113.6
Change Period (Y+Rc), s			5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s			20.0	81.0		24.0		106.0
Max Q Clear Time (g_c+I1), s			2.0	2.0		20.9		2.0
Green Ext Time (p_c), s			8.2	2.5		0.5		11.8

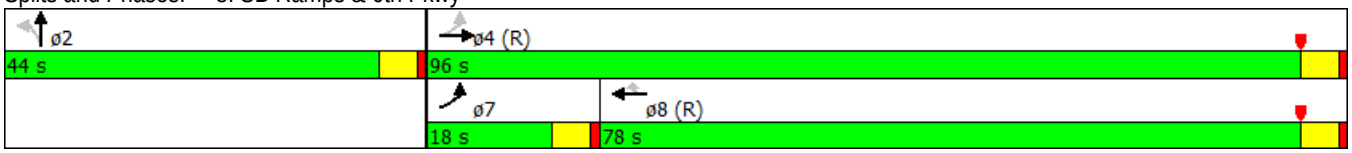
Intersection Summary	
HCM 2010 Ctrl Delay	17.6
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	340	0	0	990	170	215	0	120	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	0		0	0		0	0		0
Storage Lanes	1		0	0		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	3438	0	0	3438	1538	1719	1538	0	0	0	0
Flt Permitted	0.188						0.950					
Satd. Flow (perm)	340	3438	0	0	3438	1538	1719	1538	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						224		480				
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		594			1480			781			563	
Travel Time (s)		9.0			22.4			11.8			8.5	
Peak Hour Factor	0.71	0.82	0.25	0.25	0.88	0.76	0.85	0.25	0.77	0.25	0.25	0.25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	415	0	0	1125	224	253	156	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	7	4			8			2				
Permitted Phases	4					8	2					
Detector Phase	7	4			8	8	2	2				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0				
Minimum Split (s)	9.0	21.0			21.0	21.0	21.0	21.0				
Total Split (s)	18.0	96.0			78.0	78.0	44.0	44.0				
Total Split (%)	12.9%	68.6%			55.7%	55.7%	31.4%	31.4%				
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0	5.0	5.0	5.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	None	None				
Act Effct Green (s)	103.9	103.9			90.3	90.3	26.1	26.1				
Actuated g/C Ratio	0.74	0.74			0.64	0.64	0.19	0.19				
v/c Ratio	0.38	0.16			0.51	0.21	0.79	0.23				
Control Delay	7.3	1.1			8.2	0.5	71.3	0.8				
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0				
Total Delay	7.3	1.1			8.2	0.5	71.3	0.8				
LOS	A	A			A	A	E	A				
Approach Delay		2.5			6.9			44.4				
Approach LOS		A			A			D				
Queue Length 50th (ft)	12	7			147	2	223	0				
Queue Length 95th (ft)	15	7			181	1	279	0				
Internal Link Dist (ft)		514			1400			701			483	
Turn Bay Length (ft)	250											
Base Capacity (vph)	380	2551			2218	1071	478	774				
Starvation Cap Reductn	0	0			0	0	0	0				
Spillback Cap Reductn	0	0			20	0	0	0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0			0	0	0	0				
Reduced v/c Ratio	0.33	0.16			0.51	0.21	0.53	0.20				

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 2 (1%), Referenced to phase 4:EBTL and 8:WBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 61.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: SB Ramps & 6th Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	90	340	0	0	990	170	215	0	120	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1810	1810	0	0	1810	1810	1810	1810	1900			
Adj Flow Rate, veh/h	127	415	0	0	1125	224	253	0	156			
Adj No. of Lanes	1	2	0	0	2	1	1	1	0			
Peak Hour Factor	0.71	0.82	0.25	0.25	0.88	0.76	0.85	0.25	0.77			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	390	2574	0	0	2295	1027	291	0	260			
Arrive On Green	0.08	1.00	0.00	0.00	1.00	1.00	0.17	0.00	0.17			
Sat Flow, veh/h	1723	3529	0	0	3529	1538	1723	0	1538			
Grp Volume(v), veh/h	127	415	0	0	1125	224	253	0	156			
Grp Sat Flow(s),veh/h/ln	1723	1719	0	0	1719	1538	1723	0	1538			
Q Serve(g_s), s	2.8	0.0	0.0	0.0	0.0	0.0	17.4	0.0	11.4			
Cycle Q Clear(g_c), s	2.8	0.0	0.0	0.0	0.0	0.0	17.4	0.0	11.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	390	2574	0	0	2295	1027	291	0	260			
V/C Ratio(X)	0.33	0.16	0.00	0.00	0.49	0.22	0.87	0.00	0.60			
Avail Cap(c_a), veh/h	505	2574	0	0	2295	1027	553	0	494			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.91	0.91	0.00	0.00	0.76	0.76	1.00	0.00	1.00			
Uniform Delay (d), s/veh	4.8	0.0	0.0	0.0	0.0	0.0	49.2	0.0	46.7			
Incr Delay (d2), s/veh	0.4	0.1	0.0	0.0	0.6	0.4	7.8	0.0	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			
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	0.0	0.2	0.1	8.9	0.0	5.0			
LnGrp Delay(d),s/veh	5.3	0.1	0.0	0.0	0.6	0.4	57.0	0.0	48.9			
LnGrp LOS	A	A			A	A	E		D			
Approach Vol, veh/h		542			1349			409				
Approach Delay, s/veh		1.3			0.5			53.9				
Approach LOS		A			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		25.5		114.5			9.9	104.6
Change Period (Y+Rc), s		5.0		5.0			5.0	5.0
Max Green Setting (Gmax), s		39.0		91.0			13.0	73.0
Max Q Clear Time (g_c+I1), s		19.4		2.0			4.8	2.0
Green Ext Time (p_c), s		1.2		17.4			0.2	17.1

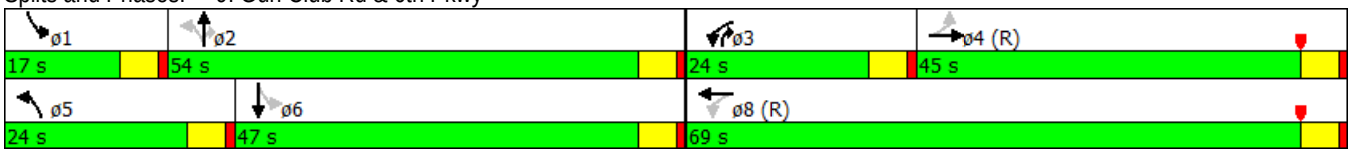
Intersection Summary	
HCM 2010 Ctrl Delay	10.2
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	410	50	220	840	200	190	400	220	130	200	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		250	150		150	150		150	150		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	4841	0	1719	4807	0	1719	1810	1538	1719	1692	0
Flt Permitted	0.215			0.314			0.243			0.279		
Satd. Flow (perm)	389	4841	0	568	4807	0	440	1810	1538	505	1692	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			45				164		28	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1480			852			987			975	
Travel Time (s)		22.4			12.9			15.0			14.8	
Peak Hour Factor	0.25	0.84	0.68	0.84	0.83	0.91	0.82	0.89	0.82	0.82	0.89	0.76
Parking (#/hr)						0						
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	562	0	262	1232	0	232	449	268	159	396	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases		4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	21.0	21.0		9.0	21.0		9.0	21.0	9.0	9.0	21.0	
Total Split (s)	45.0	45.0		24.0	69.0		24.0	54.0	24.0	17.0	47.0	
Total Split (%)	32.1%	32.1%		17.1%	49.3%		17.1%	38.6%	17.1%	12.1%	33.6%	
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	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	
Recall Mode	C-Max	C-Max		None	C-Max		None	Max	None	None	Max	
Act Effct Green (s)	41.7	41.7		64.0	64.0		65.2	49.8	72.1	56.0	44.7	
Actuated g/C Ratio	0.30	0.30		0.46	0.46		0.47	0.36	0.52	0.40	0.32	
v/c Ratio	0.34	0.39		0.65	0.55		0.66	0.70	0.31	0.53	0.71	
Control Delay	31.8	21.8		32.8	27.7		32.1	45.9	8.0	29.2	47.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	31.8	21.8		32.8	27.7		32.1	45.9	8.0	29.2	47.6	
LOS	C	C		C	C		C	D	A	C	D	
Approach Delay		22.4			28.6			31.8			42.3	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	19	97		150	283		127	353	47	83	299	
Queue Length 95th (ft)	9	106		201	294		168	475	82	117	427	
Internal Link Dist (ft)		1400			772			907			895	
Turn Bay Length (ft)	250			150			150		150	150		
Base Capacity (vph)	116	1455		415	2221		381	643	887	308	559	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	0.34	0.39		0.63	0.55		0.61	0.70	0.30	0.52	0.71	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 123 (88%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 30.5		Intersection LOS: C	
Intersection Capacity Utilization 69.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 9: Gun Club Rd & 6th Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	410	50	220	840	200	190	400	220	130	200	130
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1810	1810	1810	1900
Adj Flow Rate, veh/h	40	488	74	262	1012	220	232	449	268	159	225	171
Adj No. of Lanes	1	3	0	1	3	0	1	1	1	1	1	0
Peak Hour Factor	0.25	0.84	0.68	0.84	0.83	0.91	0.82	0.89	0.82	0.82	0.89	0.76
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	172	1345	200	460	1812	393	344	640	723	282	311	236
Arrive On Green	0.62	0.62	0.62	0.12	0.46	0.46	0.10	0.35	0.35	0.08	0.33	0.33
Sat Flow, veh/h	437	4342	647	1723	3921	851	1723	1810	1538	1723	955	726
Grp Volume(v), veh/h	40	368	194	262	850	382	232	449	268	159	0	396
Grp Sat Flow(s),veh/h/ln	437	1647	1695	1723	1647	1478	1723	1810	1538	1723	0	1681
Q Serve(g_s), s	7.0	7.6	7.8	13.9	25.9	26.0	12.1	29.5	15.5	8.4	0.0	28.8
Cycle Q Clear(g_c), s	11.8	7.6	7.8	13.9	25.9	26.0	12.1	29.5	15.5	8.4	0.0	28.8
Prop In Lane	1.00		0.38	1.00		0.58	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	172	1020	525	460	1522	683	344	640	723	282	0	547
V/C Ratio(X)	0.23	0.36	0.37	0.57	0.56	0.56	0.67	0.70	0.37	0.56	0.00	0.72
Avail Cap(c_a), veh/h	172	1020	525	496	1522	683	401	640	723	301	0	547
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.8	19.6	19.7	26.1	27.0	27.0	29.6	38.4	23.5	30.4	0.0	41.2
Incr Delay (d2), s/veh	3.1	1.0	2.0	1.3	1.5	3.3	3.6	6.3	1.5	2.1	0.0	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.5	3.9	6.8	12.1	11.2	6.1	15.8	6.9	4.1	0.0	14.5
LnGrp Delay(d),s/veh	24.9	20.6	21.7	27.4	28.5	30.3	33.2	44.7	25.0	32.5	0.0	49.3
LnGrp LOS	C	C	C	C	C	C	C	D	C	C		D
Approach Vol, veh/h		602			1494			949			555	
Approach Delay, s/veh		21.2			28.7			36.4			44.5	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	15.5	54.0	21.1	49.4	19.4	50.1		70.5
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	12.0	49.0	19.0	40.0	19.0	42.0		64.0
Max Q Clear Time (g_c+I1), s	10.4	31.5	15.9	13.8	14.1	30.8		28.0
Green Ext Time (p_c), s	0.1	5.6	0.2	13.8	0.3	4.5		16.1

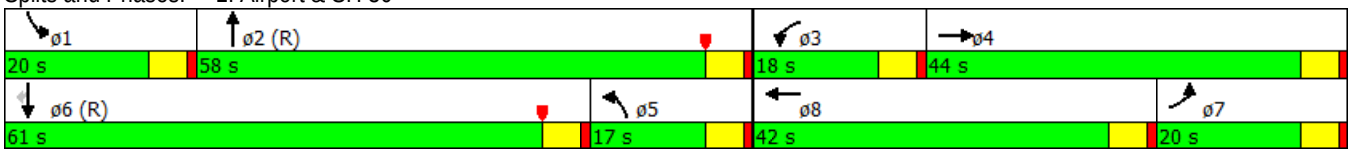
Intersection Summary	
HCM 2010 Ctrl Delay	31.9
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	330	1140	400	400	1050	275	350	1120	380	270	2240	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	16	12	12
Storage Length (ft)	370		370	235		235	215		0	300		0
Storage Lanes	2		0	1		0	2		1	2		1
Taper Length (ft)	150			150			150			150		
Satd. Flow (prot)	3335	4742	0	3335	4782	0	3335	4940	1538	3780	4940	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4742	0	3335	4782	0	3335	4940	1538	3780	4940	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65			47				271			160
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1333			2646			1429			1106	
Travel Time (s)		20.2			40.1			21.7			16.8	
Peak Hour Factor	0.91	0.89	0.86	0.85	0.91	0.89	0.92	0.93	0.90	0.86	0.90	0.89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	363	1746	0	471	1463	0	380	1204	422	314	2489	309
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									Free			6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	37.0		9.0	10.0		9.0	10.0	10.0
Total Split (s)	20.0	44.0		18.0	42.0		17.0	58.0		20.0	61.0	61.0
Total Split (%)	14.3%	31.4%		12.9%	30.0%		12.1%	41.4%		14.3%	43.6%	43.6%
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	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	15.0	39.0		13.0	37.0		12.0	53.4	140.0	14.6	56.0	56.0
Actuated g/C Ratio	0.11	0.28		0.09	0.26		0.09	0.38	1.00	0.10	0.40	0.40
v/c Ratio	1.02	1.28		1.52	1.13		1.33	0.64	0.27	0.80	1.26	0.43
Control Delay	112.7	170.2		280.0	100.4		219.1	37.4	0.4	76.7	157.4	16.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.7	170.2		280.0	100.4		219.1	37.4	0.4	76.7	157.4	16.1
LOS	F	F		F	F		F	D	A	E	F	B
Approach Delay		160.3			144.1			64.0			135.2	
Approach LOS		F			F			E			F	
Queue Length 50th (ft)	~176	~722		~312	~564		~230	328	0	145	~1038	93
Queue Length 95th (ft)	#284	#805		#396	#660		#337	380	0	189	#1126	172
Internal Link Dist (ft)		1253			2566			1349			1026	
Turn Bay Length (ft)	370			235			215			300		
Base Capacity (vph)	357	1367		309	1298		285	1885	1538	405	1976	711
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	1.02	1.28		1.52	1.13		1.33	0.64	0.27	0.78	1.26	0.43

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 56 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.52			
Intersection Signal Delay: 127.3		Intersection LOS: F	
Intersection Capacity Utilization 112.3%		ICU Level of Service H	
Analysis Period (min) 15			
~ 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.			

Splits and Phases: 1: Airport & SH 30



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	330	1140	400	400	1050	275	350	1120	380	270	2240	275
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1810	1882	1810	1810
Adj Flow Rate, veh/h	363	1281	465	471	1154	309	380	1204	0	314	2489	309
Adj No. of Lanes	2	3	0	2	3	0	2	3	1	2	3	1
Peak Hour Factor	0.91	0.89	0.86	0.85	0.91	0.89	0.92	0.93	0.90	0.86	0.90	0.89
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	358	997	360	310	1026	275	287	1887	588	361	1976	615
Arrive On Green	0.11	0.28	0.28	0.03	0.09	0.09	0.09	0.38	0.00	0.10	0.40	0.40
Sat Flow, veh/h	3343	3581	1294	3343	3880	1039	3343	4940	1538	3477	4940	1538
Grp Volume(v), veh/h	363	1178	568	471	979	484	380	1204	0	314	2489	309
Grp Sat Flow(s),veh/h/ln	1672	1647	1581	1672	1647	1626	1672	1647	1538	1739	1647	1538
Q Serve(g_s), s	15.0	39.0	39.0	13.0	37.0	37.0	12.0	27.9	0.0	12.5	56.0	21.1
Cycle Q Clear(g_c), s	15.0	39.0	39.0	13.0	37.0	37.0	12.0	27.9	0.0	12.5	56.0	21.1
Prop In Lane	1.00		0.82	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	917	440	310	870	430	287	1887	588	361	1976	615
V/C Ratio(X)	1.01	1.28	1.29	1.52	1.13	1.13	1.33	0.64	0.00	0.87	1.26	0.50
Avail Cap(c_a), veh/h	358	917	440	310	870	430	287	1887	588	373	1976	615
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.5	50.5	50.5	67.9	63.9	63.9	64.0	35.4	0.0	61.8	42.0	31.5
Incr Delay (d2), s/veh	51.0	136.0	146.7	243.2	66.5	74.7	168.9	1.7	0.0	19.1	121.1	2.9
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	35.0	35.0	16.5	24.9	25.6	12.3	13.0	0.0	6.9	47.6	9.4
LnGrp Delay(d),s/veh	113.5	186.5	197.2	311.1	130.4	138.6	232.9	37.0	0.0	80.9	163.1	34.4
LnGrp LOS	F	F	F	F	F	F	F	D		F	F	C
Approach Vol, veh/h		2109			1934			1584			3112	
Approach Delay, s/veh		176.8			176.5			84.0			142.0	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.5	58.5	18.0	44.0	17.0	61.0	20.0	42.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	53.0	13.0	39.0	12.0	56.0	15.0	37.0
Max Q Clear Time (g_c+I1), s	14.5	29.9	15.0	41.0	14.0	58.0	17.0	39.0
Green Ext Time (p_c), s	0.1	10.2	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	147.5
HCM 2010 LOS	F

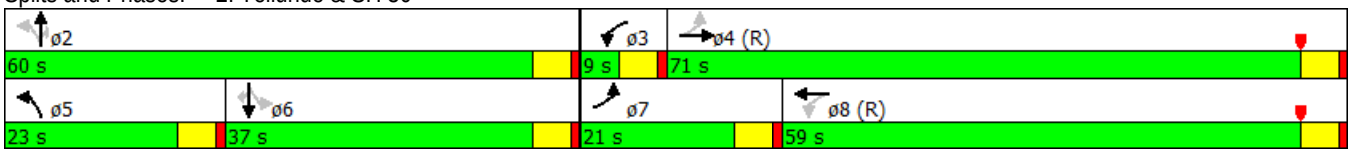
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	1560	80	20	1410	50	260	50	60	170	20	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	250		250	0		0	200		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	150			150			25			100		
Satd. Flow (prot)	1719	4905	0	1719	4915	0	1719	1810	1538	1719	1810	1538
Flt Permitted	0.064			0.070			0.641			0.718		
Satd. Flow (perm)	116	4905	0	127	4915	0	1160	1810	1538	1299	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			5				94			218
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2646			2633			441			584	
Travel Time (s)		40.1			39.9			6.7			8.8	
Peak Hour Factor	0.80	0.92	0.90	0.69	0.94	0.88	0.91	0.84	0.86	0.74	0.74	0.82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	150	1785	0	29	1557	0	286	60	70	230	27	220
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	10.0	10.0	9.0	9.0	9.0
Total Split (s)	21.0	71.0		9.0	59.0		23.0	60.0	60.0	37.0	37.0	37.0
Total Split (%)	15.0%	50.7%		6.4%	42.1%		16.4%	42.9%	42.9%	26.4%	26.4%	26.4%
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	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Act Effct Green (s)	75.0	69.6		61.4	57.4		55.0	55.0	55.0	32.6	32.6	32.6
Actuated g/C Ratio	0.54	0.50		0.44	0.41		0.39	0.39	0.39	0.23	0.23	0.23
v/c Ratio	0.73	0.73		0.29	0.77		0.54	0.08	0.11	0.76	0.06	0.42
Control Delay	64.2	8.9		20.9	27.2		35.6	27.2	2.6	67.8	43.0	8.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	8.9		20.9	27.2		35.6	27.2	2.6	67.8	43.0	8.1
LOS	E	A		C	C		D	C	A	E	D	A
Approach Delay		13.2			27.1			28.9			38.9	
Approach LOS		B			C			C			D	
Queue Length 50th (ft)	99	113		9	243		188	34	0	198	19	1
Queue Length 95th (ft)	m96	m115		m15	m332		271	61	15	235	38	47
Internal Link Dist (ft)		2566			2553			361			504	
Turn Bay Length (ft)	225			250						200		
Base Capacity (vph)	245	2442		101	2019		527	711	661	301	421	525
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.73		0.29	0.77		0.54	0.08	0.11	0.76	0.06	0.42

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 48 (34%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 22.4		Intersection LOS: C	
Intersection Capacity Utilization 68.8%		ICU Level of Service C	
Analysis Period (min) 15			

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

Splits and Phases: 2: Telluride & SH 30



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	120	1560	80	20	1410	50	260	50	60	170	20	180
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	150	1696	89	29	1500	57	286	60	70	230	27	220
Adj No. of Lanes	1	3	0	1	3	0	1	1	1	1	1	1
Peak Hour Factor	0.80	0.92	0.90	0.69	0.94	0.88	0.91	0.84	0.86	0.74	0.74	0.82
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	204	2287	120	134	2114	80	516	718	610	333	418	355
Arrive On Green	0.06	0.48	0.48	0.01	0.14	0.14	0.13	0.40	0.40	0.23	0.23	0.23
Sat Flow, veh/h	1723	4806	252	1723	4885	186	1723	1810	1538	1219	1810	1538
Grp Volume(v), veh/h	150	1162	623	29	1011	546	286	60	70	230	27	220
Grp Sat Flow(s),veh/h/ln	1723	1647	1765	1723	1647	1777	1723	1810	1538	1219	1810	1538
Q Serve(g_s), s	6.5	39.6	39.7	1.3	40.6	40.6	17.2	2.9	4.0	24.8	1.6	17.8
Cycle Q Clear(g_c), s	6.5	39.6	39.7	1.3	40.6	40.6	17.2	2.9	4.0	24.8	1.6	17.8
Prop In Lane	1.00		0.14	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	1567	840	134	1426	769	516	718	610	333	418	355
V/C Ratio(X)	0.73	0.74	0.74	0.22	0.71	0.71	0.55	0.08	0.11	0.69	0.06	0.62
Avail Cap(c_a), veh/h	296	1567	840	150	1426	769	516	718	610	333	418	355
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.73	0.73	0.73	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	29.4	29.5	26.1	51.1	51.1	32.5	26.1	26.5	50.6	41.7	47.9
Incr Delay (d2), s/veh	0.5	0.3	0.6	0.6	2.2	4.0	1.3	0.2	0.4	11.1	0.3	7.9
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	3.1	18.0	19.3	0.6	19.0	20.9	8.3	1.5	1.8	9.4	0.8	8.3
LnGrp Delay(d),s/veh	29.7	29.7	30.0	26.7	53.3	55.2	33.9	26.3	26.8	61.7	42.0	55.8
LnGrp LOS	C	C	C	C	D	E	C	C	C	E	D	E
Approach Vol, veh/h		1935			1586			416			477	
Approach Delay, s/veh		29.8			53.5			31.6			57.9	
Approach LOS		C			D			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		60.0	7.7	72.3	23.0	37.0	13.7	66.3
Change Period (Y+Rc), s		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s		55.0	4.0	66.0	18.0	32.0	16.0	54.0
Max Q Clear Time (g_c+I1), s		6.0	3.3	41.7	19.2	26.8	8.5	42.6
Green Ext Time (p_c), s		2.3	0.0	21.5	0.0	1.1	0.2	10.7

Intersection Summary	
HCM 2010 Ctrl Delay	41.5
HCM 2010 LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	640	1030	120	40	530	170	420	30	220	250	10	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		500	300		300	200		0	0		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			150			25			25		
Satd. Flow (prot)	3335	1810	1538	1719	3438	1538	3335	1585	0	1719	1810	1538
Flt Permitted	0.412			0.063			0.000			0.000		
Satd. Flow (perm)	1446	1810	1538	114	3438	1538	0	1585	0	0	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			140			293		112				446
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2633			4027			1045			573	
Travel Time (s)		39.9			61.0			15.8			8.7	
Peak Hour Factor	0.58	0.91	0.86	0.90	0.89	0.58	0.87	0.58	0.88	0.58	0.58	0.58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1103	1132	140	44	596	293	483	302	0	431	17	914
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA		pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		Free	2			6		Free
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	22.0	86.0	86.0	9.0	73.0		24.0	21.0		24.0	21.0	
Total Split (%)	15.7%	61.4%	61.4%	6.4%	52.1%		17.1%	15.0%		17.1%	15.0%	
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	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	Max		None	Max	
Act Effct Green (s)	82.8	82.8	82.8	68.0	68.0	140.0	19.0	16.0		19.0	16.0	140.0
Actuated g/C Ratio	0.59	0.59	0.59	0.49	0.49	1.00	0.14	0.11		0.14	0.11	1.00
v/c Ratio	1.02	1.06	0.14	0.44	0.36	0.19	1.07	1.08		1.85	0.08	0.59
Control Delay	47.4	55.6	0.3	31.9	27.6	0.2	118.0	111.8		431.1	56.7	1.7
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	47.4	55.6	0.3	31.9	27.6	0.2	118.0	111.8		431.1	56.7	1.7
LOS	D	E	A	C	C	A	F	F		F	E	A
Approach Delay		48.5			19.2			115.6			138.3	
Approach LOS		D			B			F			F	
Queue Length 50th (ft)	~214	~1132	0	30	250	0	~250	~210		~594	14	0
Queue Length 95th (ft)	81	#1410	m0	m39	297	0	#343	138		#441	25	0
Internal Link Dist (ft)		2553			3947			965			493	
Turn Bay Length (ft)	400		500	300		300	200					
Base Capacity (vph)	1084	1070	966	101	1669	1538	452	280		233	206	1538
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.02	1.06	0.14	0.44	0.36	0.19	1.07	1.08		1.85	0.08	0.59

Intersection Summary

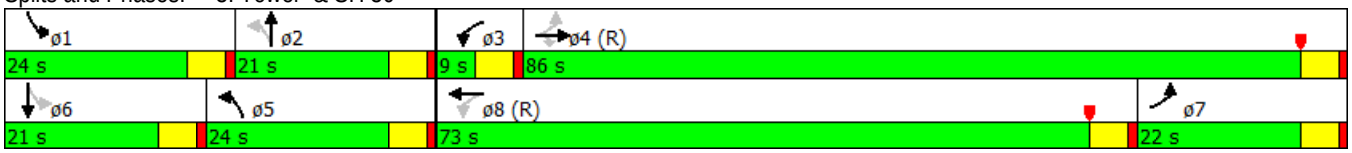
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 62 (44%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.85
Intersection Signal Delay: 75.6 Intersection LOS: E
Intersection Capacity Utilization 103.2% ICU Level of Service G
Analysis Period (min) 15

~ 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.

Splits and Phases: 3: Tower & SH 30



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	640	1030	120	40	530	170	420	30	220	250	10	530
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810	1810	1810	1900	1810	1810	1810
Adj Flow Rate, veh/h	1103	1132	140	44	596	0	483	52	250	431	17	0
Adj No. of Lanes	2	1	1	1	2	1	2	1	0	1	1	1
Peak Hour Factor	0.58	0.91	0.86	0.90	0.89	0.58	0.87	0.58	0.88	0.58	0.58	0.58
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	1070	1056	898	92	1670	747	557	31	149	285	207	176
Arrive On Green	0.20	0.97	0.97	0.02	0.49	0.00	0.14	0.11	0.11	0.14	0.11	0.00
Sat Flow, veh/h	3343	1810	1538	1723	3438	1538	3343	272	1307	1723	1810	1538
Grp Volume(v), veh/h	1103	1132	140	44	596	0	483	0	302	431	17	0
Grp Sat Flow(s),veh/h/ln	1672	1810	1538	1723	1719	1538	1672	0	1579	1723	1810	1538
Q Serve(g_s), s	17.0	81.7	0.2	2.0	15.1	0.0	15.4	0.0	16.0	19.0	1.2	0.0
Cycle Q Clear(g_c), s	17.0	81.7	0.2	2.0	15.1	0.0	15.4	0.0	16.0	19.0	1.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		1.00
Lane Grp Cap(c), veh/h	1070	1056	898	92	1670	747	557	0	180	285	207	176
V/C Ratio(X)	1.03	1.07	0.16	0.48	0.36	0.00	0.87	0.00	1.67	1.51	0.08	0.00
Avail Cap(c_a), veh/h	1070	1056	898	101	1670	747	557	0	180	285	207	176
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.2	1.8	0.2	34.2	22.4	0.0	57.3	0.0	62.0	62.1	55.4	0.0
Incr Delay (d2), s/veh	30.3	44.0	0.2	3.8	0.6	0.0	13.7	0.0	326.2	247.1	0.8	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	22.6	34.9	0.2	1.0	7.3	0.0	10.2	0.0	23.3	21.6	0.6	0.0
LnGrp Delay(d),s/veh	67.5	45.8	0.4	38.1	23.0	0.0	71.0	0.0	388.2	309.3	56.2	0.0
LnGrp LOS	F	F	A	D	C		E		F	F	E	
Approach Vol, veh/h		2375			640			785			448	
Approach Delay, s/veh		53.2			24.0			193.0			299.7	
Approach LOS		D			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	21.0	8.3	86.7	24.0	21.0	22.0	73.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	19.0	16.0	4.0	81.0	19.0	16.0	17.0	68.0
Max Q Clear Time (g_c+I1), s	21.0	18.0	4.0	83.7	17.4	3.2	19.0	17.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.6	0.0	0.0	4.1

Intersection Summary		
HCM 2010 Ctrl Delay		100.6
HCM 2010 LOS		F

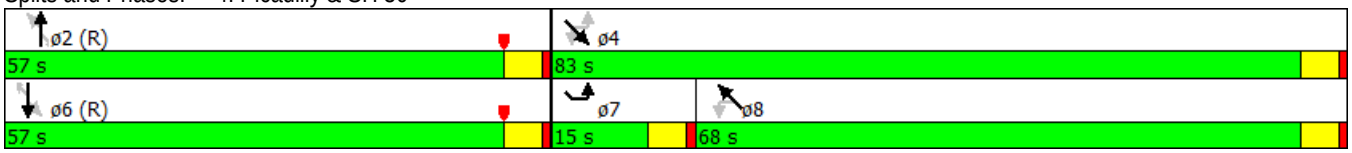
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	25	160	40	500	325	150	350	1070	100	70	560	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	250		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	1810	1538	1719	1810	1538	1719	1810	1538	1719	1810	1538
Flt Permitted	0.259			0.472			0.172			0.063		
Satd. Flow (perm)	469	1810	1538	854	1810	1538	311	1810	1538	114	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			67			164			93			214
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1299			5266			3105			1936	
Travel Time (s)		19.7			79.8			47.0			29.3	
Peak Hour Factor	0.59	0.59	0.59	0.89	0.71	0.90	0.82	0.92	0.59	0.59	0.90	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	271	68	562	458	167	427	1163	169	119	622	471
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Free
Protected Phases		2			6		7	4			8	
Permitted Phases	2		2	6		6	4		4	8		Free
Detector Phase	2	2	2	6	6	6	7	4	4	8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0	9.0	21.0	21.0	21.0	21.0	
Total Split (s)	57.0	57.0	57.0	57.0	57.0	57.0	15.0	83.0	83.0	68.0	68.0	
Total Split (%)	40.7%	40.7%	40.7%	40.7%	40.7%	40.7%	10.7%	59.3%	59.3%	48.6%	48.6%	
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	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	
Act Effct Green (s)	52.0	52.0	52.0	52.0	52.0	52.0	78.0	78.0	78.0	63.0	63.0	140.0
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37	0.56	0.56	0.56	0.45	0.45	1.00
v/c Ratio	0.24	0.40	0.11	1.77	0.68	0.25	1.56	1.15	0.19	2.33	0.76	0.31
Control Delay	35.2	34.8	7.0	387.6	38.4	3.7	277.8	101.8	9.3	678.2	39.8	0.5
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	35.2	34.8	7.0	387.6	38.4	3.7	277.8	101.8	9.3	678.2	39.8	0.5
LOS	D	C	A	F	D	A	F	F	A	F	D	A
Approach Delay		29.9			198.8			135.7			87.2	
Approach LOS		C			F			F			F	
Queue Length 50th (ft)	26	182	1	~771	279	0	~394	~1245	39	~132	468	0
Queue Length 95th (ft)	37	158	8	#992	282	35	m#288	m802	m27	#141	627	0
Internal Link Dist (ft)		1219			5186			3025			1856	
Turn Bay Length (ft)							250			250		
Base Capacity (vph)	174	672	613	317	672	674	273	1008	898	51	814	1538
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

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.40	0.11	1.77	0.68	0.25	1.56	1.15	0.19	2.33	0.76	0.31

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 20 (14%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.33			
Intersection Signal Delay: 130.4		Intersection LOS: F	
Intersection Capacity Utilization 113.0%		ICU Level of Service H	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 4: Picadilly & SH 30



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	25	160	40	500	325	150	350	1070	100	70	560	400
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	42	271	68	562	458	167	427	1163	169	119	622	0
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.59	0.59	0.59	0.89	0.71	0.90	0.82	0.92	0.59	0.59	0.90	0.85
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	174	672	571	314	672	571	300	1008	857	51	814	692
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.07	0.56	0.56	0.45	0.45	0.00
Sat Flow, veh/h	774	1810	1538	1008	1810	1538	1723	1810	1538	398	1810	1538
Grp Volume(v), veh/h	42	271	68	562	458	167	427	1163	169	119	622	0
Grp Sat Flow(s),veh/h/ln	774	1810	1538	1008	1810	1538	1723	1810	1538	398	1810	1538
Q Serve(g_s), s	6.8	15.5	4.1	36.5	29.8	10.7	10.0	78.0	7.7	0.0	40.3	0.0
Cycle Q Clear(g_c), s	36.6	15.5	4.1	52.0	29.8	10.7	10.0	78.0	7.7	63.0	40.3	0.0
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	174	672	571	314	672	571	300	1008	857	51	814	692
V/C Ratio(X)	0.24	0.40	0.12	1.79	0.68	0.29	1.42	1.15	0.20	2.31	0.76	0.00
Avail Cap(c_a), veh/h	174	672	571	314	672	571	300	1008	857	51	814	692
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	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.4	32.5	28.9	54.7	37.0	31.0	36.6	31.0	15.4	70.0	32.3	0.0
Incr Delay (d2), s/veh	3.3	1.8	0.4	367.3	5.4	1.3	208.5	80.6	0.1	647.5	4.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	8.1	1.8	44.2	15.9	4.7	17.4	61.2	3.3	11.2	21.0	0.0
LnGrp Delay(d),s/veh	55.7	34.3	29.4	422.1	42.4	32.3	245.0	111.6	15.5	717.5	36.6	0.0
LnGrp LOS	E	C	C	F	D	C	F	F	B	F	D	
Approach Vol, veh/h		381			1187			1759			741	
Approach Delay, s/veh		35.8			220.7			134.8			145.9	
Approach LOS		D			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		57.0		83.0		57.0	15.0	68.0
Change Period (Y+Rc), s		5.0		5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s		52.0		78.0		52.0	10.0	63.0
Max Q Clear Time (g_c+I1), s		38.6		80.0		54.0	12.0	65.0
Green Ext Time (p_c), s		6.9		0.0		0.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		152.6
HCM 2010 LOS		F

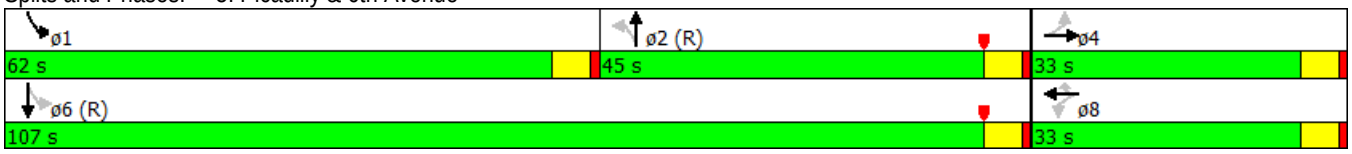
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	5	100	5	270	5	760	150	380	875	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		200	150		0	250		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1700	0	1719	1810	1538	1719	4797	0	1719	4935	0
Flt Permitted		0.929		0.742			0.295			0.156		
Satd. Flow (perm)	0	1605	0	1343	1810	1538	534	4797	0	282	4935	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				380		42			2	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		694			4066			5266			1945	
Travel Time (s)		10.5			61.6			79.8			29.5	
Peak Hour Factor	0.59	0.59	0.59	0.88	0.59	0.71	0.59	0.88	0.71	0.59	0.95	0.59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	114	8	380	8	1075	0	644	929	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	21.0	21.0	21.0		9.0	21.0	
Total Split (s)	33.0	33.0		33.0	33.0	33.0	45.0	45.0		62.0	107.0	
Total Split (%)	23.6%	23.6%		23.6%	23.6%	23.6%	32.1%	32.1%		44.3%	76.4%	
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	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None	None	C-Min	C-Min		None	C-Min	
Act Effct Green (s)		17.5		17.5	17.5	17.5	56.2	56.2		112.5	112.5	
Actuated g/C Ratio		0.12		0.12	0.12	0.12	0.40	0.40		0.80	0.80	
v/c Ratio		0.12		0.68	0.04	0.73	0.04	0.55		0.86	0.23	
Control Delay		39.1		86.6	62.6	24.4	35.8	34.2		37.0	3.8	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		39.1		86.6	62.6	24.4	35.8	34.2		37.0	3.8	
LOS		D		F	E	C	D	C		D	A	
Approach Delay		39.1			39.1			34.2			17.4	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)		13		104	7	88	4	291		394	61	
Queue Length 95th (ft)		23		m158	m14	109	m10	m303		243	100	
Internal Link Dist (ft)		614			3986			5186			1865	
Turn Bay Length (ft)				200		200	150			250		
Base Capacity (vph)		327		268	362	611	214	1949		819	3965	
Starvation Cap Reductn		0		0	0	0	0	0		0	0	
Spillback Cap Reductn		0		0	0	0	0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.07		0.43	0.02	0.62	0.04	0.55		0.79	0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 26 (19%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 26.7		Intersection LOS: C	
Intersection Capacity Utilization 63.8%		ICU Level of Service B	
Analysis Period (min) 15			

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

Splits and Phases: 5: Picadilly & 6th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	5	5	100	5	270	5	760	150	380	875	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1810	1900	1810	1810	1810	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	8	8	8	114	8	380	8	864	211	644	921	8
Adj No. of Lanes	0	1	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.59	0.59	0.59	0.88	0.59	0.71	0.59	0.88	0.71	0.59	0.95	0.59
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	133	131	112	373	436	370	238	1198	291	682	3401	30
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.30	0.30	0.30	0.33	0.67	0.67
Sat Flow, veh/h	383	545	464	1352	1810	1538	583	3969	964	1723	5051	44
Grp Volume(v), veh/h	24	0	0	114	8	380	8	716	359	644	600	329
Grp Sat Flow(s),veh/h/ln	1391	0	0	1352	1810	1538	583	1647	1639	1723	1647	1802
Q Serve(g_s), s	0.0	0.0	0.0	8.3	0.4	28.0	1.1	22.6	22.8	34.1	8.5	8.5
Cycle Q Clear(g_c), s	1.3	0.0	0.0	9.5	0.4	28.0	1.1	22.6	22.8	34.1	8.5	8.5
Prop In Lane	0.33		0.33	1.00		1.00	1.00		0.59	1.00		0.02
Lane Grp Cap(c), veh/h	376	0	0	373	436	370	238	994	495	682	2217	1213
V/C Ratio(X)	0.06	0.00	0.00	0.31	0.02	1.03	0.03	0.72	0.73	0.94	0.27	0.27
Avail Cap(c_a), veh/h	376	0	0	373	436	370	262	1132	564	960	2888	1580
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.52	0.52	0.52	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	0.0	0.0	37.7	33.7	44.2	28.8	36.2	36.3	26.7	7.6	7.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.5	0.0	53.7	0.1	2.4	4.8	13.9	0.3	0.6
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	0.6	0.0	0.0	3.1	0.2	17.4	0.2	10.6	10.9	22.5	3.9	4.4
LnGrp Delay(d),s/veh	34.1	0.0	0.0	38.1	33.7	97.9	28.9	38.6	41.1	40.6	7.9	8.1
LnGrp LOS	C			D	C	F	C	D	D	D	A	A
Approach Vol, veh/h		24			502			1083			1573	
Approach Delay, s/veh		34.1			83.3			39.4			21.3	
Approach LOS		C			F			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	43.2	63.8		33.0		107.0		33.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s	57.0	40.0		28.0		102.0		28.0
Max Q Clear Time (g_c+I1), s	36.1	24.8		3.3		10.5		30.0
Green Ext Time (p_c), s	2.1	10.3		1.8		22.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	37.3
HCM 2010 LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	270	5	70	70	240	5	100	180	580	20	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	1804	0	1719	1810	1538	1719	1647	0	1719	1810	1538
Flt Permitted	0.636			0.111			0.735			0.219		
Satd. Flow (perm)	1151	1804	0	201	1810	1538	1330	1647	0	396	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				300		51				16
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		650			648			1130			2574	
Travel Time (s)		9.8			9.8			17.1			39.0	
Peak Hour Factor	0.59	0.59	0.59	0.76	0.59	0.80	0.59	0.71	0.85	0.82	0.59	0.59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	466	0	92	119	300	8	353	0	707	34	8
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		21.0	21.0	21.0	21.0	21.0		9.0	21.0	21.0
Total Split (s)	41.0	41.0		41.0	41.0	41.0	38.0	38.0		61.0	99.0	99.0
Total Split (%)	29.3%	29.3%		29.3%	29.3%	29.3%	27.1%	27.1%		43.6%	70.7%	70.7%
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	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	Max	Max		None	Max	Max
Act Effct Green (s)	36.0	36.0		36.0	36.0	36.0	36.8	36.8		94.0	94.0	94.0
Actuated g/C Ratio	0.26	0.26		0.26	0.26	0.26	0.26	0.26		0.67	0.67	0.67
v/c Ratio	0.03	1.00		1.80	0.26	0.49	0.02	0.75		0.93	0.03	0.01
Control Delay	39.4	94.1		455.4	34.1	8.8	41.6	52.5		40.9	8.0	2.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.3	0.0	0.0
Total Delay	39.4	94.1		455.4	34.1	8.8	41.6	52.5		41.3	8.0	2.4
LOS	D	F		F	C	A	D	D		D	A	A
Approach Delay		93.2			95.1			52.3			39.3	
Approach LOS		F			F			D			D	
Queue Length 50th (ft)	6	~429		~128	74	16	6	267		620	17	0
Queue Length 95th (ft)	13	328		#203	83	54	14	277		528	m10	m1
Internal Link Dist (ft)		570			568			1050			2494	
Turn Bay Length (ft)	150			150		150	150			150		150
Base Capacity (vph)	295	464		51	465	618	349	470		795	1215	1037
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		6	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.03	1.00		1.80	0.26	0.49	0.02	0.75		0.90	0.03	0.01

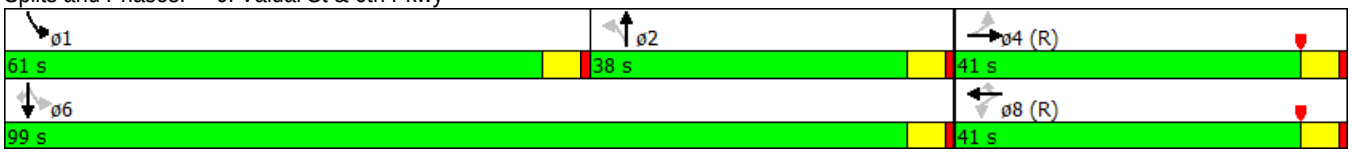
Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.80			
Intersection Signal Delay: 67.4		Intersection LOS: E	
Intersection Capacity Utilization 83.5%		ICU Level of Service E	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 6: Valdai St & 6th Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	270	5	70	70	240	5	100	180	580	20	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1810	1810	1810	1900	1810	1810	1810
Adj Flow Rate, veh/h	8	458	8	92	119	300	8	141	212	707	34	8
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	1	1	1
Peak Hour Factor	0.59	0.59	0.59	0.76	0.59	0.80	0.59	0.71	0.85	0.82	0.59	0.59
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	235	456	8	51	465	396	450	197	297	736	1215	1033
Arrive On Green	0.26	0.26	0.26	0.08	0.08	0.08	0.30	0.30	0.30	0.33	0.67	0.67
Sat Flow, veh/h	936	1773	31	897	1810	1538	1320	654	983	1723	1810	1538
Grp Volume(v), veh/h	8	0	466	92	119	300	8	0	353	707	34	8
Grp Sat Flow(s),veh/h/ln	936	0	1804	897	1810	1538	1320	0	1636	1723	1810	1538
Q Serve(g_s), s	1.0	0.0	36.0	0.0	8.6	26.7	0.6	0.0	26.9	42.7	0.9	0.2
Cycle Q Clear(g_c), s	9.6	0.0	36.0	36.0	8.6	26.7	0.6	0.0	26.9	42.7	0.9	0.2
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	235	0	464	51	465	396	450	0	494	736	1215	1033
V/C Ratio(X)	0.03	0.00	1.00	1.79	0.26	0.76	0.02	0.00	0.71	0.96	0.03	0.01
Avail Cap(c_a), veh/h	235	0	464	51	465	396	450	0	494	850	1215	1033
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.97	0.97	0.97	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	0.0	52.0	82.1	51.5	59.8	34.3	0.0	43.5	28.1	7.7	7.6
Incr Delay (d2), s/veh	0.3	0.0	42.9	419.9	1.3	12.4	0.1	0.0	8.6	20.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	23.4	8.0	4.5	12.8	0.2	0.0	13.3	30.7	0.4	0.1
LnGrp Delay(d),s/veh	46.0	0.0	94.9	501.9	52.8	72.2	34.4	0.0	52.1	48.5	7.7	7.6
LnGrp LOS	D		F	F	D	E	C		D	D	A	A
Approach Vol, veh/h		474			511			361			749	
Approach Delay, s/veh		94.1			145.1			51.7			46.2	
Approach LOS		F			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	51.7	47.3		41.0		99.0		41.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s	56.0	33.0		36.0		94.0		36.0
Max Q Clear Time (g_c+I1), s	44.7	28.9		38.0		2.9		38.0
Green Ext Time (p_c), s	2.0	0.8		0.0		2.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	82.1
HCM 2010 LOS	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	830	200	260	330	0	0	0	0	170	1	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		250	0		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3335	0	1719	1810	0	0	0	0	1719	1553	0
Flt Permitted				0.139						0.950		
Satd. Flow (perm)	0	3335	0	252	1810	0	0	0	0	1719	1553	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31									75	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		648			594			879			589	
Travel Time (s)		9.8			9.0			13.3			8.9	
Peak Hour Factor	0.25	0.85	0.81	0.85	0.80	0.25	0.25	0.25	0.25	0.92	0.25	0.67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1223	0	306	412	0	0	0	0	185	79	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8						6	
Permitted Phases				8						6		
Detector Phase		4		3	8					6	6	
Switch Phase												
Minimum Initial (s)		4.0		4.0	4.0					4.0	4.0	
Minimum Split (s)		21.0		9.0	21.0					21.0	21.0	
Total Split (s)		73.0		35.0	108.0					32.0	32.0	
Total Split (%)		52.1%		25.0%	77.1%					22.9%	22.9%	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
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)		5.0		5.0	5.0					5.0	5.0	
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	
Act Effct Green (s)		74.8		109.8	109.8					20.2	20.2	
Actuated g/C Ratio		0.53		0.78	0.78					0.14	0.14	
v/c Ratio		0.68		0.60	0.29					0.75	0.27	
Control Delay		22.5		20.0	4.4					75.1	13.8	
Queue Delay		1.9		0.0	0.1					0.0	0.0	
Total Delay		24.4		20.0	4.5					75.1	13.8	
LOS		C		B	A					E	B	
Approach Delay		24.4			11.1						56.8	
Approach LOS		C			B						E	
Queue Length 50th (ft)		351		51	69					164	3	
Queue Length 95th (ft)		m407		147	74					236	0	
Internal Link Dist (ft)		568			514			799			509	
Turn Bay Length (ft)												
Base Capacity (vph)		1795		511	1419					331	360	
Starvation Cap Reductn		395		0	325					0	0	
Spillback Cap Reductn		0		0	0					0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0		0	0					0	0	
Reduced v/c Ratio		0.87		0.60	0.38					0.56	0.22	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 132 (94%), Referenced to phase 4:EBT and 8:WBTL, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 23.9		Intersection LOS: C	
Intersection Capacity Utilization 65.6%		ICU Level of Service C	
Analysis Period (min) 15			

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

Splits and Phases: 7: NB Ramps & 6th Pkwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	830	200	260	330	0	0	0	0	170	1	50
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1810	1900	1810	1810	0				1810	1810	1900
Adj Flow Rate, veh/h	0	976	247	306	412	0				185	4	75
Adj No. of Lanes	0	2	0	1	1	0				1	1	0
Peak Hour Factor	0.25	0.85	0.81	0.85	0.80	0.25				0.92	0.25	0.67
Percent Heavy Veh, %	0	5	5	5	5	0				5	5	5
Cap, veh/h	0	1433	362	533	1443	0				216	10	184
Arrive On Green	0.00	0.17	0.17	0.46	1.00	0.00				0.13	0.13	0.13
Sat Flow, veh/h	0	2811	687	1723	1810	0				1723	78	1471
Grp Volume(v), veh/h	0	616	607	306	412	0				185	0	79
Grp Sat Flow(s),veh/h/ln	0	1719	1688	1723	1810	0				1723	0	1550
Q Serve(g_s), s	0.0	43.3	43.6	3.7	0.0	0.0				13.6	0.0	6.1
Cycle Q Clear(g_c), s	0.0	43.3	43.6	3.7	0.0	0.0				13.6	0.0	6.1
Prop In Lane	0.00		0.41	1.00		0.00				1.00		0.95
Lane Grp Cap(c), veh/h	0	905	889	533	1443	0				216	0	194
V/C Ratio(X)	0.00	0.68	0.68	0.57	0.29	0.00				0.86	0.00	0.41
Avail Cap(c_a), veh/h	0	905	889	533	1443	0				360	0	324
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.18	0.18	0.97	0.97	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	43.2	43.3	23.9	0.0	0.0				55.4	0.0	52.1
Incr Delay (d2), s/veh	0.0	0.8	0.8	1.5	0.5	0.0				10.3	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	20.9	20.6	6.6	0.2	0.0				7.1	0.0	2.7
LnGrp Delay(d),s/veh	0.0	43.9	44.1	25.4	0.5	0.0				65.7	0.0	53.5
LnGrp LOS		D	D	C	A					E		D
Approach Vol, veh/h		1223			718						264	
Approach Delay, s/veh		44.0			11.1						62.0	
Approach LOS		D			B						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			45.8	73.0		21.2		118.8
Change Period (Y+Rc), s			5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s			30.0	68.0		27.0		103.0
Max Q Clear Time (g_c+I1), s			5.7	45.6		15.6		2.0
Green Ext Time (p_c), s			3.2	8.2		0.6		3.4

Intersection Summary	
HCM 2010 Ctrl Delay	35.4
HCM 2010 LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	840	0	0	530	100	60	1	220	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	0		0	0		0	0		0
Storage Lanes	1		0	0		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	3438	0	0	3438	1538	1719	1542	0	0	0	0
Flt Permitted	0.379						0.950					
Satd. Flow (perm)	686	3438	0	0	3438	1538	1719	1542	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						141		114				
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		594			1480			781			563	
Travel Time (s)		9.0			22.4			11.8			8.5	
Peak Hour Factor	0.74	0.82	0.25	0.25	0.87	0.71	0.75	0.25	0.83	0.25	0.25	0.25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	216	1024	0	0	609	141	80	269	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	7	4			8			2				
Permitted Phases	4					8	2					
Detector Phase	7	4			8	8	2	2				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0				
Minimum Split (s)	9.0	21.0			21.0	21.0	21.0	21.0				
Total Split (s)	30.0	89.0			59.0	59.0	51.0	51.0				
Total Split (%)	21.4%	63.6%			42.1%	42.1%	36.4%	36.4%				
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0	5.0	5.0	5.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	None	None				
Act Effct Green (s)	109.3	109.3			94.0	94.0	20.7	20.7				
Actuated g/C Ratio	0.78	0.78			0.67	0.67	0.15	0.15				
v/c Ratio	0.35	0.38			0.26	0.13	0.31	0.83				
Control Delay	2.8	2.0			9.3	2.3	54.0	52.7				
Queue Delay	0.0	0.3			0.0	0.0	0.0	0.0				
Total Delay	2.8	2.2			9.3	2.3	54.0	52.7				
LOS	A	A			A	A	D	D				
Approach Delay		2.3			8.0			53.0				
Approach LOS		A			A			D				
Queue Length 50th (ft)	18	67			66	0	66	142				
Queue Length 95th (ft)	38	92			114	18	89	0				
Internal Link Dist (ft)		514			1400			701			483	
Turn Bay Length (ft)	250											
Base Capacity (vph)	719	2683			2307	1078	564	583				
Starvation Cap Reductn	0	858			0	0	0	0				
Spillback Cap Reductn	0	0			0	0	0	0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0			0	0	0	0				
Reduced v/c Ratio	0.30	0.56			0.26	0.13	0.14	0.46				

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 22 (16%), Referenced to phase 4:EBTL and 8:WBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 65.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 8: SB Ramps & 6th Pkwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	840	0	0	530	100	60	1	220	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1810	1810	0	0	1810	1810	1810	1810	1900			
Adj Flow Rate, veh/h	216	1024	0	0	609	141	80	4	265			
Adj No. of Lanes	1	2	0	0	2	1	1	1	0			
Peak Hour Factor	0.74	0.82	0.25	0.25	0.87	0.71	0.75	0.25	0.83			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	598	2470	0	0	2085	933	338	4	298			
Arrive On Green	0.14	1.00	0.00	0.00	1.00	1.00	0.20	0.20	0.20			
Sat Flow, veh/h	1723	3529	0	0	3529	1538	1723	23	1519			
Grp Volume(v), veh/h	216	1024	0	0	609	141	80	0	269			
Grp Sat Flow(s),veh/h/ln	1723	1719	0	0	1719	1538	1723	0	1542			
Q Serve(g_s), s	5.6	0.0	0.0	0.0	0.0	0.0	4.6	0.0	19.9			
Cycle Q Clear(g_c), s	5.6	0.0	0.0	0.0	0.0	0.0	4.6	0.0	19.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.99			
Lane Grp Cap(c), veh/h	598	2470	0	0	2085	933	338	0	302			
V/C Ratio(X)	0.36	0.41	0.00	0.00	0.29	0.15	0.24	0.00	0.89			
Avail Cap(c_a), veh/h	848	2470	0	0	2085	933	678	0	606			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.66	0.66	0.00	0.00	0.51	0.51	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.9	0.0	0.0	0.0	0.0	0.0	39.6	0.0	45.8			
Incr Delay (d2), s/veh	0.2	0.3	0.0	0.0	0.2	0.2	0.4	0.0	8.8			
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	2.6	0.1	0.0	0.0	0.1	0.0	2.2	0.0	9.2			
LnGrp Delay(d),s/veh	6.2	0.3	0.0	0.0	0.2	0.2	40.0	0.0	54.6			
LnGrp LOS	A	A			A	A	D		D			
Approach Vol, veh/h		1240			750			349				
Approach Delay, s/veh		1.4			0.2			51.2				
Approach LOS		A			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		27.9		112.1			13.1	99.0
Change Period (Y+Rc), s		5.0		5.0			5.0	5.0
Max Green Setting (Gmax), s		46.0		84.0			25.0	54.0
Max Q Clear Time (g_c+I1), s		21.9		2.0			7.6	2.0
Green Ext Time (p_c), s		1.1		17.9			0.5	16.7

Intersection Summary	
HCM 2010 Ctrl Delay	8.4
HCM 2010 LOS	A

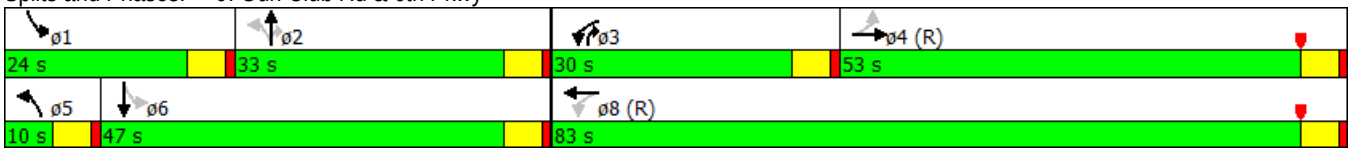
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	800	150	250	520	110	80	210	340	220	300	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		250	150		150	150		150	150		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	4821	0	1719	4896	0	1719	1810	1538	1719	1777	0
Flt Permitted	0.077			0.139			0.428			0.297		
Satd. Flow (perm)	139	4821	0	252	4896	0	774	1810	1538	537	1777	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			11				94		5	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1480			852			987			975	
Travel Time (s)		22.4			12.9			15.0			14.8	
Peak Hour Factor	0.63	0.87	0.86	0.83	0.25	0.84	0.78	0.85	0.86	0.90	0.96	0.71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	175	1094	0	301	2211	0	103	247	395	244	354	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases		4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	21.0	21.0		9.0	21.0		9.0	21.0	9.0	9.0	21.0	
Total Split (s)	53.0	53.0		30.0	83.0		10.0	33.0	30.0	24.0	47.0	
Total Split (%)	37.9%	37.9%		21.4%	59.3%		7.1%	23.6%	21.4%	17.1%	33.6%	
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	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	
Recall Mode	C-Max	C-Max		None	C-Max		None	Max	None	None	Max	
Act Effct Green (s)	52.2	52.2		78.0	78.0		34.5	29.5	55.2	52.0	42.0	
Actuated g/C Ratio	0.37	0.37		0.56	0.56		0.25	0.21	0.39	0.37	0.30	
v/c Ratio	3.43	0.60		0.84	0.81		0.46	0.65	0.60	0.70	0.66	
Control Delay	1148.4	29.3		46.1	27.9		42.1	60.1	28.8	44.4	49.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	1148.4	29.3		46.1	27.9		42.1	60.1	28.8	44.4	49.1	
LOS	F	C		D	C		D	E	C	D	D	
Approach Delay		183.6			30.1			41.0			47.2	
Approach LOS		F			C			D			D	
Queue Length 50th (ft)	~265	335		165	571		62	211	217	162	278	
Queue Length 95th (ft)	#272	346		239	105		92	287	293	239	392	
Internal Link Dist (ft)		1400			772			907			895	
Turn Bay Length (ft)	250			150			150		150	150		
Base Capacity (vph)	51	1817		402	2732		224	381	707	359	536	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	3.43	0.60		0.75	0.81		0.46	0.65	0.56	0.68	0.66	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 27 (19%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 3.43
Intersection Signal Delay: 71.7 Intersection LOS: E
Intersection Capacity Utilization 72.6% ICU Level of Service C
Analysis Period (min) 15
~ 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.

Splits and Phases: 9: Gun Club Rd & 6th Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	110	800	150	250	520	110	80	210	340	220	300	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1810	1810	1810	1900
Adj Flow Rate, veh/h	175	920	174	301	2080	131	103	247	395	244	312	42
Adj No. of Lanes	1	3	0	1	3	0	1	1	1	1	1	0
Peak Hour Factor	0.63	0.87	0.86	0.83	0.25	0.84	0.78	0.85	0.86	0.90	0.96	0.71
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	87	1690	318	417	2648	166	237	386	508	330	469	63
Arrive On Green	0.81	0.81	0.81	0.12	0.56	0.56	0.04	0.21	0.21	0.12	0.30	0.30
Sat Flow, veh/h	169	4177	787	1723	4753	298	1723	1810	1538	1723	1562	210
Grp Volume(v), veh/h	175	725	369	301	1438	773	103	247	395	244	0	354
Grp Sat Flow(s),veh/h/ln	169	1647	1671	1723	1647	1757	1723	1810	1538	1723	0	1772
Q Serve(g_s), s	29.3	10.5	10.6	13.8	48.0	48.7	5.0	17.4	29.9	15.0	0.0	24.5
Cycle Q Clear(g_c), s	56.7	10.5	10.6	13.8	48.0	48.7	5.0	17.4	29.9	15.0	0.0	24.5
Prop In Lane	1.00		0.47	1.00		0.17	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	87	1333	676	417	1835	979	237	386	508	330	0	532
V/C Ratio(X)	2.02	0.54	0.55	0.72	0.78	0.79	0.43	0.64	0.78	0.74	0.00	0.67
Avail Cap(c_a), veh/h	87	1333	676	523	1835	979	237	386	508	353	0	532
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.7	8.9	9.0	19.7	24.4	24.5	45.3	50.2	42.3	36.4	0.0	42.9
Incr Delay (d2), s/veh	492.5	1.5	2.9	3.6	3.4	6.5	1.2	7.9	11.2	7.5	0.0	6.5
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	15.2	4.9	5.3	6.9	22.6	25.2	1.3	9.6	15.4	7.8	0.0	13.0
LnGrp Delay(d),s/veh	528.2	10.4	11.9	23.4	27.8	31.0	46.6	58.1	53.5	43.9	0.0	49.3
LnGrp LOS	F	B	B	C	C	C	D	E	D	D		D
Approach Vol, veh/h		1269			2512			745			598	
Approach Delay, s/veh		82.3			28.2			54.0			47.1	
Approach LOS		F			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	22.1	34.9	21.3	61.7	10.0	47.0		83.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	19.0	28.0	25.0	48.0	5.0	42.0		78.0
Max Q Clear Time (g_c+I1), s	17.0	31.9	15.8	58.7	7.0	26.5		50.7
Green Ext Time (p_c), s	0.1	0.0	0.6	0.0	0.0	4.3		26.1

Intersection Summary	
HCM 2010 Ctrl Delay	47.6
HCM 2010 LOS	D

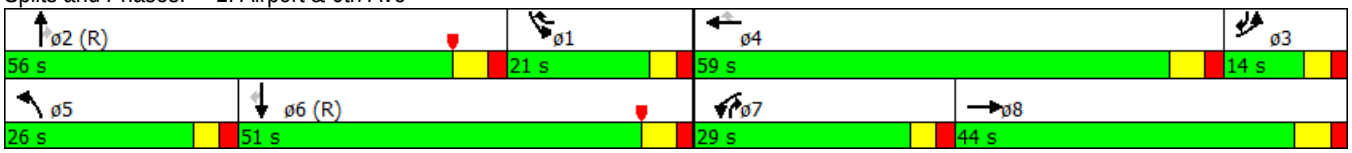
Appendix C Level of Service Output – Proposed Action Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	1350	225	550	1375	320	410	1830	470	350	1210	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	16	12	12
Storage Length (ft)	370		370	235		0	215		0	300		0
Storage Lanes	2		0	1		1	2		1	2		1
Taper Length (ft)	150			150			150			150		
Satd. Flow (prot)	3335	4831	0	3335	4940	1538	3335	4940	1538	3780	4940	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4831	0	3335	4940	1538	3335	4940	1538	3780	4940	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				102			109			95
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1333			500			1429			1106	
Travel Time (s)		20.2			7.6			21.7			16.8	
Peak Hour Factor	0.98	0.96	0.95	0.81	0.90	0.85	0.88	0.96	0.89	0.88	0.90	0.87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	1643	0	679	1528	376	466	1906	528	398	1344	368
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4	1	5	2	7	1	6	3
Permitted Phases						4			2			6
Detector Phase	3	8		7	4	1	5	2	7	1	6	3
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0	9.0	9.0	10.0	9.0	9.0	10.0	9.0
Total Split (s)	14.0	44.0		29.0	59.0	21.0	26.0	56.0	29.0	21.0	51.0	14.0
Total Split (%)	9.3%	29.3%		19.3%	39.3%	14.0%	17.3%	37.3%	19.3%	14.0%	34.0%	9.3%
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0		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	0.0	0.0
Total Lost Time (s)	5.0	6.0		5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lag	Lead	Lead	Lead	Lag	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	None	None	C-Max	None
Act Effct Green (s)	10.8	38.0		24.0	51.2	73.2	21.0	50.0	75.0	16.0	45.0	56.8
Actuated g/C Ratio	0.07	0.25		0.16	0.34	0.49	0.14	0.33	0.50	0.11	0.30	0.38
v/c Ratio	0.72	1.33		1.27	0.91	0.47	1.00	1.16	0.64	0.99	0.91	0.57
Control Delay	85.2	194.8		170.0	25.6	2.0	105.1	122.7	15.7	107.7	60.2	24.0
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	85.2	194.8		170.0	25.6	2.0	105.1	122.7	15.7	107.7	60.2	24.0
LOS	F	F		F	C	A	F	F	B	F	E	C
Approach Delay		184.4			60.1			100.4			62.9	
Approach LOS		F			E			F			E	
Queue Length 50th (ft)	88	~758		~425	466	7	238	~804	184	203	465	139
Queue Length 95th (ft)	#157	#856		#469	480	m7	#344	#898	260	#303	529	214
Internal Link Dist (ft)		1253			420			1349			1026	
Turn Bay Length (ft)	370			235			215			300		
Base Capacity (vph)	240	1239		533	1745	802	466	1646	823	403	1482	641
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	0.72	1.33		1.27	0.88	0.47	1.00	1.16	0.64	0.99	0.91	0.57

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 44 (29%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.33			
Intersection Signal Delay: 97.1		Intersection LOS: F	
Intersection Capacity Utilization 110.5%		ICU Level of Service H	
Analysis Period (min) 15			
~ 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.			

Splits and Phases: 1: Airport & 6th Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	170	1350	225	550	1375	320	410	1830	470	350	1210	320
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1810	1810	1810	1810	1882	1810	1810
Adj Flow Rate, veh/h	173	1406	237	679	1528	376	466	1906	528	398	1344	368
Adj No. of Lanes	2	3	0	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.98	0.96	0.95	0.81	0.90	0.85	0.88	0.96	0.89	0.88	0.90	0.87
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	232	1079	182	535	1666	734	468	1647	620	348	1482	708
Arrive On Green	0.07	0.25	0.25	0.16	0.34	0.34	0.14	0.33	0.33	0.10	0.30	0.30
Sat Flow, veh/h	3343	4259	717	3343	4940	1538	3343	4940	1538	3477	4940	1538
Grp Volume(v), veh/h	173	1087	556	679	1528	376	466	1906	528	398	1344	368
Grp Sat Flow(s),veh/h/ln	1672	1647	1683	1672	1647	1538	1672	1647	1538	1739	1647	1538
Q Serve(g_s), s	7.6	38.0	38.0	24.0	44.5	16.5	20.9	50.0	36.4	15.0	39.2	25.5
Cycle Q Clear(g_c), s	7.6	38.0	38.0	24.0	44.5	16.5	20.9	50.0	36.4	15.0	39.2	25.5
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	834	426	535	1666	734	468	1647	620	348	1482	708
V/C Ratio(X)	0.74	1.30	1.30	1.27	0.92	0.51	1.00	1.16	0.85	1.14	0.91	0.52
Avail Cap(c_a), veh/h	232	834	426	535	1745	759	468	1647	620	348	1482	708
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	68.5	56.0	56.0	63.0	47.7	12.7	64.5	50.0	40.7	67.5	50.5	28.7
Incr Delay (d2), s/veh	11.0	145.0	153.1	135.4	7.7	0.2	40.4	78.2	13.9	93.6	9.6	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	34.1	35.8	21.1	21.4	7.0	12.3	34.6	17.7	11.7	19.1	11.4
LnGrp Delay(d),s/veh	79.4	201.0	209.1	198.4	55.4	12.9	104.8	128.2	54.6	161.1	60.1	31.5
LnGrp LOS	E	F	F	F	E	B	F	F	D	F	E	C
Approach Vol, veh/h		1816			2583			2900			2110	
Approach Delay, s/veh		191.9			86.8			111.0			74.2	
Approach LOS		F			F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	56.0	16.4	56.6	26.0	51.0	29.0	44.0
Change Period (Y+Rc), s	6.0	* 6	6.0	* 6	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	15.0	* 50	8.0	* 53	21.0	45.0	24.0	38.0
Max Q Clear Time (g_c+I1), s	17.0	52.0	9.6	46.5	22.9	41.2	26.0	40.0
Green Ext Time (p_c), s	0.0	0.0	0.0	4.1	0.0	3.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	111.7
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	1700	300	40	2140	210	80	10	10	70	40	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	250		250	0		0	200		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			150			25			100		
Satd. Flow (prot)	1719	4940	1538	1719	4940	1538	1719	1810	1538	1719	1810	1538
Flt Permitted	0.050			0.100			0.720			0.749		
Satd. Flow (perm)	90	4940	1538	181	4940	1538	1303	1810	1538	1355	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			326			178			124			124
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1830			2630			441			584	
Travel Time (s)		27.7			39.8			6.7			8.8	
Peak Hour Factor	0.73	0.87	0.92	0.82	0.87	0.75	0.84	0.78	0.71	0.75	0.71	0.76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	288	1954	326	49	2460	280	95	13	14	93	56	92
Turn Type	pm+pt	NA	Perm	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		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (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
Minimum Split (s)	10.0	10.0	10.0	9.0	10.0	10.0	9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	30.0	107.0	107.0	10.0	87.0	87.0	9.0	24.0	24.0	9.0	24.0	24.0
Total Split (%)	20.0%	71.3%	71.3%	6.7%	58.0%	58.0%	6.0%	16.0%	16.0%	6.0%	16.0%	16.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	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)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	105.0	103.0	103.0	85.4	83.4	83.4	25.0	18.0	18.0	25.0	18.0	18.0
Actuated g/C Ratio	0.70	0.69	0.69	0.57	0.56	0.56	0.17	0.12	0.12	0.17	0.12	0.12
v/c Ratio	0.90	0.58	0.28	0.30	0.90	0.30	0.41	0.06	0.05	0.39	0.26	0.31
Control Delay	63.5	8.3	1.3	12.2	19.8	1.1	58.9	59.4	0.3	58.1	63.4	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	63.5	8.3	1.3	12.2	19.8	1.1	58.9	59.4	0.3	58.1	63.4	6.4
LOS	E	A	A	B	B	A	E	E	A	E	E	A
Approach Delay		13.6			17.8			52.2			39.6	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	210	206	16	8	653	1	80	12	0	79	51	0
Queue Length 95th (ft)	m181	m178	m13	m11	382	0	127	29	0	110	75	4
Internal Link Dist (ft)		1750			2550			361			504	
Turn Bay Length (ft)	225		225	250		250				200		
Base Capacity (vph)	345	3392	1158	164	2747	934	231	217	293	237	217	293
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.58	0.28	0.30	0.90	0.30	0.41	0.06	0.05	0.39	0.26	0.31

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 108 (72%), Referenced to phase 4:NBTL and 8:SBTL, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 2: Telluride & 6th Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	210	1700	300	40	2140	210	80	10	10	70	40	70
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	288	1954	326	49	2460	280	95	13	14	93	56	92
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	1
Peak Hour Factor	0.73	0.87	0.92	0.82	0.87	0.75	0.84	0.78	0.71	0.75	0.71	0.76
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	311	3406	1061	142	2800	872	209	222	189	251	222	189
Arrive On Green	0.15	0.69	0.69	0.01	0.57	0.57	0.03	0.12	0.12	0.03	0.12	0.12
Sat Flow, veh/h	1723	4940	1538	1723	4940	1538	1723	1810	1538	1723	1810	1538
Grp Volume(v), veh/h	288	1954	326	49	2460	280	95	13	14	93	56	92
Grp Sat Flow(s),veh/h/ln	1723	1647	1538	1723	1647	1538	1723	1810	1538	1723	1810	1538
Q Serve(g_s), s	19.2	29.8	12.2	0.0	63.0	11.0	0.0	0.9	0.9	0.0	4.1	8.2
Cycle Q Clear(g_c), s	19.2	29.8	12.2	0.0	63.0	11.0	0.0	0.9	0.9	0.0	4.1	8.2
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	311	3406	1061	142	2800	872	209	222	189	251	222	189
V/C Ratio(X)	0.93	0.57	0.31	0.34	0.88	0.32	0.45	0.06	0.07	0.37	0.25	0.49
Avail Cap(c_a), veh/h	364	3406	1061	171	2800	872	222	222	189	264	222	189
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	0.54	0.54	0.54	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	11.7	9.0	28.3	27.4	10.2	61.4	56.8	32.4	57.8	58.1	59.9
Incr Delay (d2), s/veh	26.9	0.7	0.8	0.8	2.4	0.5	1.5	0.5	0.8	0.9	2.7	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	13.8	13.6	5.3	1.5	29.1	4.9	3.8	0.5	0.5	3.5	2.2	3.9
LnGrp Delay(d),s/veh	76.7	12.4	9.7	29.1	29.8	10.8	62.9	57.3	33.1	58.7	60.8	68.6
LnGrp LOS	E	B	A	C	C	B	E	E	C	E	E	E
Approach Vol, veh/h		2568			2789			122			241	
Approach Delay, s/veh		19.3			27.9			58.9			63.0	
Approach LOS		B			C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	107.0	11.4	24.0	25.5	89.0	11.4	24.0
Change Period (Y+Rc), s	6.0	* 6	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	4.0	* 1E2	5.0	18.0	26.0	81.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.0	31.8	2.0	2.9	21.2	65.0	2.0	10.2
Green Ext Time (p_c), s	0.0	29.5	0.1	0.0	0.4	14.1	0.1	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.1
HCM 2010 LOS	C

Notes

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

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

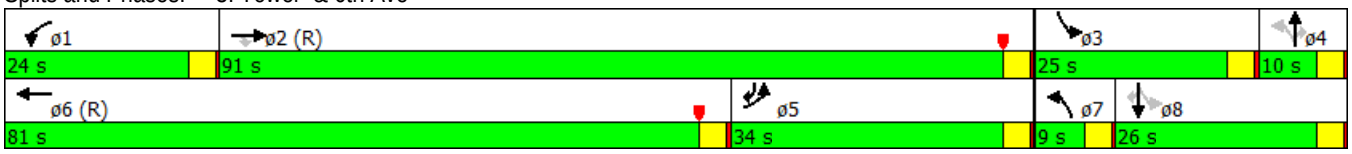
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	480	950	350	280	1990	620	60	10	10	440	70	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		500	300		250	0		0	0		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25			150			25			25		
Satd. Flow (prot)	3335	4940	1538	3335	4940	1538	3335	1810	1538	3335	1810	1538
Flt Permitted	0.950			0.950						0.541		
Satd. Flow (perm)	3335	4940	1538	3335	4940	1538	3510	1810	1538	1899	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			399			285			105			55
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2630			4095			1186			573	
Travel Time (s)		39.8			62.0			18.0			8.7	
Peak Hour Factor	0.86	0.86	0.87	0.92	0.90	0.71	0.96	0.74	0.74	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	558	1105	402	304	2211	873	62	14	14	478	76	370
Turn Type	Prot	NA	Perm	Prot	NA	Free	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		7	4		3	8	5
Permitted Phases			2			Free	4		4	8		8
Detector Phase	5	2	2	1	6		7	4	4	3	8	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0	4.0	5.0
Minimum Split (s)	10.0	11.0	11.0	10.0	11.0		9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	34.0	91.0	91.0	24.0	81.0		9.0	10.0	10.0	25.0	26.0	34.0
Total Split (%)	22.7%	60.7%	60.7%	16.0%	54.0%		6.0%	6.7%	6.7%	16.7%	17.3%	22.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
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)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	C-Min	C-Min	None	C-Min		None	None	None	None	None	Min
Act Effct Green (s)	28.8	93.9	93.9	18.2	83.2	150.0	9.9	6.2	6.2	27.5	19.9	49.4
Actuated g/C Ratio	0.19	0.63	0.63	0.12	0.55	1.00	0.07	0.04	0.04	0.18	0.13	0.33
v/c Ratio	0.87	0.36	0.36	0.75	0.81	0.57	0.28	0.19	0.09	0.86	0.32	0.68
Control Delay	49.5	7.2	1.0	77.1	23.5	1.0	55.9	75.3	1.0	74.5	62.0	36.4
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	49.5	7.2	1.0	77.1	23.5	1.0	55.9	75.3	1.0	74.5	62.0	36.4
LOS	D	A	A	E	C	A	E	E	A	E	E	D
Approach Delay		17.4			22.5			50.4			58.2	
Approach LOS		B			C			D			E	
Queue Length 50th (ft)	280	63	0	157	429	0	25	14	0	224	67	223
Queue Length 95th (ft)	329	65	0	m196	620	0	46	32	0	288	119	326
Internal Link Dist (ft)		2550			4015			1106			493	
Turn Bay Length (ft)	500		500	300		250						
Base Capacity (vph)	678	3091	1111	455	2740	1538	223	78	167	562	271	547
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.36	0.36	0.67	0.81	0.57	0.28	0.18	0.08	0.85	0.28	0.68

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 44 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 26.4		Intersection LOS: C	
Intersection Capacity Utilization 81.4%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 3: Tower & 6th Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	480	950	350	280	1990	620	60	10	10	440	70	340
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	558	1105	402	304	2211	0	62	14	14	478	76	370
Adj No. of Lanes	2	3	1	2	3	1	2	1	1	2	1	1
Peak Hour Factor	0.86	0.86	0.87	0.92	0.90	0.71	0.96	0.74	0.74	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	673	2999	934	358	2534	789	268	71	60	679	286	408
Arrive On Green	0.40	1.00	1.00	0.11	0.51	0.00	0.03	0.04	0.04	0.15	0.16	0.16
Sat Flow, veh/h	3343	4940	1538	3343	4940	1538	3343	1810	1538	3343	1810	1538
Grp Volume(v), veh/h	558	1105	402	304	2211	0	62	14	14	478	76	370
Grp Sat Flow(s),veh/h/ln	1672	1647	1538	1672	1647	1538	1672	1810	1538	1672	1810	1538
Q Serve(g_s), s	21.3	0.0	0.0	12.7	56.1	0.0	2.5	1.1	0.9	18.9	5.2	22.5
Cycle Q Clear(g_c), s	21.3	0.0	0.0	12.7	56.1	0.0	2.5	1.1	0.9	18.9	5.2	22.5
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	673	2999	934	358	2534	789	268	71	60	679	286	408
V/C Ratio(X)	0.83	0.37	0.43	0.85	0.87	0.00	0.23	0.20	0.23	0.70	0.27	0.91
Avail Cap(c_a), veh/h	717	3041	947	482	2694	839	300	83	70	689	286	408
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.48	0.48	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	0.0	0.0	62.3	30.5	0.0	62.9	66.1	36.2	52.9	52.6	50.5
Incr Delay (d2), s/veh	6.3	0.3	1.2	5.3	2.3	0.0	0.4	1.3	1.9	3.2	0.5	23.5
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	10.3	0.1	0.3	6.1	25.9	0.0	1.2	0.6	0.6	9.0	2.7	16.7
LnGrp Delay(d),s/veh	46.5	0.3	1.2	67.7	32.8	0.0	63.3	67.5	38.1	56.1	53.0	74.0
LnGrp LOS	D	A	A	E	C		E	E	D	E	D	E
Approach Vol, veh/h		2065			2515			90			924	
Approach Delay, s/veh		13.0			37.0			60.0			63.0	
Approach LOS		B			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.7	97.7	24.6	9.1	40.0	76.4	7.6	26.0
Change Period (Y+Rc), s	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Max Green Setting (Gmax), s	20.5	87.5	21.5	6.5	30.5	77.5	5.5	22.5
Max Q Clear Time (g_c+I1), s	14.7	2.0	20.9	3.1	23.3	58.1	4.5	24.5
Green Ext Time (p_c), s	0.5	17.5	0.1	0.6	5.3	14.8	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	32.8
HCM 2010 LOS	C

Notes

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

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	50	420	85	300	300	20	10	390	30	70	860	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		250	400		0	250		250	250		500
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	3352	0	1719	3414	0	1719	1810	1538	1719	1810	1538
Flt Permitted	0.256			0.333			0.081			0.314		
Satd. Flow (perm)	463	3352	0	603	3414	0	147	1810	1538	568	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			4				124			567
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1299			5268			6404			2843	
Travel Time (s)		19.7			79.8			97.0			43.1	
Peak Hour Factor	0.92	0.92	0.92	0.89	0.71	0.90	0.82	0.92	0.92	0.92	0.90	0.86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	549	0	337	445	0	12	424	33	76	956	581
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0		9.0	22.0		9.0	22.0	22.0	9.0	22.0	22.0
Total Split (s)	16.0	29.0		37.0	50.0		9.0	75.0	75.0	9.0	75.0	75.0
Total Split (%)	10.7%	19.3%		24.7%	33.3%		6.0%	50.0%	50.0%	6.0%	50.0%	50.0%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	3.0	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)	4.0	6.0		4.0	6.0		4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	None	None	None	None	None
Act Effct Green (s)	25.2	23.2		41.7	39.7		56.3	49.3	49.3	74.9	69.6	69.6
Actuated g/C Ratio	0.19	0.17		0.31	0.29		0.42	0.36	0.36	0.55	0.51	0.51
v/c Ratio	0.32	0.94		0.89	0.44		0.10	0.64	0.05	0.15	1.03	0.55
Control Delay	56.0	79.4		76.3	41.1		22.4	45.2	0.2	19.0	70.6	4.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	79.4		76.3	41.1		22.4	45.2	0.2	19.0	70.6	4.2
LOS	E	E		E	D		C	D	A	B	E	A
Approach Delay		77.3			56.3			41.5			44.2	
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	39	242		251	163		4	340	0	31	~869	6
Queue Length 95th (ft)	90	#424		#395	181		15	467	0	63	#1356	56
Internal Link Dist (ft)		1219			5188			6324			2763	
Turn Bay Length (ft)	250			400			250		250	250		500
Base Capacity (vph)	198	585		505	1124		119	930	850	498	930	1065
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

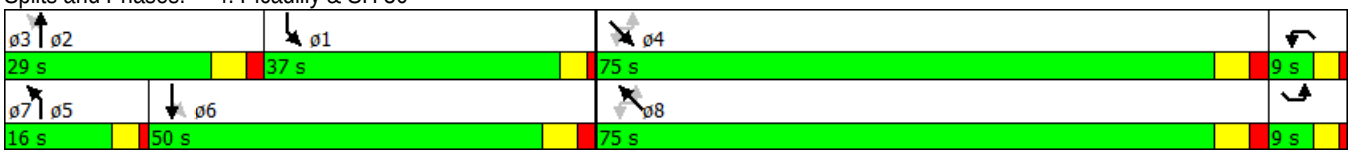
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.94		0.67	0.40		0.10	0.46	0.04	0.15	1.03	0.55

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 135.5			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 52.3		Intersection LOS: D	
Intersection Capacity Utilization 96.2%		ICU Level of Service F	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 4: Picadilly & SH 30



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	50	420	85	300	300	20	10	390	30	70	860	500
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	54	457	92	337	423	22	12	424	33	76	956	581
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.89	0.71	0.90	0.82	0.92	0.92	0.92	0.90	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	115	465	93	365	1072	56	69	469	399	481	885	752
Arrive On Green	0.04	0.16	0.16	0.18	0.32	0.32	0.01	0.26	0.26	0.24	0.49	0.49
Sat Flow, veh/h	1723	2856	571	1723	3326	173	1723	1810	1538	1723	1810	1538
Grp Volume(v), veh/h	54	274	275	337	218	227	12	424	33	76	956	581
Grp Sat Flow(s),veh/h/ln	1723	1719	1709	1723	1719	1779	1723	1810	1538	1723	1810	1538
Q Serve(g_s), s	3.9	22.4	22.7	22.9	13.9	14.0	0.0	32.0	2.0	0.0	69.0	43.8
Cycle Q Clear(g_c), s	3.9	22.4	22.7	22.9	13.9	14.0	0.0	32.0	2.0	0.0	69.0	43.8
Prop In Lane	1.00		0.33	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	115	280	278	365	554	573	69	469	399	481	885	752
V/C Ratio(X)	0.47	0.98	0.99	0.92	0.39	0.40	0.17	0.90	0.08	0.16	1.08	0.77
Avail Cap(c_a), veh/h	198	280	278	429	554	573	112	885	752	481	885	752
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	53.7	58.8	58.9	54.8	37.1	37.2	69.1	50.6	28.9	40.5	36.1	29.6
Incr Delay (d2), s/veh	3.0	47.5	50.5	23.6	0.5	0.4	1.2	6.7	0.1	0.2	54.5	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	1.9	14.3	14.6	15.3	6.7	6.9	0.5	16.9	1.0	2.3	47.8	19.6
LnGrp Delay(d),s/veh	56.7	106.3	109.5	78.4	37.6	37.6	70.3	57.3	29.0	40.6	90.6	34.6
LnGrp LOS	E	F	F	E	D	D	E	E	C	D	F	C
Approach Vol, veh/h		603			782			469			1613	
Approach Delay, s/veh		103.3			55.2			55.6			68.1	
Approach LOS		F			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.7	29.0	37.9	42.6	9.2	51.5	5.5	75.0
Change Period (Y+Rc), s	6.0	* 6	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	31.0	* 23	5.0	69.0	12.0	44.0	5.0	69.0
Max Q Clear Time (g_c+I1), s	24.9	24.7	2.0	34.0	5.9	16.0	2.0	71.0
Green Ext Time (p_c), s	0.8	0.0	0.0	2.6	0.0	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	69.6
HCM 2010 LOS	E

Notes

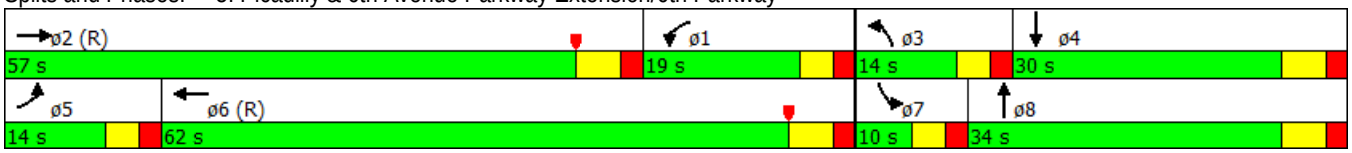
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	620	60	240	1650	350	40	740	140	115	300	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	250		250	500		0
Storage Lanes	2		0	2		0	2		0	2		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3335	4713	0	3335	4812	0	3335	4821	0	3335	4505	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4713	0	3335	4812	0	3335	4821	0	3335	4505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			51			30			195	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		579			878			5268			1945	
Travel Time (s)		8.8			13.3			79.8			29.5	
Peak Hour Factor	0.86	0.86	0.86	0.90	0.90	0.90	0.86	0.86	0.86	0.88	0.88	0.88
Parking (#/hr)		0										
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	791	0	267	2222	0	47	1023	0	131	830	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	22.0		9.0	22.0		9.0	22.0		9.0	22.0	
Total Split (s)	14.0	57.0		19.0	62.0		14.0	34.0		10.0	30.0	
Total Split (%)	11.7%	47.5%		15.8%	51.7%		11.7%	28.3%		8.3%	25.0%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	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)	5.0	6.0		5.0	6.0		5.0	6.0		5.0	6.0	
Lead/Lag	Lead	Lead		Lag	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	Min		None	Min	
Act Effct Green (s)	9.3	51.3		14.0	56.0		7.1	27.7		5.0	27.7	
Actuated g/C Ratio	0.08	0.43		0.12	0.47		0.06	0.23		0.04	0.23	
v/c Ratio	1.26	0.39		0.69	0.98		0.24	0.90		0.95	0.97dr	
Control Delay	190.8	23.8		40.2	25.4		56.3	55.1		121.7	36.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	190.8	23.8		40.2	25.4		56.3	55.1		121.7	36.3	
LOS	F	C		D	C		E	E		F	D	
Approach Delay		72.6			27.0			55.2			47.9	
Approach LOS		E			C			E			D	
Queue Length 50th (ft)	~167	148		100	334		18	275		53	171	
Queue Length 95th (ft)	#245	173		m117	#711		36	312		#113	217	
Internal Link Dist (ft)		499			798			5188			1865	
Turn Bay Length (ft)	250			250			250			500		
Base Capacity (vph)	258	2023		389	2272		250	1147		138	1190	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	1.26	0.39		0.69	0.98		0.19	0.89		0.95	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 68 (57%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.26			
Intersection Signal Delay: 44.9		Intersection LOS: D	
Intersection Capacity Utilization 86.8%		ICU Level of Service E	
Analysis Period (min) 15			
~ 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.			
dr Defacto Right Lane. Recode with 1 though lane as a right lane.			

Splits and Phases: 5: Picadilly & 6th Avenue Parkway Extension/6th Parkway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	280	620	60	240	1650	350	40	740	140	115	300	430
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	326	721	70	267	1833	389	47	860	163	131	341	489
Adj No. of Lanes	2	3	0	2	3	0	2	3	0	2	3	0
Peak Hour Factor	0.86	0.86	0.86	0.90	0.90	0.90	0.86	0.86	0.86	0.88	0.88	0.88
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	253	1965	190	365	1930	402	89	946	178	141	797	372
Arrive On Green	0.08	0.43	0.43	0.11	0.47	0.47	0.03	0.23	0.23	0.04	0.24	0.24
Sat Flow, veh/h	3343	4583	442	3343	4098	854	3343	4177	787	3343	3293	1538
Grp Volume(v), veh/h	326	517	274	267	1466	756	47	677	346	131	341	489
Grp Sat Flow(s),veh/h/ln	1672	1647	1732	1672	1647	1659	1672	1647	1671	1672	1647	1538
Q Serve(g_s), s	9.0	12.6	12.8	9.2	50.5	52.7	1.7	23.8	24.0	4.6	10.4	28.8
Cycle Q Clear(g_c), s	9.0	12.6	12.8	9.2	50.5	52.7	1.7	23.8	24.0	4.6	10.4	28.8
Prop In Lane	1.00		0.26	1.00		0.51	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	253	1412	742	365	1551	781	89	746	378	141	797	372
V/C Ratio(X)	1.29	0.37	0.37	0.73	0.95	0.97	0.53	0.91	0.91	0.93	0.43	1.31
Avail Cap(c_a), veh/h	253	1412	742	365	1551	781	253	775	393	141	797	372
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	0.61	0.61	0.61	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	23.0	23.1	51.3	30.0	30.6	57.2	44.8	44.9	56.8	38.1	45.1
Incr Delay (d2), s/veh	156.3	0.7	1.4	7.3	13.1	25.2	3.0	9.4	17.3	55.7	0.4	159.1
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	9.6	5.9	6.4	4.6	25.6	29.4	0.8	11.8	12.9	3.2	4.8	28.7
LnGrp Delay(d),s/veh	211.2	23.7	24.5	58.6	43.1	55.8	60.1	54.2	62.2	112.5	38.5	204.2
LnGrp LOS	F	C	C	E	D	E	E	D	E	F	D	F
Approach Vol, veh/h		1117			2489			1070			961	
Approach Delay, s/veh		78.6			48.6			57.1			132.9	
Approach LOS		E			D			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.1	57.0	8.2	34.8	14.0	63.1	10.0	32.9
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	13.0	* 51	9.0	24.0	9.0	56.0	5.0	28.0
Max Q Clear Time (g_c+I1), s	11.2	14.8	3.7	30.8	11.0	54.7	6.6	26.0
Green Ext Time (p_c), s	1.7	5.3	0.0	0.0	0.0	1.3	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	70.5
HCM 2010 LOS	E

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	330	535	120	120	1650	210	110	15	30	100	15	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		250	0		0	0		0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	4807	0	1719	4856	0	1719	1810	1538	1719	1810	1538
Flt Permitted	0.080			0.338			0.741			0.741		
Satd. Flow (perm)	145	4807	0	612	4856	0	1341	1810	1538	1341	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		80			25				118			373
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		650			648			1130			894	
Travel Time (s)		9.8			9.8			17.1			13.5	
Peak Hour Factor	0.82	0.82	0.82	0.89	0.89	0.89	0.59	0.59	0.65	0.65	0.59	0.59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	402	798	0	135	2090	0	186	25	46	154	25	373
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	3.0	5.0		3.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	11.0		7.0	11.0		10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	32.0	81.0		13.0	62.0		26.0	26.0	26.0	26.0	26.0	26.0
Total Split (%)	26.7%	67.5%		10.8%	51.7%		21.7%	21.7%	21.7%	21.7%	21.7%	21.7%
Yellow Time (s)	3.0	4.0		3.0	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	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	0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	78.0	76.0		61.2	59.2		19.0	19.0	19.0	19.0	19.0	19.0
Actuated g/C Ratio	0.65	0.63		0.51	0.49		0.16	0.16	0.16	0.16	0.16	0.16
v/c Ratio	0.93	0.26		0.34	0.87		0.88	0.09	0.13	0.73	0.09	0.67
Control Delay	71.7	3.3		11.7	18.2		86.3	43.3	0.8	67.9	43.3	11.0
Queue Delay	0.0	0.0		0.0	0.8		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.7	3.3		11.7	19.1		86.3	43.3	0.8	67.9	43.3	11.0
LOS	E	A		B	B		F	D	A	E	D	B
Approach Delay		26.2			18.6			66.8			28.4	
Approach LOS		C			B			E			C	
Queue Length 50th (ft)	239	42		34	424		141	17	0	114	17	0
Queue Length 95th (ft)	m#309	m45		m46	541		138	27	0	130	27	0
Internal Link Dist (ft)		570			568			1050			814	
Turn Bay Length (ft)	250			250								
Base Capacity (vph)	461	3073		394	2406		223	301	354	223	301	567
Starvation Cap Reductn	0	0		0	111		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.26		0.34	0.91		0.83	0.08	0.13	0.69	0.08	0.66

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 25.0 Intersection LOS: C
Intersection Capacity Utilization 80.9% ICU Level of Service D
Analysis Period (min) 15
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.

Splits and Phases: 6: Valdai St & 6th Pkwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	330	535	120	120	1650	210	110	15	30	100	15	220
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	402	652	146	135	1854	236	186	25	46	154	25	373
Adj No. of Lanes	1	3	0	1	3	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.89	0.89	0.89	0.59	0.59	0.65	0.65	0.59	0.59
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	430	2599	574	368	2134	270	214	310	263	267	310	263
Arrive On Green	0.21	0.64	0.64	0.03	0.48	0.48	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1723	4051	894	1723	4443	561	954	1810	1538	1286	1810	1538
Grp Volume(v), veh/h	402	528	270	135	1371	719	186	25	46	154	25	373
Grp Sat Flow(s),veh/h/ln	1723	1647	1652	1723	1647	1710	954	1810	1538	1286	1810	1538
Q Serve(g_s), s	22.3	8.0	8.2	0.0	43.3	44.1	18.6	1.4	3.0	13.4	1.4	20.0
Cycle Q Clear(g_c), s	22.3	8.0	8.2	0.0	43.3	44.1	20.0	1.4	3.0	14.7	1.4	20.0
Prop In Lane	1.00		0.54	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	430	2113	1060	368	1582	822	214	310	263	267	310	263
V/C Ratio(X)	0.93	0.25	0.25	0.37	0.87	0.88	0.87	0.08	0.17	0.58	0.08	1.42
Avail Cap(c_a), veh/h	478	2113	1060	414	1582	822	214	310	263	267	310	263
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	0.36	0.36	0.36	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	8.9	9.0	25.4	27.0	27.2	50.8	40.7	41.4	46.9	40.7	48.4
Incr Delay (d2), s/veh	24.6	0.3	0.6	0.2	2.5	5.0	29.7	0.1	0.3	3.1	0.1	208.7
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	15.7	3.7	3.8	3.2	20.2	21.9	7.7	0.7	1.3	5.0	0.7	23.7
LnGrp Delay(d),s/veh	60.7	9.2	9.5	25.6	29.6	32.3	80.5	40.8	41.7	50.0	40.8	257.1
LnGrp LOS	E	A	A	C	C	C	F	D	D	D	D	F
Approach Vol, veh/h		1200			2225			257			552	
Approach Delay, s/veh		26.5			30.2			69.7			189.5	
Approach LOS		C			C			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	81.0		26.0	28.7	65.3		26.0
Change Period (Y+Rc), s	6.0	* 6		6.0	4.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	* 75		20.0	28.0	56.0		20.0
Max Q Clear Time (g_c+I1), s	2.0	10.2		22.0	24.3	46.1		22.0
Green Ext Time (p_c), s	2.0	5.6		0.0	0.5	8.1		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		52.3
HCM 2010 LOS		D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

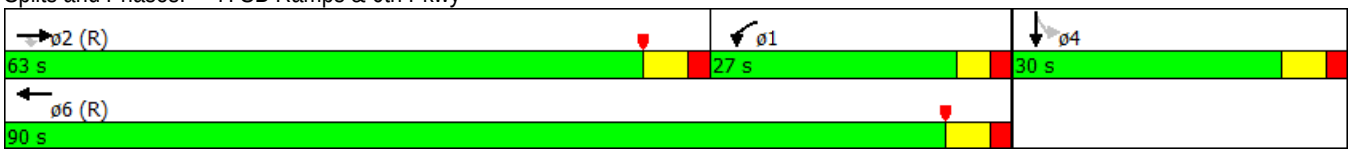
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	610	50	350	1930	0	0	0	0	150	0	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3438	1538	3335	3438	0	0	0	0	1719	1538	0
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	3438	1538	3335	3438	0	0	0	0	1719	1538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82								82	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		648			594			879			589	
Travel Time (s)		9.8			9.0			13.3			8.9	
Peak Hour Factor	0.59	0.74	0.92	0.85	0.87	0.59	0.59	0.59	0.59	0.68	0.59	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	824	54	412	2218	0	0	0	0	221	247	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases			2							4		
Detector Phase		2	2	1	6					4	4	
Switch Phase												
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	
Minimum Split (s)		10.0	10.0	9.0	10.0					10.0	10.0	
Total Split (s)		63.0	63.0	27.0	90.0					30.0	30.0	
Total Split (%)		52.5%	52.5%	22.5%	75.0%					25.0%	25.0%	
Yellow Time (s)		4.0	4.0	3.0	4.0					4.0	4.0	
All-Red Time (s)		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	
Total Lost Time (s)		6.0	6.0	5.0	6.0					6.0	6.0	
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		C-Max	C-Max	None	C-Max					None	None	
Act Effct Green (s)		61.0	61.0	22.0	88.0					20.0	20.0	
Actuated g/C Ratio		0.51	0.51	0.18	0.73					0.17	0.17	
v/c Ratio		0.47	0.07	0.67	0.88					0.78	0.76	
Control Delay		11.5	0.3	34.2	13.9					65.7	46.8	
Queue Delay		0.0	0.0	0.0	0.6					0.0	0.1	
Total Delay		11.5	0.3	34.2	14.5					65.7	46.9	
LOS		B	A	C	B					E	D	
Approach Delay		10.8			17.6						55.8	
Approach LOS		B			B						E	
Queue Length 50th (ft)		137	1	150	231					164	124	
Queue Length 95th (ft)		124	m2	m172	280					175	105	
Internal Link Dist (ft)		568			514			799			509	
Turn Bay Length (ft)				250								
Base Capacity (vph)		1748	822	611	2522					343	373	
Starvation Cap Reductn		0	0	0	0					0	0	
Spillback Cap Reductn		0	0	0	84					0	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0	0	0	0					0	0	
Reduced v/c Ratio		0.47	0.07	0.67	0.91					0.64	0.67	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 110 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 76.4%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 7: SB Ramps & 6th Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	610	50	350	1930	0	0	0	0	150	0	210
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1810	1810	1810	1810	0				1810	1810	1900
Adj Flow Rate, veh/h	0	824	54	412	2218	0				221	0	247
Adj No. of Lanes	0	2	1	2	2	0				1	1	0
Peak Hour Factor	0.59	0.74	0.92	0.85	0.87	0.59				0.68	0.59	0.85
Percent Heavy Veh, %	0	5	5	5	5	0				5	5	5
Cap, veh/h	0	1676	750	600	2470	0				309	0	275
Arrive On Green	0.00	0.97	0.97	0.36	1.00	0.00				0.18	0.00	0.18
Sat Flow, veh/h	0	3529	1538	3343	3529	0				1723	0	1538
Grp Volume(v), veh/h	0	824	54	412	2218	0				221	0	247
Grp Sat Flow(s),veh/h/ln	0	1719	1538	1672	1719	0				1723	0	1538
Q Serve(g_s), s	0.0	1.4	0.1	12.3	0.0	0.0				14.1	0.0	18.4
Cycle Q Clear(g_c), s	0.0	1.4	0.1	12.3	0.0	0.0				14.1	0.0	18.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1676	750	600	2470	0				309	0	275
V/C Ratio(X)	0.00	0.49	0.07	0.69	0.90	0.00				0.72	0.00	0.90
Avail Cap(c_a), veh/h	0	1676	750	600	2470	0				354	0	316
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	0.95	0.95	0.43	0.43	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.8	0.8	34.7	0.0	0.0				45.2	0.0	46.9
Incr Delay (d2), s/veh	0.0	1.0	0.2	1.4	2.6	0.0				5.8	0.0	24.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.6	0.1	5.7	0.9	0.0				7.2	0.0	9.7
LnGrp Delay(d),s/veh	0.0	1.8	0.9	36.1	2.6	0.0				51.0	0.0	71.4
LnGrp LOS		A	A	D	A					D		E
Approach Vol, veh/h		878			2630						468	
Approach Delay, s/veh		1.7			7.9						61.8	
Approach LOS		A			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	30.1	63.0		26.9		93.1		
Change Period (Y+Rc), s	6.0	* 6		6.0		6.0		
Max Green Setting (Gmax), s	21.0	* 57		24.0		84.0		
Max Q Clear Time (g_c+I1), s	14.3	3.4		20.4		2.0		
Green Ext Time (p_c), s	6.2	6.4		0.6		46.5		

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	660	0	0	2030	170	290	0	120	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	0		250	0		0	0		0
Storage Lanes	1		0	0		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	3438	0	0	4940	1538	1719	1538	0	0	0	0
Flt Permitted	0.057						0.950					
Satd. Flow (perm)	103	3438	0	0	4940	1538	1719	1538	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						176		216				
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		594			1480			781			563	
Travel Time (s)		9.0			22.4			11.8			8.5	
Peak Hour Factor	0.71	0.82	0.59	0.59	0.89	0.79	0.85	0.59	0.77	0.59	0.59	0.59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	805	0	0	2281	215	341	156	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	5	2			6			8				
Permitted Phases	2					6	8					
Detector Phase	5	2			6	6	8	8				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0				
Minimum Split (s)	9.0	22.0			22.0	22.0	22.0	22.0				
Total Split (s)	16.0	84.0			68.0	68.0	36.0	36.0				
Total Split (%)	13.3%	70.0%			56.7%	56.7%	30.0%	30.0%				
Yellow Time (s)	3.0	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)	4.0	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	None	None				
Act Effct Green (s)	82.8	80.8			66.5	66.5	27.2	27.2				
Actuated g/C Ratio	0.69	0.67			0.55	0.55	0.23	0.23				
v/c Ratio	0.74	0.35			0.83	0.23	0.88	0.30				
Control Delay	52.9	3.5			10.4	0.3	67.8	2.8				
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0				
Total Delay	52.9	3.5			10.4	0.3	67.8	2.8				
LOS	D	A			B	A	E	A				
Approach Delay		11.4			9.6			47.4				
Approach LOS		B			A			D				
Queue Length 50th (ft)	57	74			233	1	250	0				
Queue Length 95th (ft)	96	79			140	m1	#337	0				
Internal Link Dist (ft)		514			1400			701			483	
Turn Bay Length (ft)	250					250						
Base Capacity (vph)	232	2314			2739	931	429	546				
Starvation Cap Reductn	0	0			0	0	0	0				
Spillback Cap Reductn	0	0			0	0	0	0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0			0	0	0	0				
Reduced v/c Ratio	0.67	0.35			0.83	0.23	0.79	0.29				

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 12 (10%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 76.4%		ICU Level of Service D	
Analysis Period (min) 15			

\# 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.

Splits and Phases: 8: NB Ramps & 6th Pkwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	110	660	0	0	2030	170	290	0	120	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1810	1810	0	0	1810	1810	1810	1810	1900			
Adj Flow Rate, veh/h	155	805	0	0	2281	215	341	0	0			
Adj No. of Lanes	1	2	0	0	3	1	1	1	0			
Peak Hour Factor	0.71	0.82	0.59	0.59	0.89	0.79	0.85	0.59	0.77			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	230	2337	0	0	2922	910	371	390	0			
Arrive On Green	0.11	1.00	0.00	0.00	1.00	1.00	0.22	0.00	0.00			
Sat Flow, veh/h	1723	3529	0	0	5103	1538	1723	1810	0			
Grp Volume(v), veh/h	155	805	0	0	2281	215	341	0	0			
Grp Sat Flow(s),veh/h/ln	1723	1719	0	0	1647	1538	1723	1810	0			
Q Serve(g_s), s	4.0	0.0	0.0	0.0	0.0	0.0	22.2	0.0	0.0			
Cycle Q Clear(g_c), s	4.0	0.0	0.0	0.0	0.0	0.0	22.2	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	230	2337	0	0	2922	910	371	390	0			
V/C Ratio(X)	0.67	0.34	0.00	0.00	0.78	0.24	0.92	0.00	0.00			
Avail Cap(c_a), veh/h	318	2337	0	0	2922	910	451	473	0			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.83	0.83	0.00	0.00	0.45	0.45	1.00	0.00	0.00			
Uniform Delay (d), s/veh	10.4	0.0	0.0	0.0	0.0	0.0	44.0	0.0	0.0			
Incr Delay (d2), s/veh	2.8	0.3	0.0	0.0	1.0	0.3	21.3	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.0	0.1	0.0	0.0	0.3	0.1	12.8	0.0	0.0			
LnGrp Delay(d),s/veh	13.2	0.3	0.0	0.0	1.0	0.3	65.3	0.0	0.0			
LnGrp LOS	B	A			A	A	E					
Approach Vol, veh/h		960			2496			341				
Approach Delay, s/veh		2.4			0.9			65.3				
Approach LOS		A			A			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		89.3			10.1	79.1		30.7
Change Period (Y+Rc), s		6.0			4.0	6.0		6.0
Max Green Setting (Gmax), s		78.0			12.0	62.0		30.0
Max Q Clear Time (g_c+I1), s		2.0			6.0	2.0		24.2
Green Ext Time (p_c), s		56.1			0.2	47.0		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	7.1
HCM 2010 LOS	A

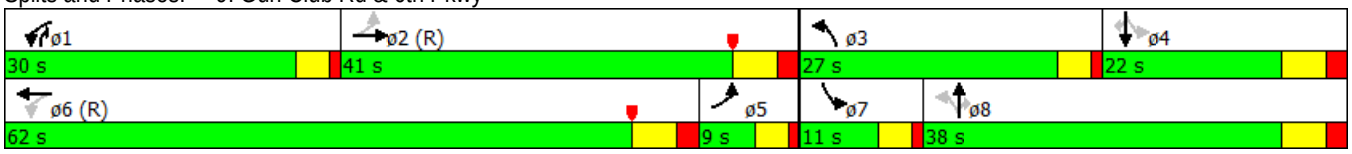
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	690	80	240	1760	100	310	275	250	90	130	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	150		150	150		150	150		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	4846	0	1719	4905	0	1719	1810	1538	1719	1810	1538
Flt Permitted	0.087			0.186			0.389			0.572		
Satd. Flow (perm)	157	4846	0	337	4905	0	704	1810	1538	1035	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			9				118			191
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1480			852			987			975	
Travel Time (s)		22.4			12.9			15.0			14.8	
Peak Hour Factor	0.82	0.83	0.68	0.85	0.83	0.91	0.82	0.89	0.82	0.82	0.89	0.77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	949	0	282	2230	0	378	309	305	110	146	169
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		1	6		3	8	1	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0		9.0	22.0		9.0	22.0	9.0	9.0	22.0	22.0
Total Split (s)	9.0	41.0		30.0	62.0		27.0	38.0	30.0	11.0	22.0	22.0
Total Split (%)	7.5%	34.2%		25.0%	51.7%		22.5%	31.7%	25.0%	9.2%	18.3%	18.3%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0	1.0	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)	4.0	6.0		4.0	6.0		4.0	6.0	4.0	4.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag	Lead	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)	47.9	45.9		66.1	64.1		42.3	29.3	53.1	22.8	13.8	13.8
Actuated g/C Ratio	0.40	0.38		0.55	0.53		0.35	0.24	0.44	0.19	0.12	0.12
v/c Ratio	0.09	0.51		0.72	0.85		0.86	0.70	0.41	0.47	0.71	0.49
Control Delay	28.5	24.2		28.4	29.0		52.7	50.2	13.7	35.8	69.1	9.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	24.2		28.4	29.0		52.7	50.2	13.7	35.8	69.1	9.6
LOS	C	C		C	C		D	D	B	D	E	A
Approach Delay		24.3			29.0			39.9			36.8	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	3	95		107	496		236	215	91	57	109	0
Queue Length 95th (ft)	m12	243		191	587		295	308	114	89	177	20
Internal Link Dist (ft)		1400			772			907			895	
Turn Bay Length (ft)	250			150			150		150	150		
Base Capacity (vph)	127	1868		485	2625		442	482	843	236	241	370
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.51		0.58	0.85		0.86	0.64	0.36	0.47	0.61	0.46

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 110 (92%), 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: 31.0		Intersection LOS: C	
Intersection Capacity Utilization 80.2%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 9: Gun Club Rd & 6th Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	690	80	240	1760	100	310	275	250	90	130	130
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	12	831	118	282	2120	110	378	309	305	110	146	169
Adj No. of Lanes	1	3	0	1	3	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.83	0.68	0.85	0.83	0.91	0.82	0.89	0.82	0.82	0.89	0.77
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	82	1658	234	422	2323	120	451	472	597	251	223	189
Arrive On Green	0.01	0.76	0.76	0.13	0.48	0.48	0.20	0.26	0.26	0.06	0.12	0.12
Sat Flow, veh/h	1723	4376	618	1723	4811	248	1723	1810	1538	1723	1810	1538
Grp Volume(v), veh/h	12	624	325	282	1448	782	378	309	305	110	146	169
Grp Sat Flow(s),veh/h/ln	1723	1647	1700	1723	1647	1766	1723	1810	1538	1723	1810	1538
Q Serve(g_s), s	0.0	8.6	8.7	12.1	47.1	47.7	21.6	17.6	17.6	6.5	8.9	11.0
Cycle Q Clear(g_c), s	0.0	8.6	8.7	12.1	47.1	47.7	21.6	17.6	17.6	6.5	8.9	11.0
Prop In Lane	1.00		0.36	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	1248	644	422	1590	852	451	472	597	251	223	189
V/C Ratio(X)	0.15	0.50	0.50	0.67	0.91	0.92	0.84	0.65	0.51	0.44	0.66	0.89
Avail Cap(c_a), veh/h	116	1248	644	589	1590	852	451	499	620	251	250	212
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	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	54.5	9.8	9.8	20.8	27.7	27.8	33.3	38.2	27.1	41.3	48.5	38.4
Incr Delay (d2), s/veh	0.8	1.4	2.7	1.8	9.4	16.3	13.0	2.8	0.7	1.2	5.2	32.2
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	0.4	4.0	4.4	5.9	23.4	26.9	11.8	9.2	7.6	3.1	4.8	6.4
LnGrp Delay(d),s/veh	55.3	11.1	12.4	22.6	37.1	44.1	46.3	41.0	27.8	42.5	53.7	70.6
LnGrp LOS	E	B	B	C	D	D	D	D	C	D	D	E
Approach Vol, veh/h		961			2512			992			425	
Approach Delay, s/veh		12.1			37.6			39.0			57.5	
Approach LOS		B			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.7	54.0	27.0	20.3	10.7	62.0	11.0	36.3
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	6.0	* 6	4.0	6.0
Max Green Setting (Gmax), s	26.0	35.0	23.0	16.0	3.0	* 56	7.0	32.0
Max Q Clear Time (g_c+I1), s	14.1	10.7	23.6	13.0	2.0	49.7	8.5	19.6
Green Ext Time (p_c), s	0.6	6.1	0.0	1.3	0.0	5.5	0.0	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	34.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	900	25	950	450	30	1990
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500	250		500	250	
Storage Lanes	1	0		1	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	3335	1538	4940	1538	1719	4940
Flt Permitted	0.950				0.202	
Satd. Flow (perm)	3335	1538	4940	1538	366	4940
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		23		500		
Link Speed (mph)	45		45			45
Link Distance (ft)	2093		4095			5994
Travel Time (s)	31.7		62.0			90.8
Peak Hour Factor	0.87	0.87	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1034	29	1056	500	33	2211
Turn Type	Prot	Perm	NA	custom	pm+pt	NA
Protected Phases	4		2	2	1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	9.0	22.0
Total Split (s)	63.0	63.0	78.0	78.0	9.0	87.0
Total Split (%)	42.0%	42.0%	52.0%	52.0%	6.0%	58.0%
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	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
Total Lost Time (s)	5.0	5.0	6.0	6.0	4.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	Min	Min	C-Min	C-Min	None	C-Min
Act Effct Green (s)	52.5	52.5	78.5	78.5	88.5	86.5
Actuated g/C Ratio	0.35	0.35	0.52	0.52	0.59	0.58
v/c Ratio	0.89	0.05	0.41	0.48	0.12	0.78
Control Delay	55.8	13.1	11.3	3.3	15.4	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	13.1	11.3	3.3	15.4	27.5
LOS	E	B	B	A	B	C
Approach Delay	54.6		8.7			27.3
Approach LOS	D		A			C
Queue Length 50th (ft)	485	4	145	28	13	597
Queue Length 95th (ft)	523	25	213	m51	31	707
Internal Link Dist (ft)	2013		4015			5914
Turn Bay Length (ft)	500	250		500	250	
Base Capacity (vph)	1289	608	2584	1043	269	2849
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.05	0.41	0.48	0.12	0.78

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 17 (11%), Referenced to phase 2:NET and 6:SWTL, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 27.3		Intersection LOS: C	
Intersection Capacity Utilization 73.3%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 19: 6th Ave/6th Avenue Parkway Extension & SH 30

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	900	25	950	450	30	1990
Number	7	14	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	1034	29	1056	0	33	2211
Adj No. of Lanes	2	1	3	1	1	3
Peak Hour Factor	0.87	0.87	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	1137	523	2597	809	296	2851
Arrive On Green	0.34	0.34	0.53	0.00	0.02	0.58
Sat Flow, veh/h	3343	1538	5103	1538	1723	5103
Grp Volume(v), veh/h	1034	29	1056	0	33	2211
Grp Sat Flow(s),veh/h/ln	1672	1538	1647	1538	1723	1647
Q Serve(g_s), s	39.2	1.7	17.1	0.0	1.1	45.5
Cycle Q Clear(g_c), s	39.2	1.7	17.1	0.0	1.1	45.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1137	523	2597	809	296	2851
V/C Ratio(X)	0.91	0.06	0.41	0.00	0.11	0.78
Avail Cap(c_a), veh/h	1460	672	2678	834	324	3013
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.85	0.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	29.5	19.0	0.0	14.5	21.5
Incr Delay (d2), s/veh	7.3	0.0	0.4	0.0	0.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.2	0.7	7.8	0.0	0.6	21.0
LnGrp Delay(d),s/veh	49.2	29.5	19.4	0.0	14.6	23.6
LnGrp LOS	D	C	B		B	C
Approach Vol, veh/h	1063		1056			2244
Approach Delay, s/veh	48.6		19.4			23.5
Approach LOS	D		B			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	6.8	93.0		50.2		99.8		
Change Period (Y+Rc), s	4.0	6.0		5.0		6.0		
Max Green Setting (Gmax), s	5.0	72.0		58.0		81.0		
Max Q Clear Time (g_c+I1), s	3.1	19.1		41.2		47.5		
Green Ext Time (p_c), s	0.0	42.9		3.9		29.1		

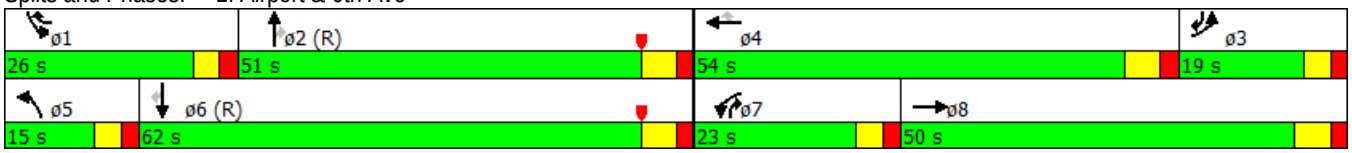
Intersection Summary	
HCM 2010 Ctrl Delay	28.6
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	1400	375	500	1400	350	300	1120	520	330	2240	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	16	12	12
Storage Length (ft)	370		370	235		0	215		0	300		0
Storage Lanes	2		0	1		1	2		1	2		1
Taper Length (ft)	150			150			150			150		
Satd. Flow (prot)	3335	4777	0	3335	4940	1538	3335	4940	1538	3780	4940	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4777	0	3335	4940	1538	3335	4940	1538	3780	4940	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47				65			138			95
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1333			500			1429			1106	
Travel Time (s)		20.2			7.6			21.7			16.8	
Peak Hour Factor	0.91	0.89	0.86	0.85	0.92	0.89	0.92	0.93	0.90	0.86	0.92	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	319	2009	0	588	1522	393	326	1204	578	384	2435	306
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4	1	5	2	7	1	6	3
Permitted Phases						4			2			6
Detector Phase	3	8		7	4	1	5	2	7	1	6	3
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Minimum Split (s)	9.0	10.0		9.0	10.0	9.0	9.0	11.0	9.0	9.0	11.0	9.0
Total Split (s)	19.0	50.0		23.0	54.0	26.0	15.0	51.0	23.0	26.0	62.0	19.0
Total Split (%)	12.7%	33.3%		15.3%	36.0%	17.3%	10.0%	34.0%	15.3%	17.3%	41.3%	12.7%
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0		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	0.0	0.0
Total Lost Time (s)	5.0	6.0		5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag	Lead	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	None	None	C-Max	None
Act Effct Green (s)	14.0	44.0		18.0	48.0	68.4	10.0	46.6	70.6	19.4	56.0	71.0
Actuated g/C Ratio	0.09	0.29		0.12	0.32	0.46	0.07	0.31	0.47	0.13	0.37	0.47
v/c Ratio	1.03	1.40		1.47	0.96	0.53	1.47	0.78	0.73	0.79	1.32	0.39
Control Delay	122.7	223.1		265.8	42.4	11.6	279.2	51.8	30.3	75.1	186.1	12.6
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	122.7	223.1		265.8	42.4	11.6	279.2	51.8	30.3	75.1	186.1	12.6
LOS	F	F		F	D	B	F	D	C	E	F	B
Approach Delay		209.3			90.1			81.1			155.5	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	~170	~953		~401	459	139	~224	401	358	188	~1124	92
Queue Length 95th (ft)	#273	#1028		#486	#630	m237	#328	461	519	234	#1209	148
Internal Link Dist (ft)		1253			420			1349			1026	
Turn Bay Length (ft)	370			235			215			300		
Base Capacity (vph)	311	1434		400	1580	752	222	1534	797	529	1844	778
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	1.03	1.40		1.47	0.96	0.52	1.47	0.78	0.73	0.73	1.32	0.39

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 18 (12%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.47			
Intersection Signal Delay: 136.1		Intersection LOS: F	
Intersection Capacity Utilization 119.9%		ICU Level of Service H	
Analysis Period (min) 15			
~ 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.			

Splits and Phases: 1: Airport & 6th Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	290	1400	375	500	1400	350	300	1120	520	330	2240	275
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1810	1810	1810	1810	1882	1810	1810
Adj Flow Rate, veh/h	319	1573	436	588	1522	393	326	1204	578	384	2435	306
Adj No. of Lanes	2	3	0	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.91	0.89	0.86	0.85	0.92	0.89	0.92	0.93	0.90	0.86	0.92	0.90
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	291	1132	310	401	1579	594	223	1558	619	433	1844	759
Arrive On Green	0.09	0.29	0.29	0.12	0.32	0.32	0.07	0.32	0.32	0.12	0.37	0.37
Sat Flow, veh/h	3343	3860	1057	3343	4940	1538	3343	4940	1538	3477	4940	1538
Grp Volume(v), veh/h	319	1339	670	588	1522	393	326	1204	578	384	2435	306
Grp Sat Flow(s),veh/h/ln	1672	1647	1623	1672	1647	1538	1672	1647	1538	1739	1647	1538
Q Serve(g_s), s	13.1	44.0	44.0	18.0	45.5	21.3	10.0	33.1	33.7	16.3	56.0	18.9
Cycle Q Clear(g_c), s	13.1	44.0	44.0	18.0	45.5	21.3	10.0	33.1	33.7	16.3	56.0	18.9
Prop In Lane	1.00		0.65	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	291	966	476	401	1579	594	223	1558	619	433	1844	759
V/C Ratio(X)	1.10	1.39	1.41	1.47	0.96	0.66	1.46	0.77	0.93	0.89	1.32	0.40
Avail Cap(c_a), veh/h	291	966	476	401	1581	595	223	1558	619	487	1844	759
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	68.5	53.0	53.0	66.0	50.2	18.8	70.0	46.5	26.7	64.6	47.0	24.0
Incr Delay (d2), s/veh	80.6	180.3	195.3	222.8	15.0	2.7	231.2	3.8	23.1	16.4	148.1	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	44.2	45.5	20.7	22.9	9.4	11.8	15.6	20.2	8.8	50.7	8.3
LnGrp Delay(d),s/veh	149.1	233.3	248.3	288.8	65.2	21.6	301.2	50.3	49.7	81.0	195.1	25.6
LnGrp LOS	F	F	F	F	E	C	F	D	D	F	F	C
Approach Vol, veh/h		2328			2503			2108			3125	
Approach Delay, s/veh		226.1			110.9			88.9			164.5	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.7	53.3	19.1	53.9	15.0	62.0	23.0	50.0
Change Period (Y+Rc), s	5.0	6.0	6.0	* 6	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	21.0	45.0	13.0	* 48	10.0	56.0	18.0	44.0
Max Q Clear Time (g_c+I1), s	18.3	35.7	15.1	47.5	12.0	58.0	20.0	46.0
Green Ext Time (p_c), s	0.4	9.2	0.0	0.5	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	149.6
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	2175	90	25	1950	70	260	40	70	215	20	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	250		250	0		0	200		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			150			25			100		
Satd. Flow (prot)	1719	4940	1538	1719	4940	1538	1719	1810	1538	1719	1810	1538
Flt Permitted	0.050			0.049			0.741			0.580		
Satd. Flow (perm)	90	4940	1538	89	4940	1538	1341	1810	1538	1050	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			95			80			124			202
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1830			2630			441			584	
Travel Time (s)		27.7			39.8			10.0			13.3	
Peak Hour Factor	0.80	0.92	0.90	0.69	0.94	0.88	0.91	0.85	0.86	0.74	0.80	0.82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	150	2364	100	36	2074	80	286	47	81	291	25	232
Turn Type	pm+pt	NA	Perm	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		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (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
Minimum Split (s)	9.0	10.0	10.0	9.0	10.0	10.0	9.0	10.0	10.0	9.0	10.0	10.0
Total Split (s)	19.0	91.0	91.0	9.0	81.0	81.0	25.0	22.0	22.0	28.0	25.0	25.0
Total Split (%)	12.7%	60.7%	60.7%	6.0%	54.0%	54.0%	16.7%	14.7%	14.7%	18.7%	16.7%	16.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	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)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag	Lead	Lead	Lead	Lag	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	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	95.7	93.7	93.7	86.4	84.4	84.4	32.6	9.9	9.9	37.6	12.4	12.4
Actuated g/C Ratio	0.64	0.62	0.62	0.58	0.56	0.56	0.22	0.07	0.07	0.25	0.08	0.08
v/c Ratio	0.78	0.77	0.10	0.34	0.75	0.09	0.83	0.39	0.37	0.80	0.17	0.74
Control Delay	53.4	12.6	0.0	29.6	15.6	2.5	70.8	75.3	7.0	65.4	64.2	27.1
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	53.4	12.6	0.0	29.6	15.6	2.5	70.8	75.3	7.0	65.4	64.2	27.1
LOS	D	B	A	C	B	A	E	E	A	E	E	C
Approach Delay		14.5			15.3			58.8			49.2	
Approach LOS		B			B			E			D	
Queue Length 50th (ft)	87	709	0	6	278	0	250	45	0	255	23	28
Queue Length 95th (ft)	m73	m608	m0	m19	498	m8	332	81	7	265	47	85
Internal Link Dist (ft)		1750			2550			361			504	
Turn Bay Length (ft)	225		225	250		250				200		
Base Capacity (vph)	223	3085	996	105	2778	899	347	193	274	375	229	371
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.77	0.10	0.34	0.75	0.09	0.82	0.24	0.30	0.78	0.11	0.63

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 24 (16%), 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: 21.3		Intersection LOS: C	
Intersection Capacity Utilization 79.8%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 2: Telluride & 6th Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	120	2175	90	25	1950	70	260	40	70	215	20	190
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	150	2364	100	36	2074	80	286	47	81	291	25	232
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	1
Peak Hour Factor	0.80	0.92	0.90	0.69	0.94	0.88	0.91	0.85	0.86	0.74	0.80	0.82
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	174	2820	878	94	2675	833	407	193	164	427	229	194
Arrive On Green	0.06	0.57	0.57	0.01	0.54	0.54	0.14	0.11	0.11	0.16	0.13	0.13
Sat Flow, veh/h	1723	4940	1538	1723	4940	1538	1723	1810	1538	1723	1810	1538
Grp Volume(v), veh/h	150	2364	100	36	2074	80	286	47	81	291	25	232
Grp Sat Flow(s),veh/h/ln	1723	1647	1538	1723	1647	1538	1723	1810	1538	1723	1810	1538
Q Serve(g_s), s	6.3	58.7	2.1	0.0	49.4	3.7	21.0	3.5	7.4	22.0	1.8	16.8
Cycle Q Clear(g_c), s	6.3	58.7	2.1	0.0	49.4	3.7	21.0	3.5	7.4	22.0	1.8	16.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	2820	878	94	2675	833	407	193	164	427	229	194
V/C Ratio(X)	0.86	0.84	0.11	0.38	0.78	0.10	0.70	0.24	0.49	0.68	0.11	1.19
Avail Cap(c_a), veh/h	250	2820	878	105	2675	833	407	194	165	427	231	196
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	0.62	0.62	0.62	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	26.3	3.2	65.1	27.0	16.5	50.6	61.0	62.8	47.3	57.6	51.7
Incr Delay (d2), s/veh	18.6	3.2	0.3	1.6	1.4	0.1	5.4	0.7	2.3	4.4	0.2	126.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	27.3	1.8	1.5	22.8	1.6	1.2	1.8	3.3	10.9	0.9	14.0
LnGrp Delay(d),s/veh	51.1	29.5	3.5	66.7	28.4	16.7	55.9	61.7	65.1	51.7	57.8	178.0
LnGrp LOS	D	C	A	E	C	B	E	E	E	D	E	F
Approach Vol, veh/h		2614			2190			414			548	
Approach Delay, s/veh		29.7			28.6			58.4			105.5	
Approach LOS		C			C			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	91.0	28.0	21.9	12.5	87.7	25.0	24.8
Change Period (Y+Rc), s	6.0	* 6	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	3.0	* 85	24.0	16.0	15.0	75.0	21.0	19.0
Max Q Clear Time (g_c+I1), s	2.0	60.7	24.0	9.4	8.3	51.4	23.0	18.8
Green Ext Time (p_c), s	0.0	19.1	0.0	0.8	0.2	16.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	38.6
HCM 2010 LOS	D

Notes

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

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	2020	140	40	1080	540	420	30	250	650	60	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		500	300		250	0		0	500		0
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	25			150			25			25		
Satd. Flow (prot)	3335	4940	1538	3335	4940	1538	3335	1810	1538	3335	1810	1538
Flt Permitted	0.950			0.950			0.649			0.735		
Satd. Flow (perm)	3335	4940	1538	3335	4940	1538	2278	1810	1538	2580	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			161			357			124			80
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2630			4095			1186			1203	
Travel Time (s)		39.8			62.0			27.0			27.3	
Peak Hour Factor	0.90	0.92	0.87	0.90	0.89	0.90	0.87	0.88	0.88	0.90	0.59	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	389	2196	161	44	1213	600	483	34	284	722	102	478
Turn Type	Prot	NA	Perm	Prot	NA	Free	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		7	4		3	8	5
Permitted Phases			2			Free	4		4	8		8
Detector Phase	5	2	2	1	6		7	4	4	3	8	5
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	11.0	11.0	8.0	11.0		8.0	10.0	10.0	8.0	10.0	8.0
Total Split (s)	43.0	86.0	86.0	8.0	51.0		21.0	32.0	32.0	24.0	35.0	43.0
Total Split (%)	28.7%	57.3%	57.3%	5.3%	34.0%		14.0%	21.3%	21.3%	16.0%	23.3%	28.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	3.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0	2.0	1.0	2.0	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)	4.0	6.0	6.0	4.0	6.0		4.0	6.0	6.0	4.0	6.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	Max	None
Act Effct Green (s)	39.0	84.1	84.1	6.0	49.2	150.0	35.7	20.9	20.9	47.4	29.0	74.0
Actuated g/C Ratio	0.26	0.56	0.56	0.04	0.33	1.00	0.24	0.14	0.14	0.32	0.19	0.49
v/c Ratio	0.45	0.79	0.17	0.33	0.75	0.39	0.77	0.14	0.88	0.79	0.29	0.60
Control Delay	30.2	11.2	0.4	92.4	31.7	1.1	55.0	55.2	62.9	55.0	54.4	26.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.2	11.2	0.4	92.4	31.7	1.1	55.0	55.2	62.9	55.0	54.4	26.0
LOS	C	B	A	F	C	A	E	E	E	D	D	C
Approach Delay		13.3			23.2			57.8			44.3	
Approach LOS		B			C			E			D	
Queue Length 50th (ft)	158	144	0	0	327	9	200	29	159	327	86	276
Queue Length 95th (ft)	178	259	m2	m42	371	14	228	61	#260	372	92	396
Internal Link Dist (ft)		2550			4015			1106			1123	
Turn Bay Length (ft)	500		500	300		250				500		
Base Capacity (vph)	867	2769	933	133	1621	1538	725	313	369	948	349	799
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.79	0.17	0.33	0.75	0.39	0.67	0.11	0.77	0.76	0.29	0.60

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 8 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 27.4 Intersection LOS: C
Intersection Capacity Utilization 86.4% ICU Level of Service E
Analysis Period (min) 15
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.

Splits and Phases: 3: Tower & 6th Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	350	2020	140	40	1080	540	420	30	250	650	60	430
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	389	2196	161	44	1213	0	483	34	284	722	102	478
Adj No. of Lanes	2	3	1	2	3	1	2	1	1	2	1	1
Peak Hour Factor	0.90	0.92	0.87	0.90	0.89	0.90	0.87	0.88	0.88	0.90	0.59	0.90
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	832	2707	843	76	1522	474	616	322	274	804	359	341
Arrive On Green	0.50	1.00	1.00	0.02	0.31	0.00	0.09	0.18	0.18	0.11	0.20	0.20
Sat Flow, veh/h	3343	4940	1538	3343	4940	1538	3343	1810	1538	3343	1810	1538
Grp Volume(v), veh/h	389	2196	161	44	1213	0	483	34	284	722	102	478
Grp Sat Flow(s),veh/h/ln	1672	1647	1538	1672	1647	1538	1672	1810	1538	1672	1810	1538
Q Serve(g_s), s	11.1	0.0	0.0	1.9	32.9	0.0	6.9	2.3	26.0	12.1	7.0	26.2
Cycle Q Clear(g_c), s	11.1	0.0	0.0	1.9	32.9	0.0	6.9	2.3	26.0	12.1	7.0	26.2
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	832	2707	843	76	1522	474	616	322	274	804	359	341
V/C Ratio(X)	0.47	0.81	0.19	0.58	0.80	0.00	0.78	0.11	1.04	0.90	0.28	1.40
Avail Cap(c_a), veh/h	847	2707	843	92	1522	474	692	322	274	880	359	341
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	0.86	0.86	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.3	0.0	0.0	70.6	46.3	0.0	56.9	50.3	60.0	53.8	49.7	38.4
Incr Delay (d2), s/veh	0.2	1.6	0.3	5.8	3.8	0.0	5.3	0.1	64.3	11.3	2.0	198.5
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	5.1	0.4	0.1	0.9	15.5	0.0	9.8	1.2	15.9	15.4	3.7	29.8
LnGrp Delay(d),s/veh	30.6	1.6	0.3	76.4	50.1	0.0	62.2	50.4	124.3	65.1	51.7	236.9
LnGrp LOS	C	A	A	E	D		E	D	F	E	D	F
Approach Vol, veh/h		2746			1257			801			1302	
Approach Delay, s/veh		5.6			51.1			83.7			127.1	
Approach LOS		A			D			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	90.0	20.7	32.0	46.3	51.0	17.7	35.0
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	6.0	* 6	4.0	6.0
Max Green Setting (Gmax), s	4.0	80.0	20.0	26.0	37.0	* 45	17.0	29.0
Max Q Clear Time (g_c+I1), s	3.9	2.0	14.1	28.0	13.1	34.9	8.9	28.2
Green Ext Time (p_c), s	0.0	41.8	2.6	0.0	19.0	5.4	3.2	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	51.1
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	25	260	40	500	425	10	15	770	100	65	490	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		250	250		250
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	1810	1538	1719	1810	1538	1719	1810	1538	1719	1810	1538
Flt Permitted	0.438			0.143			0.217			0.089		
Satd. Flow (perm)	793	1810	1538	259	1810	1538	393	1810	1538	161	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			69			20			84			308
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1299			5268			8500			2843	
Travel Time (s)		19.7			79.8			128.8			43.1	
Peak Hour Factor	0.89	0.59	0.92	0.89	0.71	0.90	0.82	0.92	0.86	0.87	0.89	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	441	43	562	599	11	18	837	116	75	551	471
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Free
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6		6	4		4	8		Free
Detector Phase	2	2	2	1	6	6	4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	21.0	21.0	21.0	9.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	
Total Split (s)	28.0	28.0	28.0	32.0	60.0	60.0	50.0	50.0	50.0	50.0	50.0	
Total Split (%)	25.5%	25.5%	25.5%	29.1%	54.5%	54.5%	45.5%	45.5%	45.5%	45.5%	45.5%	
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	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Max	Max	Max	None	Max	Max	None	None	None	None	None	
Act Effct Green (s)	23.0	23.0	23.0	55.0	55.0	55.0	45.0	45.0	45.0	45.0	45.0	110.0
Actuated g/C Ratio	0.21	0.21	0.21	0.50	0.50	0.50	0.41	0.41	0.41	0.41	0.41	1.00
v/c Ratio	0.17	1.17	0.11	1.15	0.66	0.01	0.11	1.13	0.17	1.15	0.74	0.31
Control Delay	38.9	139.6	4.1	120.5	25.0	3.3	22.6	107.2	7.8	194.2	35.1	0.5
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	38.9	139.6	4.1	120.5	25.0	3.3	22.6	107.2	7.8	194.2	35.1	0.5
LOS	D	F	A	F	C	A	C	F	A	F	D	A
Approach Delay		122.7			70.6			93.7			31.1	
Approach LOS		F			E			F			C	
Queue Length 50th (ft)	16	~371	0	~420	305	0	8	~688	13	~62	325	0
Queue Length 95th (ft)	42	268	15	#626	297	6	22	#925	45	#152	454	0
Internal Link Dist (ft)		1219			5188			8420			2763	
Turn Bay Length (ft)									250	250		250
Base Capacity (vph)	165	378	376	487	905	779	160	740	678	65	740	1538
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

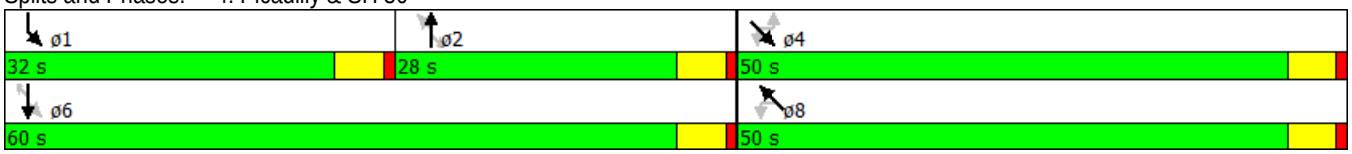
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	1.17	0.11	1.15	0.66	0.01	0.11	1.13	0.17	1.15	0.74	0.31

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.17			
Intersection Signal Delay: 72.1		Intersection LOS: E	
Intersection Capacity Utilization 102.2%		ICU Level of Service G	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 4: Picadilly & SH 30



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	25	260	40	500	425	10	15	770	100	65	490	400
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	28	441	43	562	599	11	18	837	116	75	551	0
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.89	0.59	0.92	0.89	0.71	0.90	0.82	0.92	0.86	0.87	0.89	0.85
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	230	378	322	488	905	769	190	740	629	65	740	629
Arrive On Green	0.21	0.21	0.21	0.25	0.50	0.50	0.41	0.41	0.41	0.41	0.41	0.00
Sat Flow, veh/h	785	1810	1538	1723	1810	1538	829	1810	1538	570	1810	1538
Grp Volume(v), veh/h	28	441	43	562	599	11	18	837	116	75	551	0
Grp Sat Flow(s),veh/h/ln	785	1810	1538	1723	1810	1538	829	1810	1538	570	1810	1538
Q Serve(g_s), s	3.2	23.0	2.5	27.0	27.2	0.4	2.1	45.0	5.3	0.0	28.5	0.0
Cycle Q Clear(g_c), s	3.2	23.0	2.5	27.0	27.2	0.4	30.5	45.0	5.3	45.0	28.5	0.0
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	230	378	322	488	905	769	190	740	629	65	740	629
V/C Ratio(X)	0.12	1.17	0.13	1.15	0.66	0.01	0.09	1.13	0.18	1.15	0.74	0.00
Avail Cap(c_a), veh/h	230	378	322	488	905	769	190	740	629	65	740	629
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	0.00
Uniform Delay (d), s/veh	35.7	43.5	35.4	31.9	20.6	13.8	40.6	32.5	20.8	55.0	27.6	0.0
Incr Delay (d2), s/veh	1.1	99.6	0.9	89.2	3.8	0.0	0.2	75.2	0.1	156.3	4.1	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	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	21.9	1.1	26.9	14.4	0.2	0.5	37.9	2.3	4.8	15.1	0.0
LnGrp Delay(d),s/veh	36.8	143.1	36.3	121.1	24.4	13.9	40.8	107.7	20.9	211.4	31.7	0.0
LnGrp LOS	D	F	D	F	C	B	D	F	C	F	C	
Approach Vol, veh/h		512			1172			971			626	
Approach Delay, s/veh		128.3			70.6			96.1			53.2	
Approach LOS		F			E			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	32.0	28.0		50.0		60.0		50.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s	27.0	23.0		45.0		55.0		45.0
Max Q Clear Time (g_c+I1), s	29.0	25.0		47.0		29.2		47.0
Green Ext Time (p_c), s	0.0	0.0		0.0		7.2		0.0

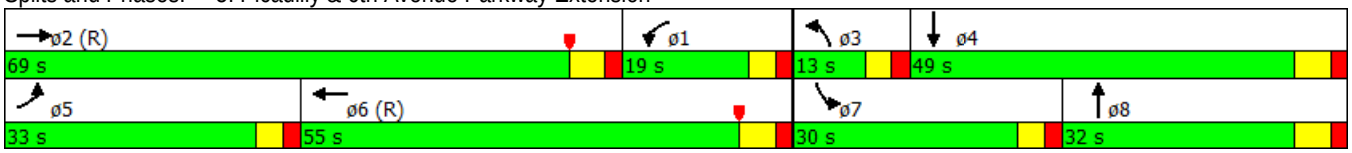
Intersection Summary		
HCM 2010 Ctrl Delay		83.9
HCM 2010 LOS		F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	425	1615	40	175	760	270	75	400	200	380	720	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	250		250	500		250
Storage Lanes	2		0	2		0	2		0	2		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3335	4920	0	3335	4747	0	3335	4693	0	3335	4698	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4920	0	3335	4747	0	3335	4693	0	3335	4698	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			64			73			82	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		757			878			5268			1945	
Travel Time (s)		11.5			13.3			79.8			29.5	
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.89	0.89	0.89	0.97	0.97	0.97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	447	1742	0	194	1144	0	84	674	0	392	1103	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	10.0		9.0	10.0		9.0	10.0		9.0	10.0	
Total Split (s)	33.0	69.0		19.0	55.0		13.0	32.0		30.0	49.0	
Total Split (%)	22.0%	46.0%		12.7%	36.7%		8.7%	21.3%		20.0%	32.7%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	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)	5.0	6.0		5.0	6.0		5.0	6.0		5.0	6.0	
Lead/Lag	Lead	Lead		Lag	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)	24.6	63.0		14.0	52.4		7.7	28.9		22.1	43.3	
Actuated g/C Ratio	0.16	0.42		0.09	0.35		0.05	0.19		0.15	0.29	
v/c Ratio	0.82	0.84		0.62	0.67		0.49	0.70		0.80	0.78	
Control Delay	52.5	26.2		64.3	32.3		79.2	55.2		74.3	49.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.5	26.2		64.3	32.3		79.2	55.2		74.3	49.8	
LOS	D	C		E	C		E	E		E	D	
Approach Delay		31.6			37.0			57.8			56.2	
Approach LOS		C			D			E			E	
Queue Length 50th (ft)	220	542		95	331		41	205		192	341	
Queue Length 95th (ft)	248	631		140	380		71	255		248	399	
Internal Link Dist (ft)		677			798			5188			1865	
Turn Bay Length (ft)	250			250			250			500		
Base Capacity (vph)	622	2068		311	1700		177	962		555	1414	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.72	0.84		0.62	0.67		0.47	0.70		0.71	0.78	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 102 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 42.6		Intersection LOS: D	
Intersection Capacity Utilization 80.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 5: Picadilly & 6th Avenue Parkway Extension



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	425	1615	40	175	760	270	75	400	200	380	720	350
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	447	1700	42	194	844	300	84	449	225	392	742	361
Adj No. of Lanes	2	3	0	2	3	0	2	3	0	2	3	0
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	506	2155	53	243	1307	462	126	659	308	448	977	456
Arrive On Green	0.15	0.43	0.43	0.07	0.36	0.36	0.04	0.20	0.20	0.13	0.30	0.30
Sat Flow, veh/h	3343	4959	122	3343	3604	1274	3343	3293	1538	3343	3293	1538
Grp Volume(v), veh/h	447	1129	613	194	771	373	84	449	225	392	742	361
Grp Sat Flow(s),veh/h/ln	1672	1647	1788	1672	1647	1585	1672	1647	1538	1672	1647	1538
Q Serve(g_s), s	19.0	42.8	42.8	8.3	28.2	28.4	3.6	18.3	19.9	16.7	29.7	31.3
Cycle Q Clear(g_c), s	19.0	42.8	42.8	8.3	28.2	28.4	3.6	18.3	19.9	16.7	29.7	31.3
Prop In Lane	1.00		0.07	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	506	1431	777	243	1195	575	126	659	308	448	977	456
V/C Ratio(X)	0.88	0.79	0.79	0.80	0.65	0.65	0.67	0.68	0.73	0.87	0.76	0.79
Avail Cap(c_a), veh/h	646	1431	777	300	1195	575	184	659	308	577	977	456
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	0.64	0.64	0.64	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.3	35.3	35.3	66.2	38.4	38.5	68.9	53.7	54.3	61.6	46.3	46.9
Incr Delay (d2), s/veh	11.5	4.5	8.0	11.6	2.7	5.6	3.9	3.6	9.4	11.6	5.5	13.1
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	9.6	20.3	22.8	4.2	13.3	13.3	1.7	8.7	9.2	8.5	14.3	14.9
LnGrp Delay(d),s/veh	71.7	39.8	43.3	77.8	41.1	44.1	72.8	57.3	63.7	73.2	51.8	60.0
LnGrp LOS	E	D	D	E	D	D	E	E	E	E	D	E
Approach Vol, veh/h		2189			1338			758			1495	
Approach Delay, s/veh		47.3			47.3			60.9			59.4	
Approach LOS		D			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.6	69.0	10.4	49.0	26.9	63.6	24.4	35.0
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	13.0	* 63	8.0	43.0	28.0	49.0	25.0	26.0
Max Q Clear Time (g_c+I1), s	10.3	44.8	5.6	33.3	21.0	30.4	18.7	21.9
Green Ext Time (p_c), s	0.3	10.8	0.0	6.8	1.0	7.7	0.8	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	52.2
HCM 2010 LOS	D

Notes

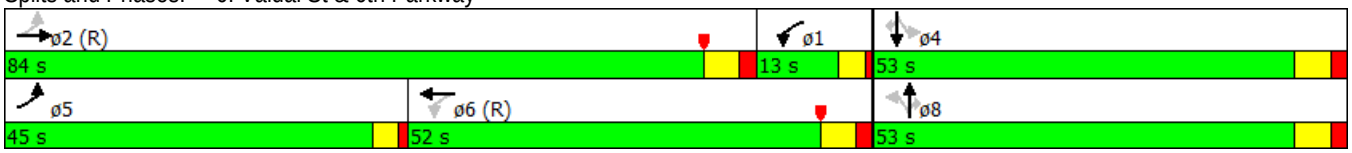
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	1665	110	50	710	110	140	20	140	230	15	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		250	0		0	0		0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	4896	0	1719	4841	0	1719	1810	1538	1719	1810	1538
Flt Permitted	0.201			0.067			0.741			0.739		
Satd. Flow (perm)	364	4896	0	121	4841	0	1341	1810	1538	1337	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			20				99			415
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		650			648			1130			894	
Travel Time (s)		9.8			9.8			25.7			20.3	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.59	0.71	0.85	0.82	0.59	0.82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	354	2164	0	59	964	0	237	28	165	280	25	415
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	3.0	5.0		3.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	11.0		7.0	11.0		10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	45.0	84.0		13.0	52.0		53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	30.0%	56.0%		8.7%	34.7%		35.3%	35.3%	35.3%	35.3%	35.3%	35.3%
Yellow Time (s)	3.0	4.0		3.0	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	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	0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	92.1	90.1		70.2	68.2		37.5	37.5	37.5	37.5	37.5	37.5
Actuated g/C Ratio	0.61	0.60		0.47	0.45		0.25	0.25	0.25	0.25	0.25	0.25
v/c Ratio	0.74	0.73		0.41	0.44		0.71	0.06	0.36	0.84	0.06	0.60
Control Delay	37.9	9.8		40.0	16.6		62.2	39.4	19.4	74.2	39.2	7.2
Queue Delay	0.0	0.1		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	9.9		40.0	16.6		62.2	39.4	19.4	74.2	39.2	7.2
LOS	D	A		D	B		E	D	B	E	D	A
Approach Delay		13.8			18.0			44.3			34.4	
Approach LOS		B			B			D			C	
Queue Length 50th (ft)	201	239		16	113		211	21	51	260	19	0
Queue Length 95th (ft)	217	236		72	251		171	35	98	307	26	42
Internal Link Dist (ft)		570			568			1050			814	
Turn Bay Length (ft)	250			250								
Base Capacity (vph)	593	2946		152	2213		420	567	549	418	567	766
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	105		0	0		0	0	1	0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.76		0.39	0.44		0.56	0.05	0.30	0.67	0.04	0.54

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 13 (9%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 20.7		Intersection LOS: C	
Intersection Capacity Utilization 71.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Valdai St & 6th Parkway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	290	1665	110	50	710	110	140	20	140	230	15	340
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	354	2030	134	59	835	129	237	28	165	280	25	415
Adj No. of Lanes	1	3	0	1	3	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.59	0.71	0.85	0.82	0.59	0.82
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	413	2653	174	110	1934	297	317	541	459	383	541	459
Arrive On Green	0.14	0.56	0.56	0.00	0.15	0.15	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1723	4737	311	1723	4322	664	918	1810	1538	1151	1810	1538
Grp Volume(v), veh/h	354	1408	756	59	635	329	237	28	165	280	25	415
Grp Sat Flow(s),veh/h/ln	1723	1647	1755	1723	1647	1692	918	1810	1538	1151	1810	1538
Q Serve(g_s), s	16.4	45.8	46.4	0.0	24.5	24.6	34.5	1.5	11.7	31.9	1.4	36.1
Cycle Q Clear(g_c), s	16.4	45.8	46.4	0.0	24.5	24.6	35.8	1.5	11.7	33.4	1.4	36.1
Prop In Lane	1.00		0.18	1.00		0.39	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	413	1844	983	110	1473	757	317	541	459	383	541	459
V/C Ratio(X)	0.86	0.76	0.77	0.54	0.43	0.43	0.75	0.05	0.36	0.73	0.05	0.90
Avail Cap(c_a), veh/h	680	1844	983	176	1473	757	353	611	519	428	611	519
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	23.6	23.7	59.1	43.2	43.3	47.5	34.8	38.4	46.7	34.7	46.9
Incr Delay (d2), s/veh	6.0	3.1	5.8	3.8	0.9	1.7	7.7	0.0	0.5	5.6	0.0	17.8
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	8.5	21.5	23.8	2.4	11.4	11.9	9.4	0.8	5.0	10.7	0.7	17.6
LnGrp Delay(d),s/veh	30.4	26.6	29.5	62.8	44.1	45.0	55.1	34.8	38.8	52.3	34.8	64.7
LnGrp LOS	C	C	C	E	D	D	E	C	D	D	C	E
Approach Vol, veh/h		2518			1023			430			720	
Approach Delay, s/veh		28.0			45.5			47.6			58.8	
Approach LOS		C			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.4	84.0		47.6	23.4	79.0		47.6
Change Period (Y+Rc), s	6.0	* 6		6.0	4.0	6.0		6.0
Max Green Setting (Gmax), s	7.0	* 78		47.0	41.0	46.0		47.0
Max Q Clear Time (g_c+I1), s	2.0	48.4		38.1	18.4	26.6		37.8
Green Ext Time (p_c), s	0.1	19.0		3.5	1.0	5.9		3.6

Intersection Summary	
HCM 2010 Ctrl Delay	38.3
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1885	280	260	800	0	0	0	0	170	1	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	3438	1538	3335	3438	0	0	0	0	1719	1544	0
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	3438	1538	3335	3438	0	0	0	0	1719	1544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			217								104	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		648			594			879			589	
Travel Time (s)		9.8			9.0			20.0			13.4	
Peak Hour Factor	0.25	0.85	0.81	0.85	0.80	0.25	0.25	0.25	0.25	0.92	0.59	0.67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2218	346	306	1000	0	0	0	0	185	106	0
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases			2							4		
Detector Phase		2	2	1	6					4	4	
Switch Phase												
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	
Minimum Split (s)		22.0	22.0	9.0	22.0					22.0	22.0	
Total Split (s)		102.0	102.0	22.0	124.0					26.0	26.0	
Total Split (%)		68.0%	68.0%	14.7%	82.7%					17.3%	17.3%	
Yellow Time (s)		4.0	4.0	3.0	4.0					4.0	4.0	
All-Red Time (s)		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	
Total Lost Time (s)		6.0	6.0	5.0	6.0					6.0	6.0	
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		C-Max	C-Max	None	C-Max					None	None	
Act Effct Green (s)		97.2	97.2	17.0	119.2					18.8	18.8	
Actuated g/C Ratio		0.65	0.65	0.11	0.79					0.13	0.13	
v/c Ratio		1.00	0.32	0.81	0.37					0.86	0.37	
Control Delay		25.9	1.1	72.9	2.7					97.0	14.4	
Queue Delay		2.2	0.0	0.0	0.0					0.0	0.0	
Total Delay		28.1	1.1	72.9	2.7					97.0	14.4	
LOS		C	A	E	A					F	B	
Approach Delay		24.4			19.2						66.9	
Approach LOS		C			B						E	
Queue Length 50th (ft)		~1207	0	160	50					179	2	
Queue Length 95th (ft)		#244	5	#204	50					#307	7	
Internal Link Dist (ft)		568			514			799			509	
Turn Bay Length (ft)				250								
Base Capacity (vph)		2226	1072	377	2731					229	296	
Starvation Cap Reductn		0	0	0	263					0	0	
Spillback Cap Reductn		20	0	0	0					0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0	0	0	0					0	0	
Reduced v/c Ratio		1.01	0.32	0.81	0.41					0.81	0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 22 (15%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 25.8		Intersection LOS: C	
Intersection Capacity Utilization 83.1%		ICU Level of Service E	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 7: SB Ramps & 6th Parkway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1885	280	260	800	0	0	0	0	170	1	70
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1810	1810	1810	1810	0				1810	1810	1900
Adj Flow Rate, veh/h	0	2218	346	306	1000	0				185	2	104
Adj No. of Lanes	0	2	1	2	2	0				1	1	0
Peak Hour Factor	0.25	0.85	0.81	0.85	0.80	0.25				0.92	0.59	0.67
Percent Heavy Veh, %	0	5	5	5	5	0				5	5	5
Cap, veh/h	0	2232	999	362	2744	0				208	4	183
Arrive On Green	0.00	0.86	0.86	0.22	1.00	0.00				0.12	0.12	0.12
Sat Flow, veh/h	0	3529	1538	3343	3529	0				1723	29	1513
Grp Volume(v), veh/h	0	2218	346	306	1000	0				185	0	106
Grp Sat Flow(s),veh/h/ln	0	1719	1538	1672	1719	0				1723	0	1542
Q Serve(g_s), s	0.0	91.7	6.5	13.0	0.0	0.0				15.6	0.0	9.6
Cycle Q Clear(g_c), s	0.0	91.7	6.5	13.0	0.0	0.0				15.6	0.0	9.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.98
Lane Grp Cap(c), veh/h	0	2232	999	362	2744	0				208	0	186
V/C Ratio(X)	0.00	0.99	0.35	0.85	0.36	0.00				0.89	0.00	0.57
Avail Cap(c_a), veh/h	0	2232	999	362	2744	0				233	0	209
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	0.62	0.62	0.94	0.94	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.8	4.0	56.7	0.0	0.0				64.0	0.0	61.4
Incr Delay (d2), s/veh	0.0	13.6	0.6	15.8	0.4	0.0				29.5	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	45.3	2.8	6.7	0.1	0.0				9.2	0.0	4.2
LnGrp Delay(d),s/veh	0.0	23.4	4.6	72.5	0.4	0.0				93.5	0.0	64.2
LnGrp LOS		C	A	E	A					F		E
Approach Vol, veh/h		2564			1306						291	
Approach Delay, s/veh		20.8			17.3						82.8	
Approach LOS		C			B						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	24.1	102.0		23.9		126.1		
Change Period (Y+Rc), s	6.0	* 6		6.0		6.0		
Max Green Setting (Gmax), s	16.0	* 96		20.0		118.0		
Max Q Clear Time (g_c+I1), s	15.0	93.7		17.6		2.0		
Green Ext Time (p_c), s	0.7	2.2		0.2		10.0		

Intersection Summary	
HCM 2010 Ctrl Delay	24.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	1845	0	0	980	100	80	1	220	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	0		250	0		0	0		0
Storage Lanes	1		0	0		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	3438	0	0	4940	1538	1719	1542	0	0	0	0
Flt Permitted	0.201						0.950					
Satd. Flow (perm)	364	3438	0	0	4940	1538	1719	1542	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						141		13				
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		594			1480			781			563	
Travel Time (s)		9.0			22.4			17.8			12.8	
Peak Hour Factor	0.74	0.82	0.25	0.25	0.87	0.71	0.75	0.25	0.83	0.28	0.25	0.25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	284	2250	0	0	1126	141	107	269	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	5	2			6			8				
Permitted Phases	2					6	8					
Detector Phase	5	2			6	6	8	8				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0				
Minimum Split (s)	9.0	22.0			22.0	22.0	22.0	22.0				
Total Split (s)	26.0	111.0			85.0	85.0	39.0	39.0				
Total Split (%)	17.3%	74.0%			56.7%	56.7%	26.0%	26.0%				
Yellow Time (s)	3.0	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)	4.0	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	None	None				
Act Effct Green (s)	111.1	109.1			90.9	90.9	28.9	28.9				
Actuated g/C Ratio	0.74	0.73			0.61	0.61	0.19	0.19				
v/c Ratio	0.71	0.90			0.38	0.14	0.32	0.88				
Control Delay	16.9	4.1			4.7	0.5	53.8	83.1				
Queue Delay	0.0	1.4			0.0	0.0	0.0	0.0				
Total Delay	16.9	5.6			4.7	0.5	53.8	83.1				
LOS	B	A			A	A	D	F				
Approach Delay		6.8			4.3			74.8				
Approach LOS		A			A			E				
Queue Length 50th (ft)	41	107			63	1	90	243				
Queue Length 95th (ft)	m42	102			76	m1	120	71				
Internal Link Dist (ft)		514			1400			701			483	
Turn Bay Length (ft)	250					250						
Base Capacity (vph)	468	2500			2992	987	378	349				
Starvation Cap Reductn	0	114			0	0	0	0				
Spillback Cap Reductn	0	0			0	0	0	0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0			0	0	0	0				
Reduced v/c Ratio	0.61	0.94			0.38	0.14	0.28	0.77				

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 31 (21%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 83.1%		ICU Level of Service E	
Analysis Period (min) 15			

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

Splits and Phases: 8: NB Ramps & 6th Parkway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	210	1845	0	0	980	100	80	1	220	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1810	1810	0	0	1810	1810	1810	1810	1900			
Adj Flow Rate, veh/h	284	2250	0	0	1126	141	107	4	0			
Adj No. of Lanes	1	2	0	0	3	1	1	1	0			
Peak Hour Factor	0.74	0.82	0.25	0.25	0.87	0.71	0.75	0.25	0.83			
Percent Heavy Veh, %	5	5	0	0	5	5	5	5	5			
Cap, veh/h	477	2847	0	0	3618	1126	133	140	0			
Arrive On Green	0.13	1.00	0.00	0.00	1.00	1.00	0.08	0.08	0.00			
Sat Flow, veh/h	1723	3529	0	0	5103	1538	1723	1810	0			
Grp Volume(v), veh/h	284	2250	0	0	1126	141	107	4	0			
Grp Sat Flow(s),veh/h/ln	1723	1719	0	0	1647	1538	1723	1810	0			
Q Serve(g_s), s	5.5	0.0	0.0	0.0	0.0	0.0	7.7	0.3	0.0			
Cycle Q Clear(g_c), s	5.5	0.0	0.0	0.0	0.0	0.0	7.7	0.3	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	477	2847	0	0	3618	1126	133	140	0			
V/C Ratio(X)	0.60	0.79	0.00	0.00	0.31	0.13	0.80	0.03	0.00			
Avail Cap(c_a), veh/h	666	2847	0	0	3618	1126	448	471	0			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.12	0.12	0.00	0.00	0.85	0.85	1.00	1.00	0.00			
Uniform Delay (d), s/veh	2.6	0.0	0.0	0.0	0.0	0.0	57.5	54.1	0.0			
Incr Delay (d2), s/veh	0.1	0.3	0.0	0.0	0.2	0.2	10.6	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			
%ile BackOfQ(50%),veh/ln	2.4	0.1	0.0	0.0	0.1	0.1	4.1	0.1	0.0			
LnGrp Delay(d),s/veh	2.7	0.3	0.0	0.0	0.2	0.2	68.1	54.2	0.0			
LnGrp LOS	A	A			A	A	E	D				
Approach Vol, veh/h		2534			1267			111				
Approach Delay, s/veh		0.6			0.2			67.6				
Approach LOS		A			A			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		134.2			12.1	122.1		15.8
Change Period (Y+Rc), s		6.0			4.0	6.0		6.0
Max Green Setting (Gmax), s		105.0			22.0	79.0		33.0
Max Q Clear Time (g_c+I1), s		2.0			7.5	2.0		9.7
Green Ext Time (p_c), s		80.1			0.7	63.6		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	2.4
HCM 2010 LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	1620	300	290	930	90	120	130	390	180	210	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	150		150	150		150	150		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	4821	0	1719	4871	0	1719	1810	1538	1719	1810	1538
Flt Permitted	0.228			0.080			0.255			0.517		
Satd. Flow (perm)	413	4821	0	145	4871	0	461	1810	1538	936	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			16				95			124
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1480			852			987			975	
Travel Time (s)		22.4			12.9			16.8			16.6	
Peak Hour Factor	0.63	0.87	0.86	0.83	0.87	0.84	0.78	0.85	0.86	0.90	0.92	0.71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	238	2211	0	349	1176	0	154	153	453	200	228	42
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		1	6		3	8	1	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0		9.0	22.0		9.0	22.0	9.0	9.0	22.0	22.0
Total Split (s)	27.0	79.0		29.0	81.0		12.0	31.0	29.0	11.0	30.0	30.0
Total Split (%)	18.0%	52.7%		19.3%	54.0%		8.0%	20.7%	19.3%	7.3%	20.0%	20.0%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0	1.0	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)	4.0	6.0		4.0	6.0		4.0	6.0	4.0	4.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag	Lead	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)	75.0	73.0		78.9	76.9		33.1	23.1	56.0	31.1	22.1	22.1
Actuated g/C Ratio	0.50	0.49		0.53	0.51		0.22	0.15	0.37	0.21	0.15	0.15
v/c Ratio	0.59	0.94		0.97	0.47		0.92	0.55	0.72	0.87	0.86	0.13
Control Delay	30.5	28.4		86.3	24.1		100.4	66.2	38.6	86.6	90.1	0.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	28.4		86.3	24.1		100.4	66.2	38.6	86.6	90.1	0.8
LOS	C	C		F	C		F	E	D	F	F	A
Approach Delay		28.6			38.4			56.7			80.6	
Approach LOS		C			D			E			F	
Queue Length 50th (ft)	94	652		~314	268		125	138	305	167	217	0
Queue Length 95th (ft)	88	680		#450	295		#191	202	410	#297	#345	0
Internal Link Dist (ft)		1400			772			907			895	
Turn Bay Length (ft)	250			150			150		150	150		
Base Capacity (vph)	406	2364		358	2505		168	301	633	230	289	350
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

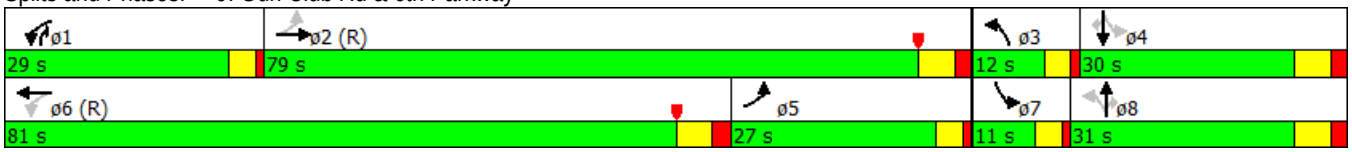
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.94		0.97	0.47		0.92	0.51	0.72	0.87	0.79	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 15 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 40.3		Intersection LOS: D	
Intersection Capacity Utilization 88.4%		ICU Level of Service E	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 9: Gun Club Rd & 6th Parkway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	1620	300	290	930	90	120	130	390	180	210	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1810	1810	1900	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	238	1862	349	349	1069	107	154	153	453	200	228	42
Adj No. of Lanes	1	3	0	1	3	0	1	1	1	1	1	1
Peak Hour Factor	0.63	0.87	0.86	0.83	0.87	0.84	0.78	0.85	0.86	0.90	0.92	0.71
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	425	2041	376	366	2283	228	182	302	513	199	290	246
Arrive On Green	0.28	0.97	0.97	0.17	0.50	0.50	0.05	0.17	0.17	0.05	0.16	0.16
Sat Flow, veh/h	1723	4193	774	1723	4566	456	1723	1810	1538	1723	1810	1538
Grp Volume(v), veh/h	238	1456	755	349	771	405	154	153	453	200	228	42
Grp Sat Flow(s),veh/h/ln	1723	1647	1673	1723	1647	1729	1723	1810	1538	1723	1810	1538
Q Serve(g_s), s	0.0	15.3	18.5	23.1	22.9	23.0	8.0	11.5	25.0	7.0	18.2	2.6
Cycle Q Clear(g_c), s	0.0	15.3	18.5	23.1	22.9	23.0	8.0	11.5	25.0	7.0	18.2	2.6
Prop In Lane	1.00		0.46	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	425	1603	814	366	1647	864	182	302	513	199	290	246
V/C Ratio(X)	0.56	0.91	0.93	0.95	0.47	0.47	0.85	0.51	0.88	1.00	0.79	0.17
Avail Cap(c_a), veh/h	425	1603	814	366	1647	864	182	302	513	199	290	246
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.31	0.31	0.31	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	1.2	1.3	40.4	24.5	24.5	57.5	56.9	47.2	61.5	60.5	29.6
Incr Delay (d2), s/veh	0.5	3.2	7.2	34.8	1.0	1.8	29.4	1.4	16.5	65.0	13.5	0.3
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	7.2	4.4	6.2	17.8	10.6	11.4	4.1	5.9	20.1	3.6	10.2	1.5
LnGrp Delay(d),s/veh	34.5	4.5	8.5	75.3	25.4	26.3	86.9	58.3	63.8	126.5	74.0	30.0
LnGrp LOS	C	A	A	E	C	C	F	E	E	F	E	C
Approach Vol, veh/h		2449			1525			760			470	
Approach Delay, s/veh		8.6			37.1			67.4			92.4	
Approach LOS		A			D			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.0	79.0	12.0	30.0	27.0	81.0	11.0	31.0
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	6.0	* 6	4.0	6.0
Max Green Setting (Gmax), s	25.0	73.0	8.0	24.0	21.0	* 75	7.0	25.0
Max Q Clear Time (g_c+I1), s	25.1	20.5	10.0	20.2	2.0	25.0	9.0	27.0
Green Ext Time (p_c), s	0.0	29.3	0.0	1.5	14.7	9.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

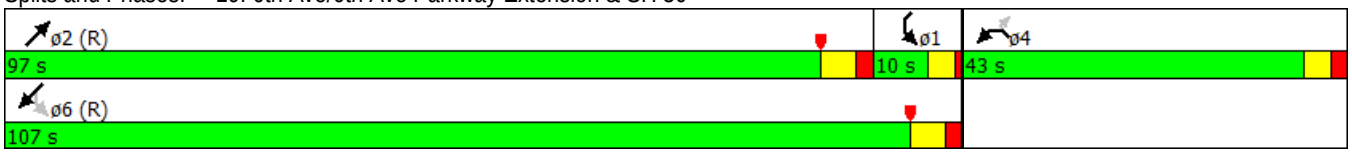
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	520	30	2050	870	30	1140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500	250		500	250	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	3335	1538	4940	1538	1719	4940
Flt Permitted	0.950				0.045	
Satd. Flow (perm)	3335	1538	4940	1538	81	4940
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		33		584		
Link Speed (mph)	45		45			45
Link Distance (ft)	8500		4095			5994
Travel Time (s)	128.8		62.0			90.8
Peak Hour Factor	0.92	0.92	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	565	33	2278	967	33	1267
Turn Type	Prot	Perm	NA	Free	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		Free	6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	21.0	21.0	22.0		9.0	22.0
Total Split (s)	43.0	43.0	97.0		10.0	107.0
Total Split (%)	28.7%	28.7%	64.7%		6.7%	71.3%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	2.0	2.0	2.0		1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0		4.0	6.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Max		None	C-Max
Act Effct Green (s)	30.8	30.8	100.2	150.0	110.2	108.2
Actuated g/C Ratio	0.21	0.21	0.67	1.00	0.73	0.72
v/c Ratio	0.83	0.10	0.69	0.63	0.27	0.36
Control Delay	67.6	13.9	15.3	1.4	40.8	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.6	13.9	15.3	1.4	40.8	16.0
LOS	E	B	B	A	D	B
Approach Delay	64.6		11.1			16.6
Approach LOS	E		B			B
Queue Length 50th (ft)	275	0	593	0	16	302
Queue Length 95th (ft)	325	29	698	0	m28	354
Internal Link Dist (ft)	8420		4015			5914
Turn Bay Length (ft)	500	250		500	250	
Base Capacity (vph)	844	414	3300	1538	125	3564
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.08	0.69	0.63	0.26	0.36

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWTL, Start of Yellow			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 18.7		Intersection LOS: B	
Intersection Capacity Utilization 63.6%		ICU Level of Service B	
Analysis Period (min) 15			

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

Splits and Phases: 19: 6th Ave/6th Ave Parkway Extension & SH 30



Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	520	30	2050	870	30	1140
Number	7	14	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1810
Adj Flow Rate, veh/h	565	33	2278	0	33	1267
Adj No. of Lanes	2	1	3	1	1	3
Peak Hour Factor	0.92	0.92	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	642	295	3243	1010	157	3600
Arrive On Green	0.19	0.19	0.66	0.00	0.03	0.73
Sat Flow, veh/h	3343	1538	5103	1538	1723	5103
Grp Volume(v), veh/h	565	33	2278	0	33	1267
Grp Sat Flow(s),veh/h/ln	1672	1538	1647	1538	1723	1647
Q Serve(g_s), s	22.8	2.5	40.7	0.0	0.0	13.0
Cycle Q Clear(g_c), s	22.8	2.5	40.7	0.0	0.0	13.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	642	295	3243	1010	157	3600
V/C Ratio(X)	0.88	0.11	0.70	0.00	0.21	0.35
Avail Cap(c_a), veh/h	917	422	3243	1010	157	3600
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.50	0.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	46.2	15.2	0.0	34.0	6.9
Incr Delay (d2), s/veh	4.9	0.1	0.7	0.0	0.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	1.1	18.5	0.0	1.0	6.0
LnGrp Delay(d),s/veh	59.3	46.4	15.8	0.0	34.6	7.1
LnGrp LOS	E	D	B		C	A
Approach Vol, veh/h	598		2278			1300
Approach Delay, s/veh	58.6		15.8			7.8
Approach LOS	E		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.4	97.0		31.6		118.4		
Change Period (Y+Rc), s	6.0	* 6		5.0		6.0		
Max Green Setting (Gmax), s	4.0	* 91		38.0		101.0		
Max Q Clear Time (g_c+I1), s	2.0	42.7		24.8		15.0		
Green Ext Time (p_c), s	1.4	28.9		1.8		11.7		

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Appendix D Proposed Action 6th Avenue Parkway/SH 30 Intersection Level of Service Output and Configurations

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	950	450	30	1990	900	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		500	500		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	803			717	820	
Travel Time (s)	18.3			16.3	18.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1033	489	33	2163	978	27
Act Effct Green (s)	69.0	140.0	76.0	75.0	53.0	53.0
Actuated g/C Ratio	0.49	1.00	0.54	0.54	0.38	0.38
v/c Ratio	0.41	0.31	0.13	0.79	0.75	0.04
Control Delay	23.8	0.5	16.2	29.0	42.3	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	0.5	16.2	29.0	42.3	11.2
LOS	C	A	B	C	D	B
Approach Delay	16.3			28.9	41.5	
Approach LOS	B			C	D	
Queue Length 50th (ft)	227	0	14	565	396	2
Queue Length 95th (ft)	267	0	31	628	478	23
Internal Link Dist (ft)	723			637	740	
Turn Bay Length (ft)		500	500			
Base Capacity (vph)	2506	1583	249	2724	1299	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	0.41	0.31	0.13	0.79	0.75	0.04

Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 27.5	Intersection LOS: C

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (vph)	2050	870	25	1140	520	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		500	500		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	803			717	820	
Travel Time (s)	18.3			16.3	18.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2228	946	27	1239	565	33
Act Effct Green (s)	87.0	140.0	94.0	93.0	35.0	35.0
Actuated g/C Ratio	0.62	1.00	0.67	0.66	0.25	0.25
v/c Ratio	0.71	0.60	0.23	0.37	0.66	0.08
Control Delay	20.0	1.7	12.5	10.8	51.4	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	1.7	12.5	10.8	51.4	12.7
LOS	C	A	B	B	D	B
Approach Delay	14.6			10.8	49.3	
Approach LOS	B			B	D	
Queue Length 50th (ft)	515	0	8	171	239	0
Queue Length 95th (ft)	571	0	18	197	304	28
Internal Link Dist (ft)	723			637	740	
Turn Bay Length (ft)		500	500			
Base Capacity (vph)	3159	1583	115	3377	858	420
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	0.71	0.60	0.23	0.37	0.66	0.08

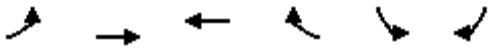
Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 17.7	Intersection LOS: B

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	950	450	30	1990	900	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		500	500		0	0
Storage Lanes		1	0		2	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	803			717	526	
Travel Time (s)	18.3			16.3	12.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1033	489	33	2163	978	27
Act Effct Green (s)	54.8	140.0	7.7	140.0	65.0	65.0
Actuated g/C Ratio	0.39	1.00	0.06	1.00	0.46	0.46
v/c Ratio	0.52	0.31	0.34	0.43	0.61	0.04
Control Delay	34.6	0.5	73.0	0.3	30.2	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.6	0.5	73.0	0.3	30.2	7.0
LOS	C	A	E	A	C	A
Approach Delay	23.7			1.4	29.6	
Approach LOS	C			A	C	
Queue Length 50th (ft)	276	0	29	0	337	0
Queue Length 95th (ft)	328	0	66	0	407	18
Internal Link Dist (ft)	723			637	446	
Turn Bay Length (ft)		500	500			
Base Capacity (vph)	1990	1583	113	5085	1593	749
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	0.52	0.31	0.29	0.43	0.61	0.04

Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 14.5	Intersection LOS: B

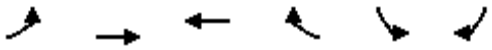
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	2050	870	25	1140	520	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		500	500		0	0
Storage Lanes		1	0		2	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	803			717	526	
Travel Time (s)	18.3			16.3	12.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2228	946	27	1239	565	33
Act Effct Green (s)	86.4	140.0	5.9	140.0	35.0	35.0
Actuated g/C Ratio	0.62	1.00	0.04	1.00	0.25	0.25
v/c Ratio	0.71	0.60	0.36	0.24	0.66	0.08
Control Delay	20.6	1.7	79.2	0.1	51.4	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	1.7	79.2	0.1	51.4	12.7
LOS	C	A	E	A	D	B
Approach Delay	14.9			1.8	49.3	
Approach LOS	B			A	D	
Queue Length 50th (ft)	525	0	24	0	239	0
Queue Length 95th (ft)	582	0	58	0	304	28
Internal Link Dist (ft)	723			637	446	
Turn Bay Length (ft)		500	500			
Base Capacity (vph)	3138	1583	75	5085	858	420
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	0.71	0.60	0.36	0.24	0.66	0.08

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 15.7		Intersection LOS: B	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	950	450	900	25	25	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		352	1294		374	
Travel Time (s)		8.0	29.4		8.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1033	489	978	27	27	478
Act Effct Green (s)	46.8	140.0	50.2	140.0	26.0	26.0
Actuated g/C Ratio	0.33	1.00	0.36	1.00	0.19	0.19
v/c Ratio	0.90	0.26	0.77	0.02	0.08	0.70
Control Delay	55.7	0.3	45.4	0.0	48.1	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.7	0.3	45.4	0.0	48.1	10.2
LOS	E	A	D	A	D	B
Approach Delay		37.9	44.2		12.3	
Approach LOS		D	D		B	
Queue Length 50th (ft)	451	0	422	0	21	0
Queue Length 95th (ft)	534	0	517	0	49	107
Internal Link Dist (ft)		272	1214		294	
Turn Bay Length (ft)						
Base Capacity (vph)	1226	1863	1269	1583	328	683
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	0.84	0.26	0.77	0.02	0.08	0.70

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 35.7		Intersection LOS: D	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	2050	870	520	30	20	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		30	30		30	
Link Distance (ft)		352	1294		374	
Travel Time (s)		8.0	29.4		8.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2228	946	565	33	22	109
Act Effct Green (s)	93.0	140.0	25.0	140.0	5.0	5.0
Actuated g/C Ratio	0.66	1.00	0.18	1.00	0.04	0.04
v/c Ratio	0.98	0.51	0.90	0.02	0.35	0.68
Control Delay	37.0	1.0	74.0	0.0	81.1	32.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	1.0	74.0	0.0	81.1	32.1
LOS	D	A	E	A	F	C
Approach Delay		26.3	69.9		40.4	
Approach LOS		C	E		D	
Queue Length 50th (ft)	932	0	267	0	20	0
Queue Length 95th (ft)	#1188	0	#368	0	51	#78
Internal Link Dist (ft)		272	1214		294	
Turn Bay Length (ft)						
Base Capacity (vph)	2280	1863	631	1583	63	161
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	0.98	0.51	0.90	0.02	0.35	0.68

Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 33.4	Intersection LOS: C

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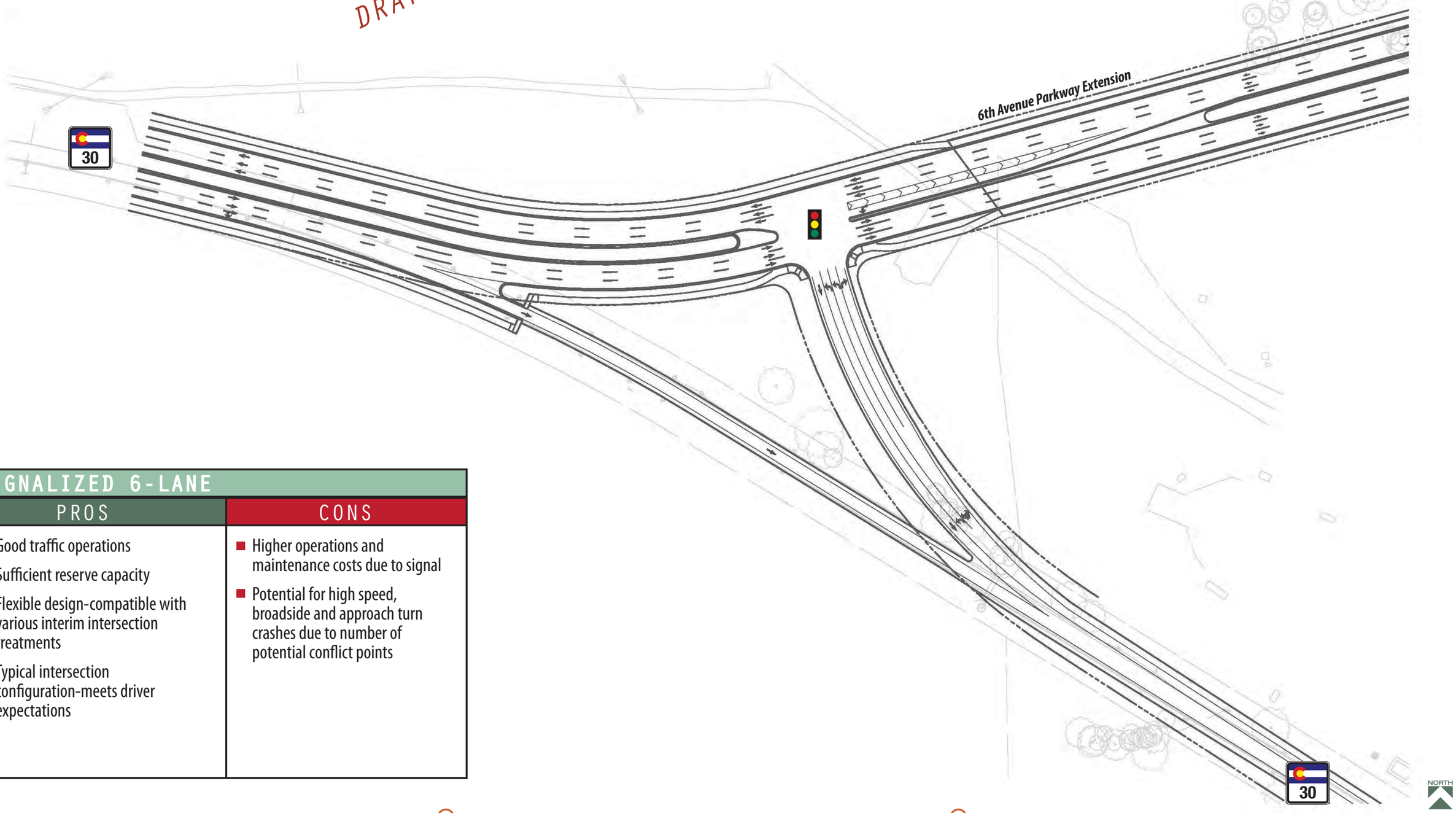
ULTIMATE SIGNALIZED 6-LANE ALTERNATIVE

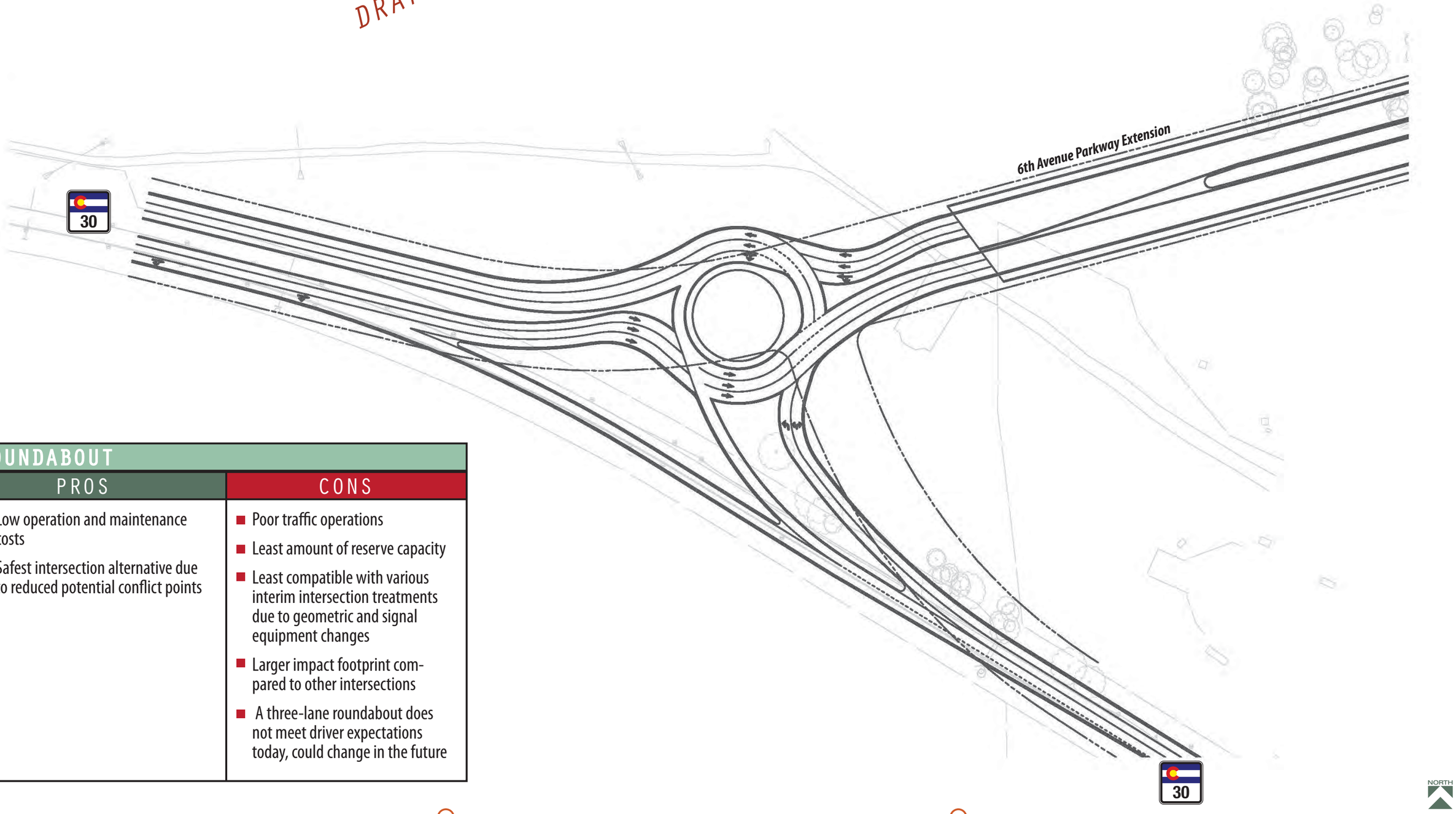


SIGNALIZED 6-LANE

PROS	CONS
■ Good traffic operations ■ Sufficient reserve capacity ■ Flexible design-compatible with various interim intersection treatments ■ Typical intersection configuration-meets driver expectations	■ Higher operations and maintenance costs due to signal ■ Potential for high speed, broadside and approach turn crashes due to number of potential conflict points

DRAFT

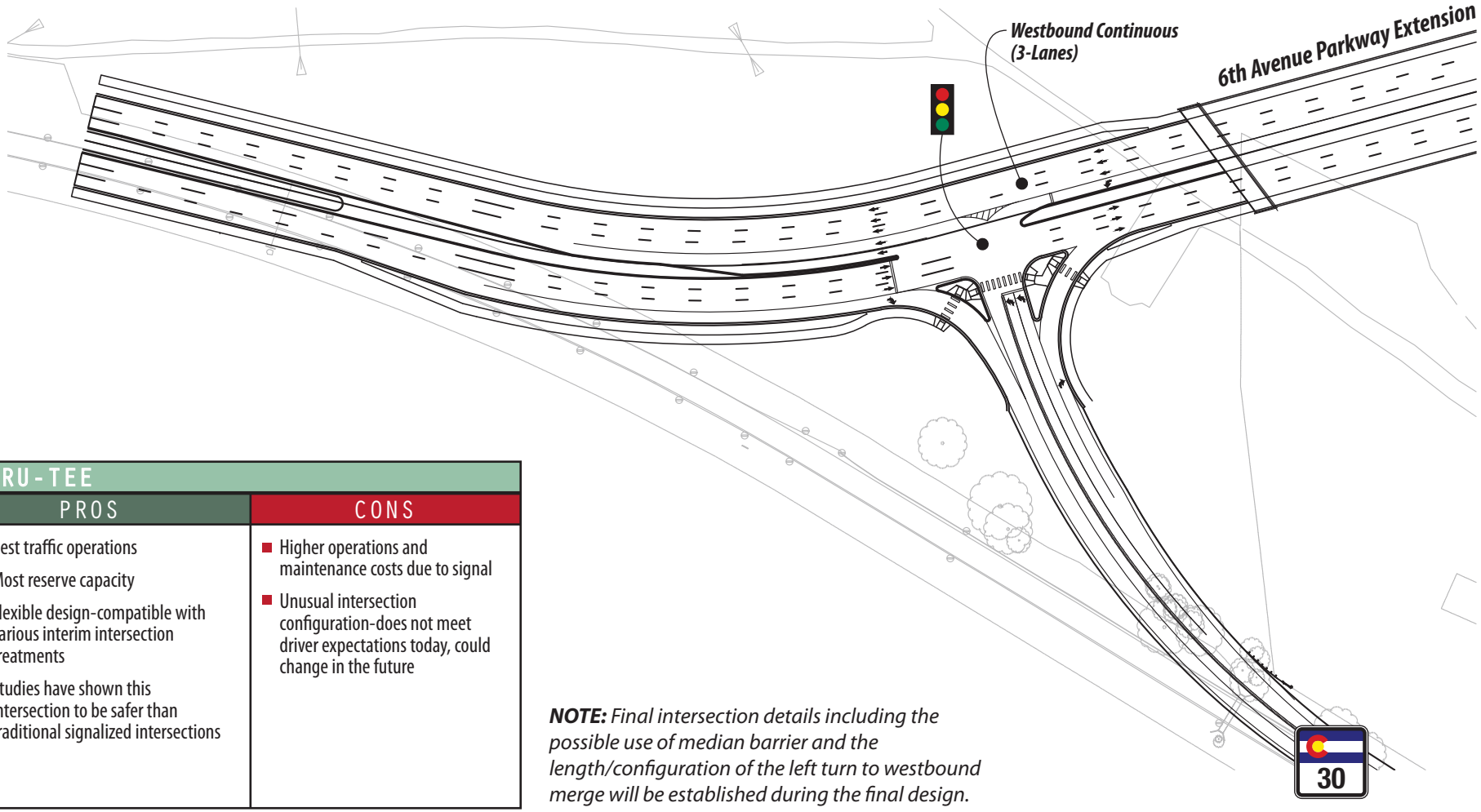
ULTIMATE ROUNDABOUT ALTERNATIVE



ROUNDABOUT

PROS	CONS
■ Low operation and maintenance costs	■ Poor traffic operations
■ Safest intersection alternative due to reduced potential conflict points	■ Least amount of reserve capacity
	■ Least compatible with various interim intersection treatments due to geometric and signal equipment changes
	■ Larger impact footprint compared to other intersections
	■ A three-lane roundabout does not meet driver expectations today, could change in the future

Ultimate Thru-Tee Alternative



THRU-TEE	
PROS	**CONS**
■ Best traffic operations ■ Most reserve capacity ■ Flexible design-compatible with various interim intersection treatments ■ Studies have shown this intersection to be safer than traditional signalized intersections	■ Higher operations and maintenance costs due to signal ■ Unusual intersection configuration-does not meet driver expectations today, could change in the future

NOTE: *Final intersection details including the possible use of median barrier and the length/configuration of the left turn to westbound merge will be established during the final design.*

NORTH

Appendix E Resource Impact Table

Resource	Context	No Action Alternative	Proposed Action
Transportation Resources	The transportation resources study area includes the SH 30/ 6th Avenue corridor between Airport Boulevard and Picadilly Road and 6th Parkway between Valdai and Gun Club Road. Current traffic volumes on SH 30/6th Avenue are 17,300 vehicles per day just east of Airport Blvd. Traffic volumes on 6th Parkway are about 4,800 vehicles per day east of Gun Club Road. By 2030 SH 30/6th Avenue traffic volumes are expected to grow to 39,000 vehicles per day and 6th Parkway traffic volumes are expected to grow to 23,000 vehicles per day.	The No Action Alternative includes new roadways and road improvements identified in DRCOG's fiscally constrained plan. Intersections generally provide sufficient capacity for anticipated 2035 traffic volumes, except for the 6th Avenue intersection with Airport Boulevard and SH 30 intersection with Picadilly Road. These intersections are expected to operate at LOS F during the peak hours.	Would reduce year 2035 traffic volumes on SH 30 between Tower Road and Picadilly Road. It would increase traffic volumes along the 6th Avenue/Parkway corridor. Would reduce east-west travel time in the study area by 7 – 11 minutes and trip lengths by one to three miles. Intersections included in the Proposed Action would all operate acceptably (LOS D or better) In general, most intersections within the transportation resources study area would have sufficient capacity for anticipated Proposed Action traffic volumes with the following exceptions. ▪ The intersection of SH 30/Picadilly Road would have reduced delay but still would not have sufficient capacity for anticipated 2035 traffic volumes. This intersection would operate at LOS 3 in the a.m. peak and LOS F in the p.m. peak. ▪ The intersection of 6th Avenue/Airport Boulevard would not have sufficient capacity for anticipated 2035 traffic volumes. During construction, detours and traffic delays would be relatively minor because the 6th Avenue roadway would be constructed along a new alignment, off-line from current roadway. The existing SH 30 and local streets would remain open and largely unaffected during construction. Lane closures and detours may be needed for a limited time to tie the new 6th Avenue roadway into the existing SH 30 and at the crossing with Picadilly Road.

Appendix F Resource Mitigation Table

Mitigation Category	Proposed Action Impact	Mitigation Commitments for the 6th Avenue Extension Project	Responsible Branch	Timing/Phase that Mitigation will be Implemented
Transportation Resources	Temporary disruption of traffic for brief periods during construction	A way-finding and signage system will be implemented to ease travel conditions for motorists during the times when lane closures, detours, and/or delays are required.	City of Aurora	Design Construction