Traffic Impact Study

Anderson Ranch
Commerce City, Colorado

Prepared for:

Anderson Development

Kimley»Horn

T R A F F I C I M P A C T S T U D Y

Anderson Ranch

Commerce City, Colorado

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1.0 EXECUTIVE SUMMARY

This report has been prepared to document the results of the Traffic Study for the master planned residential community, Anderson Ranch, proposed to be located on the southwest corner of the 100th Avenue and Chambers Road intersection in Commerce City, Colorado. Anderson Ranch is proposed to include detached and attached single family housing and a public park. Further, a portion of the site is dedicated for a future elementary school. Although the school is not part of this application and will likely be constructed after the project, the future elementary school was included in the evaluation of this traffic study to provide a conservative analysis. It is expected that Anderson Ranch will be completed in the next several years; therefore, analysis was conducted for the 2025 and 2045 horizons.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study in accordance with the City of Commerce City scope:

- 104th Avenue and Sable Boulevard (#1)
- 104th Avenue and Chambers Road (#2)
- 100th Avenue and Chambers Road (#3)
- 98th Avenue and Chambers Road (#4)
- 96th Avenue and Chambers Road (#5)

In addition, the future project connected intersections of 102nd Avenue and Sable Boulevard (#6), Dillon Circle and Sable Boulevard (#7), 99th Avenue and Chambers Road (#8), 99th Avenue and Sable Boulevard (#9), and 98th Avenue and Sable Boulevard (#10) were evaluated. The existing intersection of 99th Avenue and Chambers Road (#8) is currently restricted to right-in/right-out movements on the east leg of this intersection.

Regional access to Anderson Ranch will be provided by Interstate 76 (I-76) and E-470. Primary access will be provided by Sable Boulevard and Chambers Road. Direct access will be provided from 98th Avenue, 99th Avenue, 100th Avenue, 102nd Avenue, Sable Boulevard, and Chambers Road.

Anderson Ranch is expected to generate approximately 5,012 weekday daily trips, with 357 of these trips occurring during the morning peak hour and 505 of these trips occurring during the afternoon peak hour.

Based on the analysis presented in this report, Kimley-Horn believes Anderson Ranch will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

2025 Recommendations:

- If future volumes are realized by 2025, the intersection of 104th Avenue and Sable Boulevard (#1) is expected to meet vehicle volume signal warrants. It is anticipated that this intersection will be signalized with development of Reunion Village 8. It is understood that the project will contribute towards the cost of the future traffic signal at this intersection. Contributions towards this signal will be determined through conditions of the annexation.

- In order to comply with City of Commerce City Engineering Construction Standards and Specifications, it is recommended that 235 foot with 180 foot taper northbound and southbound left turn lanes along with a 135 foot plus 180 foot taper southbound right turn lane be constructed at the intersection of 100th Avenue and Chambers Road (#3). It should be noted that the northbound and southbound left turn lanes should have previously been constructed and are needed based on existing traffic conditions. Further, as the southwest corner of the 100th Avenue and Chambers Road (#3) intersection is improved with development of the project, an eastbound left turn lane should be provided which is consistent with the east leg of this intersection. With full buildout of the project including the elementary school, the intersection of 100th Avenue and Chambers Road (#3) is expected to meet signal warrants and therefore may need to be signalized. Of note, this intersection is anticipated to operate acceptably with two-way stop control with only residential project traffic prior to the addition of the elementary school. Therefore, this intersection could operate with stop control until the school is constructed. It is understood that the project will contribute towards the cost of the future traffic signal at this intersection. Contributions towards this signal will be determined through conditions of the annexation.

- To comply with City of Commerce City Engineering Construction Standards and Specifications, it is recommended that 235 foot with 180 foot taper northbound and southbound left turn lanes be constructed at the intersection of 98th Avenue and Chambers Road (#4). It should be noted that the southbound left turn lane should have previously been constructed and is needed based on existing conditions.

- As requested by the City of Commerce City, average daily volumes were evaluated along 98th Avenue west of Chambers Road due to houses proposed to be fronting on this street. 98th Avenue provides access similar to the characteristics of a collector street; however, with houses proposed to be fronting along 98th Avenue, it also has characteristics of a local street. A local street typically has a capacity of 1,500 vehicles per day. Based on future traffic projections, 98th Avenue is expected to have approximately 1,300 vehicles per day west of Chambers Road. As such, 98th Avenue is not expected to exceed volume thresholds for a local street in the segment west of Chambers Road; therefore, houses fronting along 98th Avenue should be acceptable.

- It is recommended that the eastbound left turn lane at the intersection of 96th Avenue and Chambers Road (#5) be extended from 75 feet to 125 feet by 2025.

- With development of the project, an east leg is proposed to be constructed at the intersection of 102nd Avenue and Sable Boulevard (#6). When this east leg is constructed, it is recommended that the westbound approach operate with stop control and an R1-1 "STOP" sign installed for this approach. It is believed that one lane shared for all movements will be sufficient on the westbound approach of this intersection.

- With project construction, an east leg is proposed to be constructed at the intersection of Dillon Circle and Sable Boulevard to provide access to the project. Sable Boulevard is not planned to extend between Dillon Circle and the 99th Avenue alignment due to a future park to be located west of the project site south of Dillon Circle. Dillon Circle will extend to the south of the current terminus location and bend to align with the future 99th Avenue and Sable Boulevard intersection. When the east leg is constructed at the Dillon Circle and Sable

Boulevard intersection, it is recommended that one lane be designated for all movements at all three approaches, and that the southbound approach continue to be stop-controlled.

- With development of the project, a west leg is anticipated to be constructed at the intersection of 99th Avenue and Chambers Road (#8). When this west leg is constructed, it is recommended that an R1-1 "STOP" sign be installed and that one lane be designated for right turn movements only on the eastbound approach. To further designate the west leg of this intersection exiting right turn movements, it is recommended that an R3-2 "No Left Turn" sign be installed underneath the STOP sign. In addition, a raised median pork chop island should be provided on the west leg of this intersection (similar to the east leg) restricting movements to right turns only at this intersection. To further restrict entering northbound left turn movements at this intersection, a R3-2 "No Left Turn" sign could be installed on the northwest corner of this intersection visible to northbound drivers.

- With project construction, Sable Boulevard will be extended south of 99th Avenue within the project limits. Additionally, 99th Avenue will be extended to the west to intersect with the Sable Boulevard extension. Sable Boulevard is not planned to extend between Dillon Circle and 99th Avenue due to a future park to be located west of the project site and south of Dillon Circle. Dillon Circle will extend to the south of the current terminus location and bend to align with the future 99th Avenue and Sable Boulevard intersection. When the intersection of 99th Avenue and Sable Boulevard (#9) is constructed, it is recommended that one lane be designated for shared movements at all three approaches, and that the northbound approach be stop-controlled with installation of a R1-1 "STOP" sign.

<u>2045 Recommendations:</u>

- The C3 Vision Transportation Plan identifies two and three through lanes in each direction along 104th Avenue by 2035. With future traffic projections, three eastbound and westbound through lanes would need to be provided along 104th Avenue within the study area in order to provide acceptable operations. It is believed that the calculated annual traffic growth rate of 3.4 percent (from DRCOG traffic models) is not sustainable for 24 years and may not be maintained throughout 2045. Therefore, it is recommended that traffic volumes be monitored at the study area key intersections in the long-term future to determine appropriate intersection improvements.

- By 2045, several auxiliary turn lanes at the study area key intersections may need to be extended and should be analyzed in more detail with future surrounding development to determine the appropriate needs in the long-term horizon.

General Recommendations:

- Any on-site or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Commerce City and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has prepared this report to document the results of the Traffic Study for the Anderson Ranch master planned residential community proposed to be located on the southwest corner of the 100th Avenue and Chambers Road intersection in Commerce City, Colorado. A vicinity map illustrating the Anderson Ranch development is shown in **Figure 1**. Anderson Ranch is proposed to include detached and attached single family housing, a public park. Further, a portion of the site is dedicated for a future elementary school. Although the school is not part of this application and will likely be constructed after the project, the future elementary school was included in the evaluation of this traffic study to provide a conservative analysis. A conceptual site plan is attached in **Appendix G**. It is expected that Anderson Ranch will be completed in the next several years; therefore, analysis was conducted for the short-term 2025 and long-term 2045 horizons.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study in accordance with the City of Commerce City scope:

- 104th Avenue and Sable Boulevard (#1)
- 104th Avenue and Chambers Road (#2)
- 100th Avenue and Chambers Road (#3)
- 98th Avenue and Chambers Road (#4)
- 96th Avenue and Chambers Road (#5)

In addition, the future project connected intersections of 102nd Avenue and Sable Boulevard (#6), Dillon Circle and Sable Boulevard (#7), 99th Avenue and Chambers Road (#8), 99th Avenue and Sable Boulevard (#9), and 98th Avenue and Sable Boulevard (#10) were evaluated. The existing intersection of 99th Avenue and Chambers Road (#8) is currently restricted to right-in/right-out movements on the east leg of this intersection. Regional access to Anderson Ranch will be provided by Interstate 76 (I-76) and E-470. Primary access will be provided by Sable Boulevard and Chambers Road. Direct access will be provided from 98th Avenue, 99th Avenue, 100th Avenue, 102nd Avenue, Sable Boulevard, and Chambers Road.

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NORTH
NTS 196326000

FIGURE 1
ANDERSON RANCH
COMMERCE CITY, COLORADO
VICINITY MAP

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3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area

The existing site is comprised of vacant land and one single family residence. Single family communities are located to the east, west, and north of the project. Vacant land, multifamily residences, and a retail center are located in the extended area to the north. Land is vacant to the south of the site.

3.2 Existing Roadway Network

104th Avenue extends in the east-west direction with two through lanes in each direction and a raised median. The posted speed limit near the site is 45 miles per hour. The C3 Vision Transportation Plan classifies 104th Avenue as a Principal Arterial. The 2035 C3 Vision Transportation Plan identifies both two and three through lanes in each direction along 104th Avenue.

Chambers Road extends northbound and southbound with two through lanes in each direction north of 103rd Place and one through lane in each direction south of 103rd Place. It has a posted speed limit of 40 miles per hour. The C3 Vision Transportation Plan classifies Chambers Road as a multimodal arterial roadway.

Sable Boulevard extends north and south and provides one lane of travel in each direction. The posted speed limit along the roadway is 35 miles per hour. The C3 Vision Transportation Plan classifies Sable Boulevard as a minor/residential collector roadway.

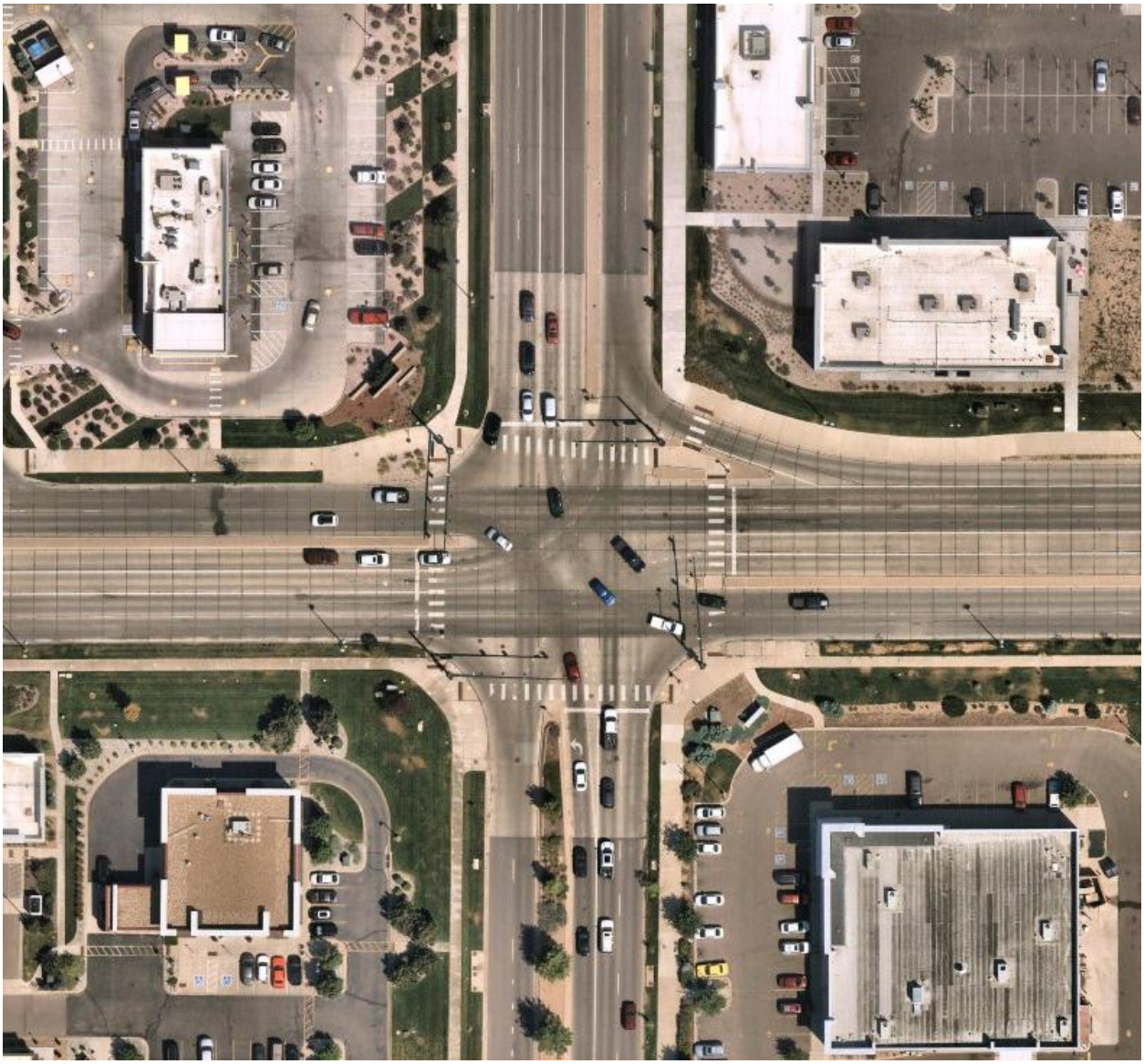
100th Avenue and 98th Avenue extend in the eastbound and westbound directions and provide one lane of travel in each direction. The posted speed limit along both roadways is 25 miles per hour. The C3 Vision Transportation Plan classifies 100th Avenue as a minor/residential collector roadway.

96th Avenue extends in the east-west direction and provides one lane of travel in each direction. The posted speed limit along the roadway is 30 miles per hour. The C3 Vision Transportation Plan categorizes 96th Avenue as a minor arterial roadway.

The unsignalized 'T'-intersection of 104th Avenue and Sable Boulevard (#1) operates with stop control on the northbound Sable Boulevard approach. The eastbound 104th Avenue approach provides two through lanes with the outside lane being a shared through/right turn lane while the westbound 104th Avenue approach provides a left turn lane and two through lanes. The northbound approach provides a separate left and right turn lane. An aerial photo of the existing intersection configuration is below (north is up - typical).

104th Avenue and Sable Boulevard (#1)

The signalized intersection of 104th Avenue and Chambers Road (#2) operates with protected left turn phasing on the east-west 104th Avenue legs and protected-permissive left turn phasing on the north-south Chambers Road legs. The eastbound and southbound approaches provide dual left turn lanes and two through lanes with the outside through lane being a shared through/right turn lane. The northbound approach includes a left turn lane and two through lanes while the westbound approach provides dual left turn lanes, two through lanes, and a yield-controlled right turn lane. An aerial photo of the existing intersection configuration is below.



104th Avenue and Chambers Road (#2)

The unsignalized intersection 100th Avenue and Chambers Road (#3) operates with stop control on the eastbound and westbound 100th Avenue approaches. The eastbound, northbound, and southbound approaches provide one shared lane for all movements. The westbound approach provides a left turn lane and a shared through/right turn lane. An aerial photo of the existing intersection configuration is below.

100th Avenue and Chambers Road (#3)

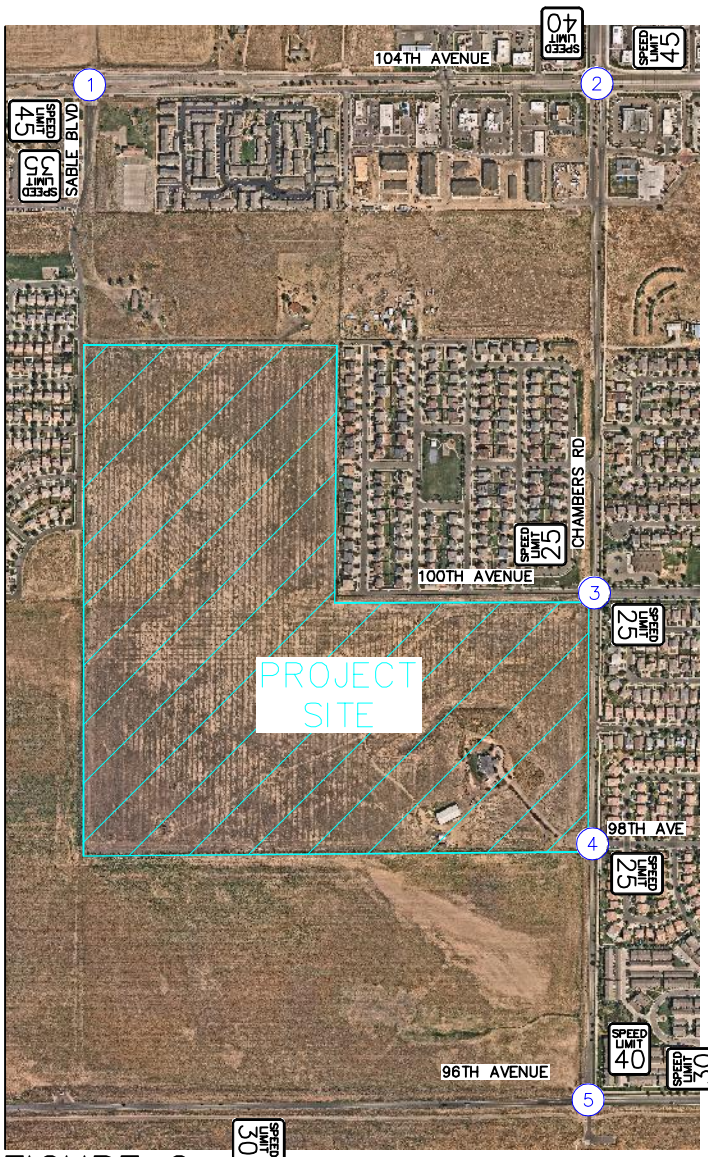
The unsignalized intersection 98th Avenue and Chambers Road (#4) operates with stop control on the eastbound and westbound 98th Avenue approaches. All four approaches provide one shared lane for all movements. The west leg is currently a private driveway to a single residence. An aerial photo of the existing intersection configuration is below.

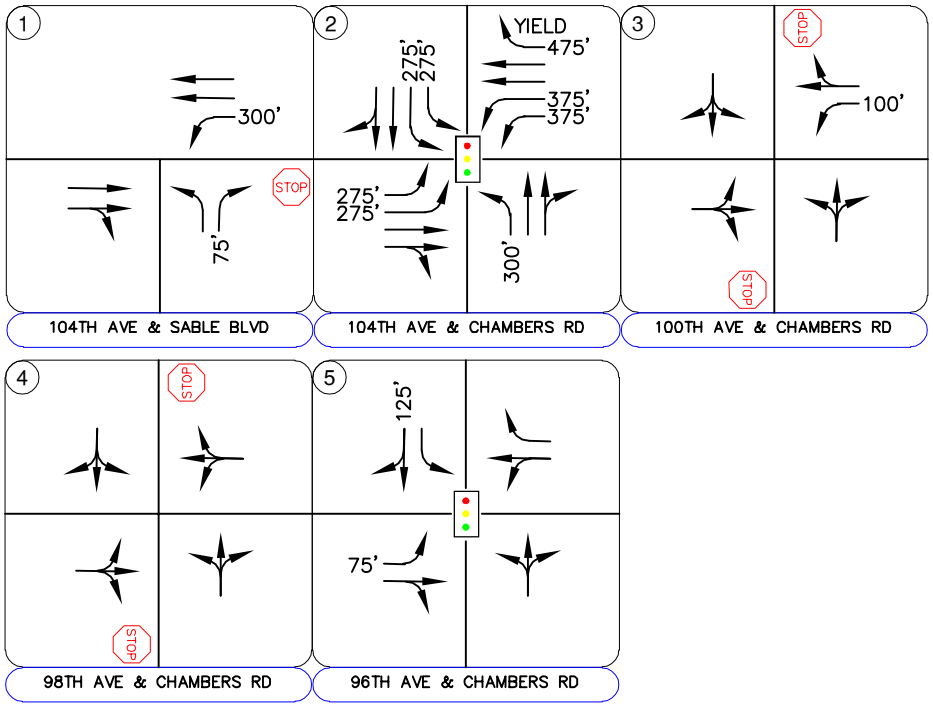
98th Avenue and Chambers Road (#4)

The signalized intersection of 96th Avenue and Chambers Road (#5) operates with protected-permissive left turn phasing on the eastbound and southbound approaches. The eastbound and southbound approaches provide a left turn lane and a shared through/right turn lane. The westbound approach provides a shared left turn/through lane and a right turn lane while the northbound approach provides one lane for all movements. An aerial photo of the existing intersection configuration is below.

96th Avenue and Chambers Road (#5)

The intersection lane configuration and control for the study area intersections are shown in **Figure 2**.





NORTH
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LEGEND
- Study Area Key Intersection
- Signalized Intersection
- STOP Stop Controlled Approach
- SPEED LIMIT XX Roadway Speed Limit
- 100' Turn Lane Length (feet)

FIGURE 2
ANDERSON RANCH
COMMERCE CITY, COLORADO
EXISTING GEOMETRY AND CONTROL

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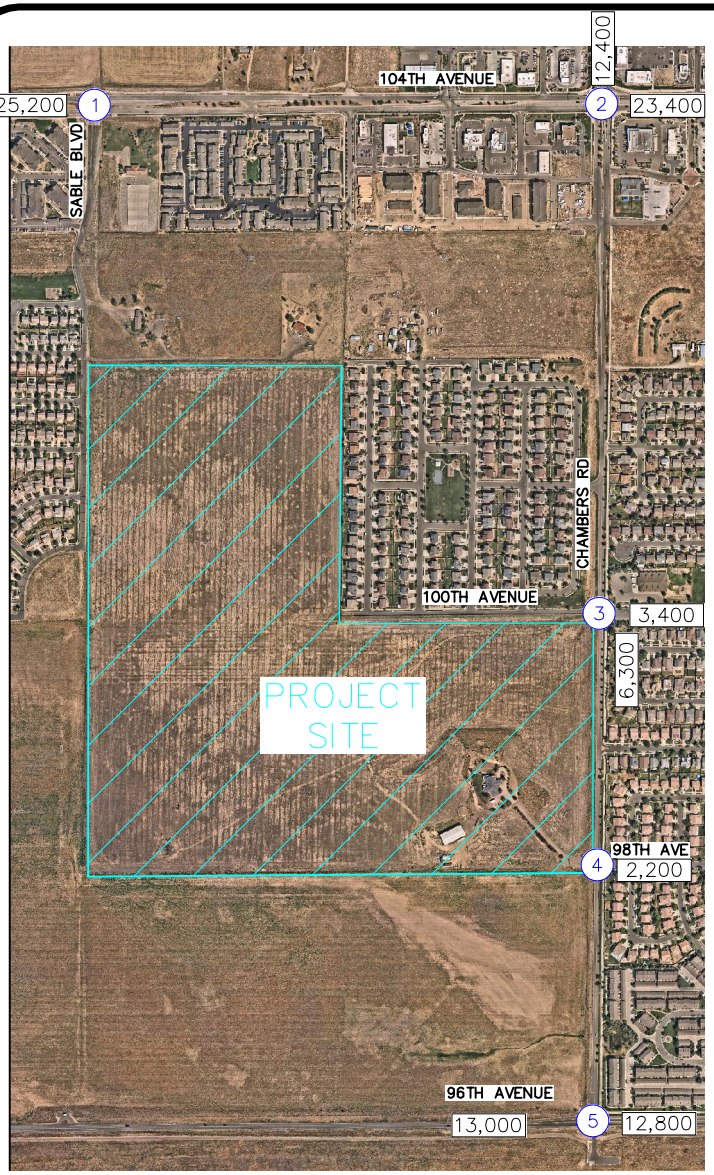
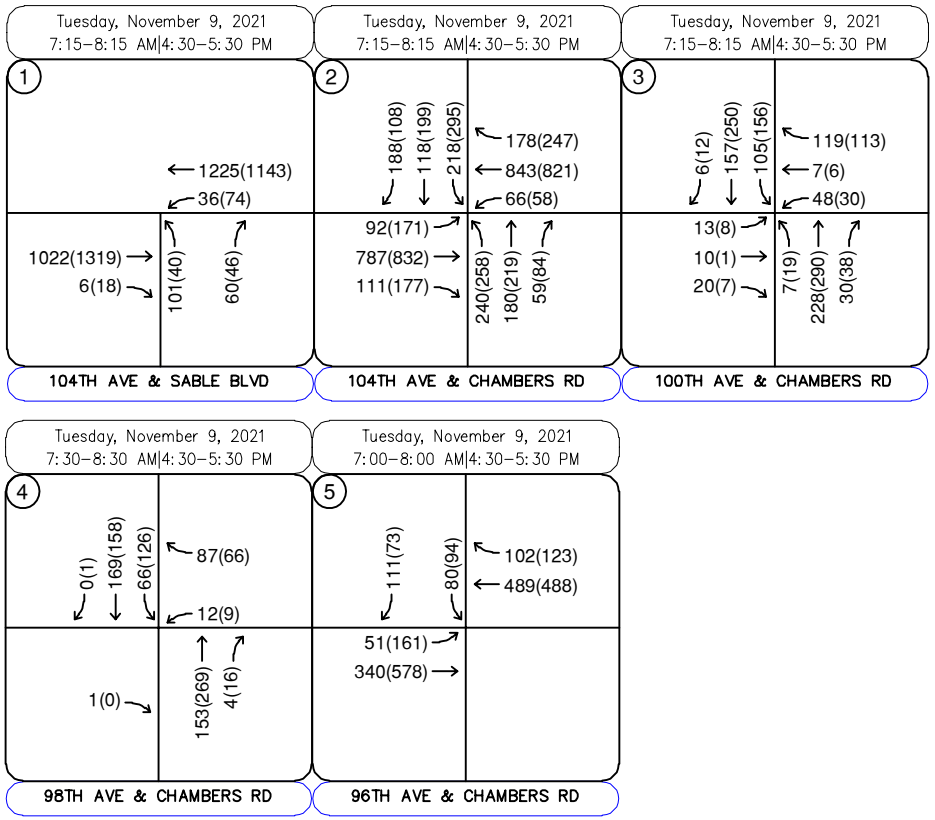
3.3 Existing Traffic Volumes

Existing turning movement counts were conducted at the study area key intersections on Tuesday, November 9, 2021, during the morning and afternoon peak hours. The counts were conducted during the morning and afternoon peak hours of adjacent street traffic in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. The existing intersection traffic volumes are shown in **Figure 3** with count sheets provided in **Appendix A**. Through coordination with the City of Commerce City, the calculated annual growth rate of 3.4 percent has been applied to the 2021 collected traffic counts to reflect 2022 adjusted existing traffic volumes. The 2022 adjusted existing intersection traffic volumes are shown in **Figure 4**.

3.4 Unspecified Development Traffic Growth

According to traffic projections from the Denver Regional Council of Governments (DRCOG) traffic model, the area surrounding the site is expected to have an average 25-year growth factor of 2.28. This growth factor equates to an annual growth rate of 3.4 percent. Future traffic volume projections and growth rate calculations are provided in **Appendix B**. This annual growth rate was used to estimate short-term 2025 and long-term 2045 traffic volume projections at the key intersections. The calculated background traffic volumes for 2025 and 2045 are shown in **Figure 5** and **Figure 6,** respectively.





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LEGEND

(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

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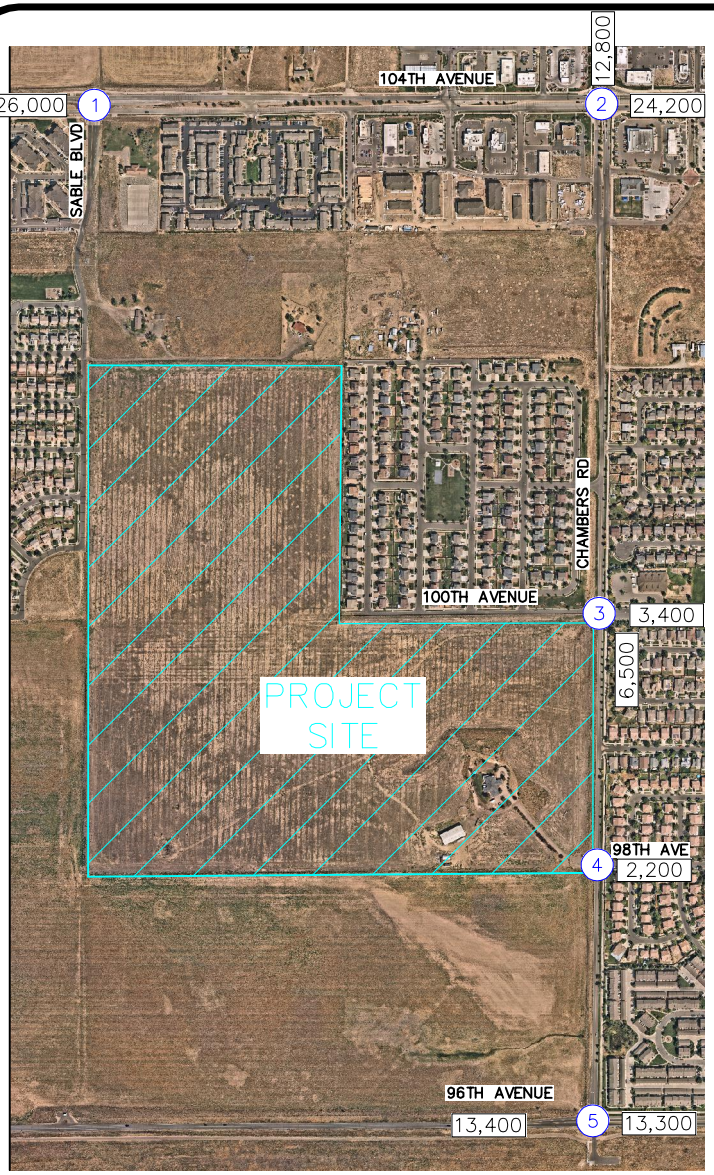
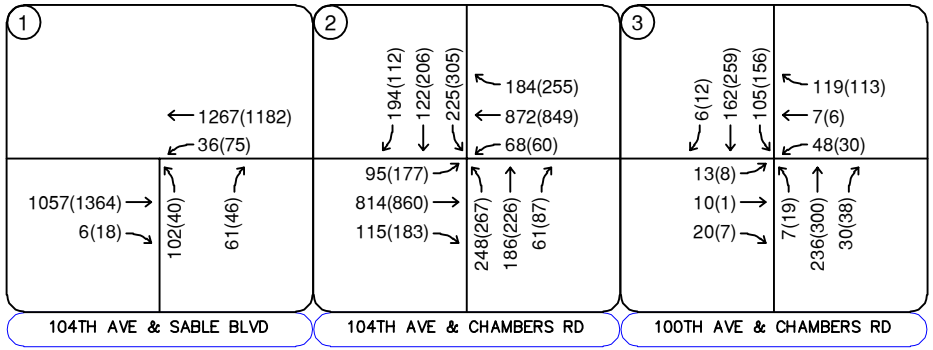
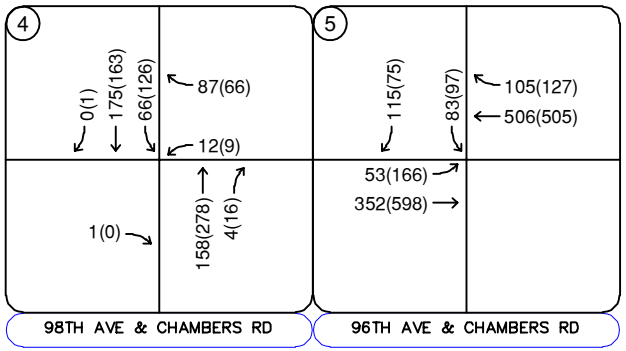
FIGURE 3
ANDERSON RANCH
COMMERCE CITY, COLORADO
2021 EXISTING TRAFFIC VOLUMES







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LEGEND

(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

FIGURE 4
ANDERSON RANCH
COMMERCE CITY, COLORADO
2022 EXISTING ADJUSTED TRAFFIC VOLUMES

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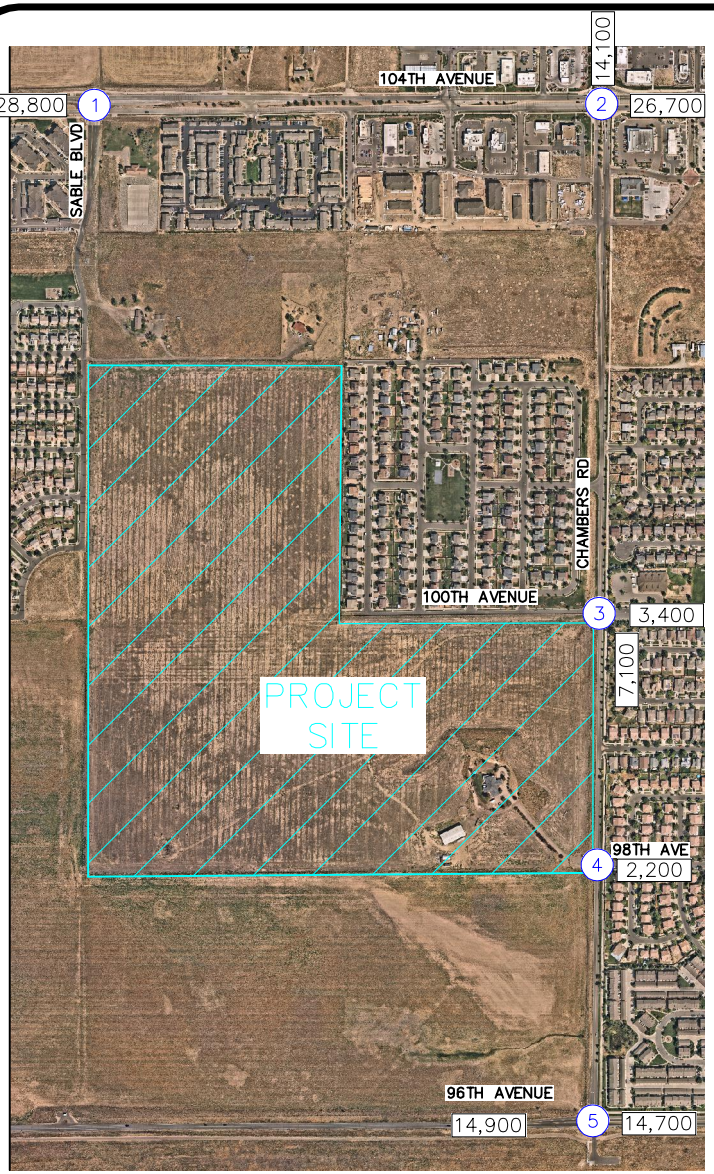

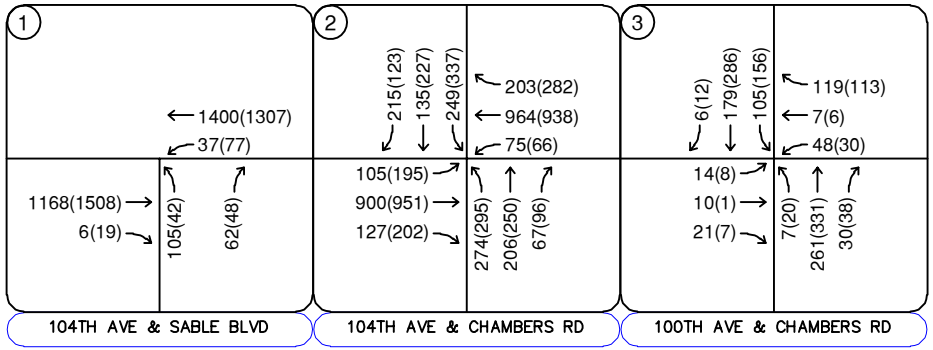

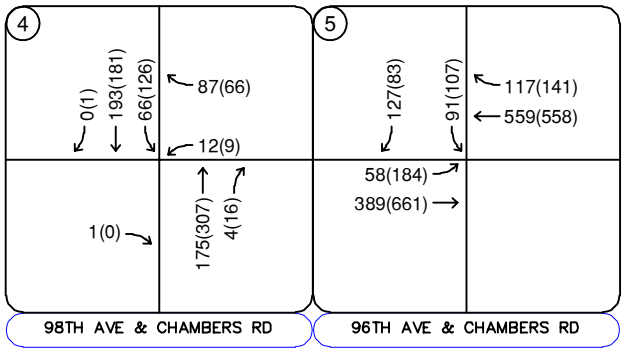

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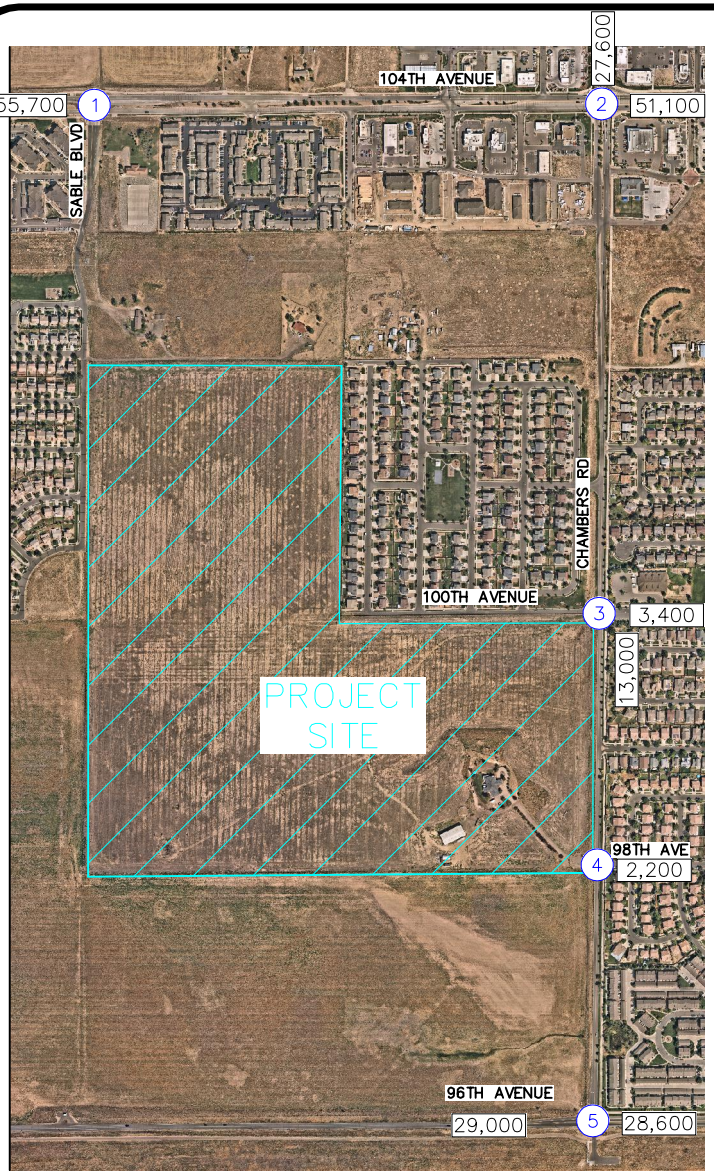
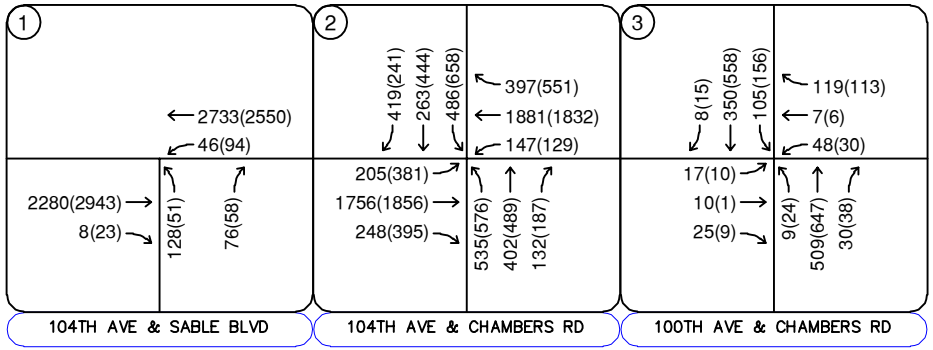
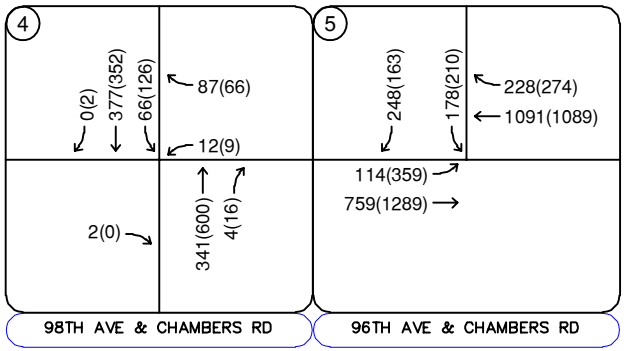
LEGEND

X	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

FIGURE 5
ANDERSON RANCH
COMMERCE CITY, COLORADO
2025 BACKGROUND TRAFFIC VOLUMES







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LEGEND

(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

FIGURE 6
ANDERSON RANCH
COMMERCE CITY, COLORADO
2045 BACKGROUND TRAFFIC VOLUMES

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4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*[1] published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn used the ITE Trip Generation Report fitted curve equations that apply to Single-Family Detached Housing (ITE Land Use Code 210) and Single-Family Attached Housing (ITE Land Use Code 215) and the average rate equations for Public Park (ITE Land Use Code 411) and Elementary School (ITE Land Use Code 520), for traffic associated with the development. Since the Elementary School will be constructed within the residential community, a 25 percent internal capture reduction was applied to the elementary school trip generation.

Anderson Ranch is expected to generate approximately 6,202 weekday daily trips, with 744 of these trips occurring during the morning peak hour and 579 of these trips occurring during the afternoon peak hour. Calculations were based on the procedure and information provided in the ITE *Trip Generation Manual, 11th Edition – Volume 1: User's Guide and Handbook*, 2021. **Table 1** summarizes the estimated trip generation for the Anderson Ranch. The trip generation worksheets are included in **Appendix C**.

Table 1 – Anderson Ranch Traffic Generation

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Single-Family Detached Housing (ITE 210) – 491 Dwelling Units	4,362	82	234	316	279	164	443
Single-Family Attached Housing (ITE 215) – 90 Dwelling Units	636	13	28	41	29	21	60
Public Park (ITE 411) – 17.6 Acres	14	0	0	0	1	1	2
Elementary School (ITE 520) – 725 Students	1,186	209	178	387	38	45	84
Total Project Trips	**6,202**	**304**	**440**	**744**	**347**	**232**	**579**

[1] Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition, Washington DC, 2021.

4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic information, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The project trip distribution for the proposed development is illustrated in **Figure 7** for the residential portion of the site and **Figure 8** for the future elementary school.

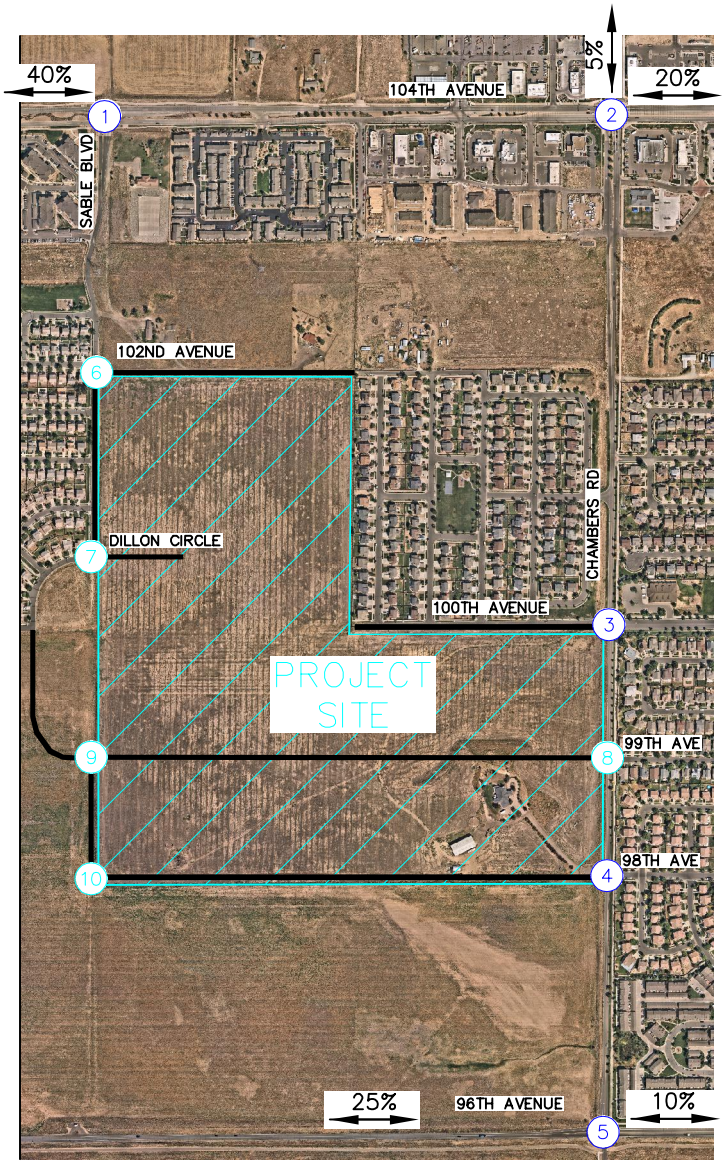
4.3 Traffic Assignment

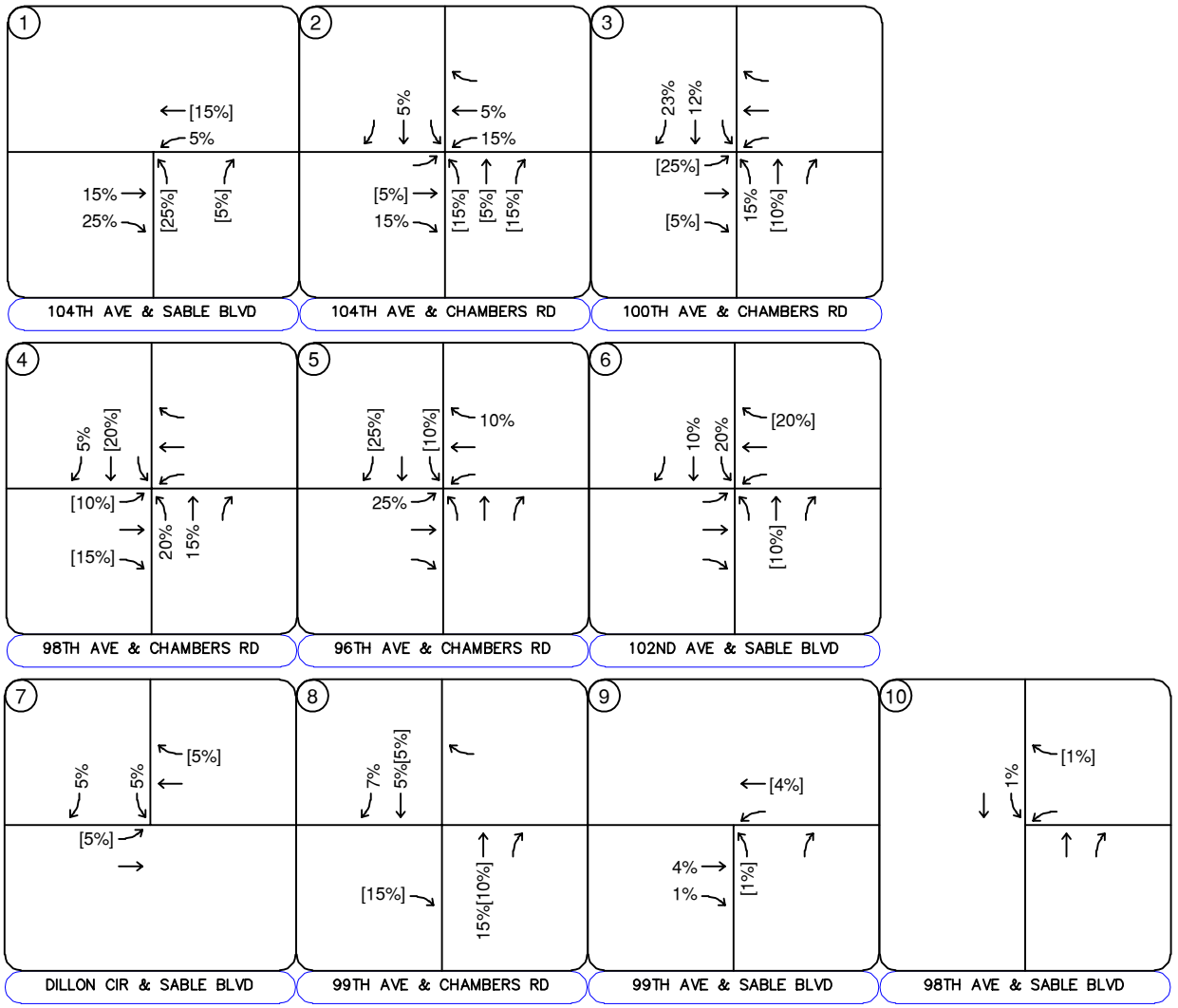
Anderson Ranch traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. Traffic assignment is shown in **Figure 9.**

4.4 Total (Background Plus Project) Traffic

Site traffic volumes were added to the background volumes to represent estimated traffic conditions for the short-term 2025 buildout horizon and long-term 2045 twenty-year planning horizon. These total traffic volumes for the study area are illustrated for the 2025 and 2045 horizon years in **Figures 10** and **11**, respectively.

As requested by the City of Commerce City, average daily volumes were evaluated along 98th Avenue west of Chambers Road due to houses proposed to be fronting on this street. 98th Avenue provides access similar to the characteristics of a collector street; however, with houses proposed to be fronting along 98th Avenue, it also has characteristics of a local street. A local street typically has a capacity of 1,500 vehicles per day. Based on future traffic projections, 98th Avenue is expected to have approximately 1,300 vehicles per day west of Chambers Road. As such, 98th Avenue is not expected to exceed volume thresholds for a local street in the segment west of Chambers Road; therefore, houses fronting along 98th Avenue should be acceptable.





LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

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FIGURE 7
ANDERSON RANCH
COMMERCE CITY, COLORADO
PROJECT TRIP DISTRIBUTION – RESIDENTIAL

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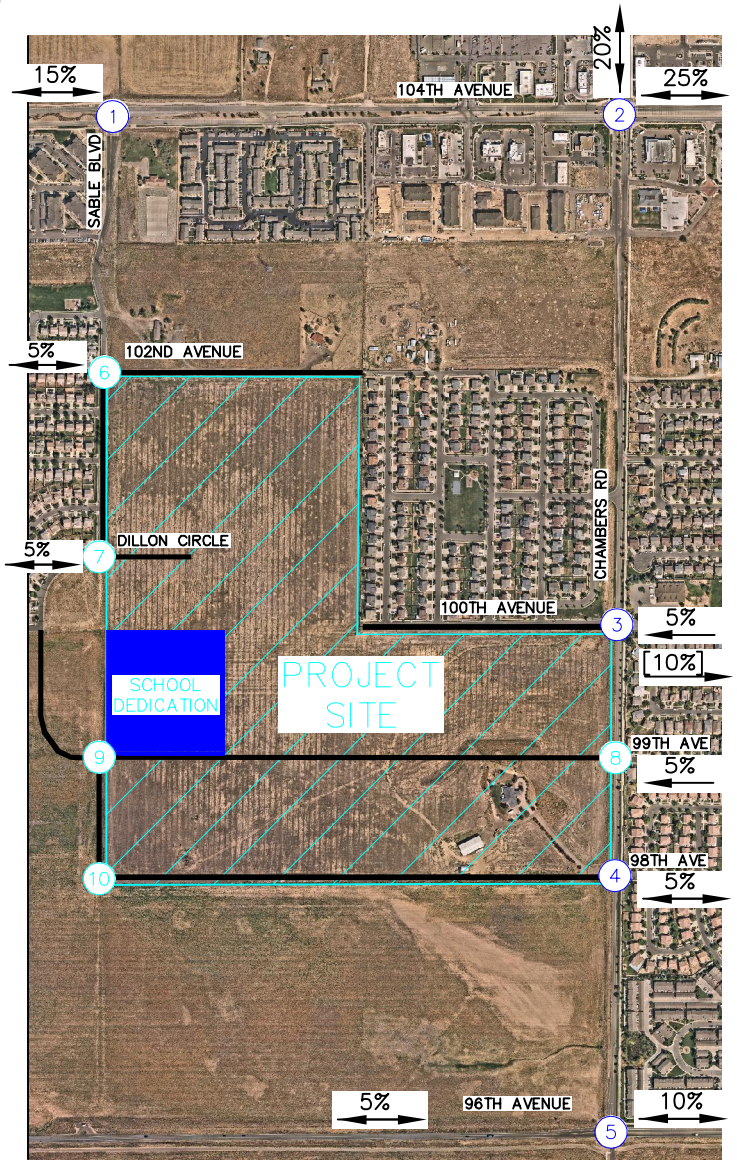

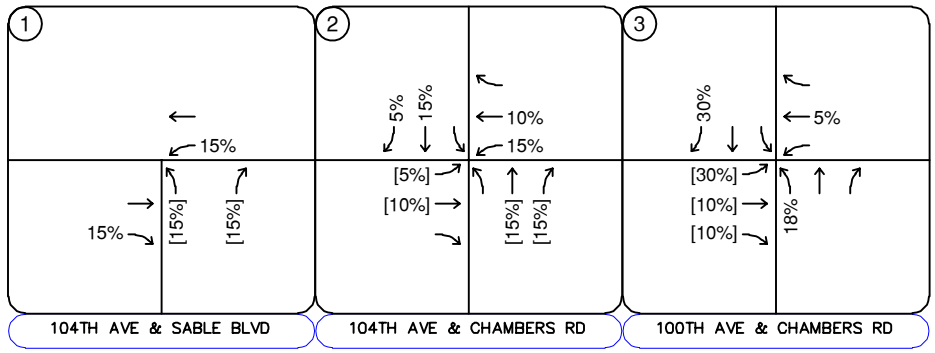

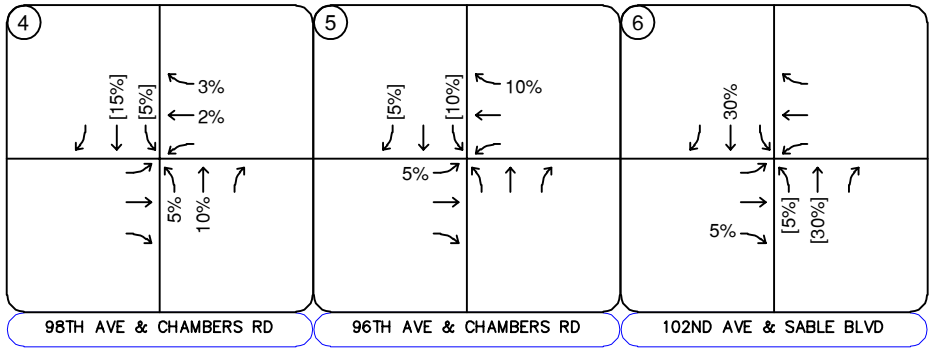

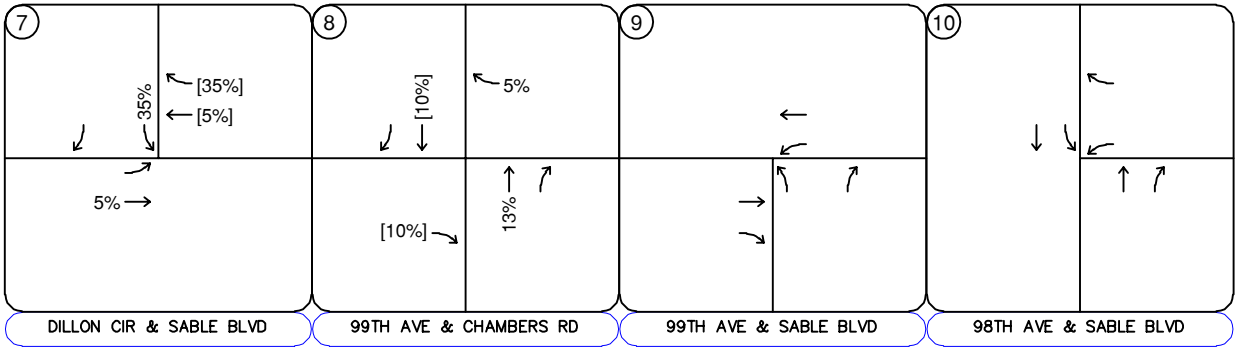

LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

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FIGURE 8
ANDERSON RANCH
COMMERCE CITY, COLORADO
PROJECT TRIP DISTRIBUTION – SCHOOL

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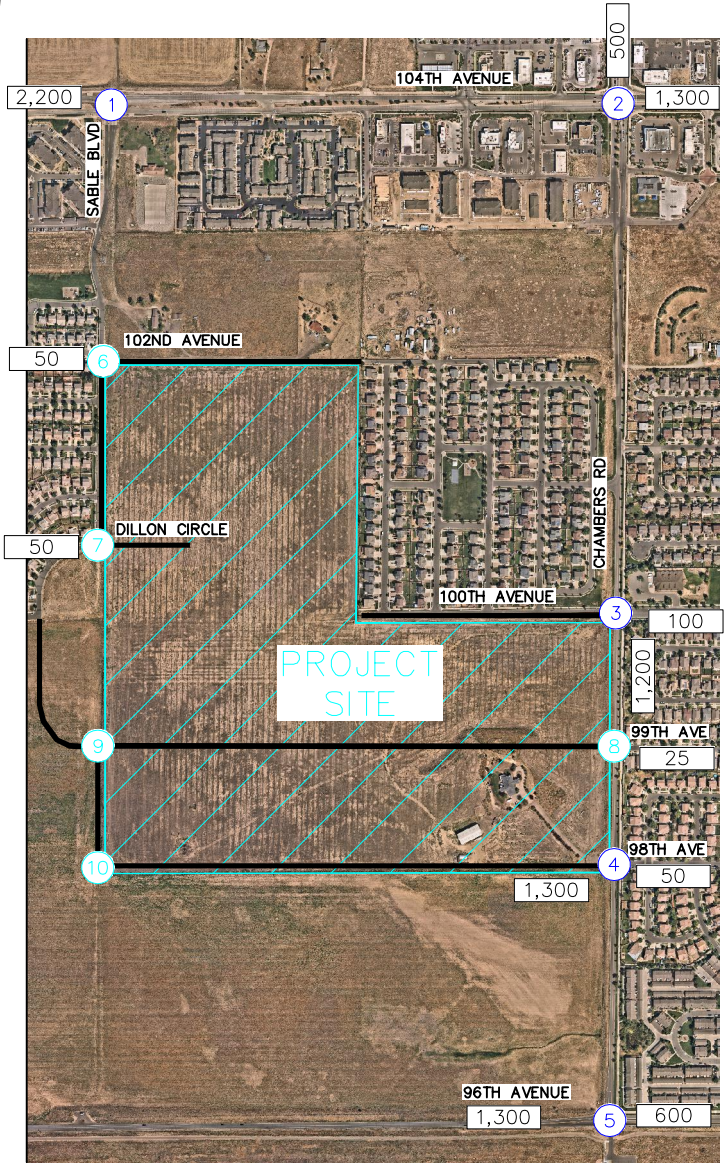

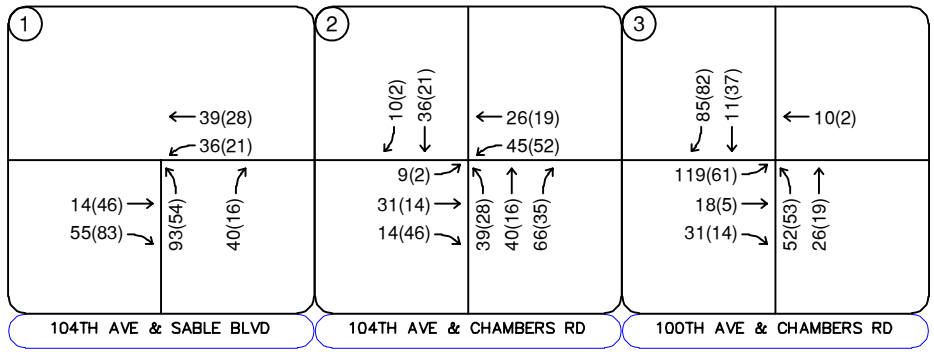

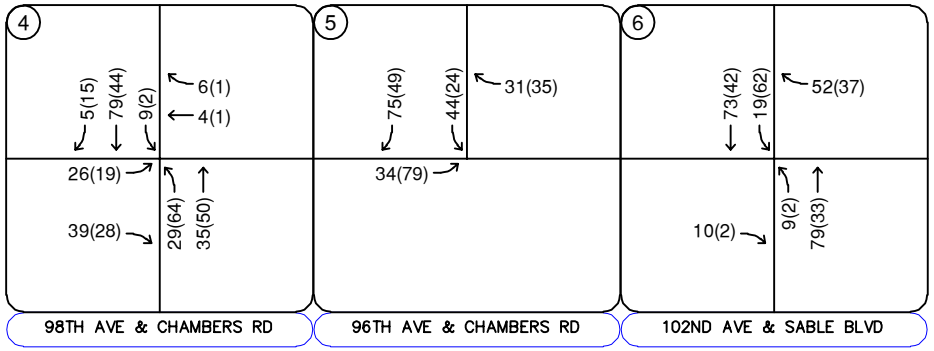

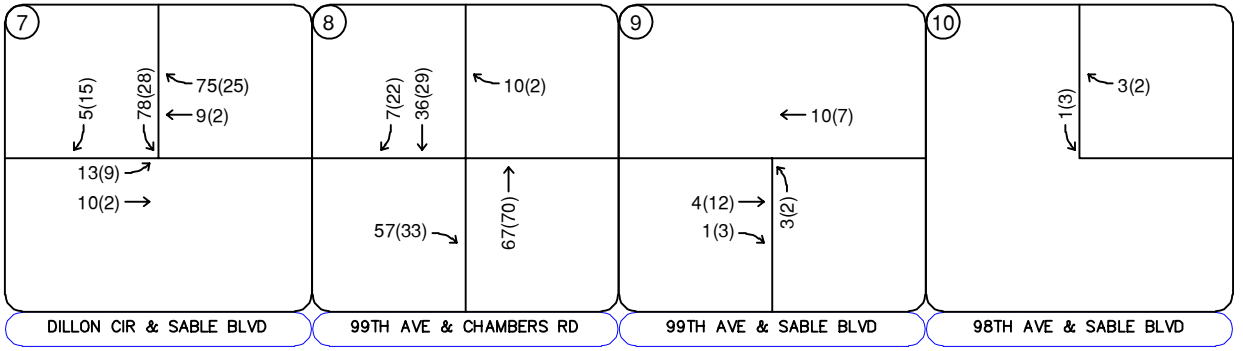

LEGEND

X	Study Area Key Intersection
X	Project Access Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

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FIGURE 9
ANDERSON RANCH
COMMERCE CITY, COLORADO
PROJECT TRAFFIC ASSIGNMENT

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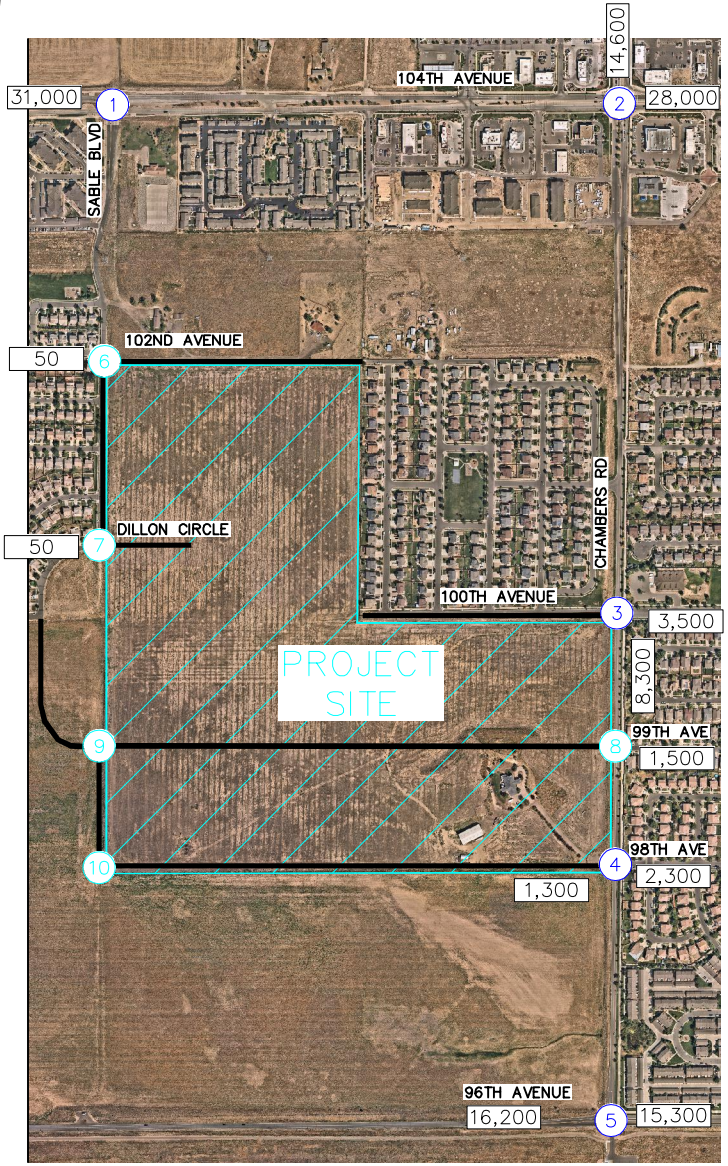

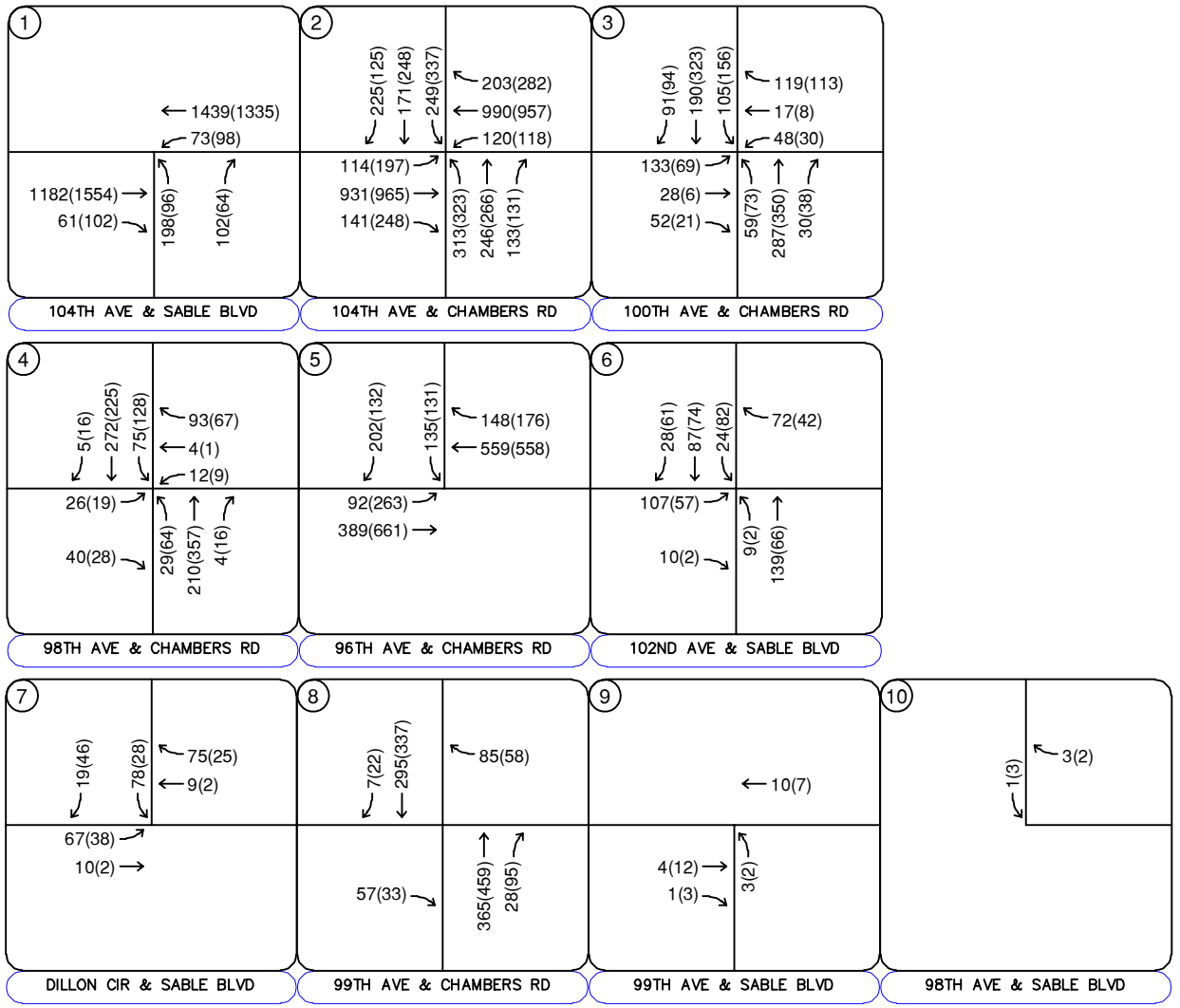

LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

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NTS 196326000

FIGURE 10
ANDERSON RANCH
COMMERCE CITY, COLORADO
2025 TOTAL TRAFFIC VOLUMES

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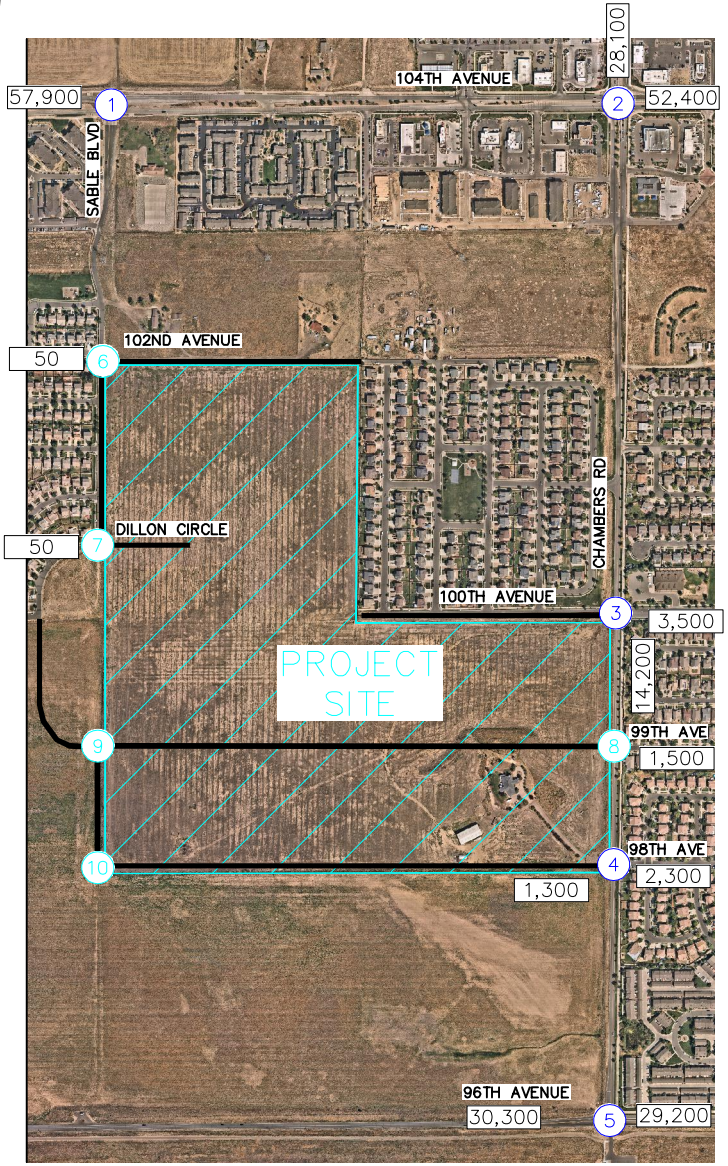
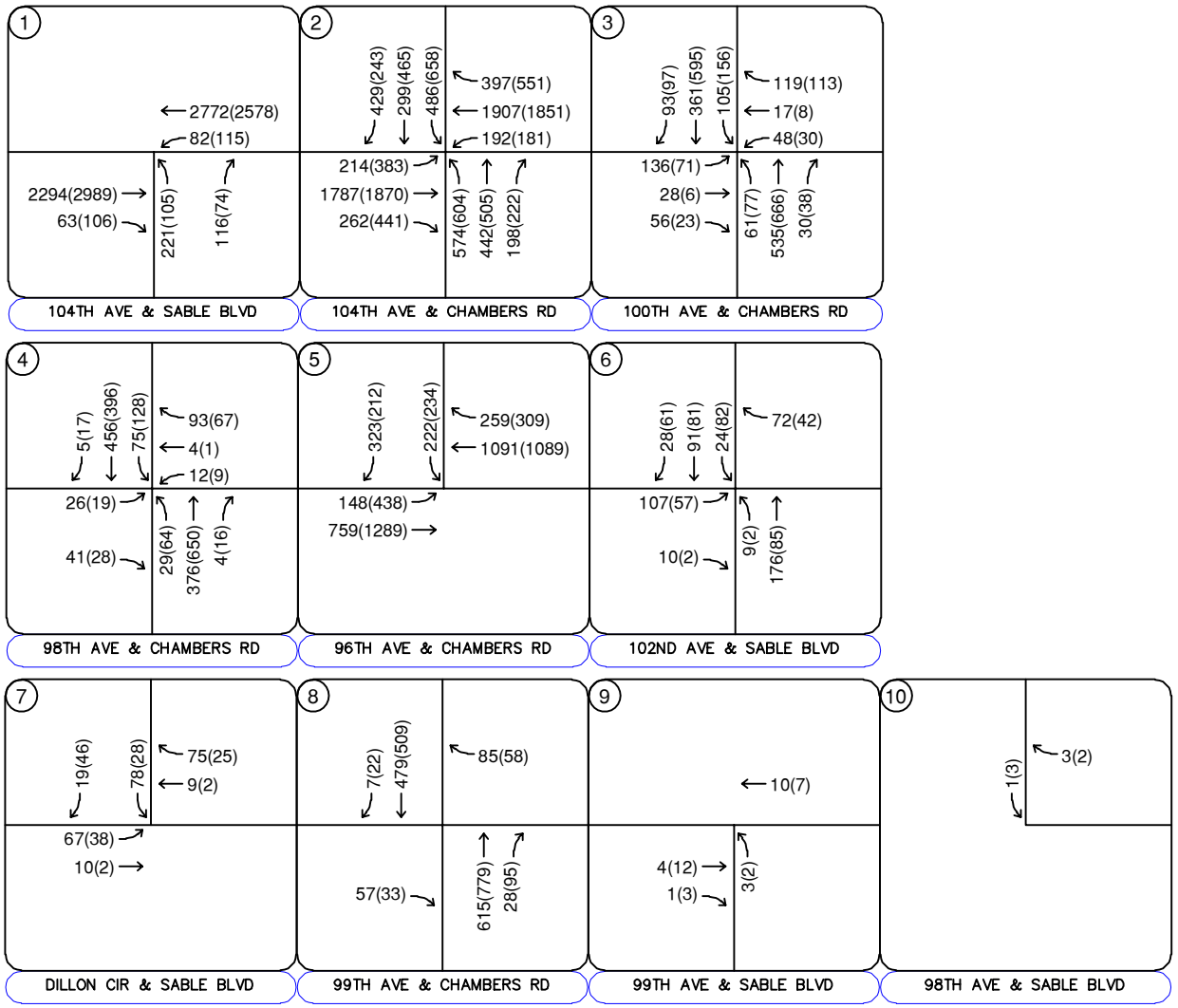




LEGEND

X	Study Area Key Intersection
X	Project Access Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

Kimley»Horn NORTH
NTS 196326000

FIGURE 11
ANDERSON RANCH
COMMERCE CITY, COLORADO
2045 TOTAL TRAFFIC VOLUMES

Kimley»Horn

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2025 and 2045 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the current edition of the *Highway Capacity Manual (HCM)*[2].

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways in this study area, standard traffic engineering practice recommends overall intersection LOS D and movement/approach LOS E as the minimum desirable thresholds for acceptable operations. **Table 2** shows the definition of level of service for signalized and unsignalized intersections.

Table 2 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Definitions provided from the Highway Capacity Manual, Sixth Edition, Transportation Research Board, 2016.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. LOS for signalized, roundabout, and four-way stop controlled intersections are defined for each approach and for the overall intersection.

[2] Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 2016.

5.2 Key Intersection Operational Analysis

Calculations for the operational level of service at the key intersections for the study area are provided in **Appendix D**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 2.** Existing peak hour factors were utilized in the existing and 2025 horizon analysis years while the HCM urban standard of 0.92 was used for the long-term 2045 horizon analysis. Based on increased national attention given to establishing appropriate yellow and all-red clearance intervals to improve intersection safety, these have been calculated and are applied for approaches at the signalized intersections. The increase in yellow and all red time sacrifices intersection capacity for improved safety. Synchro traffic analysis software was used to analyze the signalized, and unsignalized key intersections for HCM level of service.

104th Avenue and Sable Boulevard (#1)

The unsignalized 'T'-intersection of 104th Avenue and Sable Boulevard (#1) operates with stop control on the northbound Sable Boulevard approach. The intersection movements operate acceptably at LOS C or better during both peak hours under existing conditions. It is anticipated that this intersection will be signalized by Reunion Village 8. Additionally, a four-hour vehicular volume signal warrant analysis was completed for this intersection, and it was found that a signal may be warranted at this intersection by 2025. Signal warrant worksheets are provided in **Appendix E**. Therefore, this intersection was analyzed as a signalized intersection for the 2025 buildout. With project traffic, this intersection is anticipated to continue operating at an acceptable level of service throughout the 2025 horizon.

With or without the addition of project traffic, the movements at this intersection are anticipated to operate poorly in 2045 if future traffic volume projections materialize. The C3 Vision Transportation Plan identifies two and three through lanes in each direction along 104th Avenue by 2035. With traffic projections identifying through volumes along 104th Avenue approaching 3,000 vehicles in one direction during the peak hour, three eastbound and westbound through lanes would need to be provided at this intersection. With signalization and three eastbound and westbound through lanes, this intersection is anticipated to operate acceptably in 2045 with project traffic. **Table 3** provides the results of the LOS analysis conducted at this intersection.

Table 3 – 104th Avenue & Sable Boulevard (#1) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing Adjusted				
Northbound Left	18.7	C	16.5	C
Northbound Right	11.4	B	13.0	B
Westbound Left	9.0	A	10.4	B
2025 Background				
Northbound Left	22.0	C	19.6	C
Northbound Right	11.7	B	14.1	B
Westbound Left	9.4	A	11.1	B
2025 Background Plus Project #	9.4	A	3.6	A
2045 Background				
Northbound Left	>300	F	>300	F
Northbound Right	97.1	F	>300	F
Westbound Left	35.5	E	>300	F
2045 Background Plus Project ##	7.8	A	5.2	A

= Signalized
= # + Three eastbound and westbound through lanes

104th Avenue and Chambers Road (#2)

The signalized intersection of 104th Avenue and Chambers Road (#2) operates with protected left turn phasing on the east-west 104th Avenue legs and protected-permissive left turn phasing on the north-south Chambers Road legs. The intersection operates acceptably at LOS D during both peak hours under existing conditions. With project traffic, this intersection is anticipated to continue operating at an acceptable level of service throughout the 2025 horizon. With or without the addition of project traffic this intersection is anticipated to operate poorly in 2045. The C3 Vision Transportation Plan identifies two and three through lanes in each direction along 104th Avenue by 2035. With future traffic projections and in order to provide acceptable operations, three eastbound and westbound through lanes would need to be provided at this intersection. In addition, this intersection would need to be constructed to its ultimate configuration with dual left turn lanes and a right turn lane on all approaches. However, this intersection is anticipated to operate with LOS E during both peak hours with the ultimate configuration in 2045 with project traffic. It is believed that the calculated annual traffic growth rate of 3.4 percent is not sustainable for 24 years and may not be maintained throughout 2045. Therefore, an alternative analysis was conducted with a 2.5 percent growth rate, and it was found that this intersection operates acceptably with the ultimate configuration. **Table 4** provides the results of the LOS analysis conducted at this intersection.

Table 4 – 104th Avenue & Chambers Road (#2) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing Adjusted	36.7	D	35.9	D
2025 Background	41.0	D	38.6	D
2025 Background Plus Project	52.0	D	44.1	D
2045 Background	165.5	F	173.1	F
2045 Background Plus Project #	64.5	E	63.7	E
2045 Background Plus Project # (2.5% Growth)	51.1	D	48.0	D

= Ultimate configuration with three eastbound and westbound through lanes, and dual left turn lanes and a right turn lane on all approaches

100th Avenue and Chambers Road (#3)

The unsignalized intersection 100th Avenue and Chambers Road (#3) operates with stop control on the eastbound and westbound 100th Avenue approaches. The intersection movements operate acceptably at LOS D or better during both peak hours under existing conditions. With project traffic, the eastbound approach is anticipated to operate poorly during the 2025 afternoon peak hour with project traffic. In order to comply with City of Commerce City Engineering Construction Standards and Specifications, it is recommended that northbound and southbound left turn lanes along with a southbound right turn lane be constructed at this intersection with project buildout. It should be noted that the northbound and southbound left turn lanes should have previously been constructed and are needed based on existing traffic conditions. Further, as the southwest corner of this intersection is improved with development of the project, an eastbound left turn lane will be provided consistent with the east leg of this intersection. With these improvements, the eastbound left turn movement is anticipated to operate poorly at LOS F during the morning peak hour. A four-hour vehicular volume signal warrant analysis was completed for this intersection, and it was found that a signal may be warranted at this intersection by 2025. Signal warrant worksheets are provided in **Appendix E**. With signalization, this intersection is anticipated to operate acceptably throughout 2045 with project traffic. Of note, this intersection is anticipated to operate acceptably with two-way stop control with only residential project traffic prior to the addition of the elementary school. Therefore, this intersection could operate with stop control until the school is constructed. Additional analysis was conducted at this intersection with a one-lane roundabout configuration. With a single lane roundabout, this intersection is anticipated to operate acceptably throughout 2045 with project traffic. **Table 5** provides the results of the LOS analysis conducted at this intersection.

Table 5 – 100th Avenue & Chambers Road (#3) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing Adjusted				
Northbound Left	7.6	A	7.9	A
Eastbound Approach	16.7	C	22.3	C
Westbound Left	21.7	C	27.9	D
Westbound Through/Right	11.7	B	12.2	B
Southbound Left	8.2	A	8.5	A
2025 Background				
Northbound Left	7.7	A	7.9	A
Eastbound Approach	17.9	C	24.4	C
Westbound Left	23.6	C	31.0	D
Westbound Through/Right	12.1	B	12.7	B
Southbound Left	8.3	A	8.6	A
2025 Background Plus Project				
Northbound Left	8.1	A	8.5	A
Eastbound Approach	>300	F	166.7	F
Westbound Left	49.1	E	54.3	F
Westbound Through/Right	15.3	C	14.7	B
Southbound Left	8.4	A	8.7	A
2025 Background Plus Project #				
Northbound Left	8.1	A	8.5	A
Eastbound Left	67.5	F	48.0	E
Eastbound Through/Right	13.9	B	13.2	B
Westbound Left	24.1	C	26.8	D
Westbound Through/Right	13.5	B	13.1	B
Southbound Left	8.4	A	8.7	A
2025 Background Plus Project ##	17.4	B	11.6	B
2025 Background Plus Project (Roundabout)	7.8	A	8.3	A
2045 Background				
Northbound Left	8.1	A	8.8	A
Eastbound Approach	33.9	D	97.1	F
Westbound Left	53.6	F	145.9	F
Westbound Through/Right	16.1	C	22.1	C
Southbound Left	9.1	A	10.1	B
2045 Background Plus Project ##	12.2	B	7.5	A
2045 Background Plus Project (Roundabout)	11.2	B	16.4	C

= Northbound, southbound, and eastbound left turn lanes, and a southbound right turn lane
= # + Signalized

98th Avenue and Chambers Road (#4)

The unsignalized intersection 98th Avenue and Chambers Road (#4) operates with stop control on the eastbound and westbound 98th Avenue approaches. The intersection movements operate acceptably at LOS B or better during both peak hours under existing conditions. With project traffic, all movements are anticipated to operate acceptably during both peak hours in 2025. To comply with City of Commerce City Engineering Construction Standards and Specifications, it is recommended that northbound and southbound left turn lanes be constructed at this intersection with project buildout. It should be noted that the southbound left turn lane should have previously been constructed and is needed based on existing conditions. With these improvements, this intersection is anticipated to operate acceptably throughout 2045 with project traffic. **Table 6** provides the results of the LOS analysis conducted at this intersection.

Table 6 – 98th Avenue & Chambers Road (#4) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing Adjusted				
Northbound Left	0.0	A	0.0	A
Eastbound Approach	9.3	A	0.0	A
Westbound Approach	9.9	A	10.9	B
Southbound Left	7.7	A	8.2	A
2025 Background				
Northbound Left	0.0	A	0.0	A
Eastbound Approach	9.4	A	0.0	A
Westbound Approach	10.0	B	11.2	B
Southbound Left	7.7	A	8.3	A
2025 Background Plus Project				
Northbound Left	7.9	A	7.9	A
Eastbound Approach	15.7	C	23.2	C
Westbound Approach	11.4	B	13.8	B
Southbound Left	7.8	A	8.5	A
2025 Background Plus Project #				
Northbound Left	7.9	A	7.9	A
Eastbound Approach	13.0	B	15.2	C
Westbound Approach	10.7	B	11.6	B
Southbound Left	7.8	A	8.5	A
2045 Background				
Northbound Left	0.0	A	0.0	A
Eastbound Approach	10.6	B	0.0	A
Westbound Approach	11.9	B	19.6	C
Southbound Left	8.1	A	9.9	A
2045 Background Plus Project #				
Northbound Left	8.5	A	8.5	A
Eastbound Approach	15.2	C	28.6	D
Westbound Approach	12.3	B	25.5	D
Southbound Left	8.4	A	9.9	A

= Northbound and southbound left turn lanes

96th Avenue and Chambers Road (#5)

The signalized intersection of 96th Avenue and Chambers Road (#5) operates with protected-permissive left turn phasing on the eastbound and southbound approaches. The intersection operates acceptably at LOS B during both peak hours under existing conditions. With project traffic, this intersection is anticipated to operate acceptably during both peak hours throughout 2045. Therefore, no modifications to the existing lane configurations are recommended at this intersection. It should be noted that the C3 Transportation Plan identifies 96th Avenue with two or four through lanes in each direction in the future. With future traffic projections, this 96th Avenue is approaching capacity and two through lane in each direction should be considered along this facility. **Table 7** provides the results of the LOS analysis conducted at this intersection.

Table 7 – 96th Avenue & Chambers Road (#5) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing Adjusted	14.8	B	12.6	B
2025 Background	15.4	B	13.3	B
2025 Background Plus Project	17.7	B	14.8	B
2045 Background	44.6	D	54.0	D
2045 Background Plus Project	51.6	D	54.9	D

102nd Avenue and Sable Boulevard (#6)

With project construction an east leg is anticipated to be constructed at the intersection of 102nd Avenue and Sable Boulevard (#6). When this leg is constructed, it is recommended that the westbound approach operate with stop control and an R1-1 STOP sign be installed for this approach. It is believed that one lane shared for all movements will be sufficient on the westbound approach of this intersection. With project traffic and recommended lane configurations, the movements at this intersection are anticipated to operate acceptably during both peak hours throughout 2045. **Table 8** provides the results of the LOS analysis conducted at this intersection.

Table 8 – 102nd Avenue & Sable Boulevard (#6) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2025 Background Plus Project				
Eastbound Approach	13.6	B	12.8	B
Westbound Approach	9.4	A	8.8	A
Northbound Left	7.5	A	7.5	A
Southbound Left	7.46	A	7.5	A
2025 Background Plus Project				
Eastbound Approach	14.5	B	13.2	B
Westbound Approach	9.7	A	8.9	A
Northbound Left	7.5	A	7.5	A
Southbound Left	7.7	A	7.5	A

Dillon Circle and Sable Boulevard (#7)

With project construction, an east leg is proposed to be constructed at the intersection of Dillon Circle and Sable Boulevard to provide access to the project. Sable Boulevard is not planned to extend between Dillon Circle and the 99th Avenue alignment due to a future park to be located west of the project site south of Dillon Circle. Dillon Circle will extend to the south of the current terminus location and bend to align with the future 99th Avenue and Sable Boulevard intersection. When the east leg is constructed at the Dillon Circle and Sable Boulevard intersection, it is recommended that one lane be designated for all movements at all three approaches, and that the southbound approach continue to be stop-controlled. With project traffic, the movements at this intersection are anticipated to operate acceptably during both peak hours throughout 2045. **Table 9** provides the results of the LOS analysis conducted at this intersection.

Table 9 – Dillon Circle & Sable Boulevard (#7) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2025 Background Plus Project				
Eastbound Left	7.5	A	7.3	A
Southbound Approach	10.3	B	9.0	A
2045 Background Plus Project				
Eastbound Left	7.5	A	7.3	A
Southbound Approach	10.3	B	9.0	A

99th Avenue and Chambers Road (#8)

With project construction, a west leg is anticipated to be constructed at the intersection of 99th Avenue and Chambers Road (#8). When this leg is constructed, it is recommended that an R1-1 "STOP" sign be installed and that one lane be designated for right turn movements only on the eastbound approach. To further designate the west leg of this intersection exiting right turn movements, it is recommended that an R3-2 "No Left Turn" sign be installed underneath the STOP sign. In addition, a raised median pork chop island should be provided on the west leg of this intersection (similar to the east leg) restricting movements to right turns only at this intersection. To further restrict entering northbound left turn movements at this intersection, a R3-2 "No Left Turn" sign could be installed on the northwest corner of this intersection visible to northbound drivers. With project traffic and the recommended lane configurations, the movements at this intersection are anticipated to operate acceptably during both peak hours throughout 2045. **Table 10** provides the results of the LOS analysis conducted at this intersection.

Table 10 – 99th Avenue & Chambers Road (#8) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2025 Background Plus Project				
Eastbound Approach	10.5	B	10.7	B
Westbound Approach	10.2	B	11.0	B
2045 Background Plus Project				
Eastbound Approach	10.8	B	10.8	B
Westbound Approach	12.8	B	14.9	B

99th Avenue and Sable Boulevard (#9)

With project construction, Sable Boulevard will be extended south of 99th Avenue within the project limits. Additionally, 99th Avenue will be extended to the west to intersect with the Sable Boulevard extension. Sable Boulevard is not planned to extend between Dillon Circle and 99th Avenue due to a future park to be located west of the project site and south of Dillon Circle. Dillon Circle will extend to the south of the current terminus location and bend to align with the future 99th Avenue and Sable Boulevard intersection. When the intersection of 99th Avenue and Sable Boulevard (#9) is constructed, it is recommended that one lane be designated for shared movements at all three approaches, and that the northbound approach be stop-controlled with installation of a R1-1 "STOP" sign. With project traffic, the movements at this intersection are anticipated to operate acceptably during both peak hours throughout 2045. **Table 11** provides the results of the LOS analysis conducted at this intersection.

Table 11 – 99th Avenue & Sable Boulevard (#9) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2025 Background Plus Project Northbound Approach	8.6	A	8.6	A
2045 Background Plus Project Northbound Approach	8.6	A	8.6	A

5.3 Vehicle Queuing Analysis

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Results are shown in the following **Table 12** with calculations provided within the level of service operational sheets of **Appendix D** for unsignalized intersections and **Appendix F** for signalized intersections.

Table 12 – Turn Lane Queuing Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2025 Calculated Queue (feet)	2025 Recommended Length (feet)	2045 Calculated Queue (feet)	2045 Recommended Length (feet)
104th Ave & Sable Blvd (#1)					
Westbound Left	300'	145'	300'	166'	300'
Northbound Right	75'	82'	75'	**145'**	**150'**
104th Ave & Chambers Rd (#2)					
Eastbound Left	275' DL	115'	275' DL	227'	275' DL
Eastbound Right	DNE	-	-	193'	**200'**
Westbound Left	375' DL	110'	375' DL	142'	375' DL
Westbound Right	475'	55'	475'	134'	475'
Northbound Left	300'	300'	300'	**395'**	300' **DL**
Southbound Left	275' DL	130'	275' DL	**409'**	275' DL
Southbound Right	DNE	-	-	**535'**	**300'**
100th Ave & Chambers Rd (#3)					
Eastbound Left	DNE	174'	**175'+144'T (CC)**	178'	175'+144'T (CC)
Westbound Left	100'	66'	100'	67'	100'
Northbound Left	DNE	28'	**235'+180'T (CC)**	41'	235'+180'T (CC)
Southbound Left	DNE	46'	**235'+180'T (CC)**	25'	235'+180'T (CC)
Southbound Right	DNE	25'	**135'+180'T (CC)**	25'	135'+180'T (CC)
98th Ave & Chambers Rd (#4)					
Northbound Left	DNE	25'	**235'+180'T (CC)**	25'	235'+180'T (CC)
Southbound Left	DNE	25'	**235'+180'T (CC)**	25'	235'+180'T (CC)
96th Ave & Chambers Rd (#5)					
Eastbound Left	75'	**118'**	**125'**	**271'**	**275'**
Southbound Through/Right	125'	25'	125'	**173'**	**175'**

DL = Dual Left Turn Lanes; DNE = Does Not Exist; T = Taper; CC = City of Commerce City Standards; **Red** Text = Storage Deficiency; **Blue** Text = Recommendation

As shown in the table above all queues are managed within the available storage length in 2025 with the exception of the eastbound left turn lane at the intersection of 96th Avenue and Chambers Road (#5). It is recommended that the eastbound left turn lane at this intersection be extended from 75 feet to 125 feet by 2025.

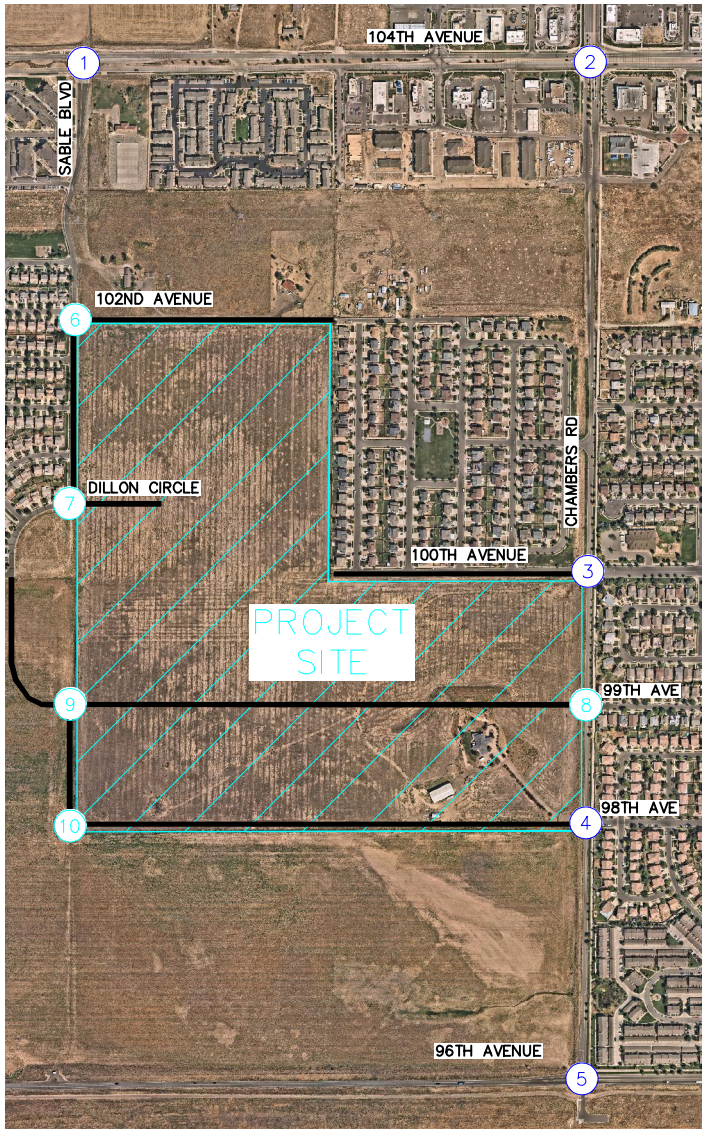
With project buildout and to meet City of Commerce City Engineering Construction Standards and Specifications, it is recommended that 235 foot with 180 foot taper northbound and southbound left turn lanes be constructed at the intersection of 100th Avenue and Chambers Road (#3). It should be noted that these left turn lanes should have previously been constructed and are needed based on existing traffic conditions. An eastbound left turn lane should be provided with a length of 175 feet plus a 144-foot taper at the 100th Avenue and Chambers Road (#3) intersection. Additionally, a 135 foot with 180-foot taper southbound right turn lane should be constructed at this intersection with project buildout and to meet City of Commerce City Engineering Construction Standards and Specifications.

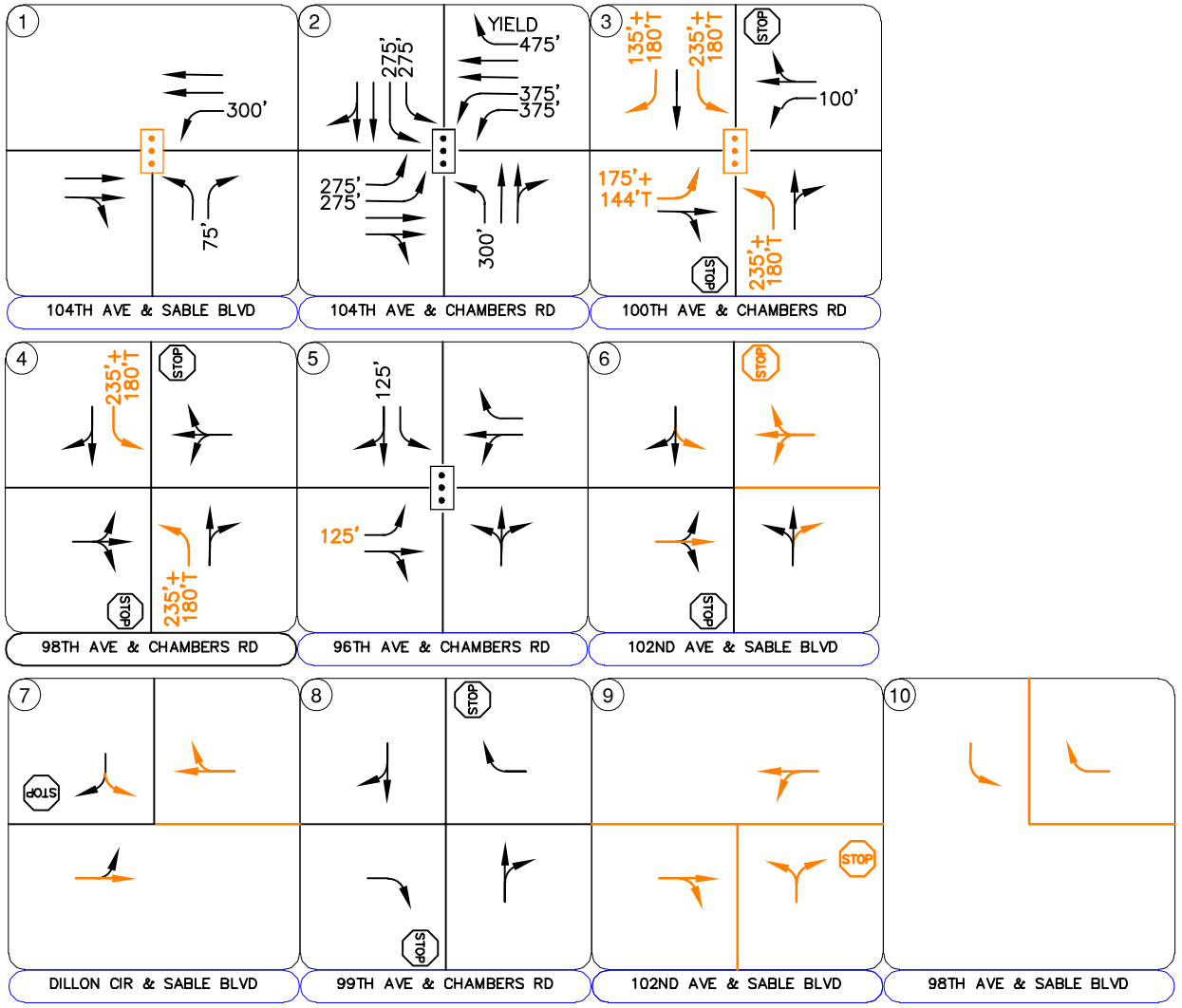
With project buildout and to meet City of Commerce City Engineering Construction Standards and Specifications, it is recommended that 235 foot with 180 foot taper northbound and southbound left turn lanes be constructed at the intersection of 98th Avenue and Chambers Road (#4). It should be noted that the southbound left turn lane should have previously been constructed and is needed based on existing conditions.

By 2045, several auxiliary turn lanes at the study area key intersections may need to be extended and should be analyzed in more detail with future surrounding development to determine the appropriate needs in the long-term horizon.

5.4 Improvement Summary

Based on the results of the intersection operational, turn lane evaluation, and vehicle queuing analysis, the key intersection recommended improvements and control are shown in **Figure 11** for the 2025 horizon and **Figure 12** for the 2045 horizon.





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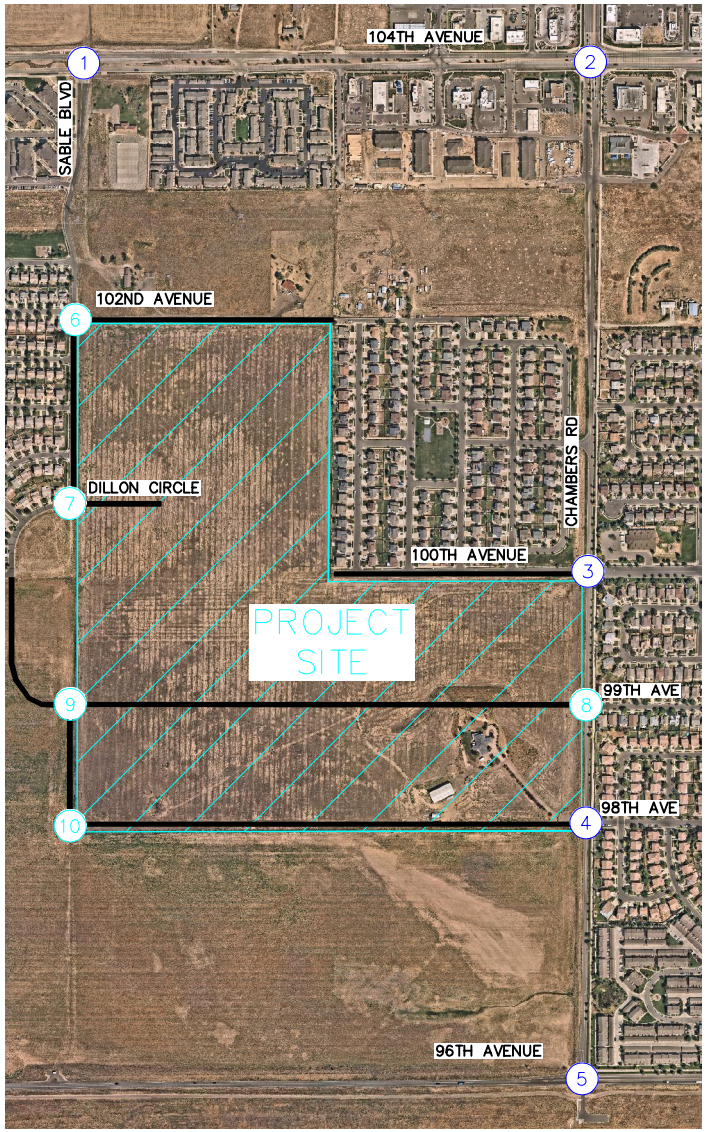
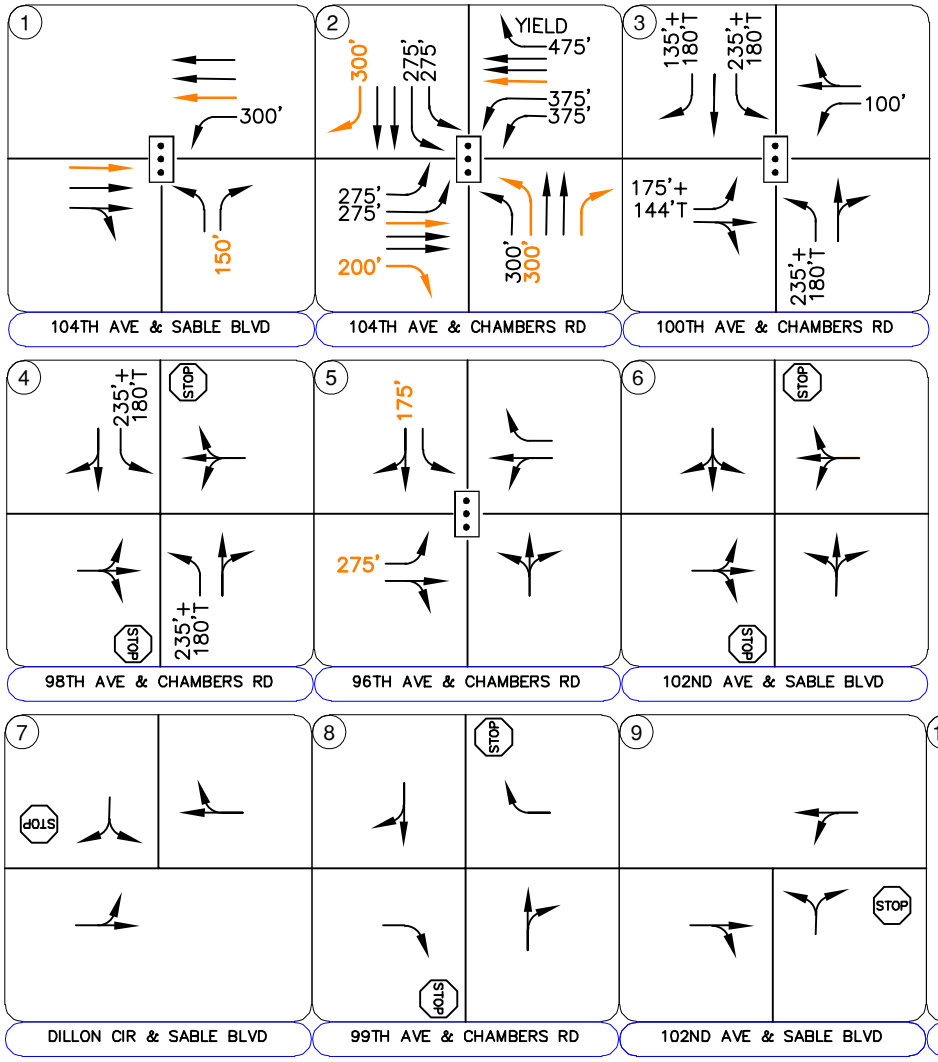
LEGEND

- Study Area Key Intersection
- Project Access Intersection
- Signalized Intersection
- STOP — Stop Controlled Approach
- Improvement
- 100' — Turn Lane Length (feet)

FIGURE 12
ANDERSON RANCH
COMMERCE CITY, COLORADO
2025 RECOMMENDED GEOMETRY AND CONTROL

Kimley»Horn





Kimley»Horn NORTH
NTS 196326000

LEGEND

- Study Area Key Intersection
- Project Access Intersection
- Signalized Intersection
- STOP — Stop Controlled Approach
- Improvement
- 100' — Turn Lane Length (feet)

FIGURE 13
ANDERSON RANCH
COMMERCE CITY, COLORADO
2045 RECOMMENDED GEOMETRY AND CONTROL

Kimley»Horn

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes Anderson Ranch will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

2025 Recommendations:

- If future volumes are realized by 2025, the intersection of 104th Avenue and Sable Boulevard (#1) is expected to meet vehicle volume signal warrants. It is anticipated that this intersection will be signalized with development of Reunion Village 8. It is understood that the project will contribute towards the cost of the future traffic signal at this intersection. Contributions towards this signal will be determined through conditions of the annexation.

- In order to comply with City of Commerce City Engineering Construction Standards and Specifications, it is recommended that 235 foot with 180 foot taper northbound and southbound left turn lanes along with a 135 foot plus 180 foot taper southbound right turn lane be constructed at the intersection of 100th Avenue and Chambers Road (#3). It should be noted that the northbound and southbound left turn lanes should have previously been constructed and are needed based on existing traffic conditions. Further, as the southwest corner of the 100th Avenue and Chambers Road (#3) intersection is improved with development of the project, an eastbound left turn lane should be provided which is consistent with the east leg of this intersection. With full buildout of the project including the elementary school, the intersection of 100th Avenue and Chambers Road (#3) is expected to meet signal warrants and therefore may need to be signalized. Of note, this intersection is anticipated to operate acceptably with two-way stop control with only residential project traffic prior to the addition of the elementary school. Therefore, this intersection could operate with stop control until the school is constructed. It is understood that the project will contribute towards the cost of the future traffic signal at this intersection. Contributions towards this signal will be determined through conditions of the annexation.

- To comply with City of Commerce City Engineering Construction Standards and Specifications, it is recommended that 235 foot with 180 foot taper northbound and

southbound left turn lanes be constructed at the intersection of 98th Avenue and Chambers Road (#4). It should be noted that the southbound left turn lane should have previously been constructed and is needed based on existing conditions.

- As requested by the City of Commerce City, average daily volumes were evaluated along 98th Avenue west of Chambers Road due to houses proposed to be fronting on this street. 98th Avenue provides access similar to the characteristics of a collector street; however, with houses proposed to be fronting along 98th Avenue, it also has characteristics of a local street. A local street typically has a capacity of 1,500 vehicles per day. Based on future traffic projections, 98th Avenue is expected to have approximately 1,300 vehicles per day west of Chambers Road. As such, 98th Avenue is not expected to exceed volume thresholds for a local street in the segment west of Chambers Road; therefore, houses fronting along 98th Avenue should be acceptable.

- It is recommended that the eastbound left turn lane at the intersection of 96th Avenue and Chambers Road (#5) be extended from 75 feet to 125 feet by 2025.

- With development of the project, an east leg is proposed to be constructed at the intersection of 102nd Avenue and Sable Boulevard (#6). When this east leg is constructed, it is recommended that the westbound approach operate with stop control and an R1-1 "STOP" sign installed for this approach. It is believed that one lane shared for all movements will be sufficient on the westbound approach of this intersection.

- With project construction, an east leg is proposed to be constructed at the intersection of Dillon Circle and Sable Boulevard to provide access to the project. Sable Boulevard is not planned to extend between Dillon Circle and the 99th Avenue alignment due to a future park to be located west of the project site south of Dillon Circle. Dillon Circle will extend to the south of the current terminus location and bend to align with the future 99th Avenue and Sable Boulevard intersection. When the east leg is constructed at the Dillon Circle and Sable Boulevard intersection, it is recommended that one lane be designated for all movements at all three approaches, and that the southbound approach continue to be stop-controlled.

- With development of the project, a west leg is anticipated to be constructed at the intersection of 99th Avenue and Chambers Road (#8). When this west leg is constructed, it is recommended that an R1-1 "STOP" sign be installed and that one lane be designated for right turn movements only on the eastbound approach. To further designate the west leg of this intersection exiting right turn movements, it is recommended that an R3-2 "No Left Turn" sign be installed underneath the STOP sign. In addition, a raised median pork chop island should be provided on the west leg of this intersection (similar to the east leg) restricting movements to right turns only at this intersection. To further restrict entering northbound left turn movements at this intersection, a R3-2 "No Left Turn" sign could be installed on the northwest corner of this intersection visible to northbound drivers.

- With project construction, Sable Boulevard will be extended south of 99th Avenue within the project limits. Additionally, 99th Avenue will be extended to the west to intersect with the Sable Boulevard extension. Sable Boulevard is not planned to extend between Dillon Circle and 99th Avenue due to a future park to be located west of the project site and south of Dillon Circle. Dillon Circle will extend to the south of the current terminus location and bend to align with the future 99th Avenue and Sable Boulevard intersection. When the intersection of 99th Avenue and Sable Boulevard (#9) is constructed, it is recommended that one lane be designated for shared movements at all three approaches, and that the northbound approach be stop-controlled with installation of a R1-1 "STOP" sign.

<u>2045 Recommendations:</u>

- The C3 Vision Transportation Plan identifies two and three through lanes in each direction along 104th Avenue by 2035. With future traffic projections, three eastbound and westbound through lanes would need to be provided along 104th Avenue within the study area in order to provide acceptable operations. It is believed that the calculated annual traffic growth rate of 3.4 percent (from DRCOG traffic models) is not sustainable for 24 years and may not be maintained throughout 2045. Therefore, it is recommended that traffic volumes be monitored at the study area key intersections in the long-term future to determine appropriate intersection improvements.

- By 2045, several auxiliary turn lanes at the study area key intersections may need to be extended and should be analyzed in more detail with future surrounding development to determine the appropriate needs in the long-term horizon.

General Recommendations:

- Any on-site or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Commerce City and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

APPENDICES

APPENDIX A

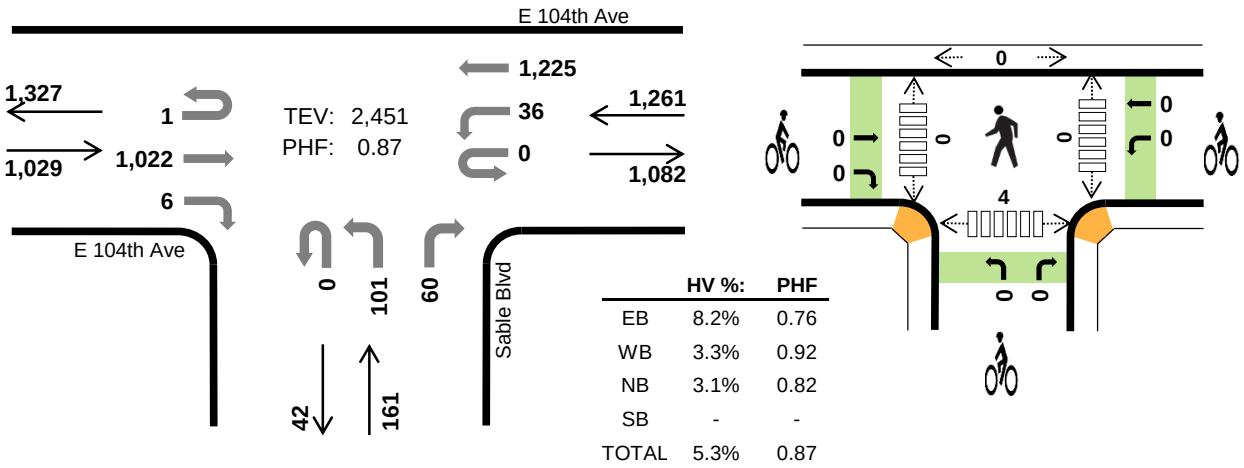
Intersection Count Sheets

Sable Blvd
E 104th Ave

N

Peak Hour

Date: 11/09/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	8.2%	0.76
WB	3.3%	0.92
NB	3.1%	0.82
SB	-	-
TOTAL	5.3%	0.87

Two-Hour Count Summaries

Interval Start		E 104th Ave Eastbound				E 104th Ave Westbound				Sable Blvd Northbound				0 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	199	1	0	5	234	0	0	22	0	7	0	0	0	0	468	0
7:15 AM		**0**	**0**	**217**	**1**	**0**	**5**	**273**	**0**	**0**	**32**	**0**	**17**	**0**	**0**	**0**	**0**	**545**	0
7:30 AM		**0**	**0**	**234**	**1**	**0**	**8**	**303**	**0**	**0**	**30**	**0**	**17**	**0**	**0**	**0**	**0**	**593**	0
7:45 AM		**0**	**0**	**339**	**1**	**0**	**7**	**321**	**0**	**0**	**25**	**0**	**15**	**0**	**0**	**0**	**0**	**708**	2,314
8:00 AM		**1**	**0**	**232**	**3**	**0**	**16**	**328**	**0**	**0**	**14**	**0**	**11**	**0**	**0**	**0**	**0**	**605**	**2,451**
8:15 AM		0	0	180	1	0	12	262	0	0	19	0	6	0	0	0	0	480	2,386
8:30 AM		1	0	193	3	0	8	194	0	0	14	0	11	0	0	0	0	424	2,217
8:45 AM		0	0	160	0	0	5	153	0	0	10	0	3	0	0	0	0	331	1,840
Count Total		2	0	1,754	11	0	66	2,068	0	0	166	0	87	0	0	0	0	4,154	0
Peak Hour	**All**	**1**	**0**	**1,022**	**6**	**0**	**36**	**1,225**	**0**	**0**	**101**	**0**	**60**	**0**	**0**	**0**	**0**	**2,451**	**0**
	HV	**0**	**0**	**84**	**0**	**0**	**2**	**39**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**130**	**0**
	HV%	**0%**	**-**	**8%**	**0%**	**-**	**6%**	**3%**	**-**	**-**	**2%**	**-**	**5%**	**-**	**-**	**-**	**-**	**5%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	20	9	0	0	*29*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**19**	**7**	**2**	**0**	***28***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
7:30 AM	**17**	**11**	**2**	**0**	***30***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
7:45 AM	**34**	**10**	**0**	**0**	***44***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**14**	**13**	**1**	**0**	***28***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**2**	***2***
8:15 AM	25	18	0	0	*43*	0	0	0	0	*0*	0	0	0	1	*1*
8:30 AM	19	13	1	0	*33*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	19	12	0	0	*31*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	167	93	6	0	*266*	0	0	0	0	*0*	0	0	0	5	*5*
Peak Hr	**84**	**41**	**5**	**0**	***130***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**4**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E 104th Ave				E 104th Ave				Sable Blvd				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	19	1	0	1	8	0	0	0	0	0	0	0	0	0	29	0
7:15 AM	**0**	**0**	**19**	**0**	**0**	**0**	**7**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**28**	0
7:30 AM	**0**	**0**	**17**	**0**	**0**	**0**	**11**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**30**	0
7:45 AM	**0**	**0**	**34**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**44**	131
8:00 AM	**0**	**0**	**14**	**0**	**0**	**2**	**11**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**28**	**130**
8:15 AM	0	0	25	0	0	0	18	0	0	0	0	0	0	0	0	0	43	145
8:30 AM	0	0	19	0	0	0	13	0	0	1	0	0	0	0	0	0	33	148
8:45 AM	0	0	19	0	0	0	12	0	0	0	0	0	0	0	0	0	31	135
Count Total	0	0	166	1	0	3	90	0	0	3	0	3	0	0	0	0	266	0
Peak Hour	**0**	**0**	**84**	**0**	**0**	**2**	**39**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**130**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	E 104th Ave			E 104th Ave			Sable Blvd			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

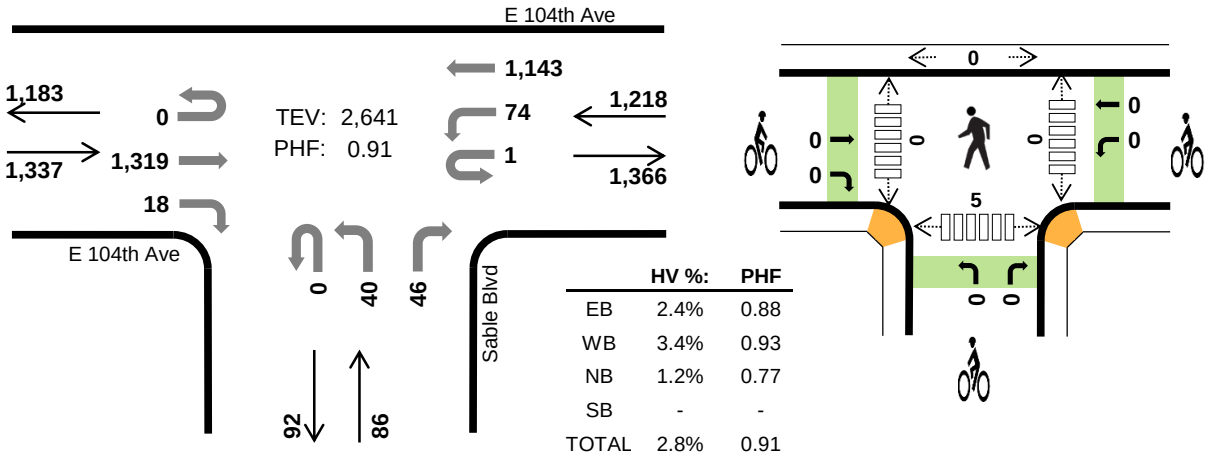
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Sable Blvd
E 104th Ave

N

Peak Hour

Date: 11/09/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	2.4%	0.88
WB	3.4%	0.93
NB	1.2%	0.77
SB	-	-
TOTAL	2.8%	0.91

Two-Hour Count Summaries

Interval Start		E 104th Ave Eastbound				E 104th Ave Westbound				Sable Blvd Northbound				0 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	323	9	0	13	234	0	0	8	0	14	0	0	0	0	601	0
4:15 PM		0	0	264	7	1	11	266	0	0	11	0	13	0	0	0	0	573	0
4:30 PM		**0**	**0**	**289**	**3**	**1**	**12**	**300**	**0**	**0**	**5**	**0**	**15**	**0**	**0**	**0**	**0**	**625**	0
4:45 PM		**0**	**0**	**378**	**2**	**0**	**18**	**308**	**0**	**0**	**12**	**0**	**11**	**0**	**0**	**0**	**0**	**729**	2,528
5:00 PM		**0**	**0**	**360**	**7**	**0**	**23**	**287**	**0**	**0**	**14**	**0**	**14**	**0**	**0**	**0**	**0**	**705**	2,632
5:15 PM		**0**	**0**	**292**	**6**	**0**	**21**	**248**	**0**	**0**	**9**	**0**	**6**	**0**	**0**	**0**	**0**	**582**	**2,641**
5:30 PM		0	0	259	9	0	19	244	0	0	9	0	8	0	0	0	0	548	2,564
5:45 PM		0	0	244	5	1	24	216	0	0	9	0	9	0	0	0	0	508	2,343
Count Total		0	0	2,409	48	3	141	2,103	0	0	77	0	90	0	0	0	0	4,871	0
Peak Hour	**All**	**0**	**0**	**1,319**	**18**	**1**	**74**	**1,143**	**0**	**0**	**40**	**0**	**46**	**0**	**0**	**0**	**0**	**2,641**	**0**
	HV	**0**	**0**	**32**	**0**	**0**	**1**	**41**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**75**	**0**
	HV%	**-**	**-**	**2%**	**0%**	**0%**	**1%**	**4%**	**-**	**-**	**0%**	**-**	**2%**	**-**	**-**	**-**	**-**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	10	13	1	0	*24*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	7	13	0	0	*20*	0	0	0	0	*0*	0	0	0	1	*1*
4:30 PM	**4**	**19**	**0**	**0**	***23***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**8**	**8**	**0**	**0**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**4**	*4*
5:00 PM	**15**	**6**	**1**	**0**	***22***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**5**	**9**	**0**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***
5:30 PM	3	4	0	0	*7*	0	0	0	0	*0*	0	0	0	2	*2*
5:45 PM	4	1	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	56	73	2	0	*131*	0	0	0	0	*0*	0	0	0	8	*8*
Peak Hr	**32**	**42**	**1**	**0**	***75***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**5**	***5***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E 104th Ave				E 104th Ave				Sable Blvd				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	10	0	0	0	13	0	0	0	0	1	0	0	0	0	24	0
4:15 PM	0	0	7	0	0	0	13	0	0	0	0	0	0	0	0	0	20	0
4:30 PM	**0**	**0**	**4**	**0**	**0**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	0
4:45 PM	**0**	**0**	**8**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	83
5:00 PM	**0**	**0**	**15**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**22**	81
5:15 PM	**0**	**0**	**5**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**75**
5:30 PM	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	7	59
5:45 PM	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5	48
Count Total	0	0	56	0	0	1	72	0	0	0	0	2	0	0	0	0	131	0
Peak Hour	**0**	**0**	**32**	**0**	**0**	**1**	**41**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**75**	**0**

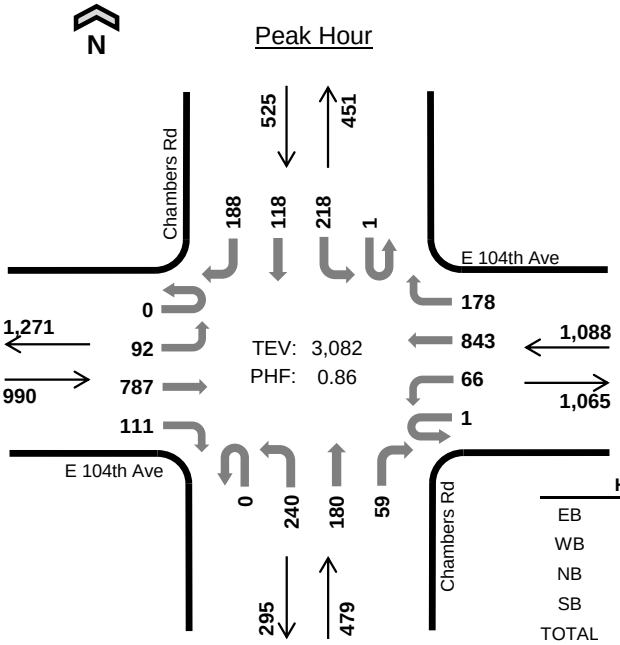
Two-Hour Count Summaries - Bikes

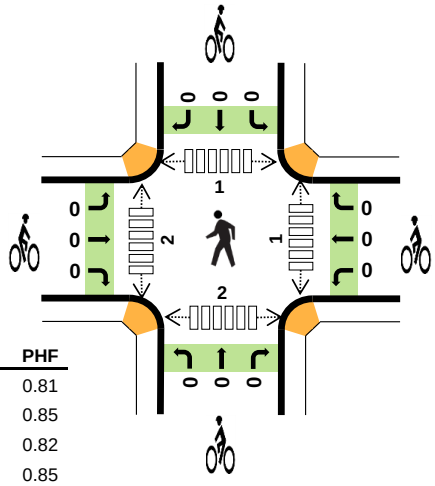
Interval Start	E 104th Ave			E 104th Ave			Sable Blvd			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chambers Rd
E 104th Ave

Date: 11/09/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	7.7%	0.81
WB	3.5%	0.85
NB	2.7%	0.82
SB	2.7%	0.85
TOTAL	4.6%	0.86

Two-Hour Count Summaries

Interval Start		E 104th Ave Eastbound				E 104th Ave Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	13	125	19	1	6	160	28	0	39	41	4	0	35	34	32	537	0
7:15 AM		**0**	**16**	**186**	**36**	**1**	**9**	**182**	**36**	**0**	**49**	**30**	**6**	**0**	**45**	**24**	**45**	**665**	0
7:30 AM		**0**	**20**	**171**	**24**	**0**	**12**	**185**	**43**	**0**	**69**	**57**	**20**	**0**	**43**	**33**	**57**	**734**	0
7:45 AM		**0**	**33**	**249**	**24**	**0**	**23**	**253**	**45**	**0**	**64**	**53**	**29**	**0**	**48**	**24**	**51**	**896**	2,832
8:00 AM		**0**	**23**	**181**	**27**	**0**	**22**	**223**	**54**	**0**	**58**	**40**	**4**	**1**	**82**	**37**	**35**	**787**	**3,082**
8:15 AM		0	22	139	23	0	12	194	62	0	62	36	12	0	56	27	20	665	3,082
8:30 AM		0	26	130	29	0	11	113	37	0	37	22	5	0	58	29	19	516	2,864
8:45 AM		0	20	122	19	0	13	113	20	0	26	26	2	0	35	24	20	440	2,408
Count Total		0	173	1,303	201	2	108	1,423	325	0	404	305	82	1	402	232	279	5,240	0
Peak Hour	**All**	**0**	**92**	**787**	**111**	**1**	**66**	**843**	**178**	**0**	**240**	**180**	**59**	**1**	**218**	**118**	**188**	**3,082**	**0**
	HV	**0**	**9**	**62**	**5**	**0**	**2**	**30**	**6**	**0**	**5**	**7**	**1**	**0**	**7**	**3**	**4**	**141**	**0**
	HV%	**-**	**10%**	**8%**	**5%**	**0%**	**3%**	**4%**	**3%**	**-**	**2%**	**4%**	**2%**	**0%**	**3%**	**3%**	**2%**	**5%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	18	8	3	5	*34*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**14**	**7**	**3**	**4**	***28***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	*2*
7:30 AM	**19**	**9**	**5**	**1**	***34***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**1**	**0**	*2*
7:45 AM	**25**	**10**	**1**	**4**	***40***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**18**	**12**	**4**	**5**	***39***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	***2***
8:15 AM	20	22	1	8	*51*	0	0	0	0	*0*	2	0	2	3	*7*
8:30 AM	14	9	1	1	*25*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	18	15	1	1	*35*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	146	92	19	29	*286*	0	0	0	0	*0*	3	2	3	5	*13*
Peak Hour	**76**	**38**	**13**	**14**	***141***	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**1**	**2**	***6***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E 104th Ave				E 104th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	16	2	0	0	7	1	0	2	0	1	0	1	1	3	34	0
7:15 AM	**0**	**1**	**12**	**1**	**0**	**1**	**3**	**3**	**0**	**3**	**0**	**0**	**0**	**1**	**1**	**2**	**28**	0
7:30 AM	**0**	**1**	**17**	**1**	**0**	**0**	**9**	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**0**	**34**	0
7:45 AM	**0**	**3**	**20**	**2**	**0**	**1**	**9**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**1**	**1**	**40**	136
8:00 AM	**0**	**4**	**13**	**1**	**0**	**0**	**9**	**3**	**0**	**1**	**3**	**0**	**0**	**3**	**1**	**1**	**39**	**141**
8:15 AM	0	3	14	3	0	0	17	5	0	1	0	0	0	4	1	3	51	164
8:30 AM	0	2	10	2	0	0	9	0	0	1	0	0	0	0	1	0	25	155
8:45 AM	0	4	13	1	0	0	13	2	0	0	1	0	0	0	0	1	35	150
Count Total	0	18	115	13	0	2	76	14	0	9	8	2	0	12	6	11	286	0
Peak Hour	**0**	**9**	**62**	**5**	**0**	**2**	**30**	**6**	**0**	**5**	**7**	**1**	**0**	**7**	**3**	**4**	**141**	**0**

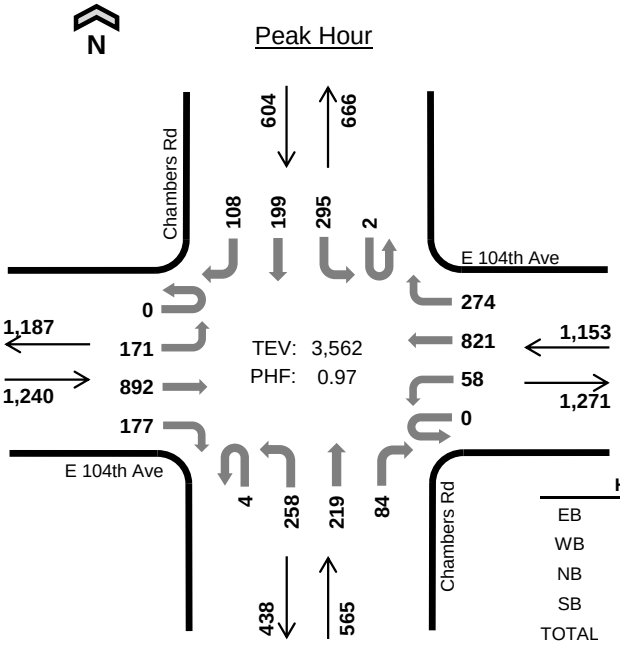
Two-Hour Count Summaries - Bikes

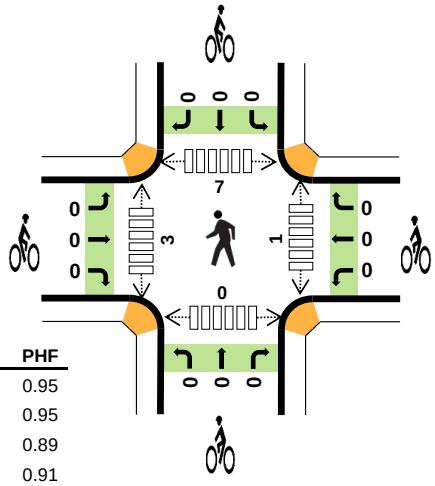
Interval Start	E 104th Ave			E 104th Ave			Chambers Rd			Chambers Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chambers Rd
E 104th Ave

Date: 11/09/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	2.1%	0.95
WB	3.9%	0.95
NB	1.1%	0.89
SB	1.5%	0.91
TOTAL	2.4%	0.97

Two-Hour Count Summaries

Interval Start		E 104th Ave Eastbound				E 104th Ave Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	41	205	37	0	11	175	48	2	41	54	18	0	56	47	27	762	0
4:15 PM		1	50	210	31	0	12	201	58	0	51	43	20	0	69	41	27	814	0
4:30 PM		**0**	**34**	**201**	**40**	**0**	**17**	**198**	**88**	**0**	**72**	**58**	**29**	**0**	**63**	**41**	**20**	**861**	0
4:45 PM		**0**	**44**	**225**	**57**	**0**	**17**	**219**	**61**	**2**	**62**	**54**	**12**	**0**	**81**	**46**	**30**	**910**	3,347
5:00 PM		**0**	**44**	**221**	**47**	**0**	**7**	**203**	**79**	**2**	**64**	**51**	**30**	**1**	**75**	**58**	**32**	**914**	3,499
5:15 PM		**0**	**49**	**245**	**33**	**0**	**17**	**201**	**46**	**0**	**60**	**56**	**13**	**1**	**76**	**54**	**26**	**877**	**3,562**
5:30 PM		0	43	185	49	0	17	172	57	0	58	46	16	1	71	42	22	779	3,480
5:45 PM		0	34	194	34	0	9	160	51	0	41	43	22	0	57	39	26	710	3,280
Count Total		1	339	1,686	328	0	107	1,529	488	6	449	405	160	3	548	368	210	6,627	0
Peak Hour	**All**	**0**	**171**	**892**	**177**	**0**	**58**	**821**	**274**	**4**	**258**	**219**	**84**	**2**	**295**	**199**	**108**	**3,562**	**0**
	HV	**0**	**2**	**22**	**2**	**0**	**2**	**36**	**7**	**0**	**2**	**3**	**1**	**0**	**3**	**3**	**3**	**86**	**0**
	HV%	**-**	**1%**	**2%**	**1%**	**-**	**3%**	**4%**	**3%**	**0%**	**1%**	**1%**	**1%**	**0%**	**1%**	**2%**	**3%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	11	10	1	4	*26*	0	0	0	0	*0*	0	0	0	1	*1*
4:15 PM	10	17	3	1	*31*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**3**	**17**	**0**	**2**	***22***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
4:45 PM	**5**	**7**	**2**	**1**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**2**	**0**	*3*
5:00 PM	**10**	**10**	**1**	**5**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**2**	**0**	*3*
5:15 PM	**8**	**11**	**3**	**1**	***23***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**2**	**0**	***3***
5:30 PM	3	6	0	1	*10*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	2	2	0	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	52	80	10	15	*157*	0	0	0	0	*0*	1	3	7	1	*12*
Peak Hour	**26**	**45**	**6**	**9**	***86***	**0**	**0**	**0**	**0**	***0***	**1**	**3**	**7**	**0**	***11***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E 104th Ave				E 104th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	8	2	0	0	9	1	0	1	0	0	0	1	1	2	26	0
4:15 PM	0	2	8	0	0	0	16	1	0	2	0	1	0	0	0	1	31	0
4:30 PM	**0**	**0**	**3**	**0**	**0**	**0**	**14**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**22**	0
4:45 PM	**0**	**0**	**5**	**0**	**0**	**1**	**6**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**15**	94
5:00 PM	**0**	**1**	**9**	**0**	**0**	**0**	**6**	**4**	**0**	**0**	**1**	**0**	**0**	**2**	**3**	**0**	**26**	94
5:15 PM	**0**	**1**	**5**	**2**	**0**	**1**	**10**	**0**	**0**	**1**	**2**	**0**	**0**	**1**	**0**	**0**	**23**	**86**
5:30 PM	0	0	2	1	0	0	4	2	0	0	0	0	0	0	1	0	10	74
5:45 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	63
Count Total	0	5	42	5	0	2	67	11	0	5	3	2	0	4	5	6	157	0
Peak Hour	**0**	**2**	**22**	**2**	**0**	**2**	**36**	**7**	**0**	**2**	**3**	**1**	**0**	**3**	**3**	**3**	**86**	**0**

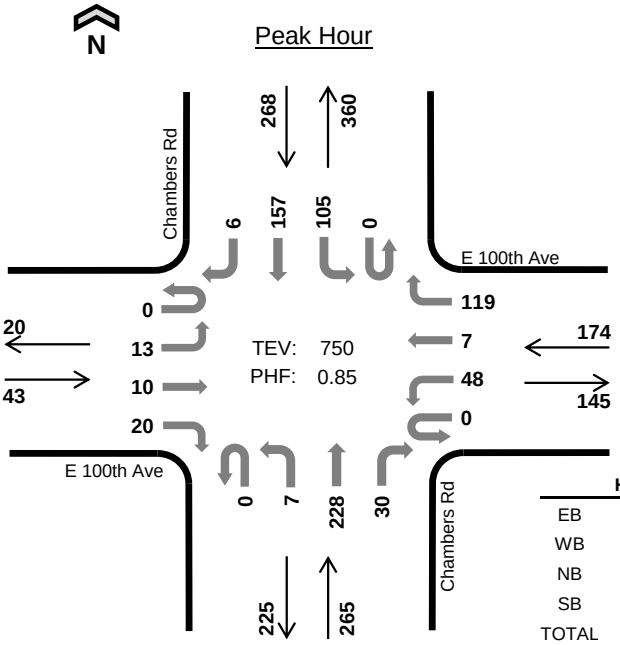
Two-Hour Count Summaries - Bikes

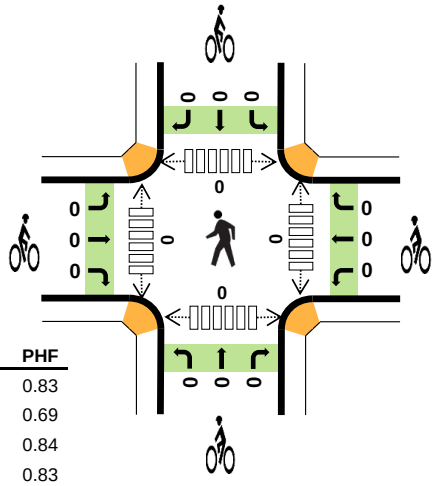
Interval Start	E 104th Ave			E 104th Ave			Chambers Rd			Chambers Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chambers Rd
E 100th Ave

Date: 11/09/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	4.7%	0.83
WB	3.4%	0.69
NB	1.1%	0.84
SB	5.6%	0.83
TOTAL	3.5%	0.85

Two-Hour Count Summaries

Interval Start	E 100th Ave Eastbound				E 100th Ave Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	3	1	10	0	10	0	19	0	0	42	6	0	29	29	1	150	0
7:15 AM	**0**	**2**	**1**	**5**	**0**	**10**	**0**	**19**	**0**	**1**	**49**	**6**	**0**	**33**	**33**	**0**	**159**	0
7:30 AM	**0**	**6**	**6**	**1**	**0**	**21**	**1**	**41**	**0**	**3**	**68**	**8**	**0**	**28**	**36**	**1**	**220**	0
7:45 AM	**0**	**3**	**1**	**7**	**0**	**6**	**5**	**33**	**0**	**0**	**69**	**4**	**0**	**15**	**39**	**2**	**184**	713
8:00 AM	**0**	**2**	**2**	**7**	**0**	**11**	**1**	**26**	**0**	**3**	**42**	**12**	**0**	**29**	**49**	**3**	**187**	**750**
8:15 AM	0	4	2	0	0	13	0	14	0	1	43	11	0	21	47	1	157	748
8:30 AM	0	0	1	3	0	14	0	17	0	1	28	2	0	21	39	1	127	655
8:45 AM	0	1	0	3	0	3	0	9	0	0	38	2	0	12	25	1	94	565
Count Total	0	21	14	36	0	88	7	178	0	9	379	51	0	188	297	10	1,278	0
Peak Hour All	**0**	**13**	**10**	**20**	**0**	**48**	**7**	**119**	**0**	**7**	**228**	**30**	**0**	**105**	**157**	**6**	**750**	**0**
Peak Hour HV	**0**	**1**	**1**	**0**	**0**	**2**	**1**	**3**	**0**	**1**	**2**	**0**	**0**	**6**	**7**	**2**	**26**	**0**
Peak Hour HV%	**-**	**8%**	**10%**	**0%**	**-**	**4%**	**14%**	**3%**	**-**	**14%**	**1%**	**0%**	**-**	**6%**	**4%**	**33%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	1	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**0**	**1**	**1**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**1**	**1**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**2**	**1**	**1**	**4**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**0**	**3**	**0**	**4**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	0	0	0	3	*3*	0	0	0	0	*0*	1	0	0	0	*1*
8:30 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	1	1	0	*2*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	2	8	6	20	*36*	0	0	0	0	*0*	2	0	0	0	*2*
Peak Hour	**2**	**6**	**3**	**15**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E 100th Ave				E 100th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	4	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**3**	**0**	**6**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**1**	**5**	0
7:45 AM	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**8**	23
8:00 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**7**	**26**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	23
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	19
8:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	13
Count Total	0	1	1	0	0	2	1	5	0	1	5	0	0	7	10	3	36	0
Peak Hour	**0**	**1**	**1**	**0**	**0**	**2**	**1**	**3**	**0**	**1**	**2**	**0**	**0**	**6**	**7**	**2**	**26**	**0**

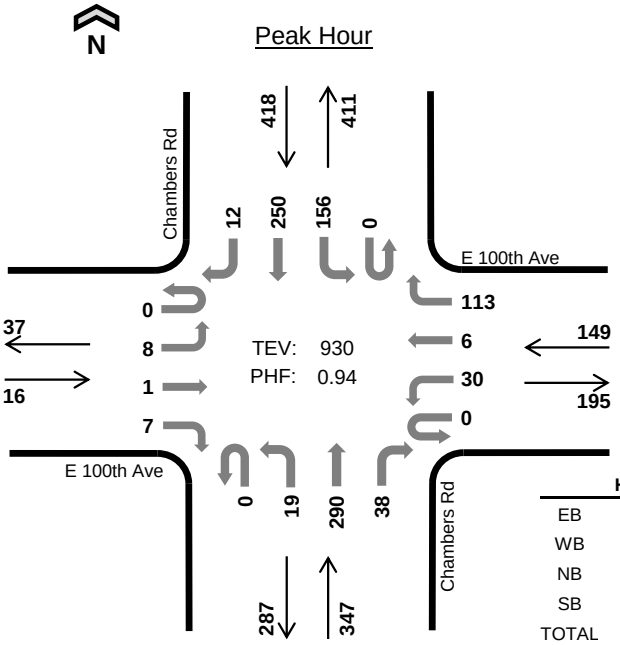
Two-Hour Count Summaries - Bikes

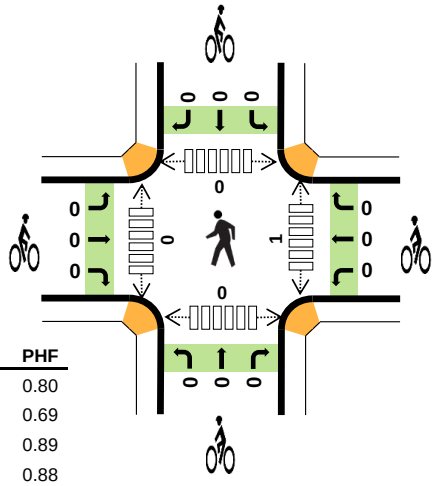
Interval Start	E 100th Ave			E 100th Ave			Chambers Rd			Chambers Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chambers Rd
E 100th Ave

Date: 11/09/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	6.3%	0.80
WB	3.4%	0.69
NB	0.3%	0.89
SB	1.4%	0.88
TOTAL	1.4%	0.94

Two-Hour Count Summaries

Interval Start	E 100th Ave Eastbound				E 100th Ave Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	2	0	4	1	22	0	5	60	11	0	25	35	4	170	0
4:15 PM	0	4	2	0	0	4	0	24	0	0	70	14	0	29	31	3	181	0
4:30 PM	**0**	**2**	**1**	**2**	**0**	**12**	**4**	**38**	**0**	**5**	**75**	**13**	**0**	**34**	**53**	**1**	**240**	0
4:45 PM	**0**	**1**	**0**	**1**	**0**	**8**	**1**	**22**	**0**	**3**	**64**	**7**	**0**	**46**	**70**	**3**	**226**	817
5:00 PM	**0**	**2**	**0**	**3**	**0**	**4**	**1**	**29**	**0**	**6**	**82**	**10**	**0**	**41**	**66**	**4**	**248**	895
5:15 PM	**0**	**3**	**0**	**1**	**0**	**6**	**0**	**24**	**0**	**5**	**69**	**8**	**0**	**35**	**61**	**4**	**216**	**930**
5:30 PM	0	1	0	0	0	10	0	24	0	4	62	12	0	26	61	5	205	895
5:45 PM	0	2	0	3	0	6	0	14	0	2	70	10	0	28	51	2	188	857
Count Total	0	15	4	12	0	54	7	197	0	30	552	85	0	264	428	26	1,674	0
Peak Hour All	**0**	**8**	**1**	**7**	**0**	**30**	**6**	**113**	**0**	**19**	**290**	**38**	**0**	**156**	**250**	**12**	**930**	**0**
Peak Hour HV	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**3**	**0**	**0**	**1**	**0**	**0**	**1**	**4**	**1**	**13**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**14%**	**-**	**3%**	**17%**	**3%**	**-**	**0%**	**0%**	**0%**	**-**	**1%**	**2%**	**8%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	2	*2*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	2	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**2**	**0**	**3**	***6***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
5:15 PM	**0**	**1**	**1**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	0	2	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	0	1	0	*2*
Count Total	1	5	3	10	*19*	0	0	0	0	*0*	2	0	1	0	*3*
Peak Hour	**1**	**5**	**1**	**6**	***13***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E 100th Ave				E 100th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	7
5:00 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**6**	11
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**4**	**13**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	13
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Count Total	0	0	0	1	0	1	1	3	0	0	3	0	0	2	7	1	19	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**3**	**0**	**0**	**1**	**0**	**0**	**1**	**4**	**1**	**13**	**0**

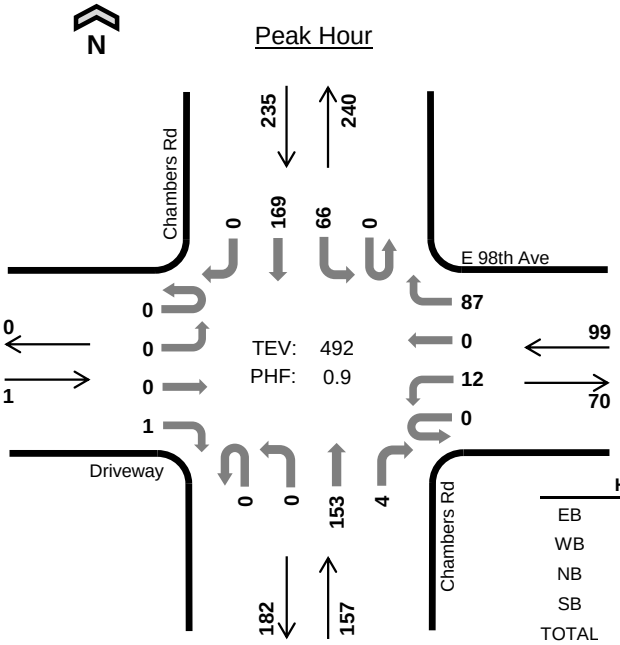
Two-Hour Count Summaries - Bikes

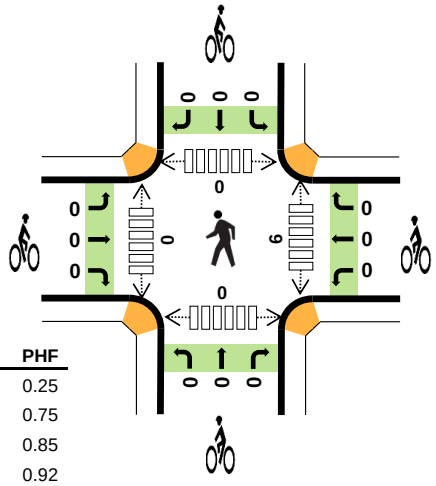
Interval Start	E 100th Ave			E 100th Ave			Chambers Rd			Chambers Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chambers Rd
E 98th Ave

Date: 11/09/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM





	HV %:	PHF
EB	0.0%	0.25
WB	0.0%	0.75
NB	1.9%	0.85
SB	3.4%	0.92
TOTAL	2.2%	0.90

Two-Hour Count Summaries

Interval Start	Driveway Eastbound				E 98th Ave Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	6	0	13	0	0	29	1	0	5	42	0	96	0
7:15 AM	0	0	0	1	0	11	0	18	0	0	35	1	0	9	40	0	115	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**27**	**0**	**0**	**46**	**0**	**0**	**11**	**47**	**0**	**137**	0
7:45 AM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**27**	**0**	**0**	**36**	**2**	**0**	**14**	**38**	**0**	**119**	467
8:00 AM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**21**	**0**	**0**	**32**	**0**	**0**	**18**	**43**	**0**	**117**	488
8:15 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**12**	**0**	**0**	**39**	**2**	**0**	**23**	**41**	**0**	**119**	**492**
8:30 AM	0	0	0	0	0	5	0	9	0	0	20	1	0	21	35	0	91	446
8:45 AM	0	0	0	0	0	3	0	13	0	0	28	3	0	12	17	0	76	403
Count Total	0	0	0	2	0	37	0	140	0	0	265	10	0	113	303	0	870	0
Peak Hour All	**0**	**0**	**0**	**1**	**0**	**12**	**0**	**87**	**0**	**0**	**153**	**4**	**0**	**66**	**169**	**0**	**492**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**5**	**0**	**11**	**0**
Peak Hour HV%	**-**	**-**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**-**	**2%**	**0%**	**-**	**5%**	**3%**	**-**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	*1*	0	0	0	0	*0*	2	0	0	0	*2*
7:15 AM	0	0	1	4	*5*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**1**	**4**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**6**	**0**	**0**	**0**	***6***
8:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	2	0	0	0	*2*
8:45 AM	0	0	3	0	*3*	0	0	0	0	*0*	4	0	0	0	*4*
Count Total	0	0	8	12	*20*	0	0	0	0	*0*	14	0	0	0	*14*
Peak Hour	**0**	**0**	**3**	**8**	***11***	**0**	**0**	**0**	**0**	***0***	**6**	**0**	**0**	**0**	***6***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway				E 98th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2	0	5	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**2**	**0**	**5**	13
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	13
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**3**	**11**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
8:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	7
Count Total	0	0	0	0	0	0	0	0	0	0	8	0	0	5	7	0	20	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**5**	**0**	**11**	**0**

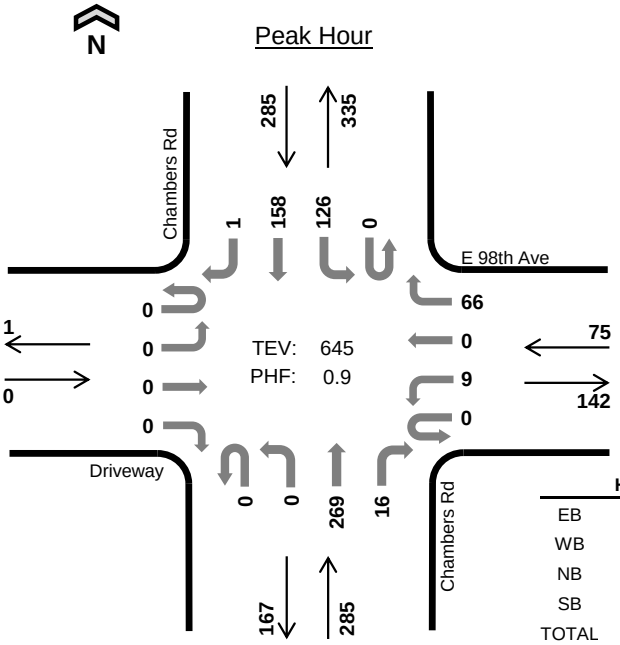
Two-Hour Count Summaries - Bikes

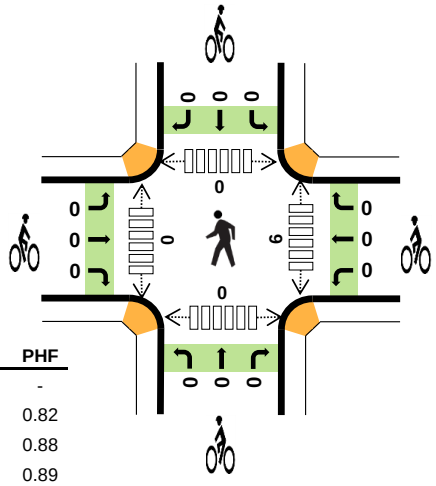
Interval Start	Driveway			E 98th Ave			Chambers Rd			Chambers Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chambers Rd
E 98th Ave

Date: 11/09/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	-	-
WB	0.0%	0.82
NB	0.0%	0.88
SB	2.5%	0.89
TOTAL	1.1%	0.90

Two-Hour Count Summaries

Interval Start		Driveway Eastbound				E 98th Ave Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	1	0	0	0	0	0	11	0	0	65	3	0	13	29	0	122	0
4:15 PM		0	0	0	0	0	4	0	24	0	0	55	3	0	19	16	0	121	0
4:30 PM		**0**	**0**	**0**	**0**	**0**	**4**	**0**	**16**	**0**	**0**	**71**	**3**	**0**	**23**	**42**	**0**	**159**	0
4:45 PM		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**0**	**53**	**2**	**0**	**33**	**47**	**0**	**150**	552
5:00 PM		**0**	**0**	**0**	**0**	**0**	**2**	**0**	**21**	**0**	**0**	**75**	**6**	**0**	**43**	**32**	**1**	**180**	610
5:15 PM		**0**	**0**	**0**	**0**	**0**	**3**	**0**	**14**	**0**	**0**	**70**	**5**	**0**	**27**	**37**	**0**	**156**	**645**
5:30 PM		0	0	0	0	0	1	0	6	0	0	65	5	0	17	57	0	151	637
5:45 PM		0	0	0	0	0	1	0	21	0	0	58	5	0	20	40	0	145	632
Count Total		0	1	0	0	0	15	0	128	0	0	512	32	0	195	300	1	1,184	0
Peak Hour	**All**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**66**	**0**	**0**	**269**	**16**	**0**	**126**	**158**	**1**	**645**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**4**	**0**	**7**	**0**
	HV%	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**0%**	**0%**	**-**	**2%**	**3%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	2	*2*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:45 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**0**	**4**	***4***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
5:15 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	***2***
5:30 PM	0	0	0	1	*1*	0	0	0	0	*0*	6	0	0	0	*6*
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	2	0	0	0	*2*
Count Total	0	0	1	11	*12*	0	0	0	0	*0*	14	0	0	0	*14*
Peak Hour	**0**	**0**	**0**	**7**	***7***	**0**	**0**	**0**	**0**	***0***	**6**	**0**	**0**	**0**	***6***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway				E 98th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	4
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**4**	6
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**7**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	8
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	8
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	0	3	8	0	12	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**4**	**0**	**7**	**0**

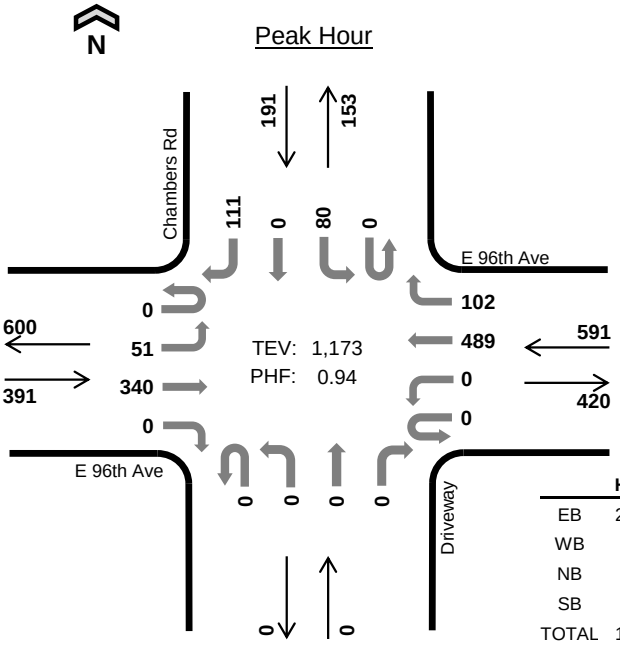
Two-Hour Count Summaries - Bikes

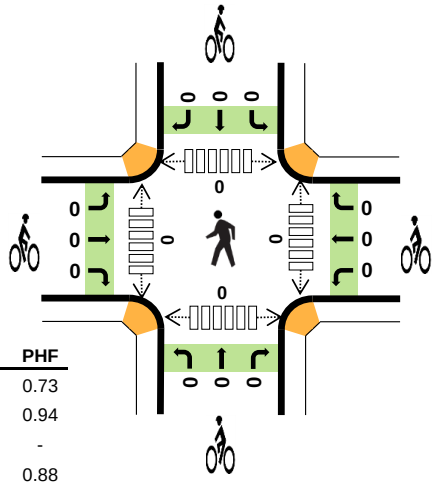
Interval Start	Driveway			E 98th Ave			Chambers Rd			Chambers Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chambers Rd
E 96th Ave

Date: 11/09/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	26.1%	0.73
WB	6.1%	0.94
NB	-	-
SB	2.1%	0.88
TOTAL	12.1%	0.94

Two-Hour Count Summaries

Interval Start		E 96th Ave Eastbound				E 96th Ave Westbound				Driveway Northbound				Chambers Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		**0**	**10**	**90**	**0**	**0**	**0**	**136**	**21**	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**27**	**302**	0
7:15 AM		**0**	**12**	**50**	**0**	**0**	**0**	**133**	**25**	**0**	**0**	**0**	**0**	**0**	**23**	**0**	**31**	**274**	0
7:30 AM		**0**	**15**	**80**	**0**	**0**	**0**	**107**	**30**	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**33**	**286**	0
7:45 AM		**0**	**14**	**120**	**0**	**0**	**0**	**113**	**26**	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**20**	**311**	**1,173**
8:00 AM		0	9	78	0	0	0	75	21	0	0	0	0	0	20	0	28	231	1,102
8:15 AM		0	12	88	2	0	0	83	28	0	0	0	1	0	17	0	26	257	1,085
8:30 AM		0	7	91	0	0	0	62	16	0	0	0	0	0	18	0	22	216	1,015
8:45 AM		0	16	69	1	0	0	61	14	0	0	0	0	0	7	0	14	182	886
Count Total		0	95	666	3	0	0	770	181	0	0	0	1	0	142	0	201	2,059	0
Peak Hour	**All**	**0**	**51**	**340**	**0**	**0**	**0**	**489**	**102**	**0**	**0**	**0**	**0**	**0**	**80**	**0**	**111**	**1,173**	**0**
	HV	**0**	**1**	**101**	**0**	**0**	**0**	**33**	**3**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**142**	**0**
	HV%	**-**	**2%**	**30%**	**-**	**-**	**-**	**7%**	**3%**	**-**	**-**	**-**	**-**	**-**	**5%**	**-**	**0%**	**12%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**38**	**4**	**0**	**0**	***42***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**16**	**8**	**0**	**2**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**18**	**10**	**0**	**1**	***29***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**30**	**14**	**0**	**1**	***45***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	24	13	0	2	*39*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	30	14	0	1	*45*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	18	15	0	0	*33*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	21	9	0	0	*30*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	195	87	0	7	*289*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**102**	**36**	**0**	**4**	***142***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E 96th Ave Eastbound				E 96th Ave Westbound				Driveway Northbound				Chambers Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**1**	**37**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**42**	0
7:15 AM	**0**	**0**	**16**	**0**	**0**	**0**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**26**	0
7:30 AM	**0**	**0**	**18**	**0**	**0**	**0**	**9**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**29**	0
7:45 AM	**0**	**0**	**30**	**0**	**0**	**0**	**13**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**45**	**142**
8:00 AM	0	0	24	0	0	0	13	0	0	0	0	0	0	1	0	1	39	139
8:15 AM	0	0	30	0	0	0	13	1	0	0	0	0	0	0	0	1	45	158
8:30 AM	0	0	18	0	0	0	15	0	0	0	0	0	0	0	0	0	33	162
8:45 AM	0	3	18	0	0	0	9	0	0	0	0	0	0	0	0	0	30	147
Count Total	0	4	191	0	0	0	83	4	0	0	0	0	0	5	0	2	289	0
Peak Hour	**0**	**1**	**101**	**0**	**0**	**0**	**33**	**3**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**142**	**0**

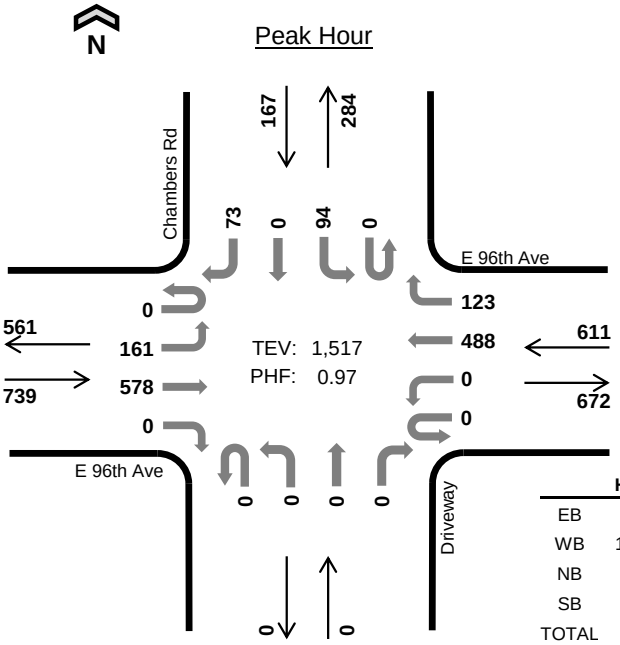
Two-Hour Count Summaries - Bikes

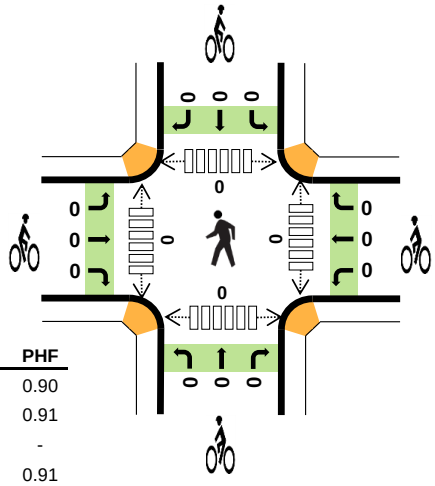
Interval Start	E 96th Ave Eastbound			E 96th Ave Westbound			Driveway Northbound			Chambers Rd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Chambers Rd
E 96th Ave

Date: 11/09/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	3.2%	0.90
WB	18.7%	0.91
NB	-	-
SB	2.4%	0.91
TOTAL	9.4%	0.97

Two-Hour Count Summaries

Interval Start	E 96th Ave Eastbound				E 96th Ave Westbound				Driveway Northbound				Chambers Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	46	159	0	0	0	97	20	0	0	0	0	0	15	0	14	351	0
4:15 PM	0	46	136	1	0	0	115	14	0	1	0	0	0	10	0	9	332	0
4:30 PM	**0**	**40**	**139**	**0**	**0**	**0**	**134**	**33**	**0**	**0**	**0**	**0**	**0**	**27**	**0**	**19**	**392**	0
4:45 PM	**0**	**23**	**141**	**0**	**0**	**0**	**128**	**32**	**0**	**0**	**0**	**0**	**0**	**23**	**0**	**23**	**370**	1,445
5:00 PM	**0**	**53**	**152**	**0**	**0**	**0**	**103**	**28**	**0**	**0**	**0**	**0**	**0**	**17**	**0**	**17**	**370**	1,464
5:15 PM	**0**	**45**	**146**	**0**	**0**	**0**	**123**	**30**	**0**	**0**	**0**	**0**	**0**	**27**	**0**	**14**	**385**	**1,517**
5:30 PM	0	44	128	1	0	0	99	25	0	0	0	1	0	38	0	18	354	1,479
5:45 PM	0	43	123	0	0	0	76	21	0	0	0	0	0	33	0	12	308	1,417
Count Total	0	340	1,124	2	0	0	875	203	0	1	0	1	0	190	0	126	2,862	0
Peak Hour All	**0**	**161**	**578**	**0**	**0**	**0**	**488**	**123**	**0**	**0**	**0**	**0**	**0**	**94**	**0**	**73**	**1,517**	**0**
Peak Hour HV	**0**	**0**	**24**	**0**	**0**	**0**	**114**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**142**	**0**
Peak Hour HV%	**-**	**0%**	**4%**	**-**	**-**	**-**	**23%**	**0%**	**-**	**-**	**-**	**-**	**-**	**2%**	**-**	**3%**	**9%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	11	23	0	2	*36*	0	0	0	0	*0*	1	0	0	0	*1*
4:15 PM	9	21	0	0	*30*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**4**	**31**	**0**	**0**	***35***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**7**	**34**	**0**	**1**	***42***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**8**	**23**	**0**	**1**	***32***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**5**	**26**	**0**	**2**	***33***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	6	24	0	1	*31*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	6	18	0	1	*25*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	56	200	0	8	*264*	0	0	0	0	*0*	1	0	0	0	*1*
Peak Hour	**24**	**114**	**0**	**4**	***142***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E 96th Ave Eastbound				E 96th Ave Westbound				Driveway Northbound				Chambers Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	11	0	0	0	22	1	0	0	0	0	0	0	0	2	36	0
4:15 PM	0	0	9	0	0	0	21	0	0	0	0	0	0	0	0	0	30	0
4:30 PM	**0**	**0**	**4**	**0**	**0**	**0**	**31**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**35**	0
4:45 PM	**0**	**0**	**7**	**0**	**0**	**0**	**34**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**42**	143
5:00 PM	**0**	**0**	**8**	**0**	**0**	**0**	**23**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**32**	139
5:15 PM	**0**	**0**	**5**	**0**	**0**	**0**	**26**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**33**	**142**
5:30 PM	0	0	6	0	0	0	24	0	0	0	0	0	0	1	0	0	31	138
5:45 PM	0	0	6	0	0	0	18	0	0	0	0	0	0	1	0	0	25	121
Count Total	0	0	56	0	0	0	199	1	0	0	0	0	0	4	0	4	264	0
Peak Hour	**0**	**0**	**24**	**0**	**0**	**0**	**114**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**142**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	E 96th Ave Eastbound			E 96th Ave Westbound			Driveway Northbound			Chambers Rd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

APPENDIX B

Future Traffic Projections

DRCOG Traffic Projections: Anderson Ranch

Location	Daily Volumes			
	2015	2040	Growth Factor	Annual Growth
Chambers Rd N/O 104th Ave	2,000	3,000	1.50	1.6%
Chambers Rd S/O 104th Ave	2,000	4,000	2.00	2.8%
104th Ave W/O Chambers Rd	11,000	24,000	2.18	3.2%
104th Ave E/O Chambers Rd	10,000	22,000	2.20	3.2%
96th Ave W/O Chambers Rd	6,000	16,000	2.67	4.0%
96th Ave E/O Chambers Rd	8,000	20,000	2.50	3.7%
Total (Average)	39,000	89,000	2.28	3.4%

APPENDIX C

Trip Generation Worksheets

Trip Generation Planner (ITE 11th Edition) - Summary Report

Kimley»Horn

Weekday Trip Generation
Trips Based on Average Rates/Equations

Project Name **Anderson Ranch**
Project Number **196326000**

							Rates			Total Trips							Net Trips after Internal Capture						
ITE Code	Internal Capture Land Use	Land Use Description	Independent Variable	Setting/Location	No. of Units	Avg Rate or Eq	Daily Rate	AM Rate	PM Rate	Daily Trips	AM Trips	PM Trips	AM Trips In	AM Trips Out	PM Trips In	PM Trips Out	Daily Trips	AM Trips	PM Trips	AM Trips In	AM Trips Out	PM Trips In	PM Trips Out
210	Select Use	Single-Family Detached Housing	Dwelling Unit(s)	General Urban/Suburban	491	Eq	N/A	N/A	N/A	4,362	316	443	82	234	279	164	4,362	316	443	82	234	279	164
215	Select Use	Single-Family Attached Housing	Dwelling Unit(s)	General Urban/Suburban	90	Eq	N/A	N/A	N/A	636	41	50	13	28	29	21	636	41	50	13	28	29	21
411	Select Use	Public Park	Acre(s)	General Urban/Suburban	18	Avg	0.78	0.02	0.11	18	0	2	0	0	1	1	18	0	2	0	0	1	1
520	Select Use	Elementary School	Student(s)	General Urban/Suburban	725	Avg	2.27	0.74	0.16	1,646	537	116	290	247	53	63	1,186	387	84	209	178	38	45
									Grand Total	6,662	894	612	385	509	362	250	6,202	744	579	304	440	347	232

Notes:
(1) AM and/or PM rates correspond to peak hour of generator
(2) Land use was removed in *Trip Generation, 10 Edition,* trip generation data from the ITE *Trip Generation, 9th Edition*

Kimley»Horn

Project	Anderson Ranch				
Subject	Trip Generation for Single-Family Detached Housing				
Designed by		*Date*	January 17, 2023	*Job No.*	196326000
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independent Variable - Dwelling Units (X)

X = 491
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 220)

Directional Distribution: 26% ent. 74% exit.

Ln(T) = 0.91 Ln(X) + 0.12
Ln(T) = 0.91 * Ln(491) + 0.12

T = 316 Average Vehicle Trip Ends
82 entering 234 exiting

82 + 234 = 316

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 221)

Directional Distribution: 63% ent. 37% exit.

Ln(T) = 0.94 Ln(X) + 0.27
Ln(T) = 0.94 * Ln(491) + 0.27

T = 443 Average Vehicle Trip Ends
279 entering 164 exiting

279 + 164 = 443

Peak Hour of Generator, Saturday (200 Series Page 8)

Directional Distribution: 54% ent. 46% exit.

(T) = 0.86 (X) + 9.72
(T) = 0.86 * (491) + 9.72

T = 432 Average Vehicle Trip Ends
233 entering 199 exiting

233 + 199 = 432

Weekday (200 Series Page 219)

Directional Distribution: 50% entering, 50% exiting

Ln(T) = 0.92 Ln(X) + 2.68
Ln(T) = 0.92 * Ln(491) + 2.68

T = 4362 Average Vehicle Trip Ends
2181 entering 2181 exiting

2181 + 2181 = 4362

Kimley»Horn

Project	Anderson Ranch				
Subject	Trip Generation for Single-Family Attached Housing				
Designed by	TES	*Date*	January 17, 2023	*Job No.*	196326000
Checked by		*Date*		*Sheet No.*	*of*

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Single-Family Attached Housing (215)

Independent Variable - Dwelling Units (X)

X = 90
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 239)

Directional Distribution: 31% ent. 69% exit.

(T) = 0.52 (X) - 5.70
T = 41 Average Vehicle Trip Ends

(T) = 0.52 * (90) - 5.70
13 entering 28 exiting

13 + 28 = 41

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 240)

Directional Distribution: 57% ent. 43% exit.

(T) = 0.60 (X) - 3.93
T = 50 Average Vehicle Trip Ends

(T) = 0.60 * (90) - 3.93
29 entering 22 exiting

29 + 21 = 50

Saturday (200 Series Page 243)

Directional Distribution: 50% ent. 50% exit.

(T) = 13.21 (X) - 444.34
T = 745 Average Vehicle Trip Ends

(T) = 13.21 * (90) - 444.34
371 entering 373 exiting

371 + 374 = 745

Weekday (200 Series Page 238)

Directional Distribution: 50% entering, 50% exiting

(T) = 7.62 (X) - 50.48
T = 636 Average Vehicle Trip Ends

(T) = 7.62 * (90) + 50.48
318 entering 318 exiting

318 + 318 = 636

Kimley»Horn

Project	Anderson Ranch				
Subject	Trip Generation - Public Park				
Designed by	TES	*Date*	January 17, 2023	*Job No.*	196326000
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations
Land Use Code - Public Park (411)
Independent Variable - Acres (X)

Acres 18
X = 18
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (400 Series Page 3)

(T) = 0.02 (X)
(T) = 0.02 * (17.5)

Directional Distribution: 59% ent. 41% exit.
T = 0 Average Vehicle Trip Ends
0 entering 0 exiting
0 + 0 = 0

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (400 Series Page 4)

(T) = 0.11 (X)
(T) = 0.11 * (17.5)

Directional Distribution: 55% ent. 45% exit.
T = 2 Average Vehicle Trip Ends
1 entering 1 exiting
1 + 1 = 2

Weekday (400 Series page 2)

Average Weekday
T = 0.78* (X)
T = 0.78 * 18

Directional Distribution: 50% entering, 50% exiting
T = 14 Average Vehicle Trip Ends
7 entering 7 exiting

7 + 7 = 14

Kimley»Horn

Project	Anderson Ranch				
Subject	Trip Generation for Elementary School				
Designed by	TES	*Date*	April 11, 2024	*Job No.*	196326000
Checked by		*Date*		*Sheet No.*	*of*

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Elementary School (520)

Independent Variable - Students (X)

X = 725
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (500 Series Page 327)

Average Weekday
(T) = 0.74 (X)
(T) = 0.74 * (725.0)

Directional Distribution: 54% ent. 46% exit.
T = 537 Average Vehicle Trip Ends
290 entering 247 exiting

290 + 247 = 537

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (500 Series Page 328)

Average Weekday
(T) = 0.16(X)
(T) = 0.16 * (725.0)

Directional Distribution: 46% ent. 54% exit.
T = 116 Average Vehicle Trip Ends
53 entering 63 exiting

53 + 63 = 116

Weekday (500 Series Page 326)

Average Weekday
(T) = 2.27 (X)
(T) = 2.27 * (725.0)

Directional Distribution: 50% entering, 50% exiting
T = 1646 Average Vehicle Trip Ends
823 entering 823 exiting

823 + 823 = 1646

APPENDIX D

Intersection Analysis Worksheets

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1057	6	36	1267	102	61
Future Vol, veh/h	1057	6	36	1267	102	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	75
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1215	7	41	1456	117	70

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1222	0	2029	611
Stage 1	-	-	-	-	1219	-
Stage 2	-	-	-	-	810	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	*946	-	*~ 116	*633
Stage 1	-	-	-	-	*597	-
Stage 2	-	-	-	-	*523	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*946	-	*~ 111	*633
Mov Cap-2 Maneuver	-	-	-	-	*378	-
Stage 1	-	-	-	-	*597	-
Stage 2	-	-	-	-	*501	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	16
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	378	633	-	-	* 946	-
HCM Lane V/C Ratio	0.31	0.111	-	-	0.044	-
HCM Control Delay (s)	18.7	11.4	-	-	9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.3	0.4	-	-	0.1	-

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1364	18	75	1182	40	46
Future Vol, veh/h	1364	18	75	1182	40	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	75
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1499	20	82	1299	44	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1519	0	2323	760
Stage 1	-	-	-	-	1509	-
Stage 2	-	-	-	-	814	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	*751	-	*189	*502
Stage 1	-	-	-	-	*474	-
Stage 2	-	-	-	-	*548	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*751	-	*168	*502
Mov Cap-2 Maneuver	-	-	-	-	*357	-
Stage 1	-	-	-	-	*474	-
Stage 2	-	-	-	-	*488	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	357	502	-	-	* 751	-
HCM Lane V/C Ratio	0.123	0.101	-	-	0.11	-
HCM Control Delay (s)	16.5	13	-	-	10.4	-
HCM Lane LOS	C	B	-	-	B	-
HCM 95th %tile Q(veh)	0.4	0.3	-	-	0.4	-

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

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1168	6	37	1400	105	62
Future Vol, veh/h	1168	6	37	1400	105	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	75
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1343	7	43	1609	121	71

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1350	0	2238	675
Stage 1	-	-	-	-	1347	-
Stage 2	-	-	-	-	891	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	868	-	*~ 71	*607
Stage 1	-	-	-	-	*542	-
Stage 2	-	-	-	-	*474	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	868	-	*~ 68	*607
Mov Cap-2 Maneuver	-	-	-	-	*331	-
Stage 1	-	-	-	-	*542	-
Stage 2	-	-	-	-	*450	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	18.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	331	607	-	-	868	-
HCM Lane V/C Ratio	0.365	0.117	-	-	0.049	-
HCM Control Delay (s)	22	11.7	-	-	9.4	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.6	0.4	-	-	0.2	-

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1508	19	77	1307	42	48
Future Vol, veh/h	1508	19	77	1307	42	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	75
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1657	21	85	1436	46	53

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1678	0	2556	839
Stage 1	-	-	-	-	1668	-
Stage 2	-	-	-	-	888	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	*673	-	*72	*450
Stage 1	-	-	-	-	*425	-
Stage 2	-	-	-	-	*499	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*673	-	*63	*450
Mov Cap-2 Maneuver	-	-	-	-	*292	-
Stage 1	-	-	-	-	*425	-
Stage 2	-	-	-	-	*436	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	16.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	292	450	-	-	* 673	-
HCM Lane V/C Ratio	0.158	0.117	-	-	0.126	-
HCM Control Delay (s)	19.6	14.1	-	-	11.1	-
HCM Lane LOS	C	B	-	-	B	-
HCM 95th %tile Q(veh)	0.6	0.4	-	-	0.4	-

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

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1182	73	1439	198	102
Future Volume (vph)	1182	73	1439	198	102
Turn Type	NA	Perm	NA	Prot	Perm
Protected Phases	4		8	2	
Permitted Phases		8			2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	97.0	97.0	97.0	23.0	23.0
Total Split (%)	80.8%	80.8%	80.8%	19.2%	19.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	Max	Max
Act Effct Green (s)	92.5	92.5	92.5	18.5	18.5
Actuated g/C Ratio	0.77	0.77	0.77	0.15	0.15
v/c Ratio	0.53	0.38	0.61	0.84	0.38
Control Delay	11.9	7.7	5.5	75.4	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	7.7	5.5	75.4	23.3
LOS	B	A	A	E	C
Approach Delay	11.9		5.6	57.7	
Approach LOS	B		A	E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 61.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Sable Blvd & 104th Ave

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1182	61	73	1439	198	102
Future Volume (veh/h)	1182	61	73	1439	198	102
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1359	70	84	1654	228	117
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2651	136	292	2739	275	244
Arrive On Green	0.77	0.77	1.00	1.00	0.15	0.15
Sat Flow, veh/h	3532	177	375	3647	1781	1585
Grp Volume(v), veh/h	701	728	84	1654	228	117
Grp Sat Flow(s),veh/h/ln	1777	1839	375	1777	1781	1585
Q Serve(g_s), s	17.9	18.0	7.4	0.0	14.9	8.1
Cycle Q Clear(g_c), s	17.9	18.0	25.4	0.0	14.9	8.1
Prop In Lane		0.10	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1370	1417	292	2739	275	244
V/C Ratio(X)	0.51	0.51	0.29	0.60	0.83	0.48
Avail Cap(c_a), veh/h	1370	1417	292	2739	275	244
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.46	0.46	1.00	1.00
Uniform Delay (d), s/veh	5.2	5.2	2.5	0.0	49.2	46.3
Incr Delay (d2), s/veh	1.2	1.2	1.1	0.5	24.3	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	6.2	0.4	0.2	8.5	3.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.4	6.4	3.6	0.5	73.5	52.9
LnGrp LOS	A	A	A	A	E	D
Approach Vol, veh/h	1429			1738	345	
Approach Delay, s/veh	6.4			0.6	66.6	
Approach LOS	A			A	E	

Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		23.0		97.0		97.0
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.5		92.5		92.5
Max Q Clear Time (g_c+I1), s		16.9		20.0		27.4
Green Ext Time (p_c), s		0.2		16.1		27.5

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1554	98	1335	96	64
Future Volume (vph)	1554	98	1335	96	64
Turn Type	NA	Perm	NA	Prot	Perm
Protected Phases	4		8	2	
Permitted Phases		8			2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	97.5	97.5	97.5	22.5	22.5
Total Split (%)	81.3%	81.3%	81.3%	18.8%	18.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	Max	Max
Act Effct Green (s)	93.0	93.0	93.0	18.0	18.0
Actuated g/C Ratio	0.78	0.78	0.78	0.15	0.15
v/c Ratio	0.67	0.83	0.54	0.40	0.25
Control Delay	7.7	53.4	5.0	51.1	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.7	53.4	5.0	51.1	17.7
LOS	A	D	A	D	B
Approach Delay	7.7		8.3	37.8	
Approach LOS	A		A	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 23 (19%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 9.5	Intersection LOS: A
Intersection Capacity Utilization 68.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Sable Blvd & 104th Ave

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1554	102	98	1335	96	64
Future Volume (veh/h)	1554	102	98	1335	96	64
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1708	112	108	1467	105	70
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2625	171	259	2754	267	238
Arrive On Green	1.00	1.00	1.00	1.00	0.15	0.15
Sat Flow, veh/h	3481	220	257	3647	1781	1585
Grp Volume(v), veh/h	889	931	108	1467	105	70
Grp Sat Flow(s),veh/h/ln	1777	1831	257	1777	1781	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.0	6.4	4.7
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	6.4	4.7
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1377	1419	259	2754	267	238
V/C Ratio(X)	0.65	0.66	0.42	0.53	0.39	0.29
Avail Cap(c_a), veh/h	1377	1419	259	2754	267	238
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.60	0.60	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	46.1	45.4
Incr Delay (d2), s/veh	1.7	1.8	3.0	0.4	4.3	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.7	0.2	0.2	3.2	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.7	1.8	3.0	0.4	50.4	48.5
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h	1820			1575	175	
Approach Delay, s/veh	1.8			0.6	49.6	
Approach LOS	A			A	D	

Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		22.5		97.5		97.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		93.0		93.0
Max Q Clear Time (g_c+I1), s		8.4		2.0		2.0
Green Ext Time (p_c), s		0.3		29.6		28.8

Intersection Summary	
HCM 6th Ctrl Delay	3.6
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2280	8	46	2733	128	76
Future Vol, veh/h	2280	8	46	2733	128	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	75
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2478	9	50	2971	139	83

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2487	0	4069	1244
Stage 1	-	-	-	-	2483	-
Stage 2	-	-	-	-	1586	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	*167	-	-	*112
Stage 1	-	-	-	-	*~ 105	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	1	-	2	1
Mov Cap-1 Maneuver	-	-	*167	-	-	*112
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	*~ 105	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	112	-	-	* 167	-
HCM Lane V/C Ratio	-	0.738	-	-	0.299	-
HCM Control Delay (s)	-	97.1	-	-	35.5	-
HCM Lane LOS	-	F	-	-	E	-
HCM 95th %tile Q(veh)	-	4	-	-	1.2	-

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2943	23	94	2550	51	58
Future Vol, veh/h	2943	23	94	2550	51	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	75
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3199	25	102	2772	55	63

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	3224	0	4802	1612
Stage 1	-	-	-	-	3212	-
Stage 2	-	-	-	-	1590	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	2	-	2	2
Mov Cap-1 Maneuver	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-	-

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	2294	82	2772	221	116
Future Volume (vph)	2294	82	2772	221	116
Turn Type	NA	Perm	NA	Prot	Perm
Protected Phases	4		8	2	
Permitted Phases		8			2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	97.0	97.0	97.0	23.0	23.0
Total Split (%)	80.8%	80.8%	80.8%	19.2%	19.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	Max	Max
Act Effct Green (s)	92.5	92.5	92.5	18.5	18.5
Actuated g/C Ratio	0.77	0.77	0.77	0.15	0.15
v/c Ratio	0.66	1.46	0.77	0.88	0.49
Control Delay	16.0	240.6	12.3	81.5	49.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	240.6	12.3	81.5	49.0
LOS	B	F	B	F	D
Approach Delay	16.0		18.8	70.3	
Approach LOS	B		B	E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.46	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 73.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Sable Blvd & 104th Ave

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2294	63	82	2772	221	116
Future Volume (veh/h)	2294	63	82	2772	221	116
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2493	68	89	3013	240	126
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3940	107	128	3936	275	244
Arrive On Green	0.77	0.77	1.00	1.00	0.15	0.15
Sat Flow, veh/h	5279	139	123	5274	1781	1585
Grp Volume(v), veh/h	1656	905	89	3013	240	126
Grp Sat Flow(s),veh/h/ln	1702	1845	123	1702	1781	1585
Q Serve(g_s), s	26.1	26.5	66.0	0.0	15.8	8.8
Cycle Q Clear(g_c), s	26.1	26.5	92.5	0.0	15.8	8.8
Prop In Lane		0.08	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2624	1422	128	3936	275	244
V/C Ratio(X)	0.63	0.64	0.70	0.77	0.87	0.52
Avail Cap(c_a), veh/h	2624	1422	128	3936	275	244
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	6.1	6.2	21.0	0.0	49.6	46.6
Incr Delay (d2), s/veh	0.9	1.6	2.8	0.1	29.8	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	9.1	2.7	0.0	9.3	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.0	7.8	23.9	0.1	79.4	54.2
LnGrp LOS	A	A	C	A	E	D
Approach Vol, veh/h	2561			3102	366	
Approach Delay, s/veh	7.3			0.8	70.7	
Approach LOS	A			A	E	

Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		23.0		97.0		97.0
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.5		92.5		92.5
Max Q Clear Time (g_c+I1), s		17.8		28.5		94.5
Green Ext Time (p_c), s		0.1		43.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	7.8
HCM 6th LOS	A

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	2989	115	2578	105	74
Future Volume (vph)	2989	115	2578	105	74
Turn Type	NA	Perm	NA	Prot	Perm
Protected Phases	4		8	2	
Permitted Phases		8			2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	97.5	97.5	97.5	22.5	22.5
Total Split (%)	81.3%	81.3%	81.3%	18.8%	18.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	Max	Max
Act Effct Green (s)	93.0	93.0	93.0	18.0	18.0
Actuated g/C Ratio	0.78	0.78	0.78	0.15	0.15
v/c Ratio	0.86	2.02	0.71	0.43	0.33
Control Delay	15.2	496.9	6.2	52.0	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	496.9	6.2	52.0	48.3
LOS	B	F	A	D	D
Approach Delay	15.2		27.2	50.5	
Approach LOS	B		C	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 23 (19%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 2.02	
Intersection Signal Delay: 21.7	Intersection LOS: C
Intersection Capacity Utilization 83.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Sable Blvd & 104th Ave

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2989	106	115	2578	105	74
Future Volume (veh/h)	2989	106	115	2578	105	74
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3249	115	125	2802	114	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3926	137	102	3957	267	238
Arrive On Green	1.00	1.00	1.00	1.00	0.15	0.15
Sat Flow, veh/h	5234	177	55	5274	1781	1585
Grp Volume(v), veh/h	2171	1193	125	2802	114	80
Grp Sat Flow(s),veh/h/ln	1702	1838	55	1702	1781	1585
Q Serve(g_s), s	0.0	0.0	93.0	0.0	7.0	5.4
Cycle Q Clear(g_c), s	0.0	0.0	93.0	0.0	7.0	5.4
Prop In Lane		0.10	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2638	1425	102	3957	267	238
V/C Ratio(X)	0.82	0.84	1.22	0.71	0.43	0.34
Avail Cap(c_a), veh/h	2638	1425	102	3957	267	238
HCM Platoon Ratio	1.33	1.33	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.45	0.45	0.13	0.13	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	27.2	0.0	46.3	45.7
Incr Delay (d2), s/veh	1.4	2.8	110.7	0.1	4.9	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.1	5.9	0.1	3.5	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.4	2.8	137.9	0.1	51.2	49.4
LnGrp LOS	A	A	F	A	D	D
Approach Vol, veh/h	3364			2927	194	
Approach Delay, s/veh	1.9			6.0	50.5	
Approach LOS	A			A	D	

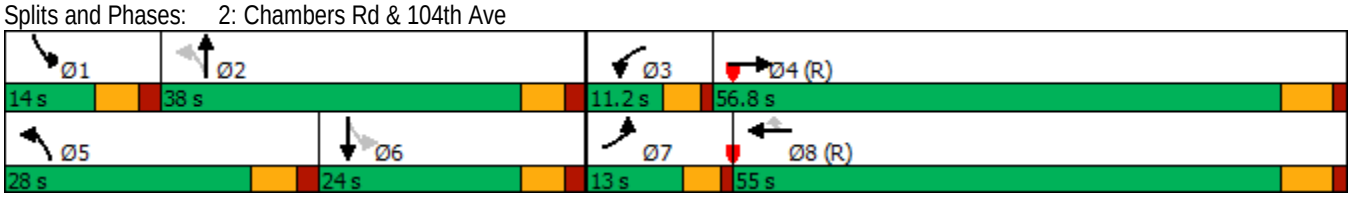
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		22.5		97.5		97.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		93.0		93.0
Max Q Clear Time (g_c+I1), s		9.0		2.0		95.0
Green Ext Time (p_c), s		0.4		80.0		0.0

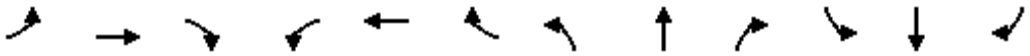
Intersection Summary	
HCM 6th Ctrl Delay	5.2
HCM 6th LOS	A

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	95	814	68	872	184	248	186	225	122
Future Volume (vph)	95	814	68	872	184	248	186	225	122
Turn Type	Prot	NA	Prot	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8	2		6	
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	9.5	24.0	24.0	11.0	24.0	11.0	24.0
Total Split (s)	13.0	56.8	11.2	55.0	55.0	28.0	38.0	14.0	24.0
Total Split (%)	10.8%	47.3%	9.3%	45.8%	45.8%	23.3%	31.7%	11.7%	20.0%
Yellow Time (s)	3.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.0	1.5	1.5	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)	4.5	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effct Green (s)	8.1	53.0	6.6	49.4	49.4	45.9	32.0	29.2	21.2
Actuated g/C Ratio	0.07	0.44	0.06	0.41	0.41	0.38	0.27	0.24	0.18
v/c Ratio	0.48	0.70	0.42	0.70	0.28	0.72	0.31	0.44	0.51
Control Delay	60.0	29.2	62.0	32.3	3.9	37.1	30.6	29.4	25.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	29.2	62.0	32.3	3.9	37.1	30.6	29.4	25.8
LOS	E	C	E	C	A	D	C	C	C
Approach Delay		32.0		29.5			33.9		27.3
Approach LOS		C		C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 30.6	Intersection LOS: C
Intersection Capacity Utilization 72.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Chambers Rd & 104th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	814	115	68	872	184	248	186	61	225	122	194
Future Volume (veh/h)	95	814	115	68	872	184	248	186	61	225	122	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	947	134	79	1014	0	288	216	71	262	142	226
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1377	195	134	1535		373	706	226	749	334	298
Arrive On Green	0.05	0.44	0.44	0.04	0.43	0.00	0.15	0.27	0.27	0.07	0.19	0.19
Sat Flow, veh/h	3456	3125	442	3456	3554	1585	1781	2648	847	3456	1777	1585
Grp Volume(v), veh/h	110	538	543	79	1014	0	288	143	144	262	142	226
Grp Sat Flow(s),veh/h/ln	1728	1777	1791	1728	1777	1585	1781	1777	1718	1728	1777	1585
Q Serve(g_s), s	3.8	29.2	29.2	2.7	27.2	0.0	15.0	7.7	8.1	7.3	8.5	16.2
Cycle Q Clear(g_c), s	3.8	29.2	29.2	2.7	27.2	0.0	15.0	7.7	8.1	7.3	8.5	16.2
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	164	783	789	134	1535		373	474	458	749	334	298
V/C Ratio(X)	0.67	0.69	0.69	0.59	0.66		0.77	0.30	0.31	0.35	0.42	0.76
Avail Cap(c_a), veh/h	245	783	789	193	1535		440	474	458	749	334	298
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	26.9	27.0	56.7	27.1	0.0	32.2	35.1	35.2	36.1	43.0	46.1
Incr Delay (d2), s/veh	4.7	4.9	4.9	4.1	2.3	0.0	7.0	1.6	1.8	0.3	3.9	16.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	13.2	13.4	1.3	11.9	0.0	7.2	3.6	3.6	3.1	4.1	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.0	31.8	31.8	60.9	29.4	0.0	39.2	36.7	37.0	36.3	46.9	62.6
LnGrp LOS	E	C	C	E	C		D	D	D	D	D	E
Approach Vol, veh/h		1191			1093	A		575			630	
Approach Delay, s/veh		34.5			31.6			38.0			48.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	38.0	9.1	58.9	23.4	28.6	10.2	57.8
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	8.0	32.0	6.7	50.8	22.0	18.0	8.5	49.0
Max Q Clear Time (g_c+I1), s	9.3	10.1	4.7	31.2	17.0	18.2	5.8	29.2
Green Ext Time (p_c), s	0.0	1.6	0.0	7.4	0.4	0.0	0.1	7.4

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

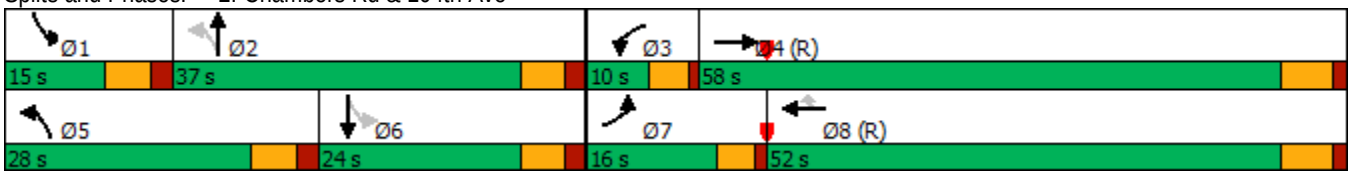
Notes

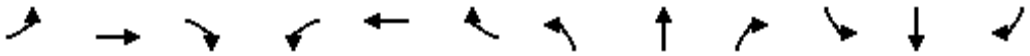
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	177	860	60	849	255	267	226	305	206
Future Volume (vph)	177	860	60	849	255	267	226	305	206
Turn Type	Prot	NA	Prot	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8	2		6	
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	9.5	24.0	24.0	11.0	24.0	11.0	24.0
Total Split (s)	16.0	58.0	10.0	52.0	52.0	28.0	37.0	15.0	24.0
Total Split (%)	13.3%	48.3%	8.3%	43.3%	43.3%	23.3%	30.8%	12.5%	20.0%
Yellow Time (s)	3.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.0	1.5	1.5	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)	4.5	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effct Green (s)	10.6	54.0	5.5	46.9	46.9	45.6	31.0	30.6	21.6
Actuated g/C Ratio	0.09	0.45	0.05	0.39	0.39	0.38	0.26	0.26	0.18
v/c Ratio	0.60	0.69	0.39	0.63	0.34	0.66	0.35	0.51	0.50
Control Delay	57.2	29.5	63.3	32.3	4.2	33.3	30.1	30.4	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	29.5	63.3	32.3	4.2	33.3	30.1	30.4	38.2
LOS	E	C	E	C	A	C	C	C	D
Approach Delay		33.5		27.8			31.6		34.4
Approach LOS		C		C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 31.5	Intersection LOS: C
Intersection Capacity Utilization 76.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Chambers Rd & 104th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	860	183	60	849	255	267	226	87	305	206	112
Future Volume (veh/h)	177	860	183	60	849	255	267	226	87	305	206	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	182	887	189	62	875	0	275	233	90	314	212	115
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	241	1291	275	126	1455		420	653	245	749	439	229
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.00	0.14	0.26	0.26	0.08	0.19	0.19
Sat Flow, veh/h	3456	2915	621	3456	3554	1585	1781	2528	949	3456	2258	1177
Grp Volume(v), veh/h	182	541	535	62	875	0	275	162	161	314	165	162
Grp Sat Flow(s),veh/h/ln	1728	1777	1759	1728	1777	1585	1781	1777	1700	1728	1777	1659
Q Serve(g_s), s	6.2	29.2	29.3	2.1	23.1	0.0	14.2	8.9	9.3	8.8	9.9	10.5
Cycle Q Clear(g_c), s	6.2	29.2	29.3	2.1	23.1	0.0	14.2	8.9	9.3	8.8	9.9	10.5
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.56	1.00		0.71
Lane Grp Cap(c), veh/h	241	787	779	126	1455		420	459	439	749	346	323
V/C Ratio(X)	0.76	0.69	0.69	0.49	0.60		0.65	0.35	0.37	0.42	0.48	0.50
Avail Cap(c_a), veh/h	331	787	779	158	1455		500	459	439	749	346	323
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	26.8	26.8	56.7	27.8	0.0	30.9	36.3	36.5	35.2	42.9	43.1
Incr Delay (d2), s/veh	6.4	4.9	4.9	3.0	1.8	0.0	2.4	2.1	2.4	0.4	4.7	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	13.3	13.1	1.0	10.1	0.0	6.4	4.2	4.2	3.7	4.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	31.6	31.7	59.7	29.6	0.0	33.2	38.4	38.8	35.6	47.6	48.6
LnGrp LOS	E	C	C	E	C		C	D	D	D	D	D
Approach Vol, veh/h		1258			937	A		598			641	
Approach Delay, s/veh		35.9			31.6			36.1			42.0	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	37.0	8.9	59.1	22.6	29.4	12.9	55.1
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	9.0	31.0	5.5	52.0	22.0	18.0	11.5	46.0
Max Q Clear Time (g_c+I1), s	10.8	11.3	4.1	31.3	16.2	12.5	8.2	25.1
Green Ext Time (p_c), s	0.0	1.8	0.0	7.5	0.4	0.9	0.2	6.4

Intersection Summary	
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

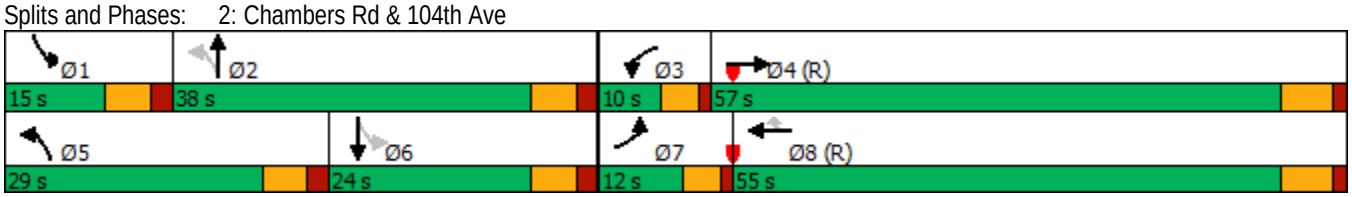
Notes

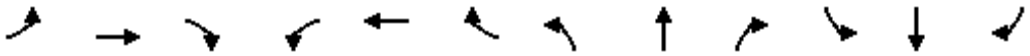
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	105	900	75	964	203	274	206	249	135
Future Volume (vph)	105	900	75	964	203	274	206	249	135
Turn Type	Prot	NA	Prot	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8	2		6	
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	9.5	24.0	24.0	11.0	24.0	11.0	24.0
Total Split (s)	12.0	57.0	10.0	55.0	55.0	29.0	38.0	15.0	24.0
Total Split (%)	10.0%	47.5%	8.3%	45.8%	45.8%	24.2%	31.7%	12.5%	20.0%
Yellow Time (s)	3.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.0	1.5	1.5	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)	4.5	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effct Green (s)	7.4	51.0	5.5	49.1	49.1	47.0	32.0	29.6	20.6
Actuated g/C Ratio	0.06	0.42	0.05	0.41	0.41	0.39	0.27	0.25	0.17
v/c Ratio	0.58	0.81	0.55	0.77	0.30	0.79	0.34	0.48	0.60
Control Delay	67.4	33.4	69.8	35.2	3.9	41.2	31.5	29.2	33.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.4	33.4	69.8	35.2	3.9	41.2	31.5	29.2	33.5
LOS	E	C	E	D	A	D	C	C	C
Approach Delay		36.6		32.2			36.4		31.7
Approach LOS		D		C			D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 34.2	Intersection LOS: C
Intersection Capacity Utilization 77.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Chambers Rd & 104th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	900	127	75	964	203	274	206	67	249	135	215
Future Volume (veh/h)	105	900	127	75	964	203	274	206	67	249	135	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	1047	148	87	1121	0	319	240	78	290	157	250
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	1349	190	136	1492		373	708	224	753	323	288
Arrive On Green	0.05	0.43	0.43	0.04	0.42	0.00	0.16	0.27	0.27	0.08	0.18	0.18
Sat Flow, veh/h	3456	3126	441	3456	3554	1585	1781	2654	841	3456	1777	1585
Grp Volume(v), veh/h	122	594	601	87	1121	0	319	159	159	290	157	250
Grp Sat Flow(s),veh/h/ln	1728	1777	1791	1728	1777	1585	1781	1777	1719	1728	1777	1585
Q Serve(g_s), s	4.2	34.3	34.4	3.0	32.1	0.0	16.8	8.6	9.0	8.2	9.5	18.4
Cycle Q Clear(g_c), s	4.2	34.3	34.4	3.0	32.1	0.0	16.8	8.6	9.0	8.2	9.5	18.4
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	176	767	773	136	1492		373	474	458	753	323	288
V/C Ratio(X)	0.69	0.78	0.78	0.64	0.75		0.86	0.33	0.35	0.38	0.49	0.87
Avail Cap(c_a), veh/h	216	767	773	158	1492		429	474	458	753	323	288
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	29.1	29.2	56.8	29.5	0.0	32.3	35.4	35.6	36.2	44.1	47.7
Incr Delay (d2), s/veh	7.0	7.5	7.6	6.6	3.5	0.0	14.1	1.9	2.1	0.3	5.2	28.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	16.0	16.2	1.4	14.2	0.0	8.6	4.0	4.0	3.5	4.7	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.1	36.7	36.7	63.4	33.0	0.0	46.4	37.3	37.6	36.5	49.2	75.7
LnGrp LOS	E	D	D	E	C		D	D	D	D	D	E
Approach Vol, veh/h		1317			1208	A		637			697	
Approach Delay, s/veh		39.2			35.2			41.9			53.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	38.0	9.2	57.8	25.2	27.8	10.6	56.4
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	9.0	32.0	5.5	51.0	23.0	18.0	7.5	49.0
Max Q Clear Time (g_c+I1), s	10.2	11.0	5.0	36.4	18.8	20.4	6.2	34.1
Green Ext Time (p_c), s	0.0	1.8	0.0	7.1	0.4	0.0	0.0	7.1

Intersection Summary	
HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

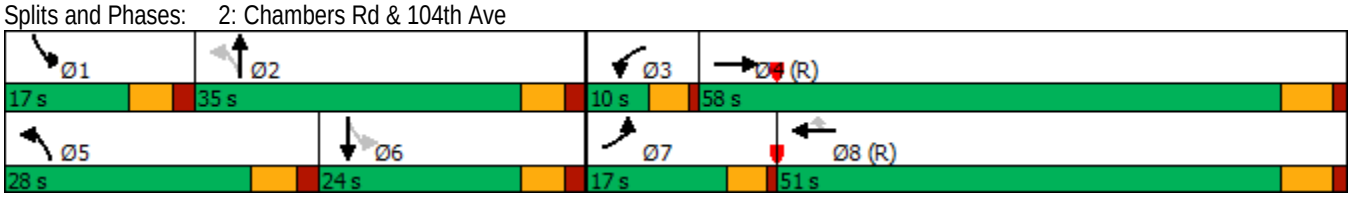
Notes

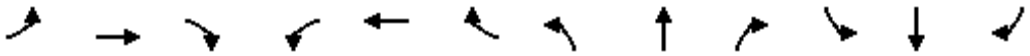
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	195	951	66	938	282	295	250	337	227
Future Volume (vph)	195	951	66	938	282	295	250	337	227
Turn Type	Prot	NA	Prot	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8	2		6	
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	9.5	24.0	24.0	11.0	24.0	11.0	24.0
Total Split (s)	17.0	58.0	10.0	51.0	51.0	28.0	35.0	17.0	24.0
Total Split (%)	14.2%	48.3%	8.3%	42.5%	42.5%	23.3%	29.2%	14.2%	20.0%
Yellow Time (s)	3.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.0	1.5	1.5	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)	4.5	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effct Green (s)	11.4	54.0	5.5	46.1	46.1	45.5	29.1	31.5	20.6
Actuated g/C Ratio	0.10	0.45	0.05	0.38	0.38	0.38	0.24	0.26	0.17
v/c Ratio	0.62	0.76	0.43	0.71	0.37	0.75	0.42	0.54	0.57
Control Delay	55.3	33.2	64.6	35.1	4.3	37.7	32.9	30.3	41.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	33.2	64.6	35.1	4.3	37.7	32.9	30.3	41.0
LOS	E	C	E	D	A	D	C	C	D
Approach Delay		36.4		29.9			35.1		35.8
Approach LOS		D		C			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 34.0	Intersection LOS: C
Intersection Capacity Utilization 82.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Chambers Rd & 104th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	951	202	66	938	282	295	250	96	337	227	123
Future Volume (veh/h)	195	951	202	66	938	282	295	250	96	337	227	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	201	980	208	68	967	0	304	258	99	347	234	127
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	261	1289	273	129	1435		416	612	229	741	406	212
Arrive On Green	0.08	0.44	0.44	0.04	0.40	0.00	0.15	0.24	0.24	0.09	0.18	0.18
Sat Flow, veh/h	3456	2918	618	3456	3554	1585	1781	2531	946	3456	2254	1180
Grp Volume(v), veh/h	201	596	592	68	967	0	304	179	178	347	183	178
Grp Sat Flow(s),veh/h/ln	1728	1777	1759	1728	1777	1585	1781	1777	1700	1728	1777	1658
Q Serve(g_s), s	6.9	33.8	34.0	2.3	26.7	0.0	16.1	10.2	10.6	9.8	11.3	11.9
Cycle Q Clear(g_c), s	6.9	33.8	34.0	2.3	26.7	0.0	16.1	10.2	10.6	9.8	11.3	11.9
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.56	1.00		0.71
Lane Grp Cap(c), veh/h	261	785	777	129	1435		416	429	411	741	320	298
V/C Ratio(X)	0.77	0.76	0.76	0.53	0.67		0.73	0.42	0.43	0.47	0.57	0.60
Avail Cap(c_a), veh/h	360	785	777	158	1435		469	429	411	741	320	298
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	28.1	28.2	56.7	29.3	0.0	31.7	38.4	38.5	35.4	45.0	45.2
Incr Delay (d2), s/veh	6.7	6.8	6.9	3.3	2.5	0.0	5.1	3.0	3.3	0.5	7.2	8.6
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	3.2	15.6	15.5	1.1	11.8	0.0	7.4	4.8	4.8	4.2	5.6	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.2	34.9	35.1	60.0	31.9	0.0	36.8	41.3	41.8	35.9	52.2	53.8
LnGrp LOS	E	C	D	E	C		D	D	D	D	D	D
Approach Vol, veh/h		1389			1035	A		661			708	
Approach Delay, s/veh		38.8			33.7			39.4			44.6	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	35.0	9.0	59.0	24.4	27.6	13.6	54.4
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.0	29.0	5.5	52.0	22.0	18.0	12.5	45.0
Max Q Clear Time (g_c+I1), s	11.8	12.6	4.3	36.0	18.1	13.9	8.9	28.7
Green Ext Time (p_c), s	0.0	1.9	0.0	7.5	0.4	0.8	0.2	6.4

Intersection Summary	
HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

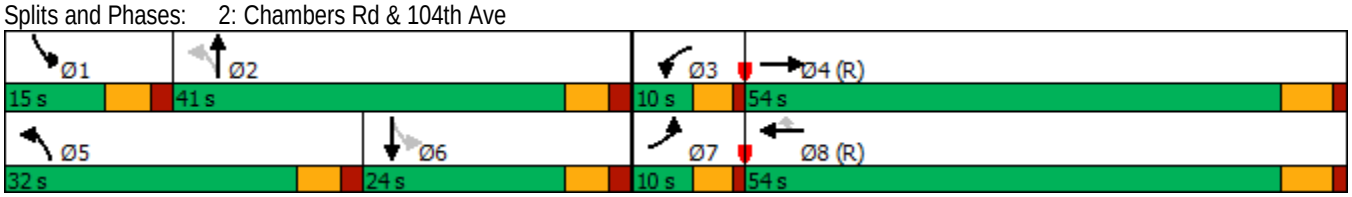
Notes

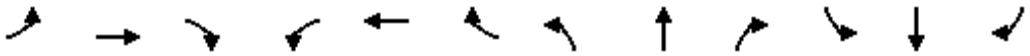
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	114	931	120	990	203	313	246	249	171
Future Volume (vph)	114	931	120	990	203	313	246	249	171
Turn Type	Prot	NA	Prot	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8	2		6	
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	9.5	24.0	24.0	11.0	24.0	11.0	24.0
Total Split (s)	10.0	54.0	10.0	54.0	54.0	32.0	41.0	15.0	24.0
Total Split (%)	8.3%	45.0%	8.3%	45.0%	45.0%	26.7%	34.2%	12.5%	20.0%
Yellow Time (s)	3.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.0	1.5	1.5	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)	4.5	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effct Green (s)	5.5	48.0	5.5	48.0	48.0	50.0	35.0	29.8	20.8
Actuated g/C Ratio	0.05	0.40	0.05	0.40	0.40	0.42	0.29	0.25	0.17
v/c Ratio	0.85	0.89	0.89	0.81	0.30	0.85	0.43	0.51	0.68
Control Delay	82.9	53.4	104.9	37.7	4.0	46.1	28.1	28.3	38.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.9	53.4	104.9	37.7	4.0	46.1	28.1	28.3	38.1
LOS	F	D	F	D	A	D	C	C	D
Approach Delay		56.2		38.6			36.3		34.3
Approach LOS		E		D			D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 42.9	Intersection LOS: D
Intersection Capacity Utilization 82.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Chambers Rd & 104th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	931	141	120	990	203	313	246	133	249	171	225
Future Volume (veh/h)	114	931	141	120	990	203	313	246	133	249	171	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	1083	164	140	1151	0	364	286	155	290	199	262
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	1238	187	158	1421		404	656	346	720	332	297
Arrive On Green	0.02	0.13	0.13	0.05	0.40	0.00	0.18	0.29	0.29	0.08	0.19	0.19
Sat Flow, veh/h	3456	3095	468	3456	3554	1585	1781	2248	1186	3456	1777	1585
Grp Volume(v), veh/h	133	621	626	140	1151	0	364	224	217	290	199	262
Grp Sat Flow(s),veh/h/ln	1728	1777	1786	1728	1777	1585	1781	1777	1657	1728	1777	1585
Q Serve(g_s), s	4.6	41.1	41.3	4.8	34.5	0.0	19.0	12.3	12.8	8.1	12.3	19.3
Cycle Q Clear(g_c), s	4.6	41.1	41.3	4.8	34.5	0.0	19.0	12.3	12.8	8.1	12.3	19.3
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.72	1.00		1.00
Lane Grp Cap(c), veh/h	158	711	714	158	1421		404	518	483	720	332	297
V/C Ratio(X)	0.84	0.87	0.88	0.88	0.81		0.90	0.43	0.45	0.40	0.60	0.88
Avail Cap(c_a), veh/h	158	711	714	158	1421		470	518	483	720	332	297
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.7	49.1	49.2	56.9	31.9	0.0	31.1	34.5	34.6	35.7	44.6	47.5
Incr Delay (d2), s/veh	27.4	12.2	12.4	40.1	5.1	0.0	18.4	2.6	3.0	0.4	7.7	29.5
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	2.7	22.0	22.3	3.0	15.6	0.0	10.1	5.7	5.6	3.5	6.1	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.1	61.3	61.6	97.0	37.0	0.0	49.5	37.1	37.6	36.0	52.4	77.0
LnGrp LOS	F	E	E	F	D		D	D	D	D	D	E
Approach Vol, veh/h		1380			1291			805			751	
Approach Delay, s/veh		63.8			43.5			42.8			54.6	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	41.0	10.0	54.0	27.5	28.5	10.0	54.0
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	9.0	35.0	5.5	48.0	26.0	18.0	5.5	48.0
Max Q Clear Time (g_c+I1), s	10.1	14.8	6.8	43.3	21.0	21.3	6.6	36.5
Green Ext Time (p_c), s	0.0	2.6	0.0	3.1	0.5	0.0	0.0	6.2

Intersection Summary	
HCM 6th Ctrl Delay	52.0
HCM 6th LOS	D

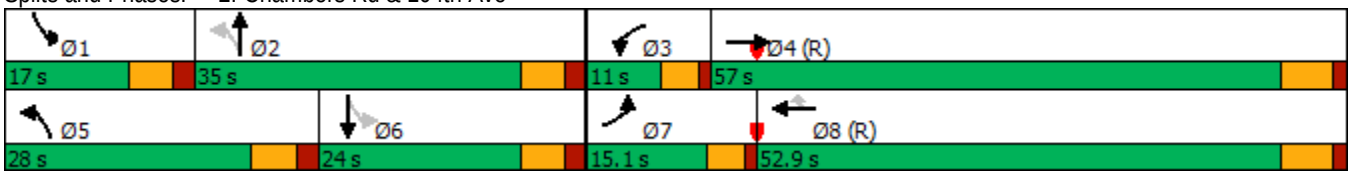
Notes

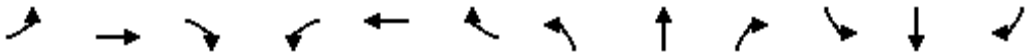
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	197	965	118	957	282	323	266	337	248
Future Volume (vph)	197	965	118	957	282	323	266	337	248
Turn Type	Prot	NA	Prot	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8	2		6	
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	9.5	24.0	24.0	11.0	24.0	11.0	24.0
Total Split (s)	15.1	57.0	11.0	52.9	52.9	28.0	35.0	17.0	24.0
Total Split (%)	12.6%	47.5%	9.2%	44.1%	44.1%	23.3%	29.2%	14.2%	20.0%
Yellow Time (s)	3.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.0	1.5	1.5	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)	4.5	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effct Green (s)	10.3	51.0	6.5	47.2	47.2	45.9	29.1	30.4	19.5
Actuated g/C Ratio	0.09	0.42	0.05	0.39	0.39	0.38	0.24	0.25	0.16
v/c Ratio	0.69	0.85	0.66	0.71	0.36	0.82	0.47	0.57	0.64
Control Delay	55.1	30.5	73.0	34.1	4.1	44.7	32.8	31.1	45.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	30.5	73.0	34.1	4.1	44.7	32.8	31.1	45.2
LOS	E	C	E	C	A	D	C	C	D
Approach Delay		33.9		31.3			38.1		38.5
Approach LOS		C		C			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 34.5	Intersection LOS: C
Intersection Capacity Utilization 86.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Chambers Rd & 104th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	965	248	118	957	282	323	266	131	337	248	125
Future Volume (veh/h)	197	965	248	118	957	282	323	266	131	337	248	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	995	256	122	987	0	333	274	135	347	256	129
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	261	1200	308	175	1434		417	563	270	697	382	187
Arrive On Green	0.05	0.29	0.29	0.05	0.40	0.00	0.17	0.24	0.24	0.09	0.17	0.17
Sat Flow, veh/h	3456	2800	718	3456	3554	1585	1781	2330	1116	3456	2314	1130
Grp Volume(v), veh/h	203	630	621	122	987	0	333	207	202	347	195	190
Grp Sat Flow(s),veh/h/ln	1728	1777	1741	1728	1777	1585	1781	1777	1669	1728	1777	1667
Q Serve(g_s), s	7.0	39.8	40.1	4.2	27.5	0.0	17.9	12.0	12.5	10.0	12.3	12.9
Cycle Q Clear(g_c), s	7.0	39.8	40.1	4.2	27.5	0.0	17.9	12.0	12.5	10.0	12.3	12.9
Prop In Lane	1.00		0.41	1.00		1.00	1.00		0.67	1.00		0.68
Lane Grp Cap(c), veh/h	261	761	746	175	1434		417	429	403	697	294	275
V/C Ratio(X)	0.78	0.83	0.83	0.70	0.69		0.80	0.48	0.50	0.50	0.66	0.69
Avail Cap(c_a), veh/h	305	761	746	187	1434		444	429	403	697	294	275
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	38.6	38.7	56.1	29.5	0.0	32.6	39.1	39.3	36.9	47.0	47.2
Incr Delay (d2), s/veh	7.6	7.4	7.7	10.0	2.7	0.0	9.4	3.8	4.4	0.6	11.2	13.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	19.6	19.4	2.1	12.2	0.0	8.8	5.7	5.6	4.3	6.4	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.5	46.0	46.4	66.1	32.3	0.0	42.0	42.9	43.6	37.4	58.2	60.5
LnGrp LOS	E	D	D	E	C		D	D	D	D	E	E
Approach Vol, veh/h		1454			1109			742			732	
Approach Delay, s/veh		48.6			36.0			42.7			49.0	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	35.0	10.6	57.4	26.2	25.8	13.6	54.4
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.0	29.0	6.5	51.0	22.0	18.0	10.6	46.9
Max Q Clear Time (g_c+I1), s	12.0	14.5	6.2	42.1	19.9	14.9	9.0	29.5
Green Ext Time (p_c), s	0.0	2.1	0.0	5.3	0.2	0.7	0.1	6.7

Intersection Summary	
HCM 6th Ctrl Delay	44.1
HCM 6th LOS	D

Notes

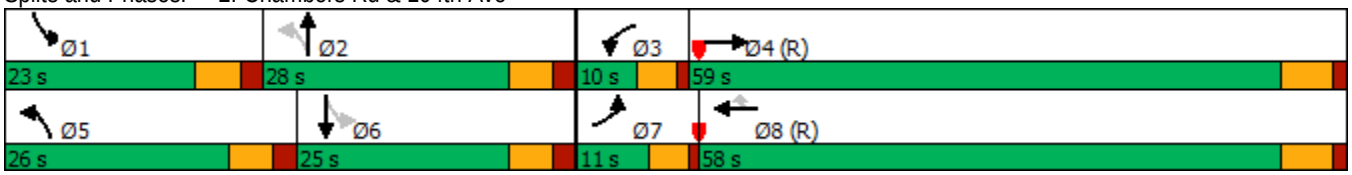
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	205	1756	147	1881	397	535	402	486	263
Future Volume (vph)	205	1756	147	1881	397	535	402	486	263
Turn Type	Prot	NA	Prot	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8	2		6	
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	9.5	24.0	24.0	11.0	24.0	11.0	24.0
Total Split (s)	11.0	59.0	10.0	58.0	58.0	26.0	28.0	23.0	25.0
Total Split (%)	9.2%	49.2%	8.3%	48.3%	48.3%	21.7%	23.3%	19.2%	20.8%
Yellow Time (s)	3.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.0	1.5	1.5	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)	4.5	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effct Green (s)	6.5	53.0	5.5	52.0	52.0	42.3	22.3	35.7	19.0
Actuated g/C Ratio	0.05	0.44	0.05	0.43	0.43	0.35	0.19	0.30	0.16
v/c Ratio	1.21	1.41	1.02	1.33	0.47	1.63	0.88	0.88	1.41dr
Control Delay	172.2	215.5	133.3	185.2	4.0	322.5	59.2	48.6	173.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	172.2	215.5	133.3	185.2	4.0	322.5	59.2	48.6	173.5
LOS	F	F	F	F	A	F	E	D	F
Approach Delay		211.4		152.4			191.1		121.5
Approach LOS		F		F			F		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.63	
Intersection Signal Delay: 172.1	Intersection LOS: F
Intersection Capacity Utilization 129.8%	ICU Level of Service H
Analysis Period (min) 15	

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 2: Chambers Rd & 104th Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	1756	248	147	1881	397	535	402	132	486	263	419
Future Volume (veh/h)	205	1756	248	147	1881	397	535	402	132	486	263	419
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	223	1909	140	160	2045	0	582	437	72	528	286	238
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	1484	107	158	1540		357	560	92	689	296	239
Arrive On Green	0.05	0.44	0.44	0.05	0.43	0.00	0.17	0.18	0.18	0.14	0.16	0.16
Sat Flow, veh/h	3456	3360	243	3456	3554	1585	1781	3057	500	3456	1867	1508
Grp Volume(v), veh/h	223	998	1051	160	2045	0	582	253	256	528	272	252
Grp Sat Flow(s),veh/h/ln	1728	1777	1827	1728	1777	1585	1781	1777	1780	1728	1777	1599
Q Serve(g_s), s	6.5	53.0	53.0	5.5	52.0	0.0	20.0	16.3	16.5	15.1	18.2	18.9
Cycle Q Clear(g_c), s	6.5	53.0	53.0	5.5	52.0	0.0	20.0	16.3	16.5	15.1	18.2	18.9
Prop In Lane	1.00		0.13	1.00		1.00	1.00		0.28	1.00		0.94
Lane Grp Cap(c), veh/h	187	785	807	158	1540		357	326	326	689	281	253
V/C Ratio(X)	1.19	1.27	1.30	1.01	1.33		1.63	0.78	0.78	0.77	0.97	1.00
Avail Cap(c_a), veh/h	187	785	807	158	1540		357	326	326	689	281	253
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	33.5	33.5	57.2	34.0	0.0	35.9	46.7	46.7	35.8	50.2	50.5
Incr Delay (d2), s/veh	126.8	132.3	145.1	74.2	152.2	0.0	295.2	16.5	17.1	5.2	45.6	55.7
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	6.1	50.9	55.2	4.0	54.3	0.0	38.1	8.7	8.8	6.9	11.6	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	183.5	165.8	178.6	131.5	186.2	0.0	331.1	63.1	63.8	41.0	95.8	106.2
LnGrp LOS	F	F	F	F	F		F	E	E	D	F	F
Approach Vol, veh/h		2272			2205	A		1091			1052	
Approach Delay, s/veh		173.5			182.2			206.3			70.8	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	28.0	10.0	59.0	26.0	25.0	11.0	58.0
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	17.0	22.0	5.5	53.0	20.0	19.0	6.5	52.0
Max Q Clear Time (g_c+I1), s	17.1	18.5	7.5	55.0	22.0	20.9	8.5	54.0
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	165.5
HCM 6th LOS	F

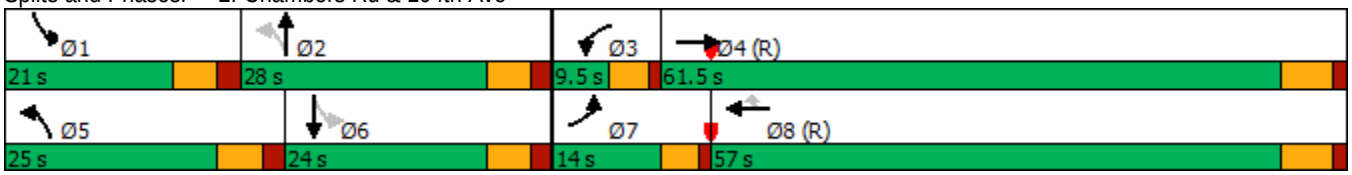
Notes

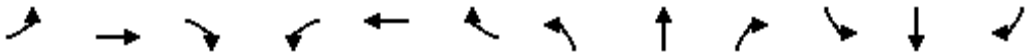
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	381	1856	129	1832	551	576	489	658	444
Future Volume (vph)	381	1856	129	1832	551	576	489	658	444
Turn Type	Prot	NA	Prot	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8	2		6	
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	9.5	24.0	24.0	11.0	24.0	11.0	24.0
Total Split (s)	14.0	61.5	9.5	57.0	57.0	25.0	28.0	21.0	24.0
Total Split (%)	11.7%	51.3%	7.9%	47.5%	47.5%	20.8%	23.3%	17.5%	20.0%
Yellow Time (s)	3.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.0	1.5	1.5	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)	4.5	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effct Green (s)	9.5	55.5	5.0	51.0	51.0	41.0	22.0	33.0	18.0
Actuated g/C Ratio	0.08	0.46	0.04	0.42	0.42	0.34	0.18	0.28	0.15
v/c Ratio	1.45	1.44	0.93	1.26	0.61	1.74	1.06	1.23	1.25
Control Delay	238.9	229.9	116.1	152.4	8.8	366.3	93.6	151.1	166.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	238.9	229.9	116.1	152.4	8.8	366.3	93.6	151.1	166.4
LOS	F	F	F	F	A	F	F	F	F
Approach Delay		231.2		119.0			219.1		158.9
Approach LOS		F		F			F		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.74	
Intersection Signal Delay: 180.3	Intersection LOS: F
Intersection Capacity Utilization 138.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 2: Chambers Rd & 104th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	381	1856	395	129	1832	551	576	489	187	658	444	241
Future Volume (veh/h)	381	1856	395	129	1832	551	576	489	187	658	444	241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	393	1913	201	133	1889	0	594	504	100	678	458	124
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	1504	155	144	1510		342	542	107	575	415	112
Arrive On Green	0.08	0.46	0.46	0.04	0.43	0.00	0.16	0.18	0.18	0.13	0.15	0.15
Sat Flow, veh/h	3456	3251	336	3456	3554	1585	1781	2958	584	3456	2769	744
Grp Volume(v), veh/h	393	1030	1084	133	1889	0	594	302	302	678	293	289
Grp Sat Flow(s),veh/h/ln	1728	1777	1810	1728	1777	1585	1781	1777	1765	1728	1777	1736
Q Serve(g_s), s	9.5	55.5	55.5	4.6	51.0	0.0	19.0	20.0	20.2	15.0	18.0	18.0
Cycle Q Clear(g_c), s	9.5	55.5	55.5	4.6	51.0	0.0	19.0	20.0	20.2	15.0	18.0	18.0
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.33	1.00		0.43
Lane Grp Cap(c), veh/h	274	822	837	144	1510		342	326	324	575	267	260
V/C Ratio(X)	1.44	1.25	1.30	0.92	1.25		1.74	0.93	0.93	1.18	1.10	1.11
Avail Cap(c_a), veh/h	274	822	837	144	1510		342	326	324	575	267	260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	32.3	32.3	57.3	34.5	0.0	37.3	48.2	48.3	40.8	51.0	51.0
Incr Delay (d2), s/veh	216.1	123.9	141.6	52.6	118.5	0.0	343.5	34.2	35.7	97.5	83.9	88.8
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	12.3	51.3	56.3	3.1	46.2	0.0	41.2	11.9	12.1	9.3	14.2	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	271.4	156.2	173.9	109.9	153.0	0.0	380.8	82.4	84.0	138.3	134.9	139.8
LnGrp LOS	F	F	F	F	F		F	F	F	F	F	F
Approach Vol, veh/h		2507			2022	A		1198			1260	
Approach Delay, s/veh		181.9			150.2			230.8			137.9	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	28.0	9.5	61.5	25.0	24.0	14.0	57.0
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	15.0	22.0	5.0	55.5	19.0	18.0	9.5	51.0
Max Q Clear Time (g_c+I1), s	17.0	22.2	6.6	57.5	21.0	20.0	11.5	53.0
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 6th Ctrl Delay	173.1
HCM 6th LOS	F

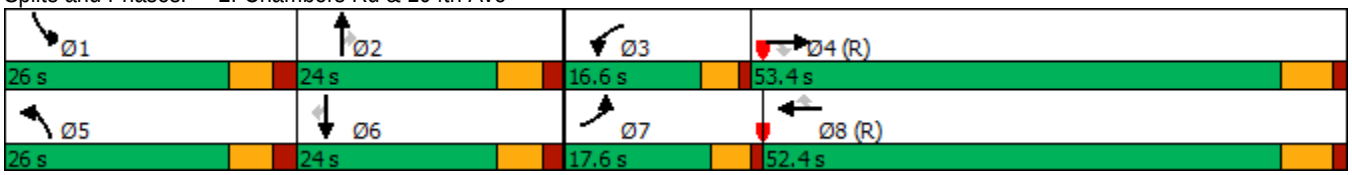
Notes

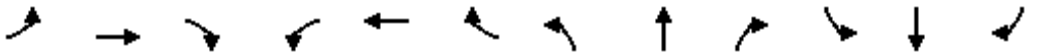
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	1787	262	192	1907	397	574	442	198	486	299	429
Future Volume (vph)	214	1787	262	192	1907	397	574	442	198	486	299	429
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	17.6	53.4	53.4	16.6	52.4	52.4	26.0	24.0	24.0	26.0	24.0	24.0
Total Split (%)	14.7%	44.5%	44.5%	13.8%	43.7%	43.7%	21.7%	20.0%	20.0%	21.7%	20.0%	20.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	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)	4.5	6.0	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	12.2	48.2	48.2	11.3	47.3	47.3	20.0	18.1	18.1	19.9	18.0	18.0
Actuated g/C Ratio	0.10	0.40	0.40	0.09	0.39	0.39	0.17	0.15	0.15	0.17	0.15	0.15
v/c Ratio	0.67	0.95	0.37	0.65	1.03	0.49	1.09	0.90	0.56	0.93	0.61	1.22
Control Delay	42.6	54.1	19.1	62.1	65.7	4.3	108.1	66.5	13.8	73.0	53.3	149.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	54.1	19.1	62.1	65.7	4.3	108.1	66.5	13.8	73.0	53.3	149.6
LOS	D	D	B	E	E	A	F	E	B	E	D	F
Approach Delay		49.0			55.6			77.6			95.2	
Approach LOS		D			E			E			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.22	
Intersection Signal Delay: 63.9	Intersection LOS: E
Intersection Capacity Utilization 94.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: Chambers Rd & 104th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	1787	262	192	1907	397	574	442	198	486	299	429
Future Volume (veh/h)	214	1787	262	192	1907	397	574	442	198	486	299	429
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	233	1942	285	209	2073	0	624	480	215	528	325	238
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	296	2136	663	268	2095		576	533	238	576	533	238
Arrive On Green	0.03	0.14	0.14	0.08	0.41	0.00	0.06	0.05	0.05	0.17	0.15	0.15
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	233	1942	285	209	2073	0	624	480	215	528	325	238
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	8.0	45.0	19.8	7.1	48.4	0.0	20.0	16.1	16.2	18.0	10.3	18.0
Cycle Q Clear(g_c), s	8.0	45.0	19.8	7.1	48.4	0.0	20.0	16.1	16.2	18.0	10.3	18.0
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	296	2136	663	268	2095		576	533	238	576	533	238
V/C Ratio(X)	0.79	0.91	0.43	0.78	0.99		1.08	0.90	0.90	0.92	0.61	1.00
Avail Cap(c_a), veh/h	377	2136	663	348	2095		576	533	238	576	533	238
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	1.00	1.00	0.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	49.5	38.6	54.3	35.1	0.0	56.7	56.1	56.2	49.2	47.7	51.0
Incr Delay (d2), s/veh	6.1	5.4	1.5	8.2	17.3	0.0	59.2	18.2	33.7	19.6	5.1	58.6
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	3.9	21.6	8.7	3.4	22.9	0.0	14.0	9.1	9.1	9.3	4.9	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.4	54.8	40.1	62.5	52.5	0.0	115.9	74.4	89.9	68.8	52.8	109.6
LnGrp LOS	E	D	D	E	D		F	E	F	E	D	F
Approach Vol, veh/h		2460			2282			1319			1091	
Approach Delay, s/veh		53.9			53.4			96.5			73.0	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	24.0	13.8	56.2	26.0	24.0	14.8	55.2
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	20.0	18.0	12.1	47.4	20.0	18.0	13.1	46.4
Max Q Clear Time (g_c+I1), s	20.0	18.2	9.1	47.0	22.0	20.0	10.0	50.4
Green Ext Time (p_c), s	0.0	0.0	0.2	0.4	0.0	0.0	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	64.5
HCM 6th LOS	E

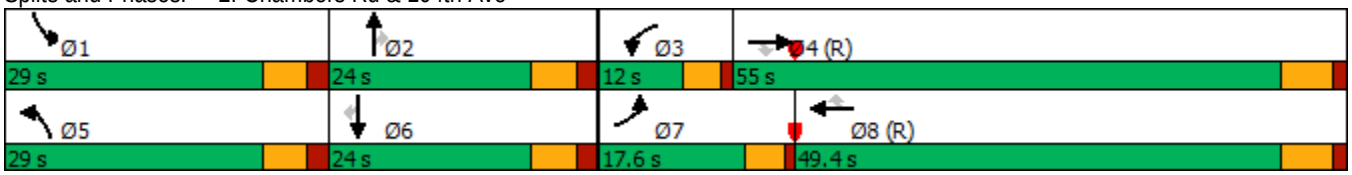
Notes

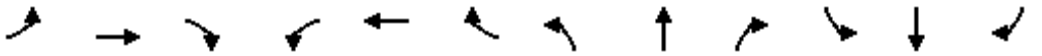
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	383	1870	441	181	1851	551	604	505	222	658	465	243
Future Volume (vph)	383	1870	441	181	1851	551	604	505	222	658	465	243
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	17.6	55.0	55.0	12.0	49.4	49.4	29.0	24.0	24.0	29.0	24.0	24.0
Total Split (%)	14.7%	45.8%	45.8%	10.0%	41.2%	41.2%	24.2%	20.0%	20.0%	24.2%	20.0%	20.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	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)	4.5	6.0	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	13.1	49.0	49.0	7.5	43.4	43.4	23.0	18.0	18.0	23.0	18.0	18.0
Actuated g/C Ratio	0.11	0.41	0.41	0.06	0.36	0.36	0.19	0.15	0.15	0.19	0.15	0.15
v/c Ratio	1.06	0.93	0.53	0.87	1.04	0.63	0.95	0.98	0.61	1.03	0.90	0.67
Control Delay	98.8	34.7	5.9	91.8	69.2	7.6	69.7	79.5	16.9	91.1	71.8	26.7
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	98.8	34.7	5.9	91.8	69.2	7.6	69.7	79.5	16.9	91.1	71.8	26.7
LOS	F	C	A	F	E	A	E	E	B	F	E	C
Approach Delay		39.1			57.6			64.6			73.0	
Approach LOS		D			E			E			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 55.2	Intersection LOS: E
Intersection Capacity Utilization 98.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: Chambers Rd & 104th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	383	1870	441	181	1851	551	604	505	222	658	465	243
Future Volume (veh/h)	383	1870	441	181	1851	551	604	505	222	658	465	243
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	1928	455	187	1908	0	623	521	121	678	479	127
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	377	2085	647	216	1847		662	533	238	662	533	238
Arrive On Green	0.11	0.41	0.41	0.06	0.36	0.00	0.06	0.05	0.05	0.19	0.15	0.15
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	395	1928	455	187	1908	0	623	521	121	678	479	127
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	13.1	43.1	28.6	6.4	43.4	0.0	21.5	17.6	8.9	23.0	15.9	8.9
Cycle Q Clear(g_c), s	13.1	43.1	28.6	6.4	43.4	0.0	21.5	17.6	8.9	23.0	15.9	8.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	377	2085	647	216	1847		662	533	238	662	533	238
V/C Ratio(X)	1.05	0.92	0.70	0.87	1.03		0.94	0.98	0.51	1.02	0.90	0.53
Avail Cap(c_a), veh/h	377	2085	647	216	1847		662	533	238	662	533	238
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.42	0.42	0.42	1.00	1.00	0.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	33.7	29.5	55.8	38.3	0.0	55.5	56.8	52.7	48.5	50.1	47.1
Incr Delay (d2), s/veh	43.1	4.0	2.7	28.8	30.0	0.0	19.1	30.6	6.4	41.1	20.6	8.3
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	7.9	18.1	11.2	3.7	22.9	0.0	11.8	10.7	4.2	13.6	8.6	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.5	37.7	32.2	84.5	68.3	0.0	74.6	87.4	59.1	89.6	70.7	55.5
LnGrp LOS	F	D	C	F	F		E	F	E	F	E	E
Approach Vol, veh/h		2778			2095			1265			1284	
Approach Delay, s/veh		45.2			69.8			78.4			79.2	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.0	24.0	12.0	55.0	29.0	24.0	17.6	49.4
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	23.0	18.0	7.5	49.0	23.0	18.0	13.1	43.4
Max Q Clear Time (g_c+I1), s	25.0	19.6	8.4	45.1	23.5	17.9	15.1	45.4
Green Ext Time (p_c), s	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	63.7
HCM 6th LOS	E

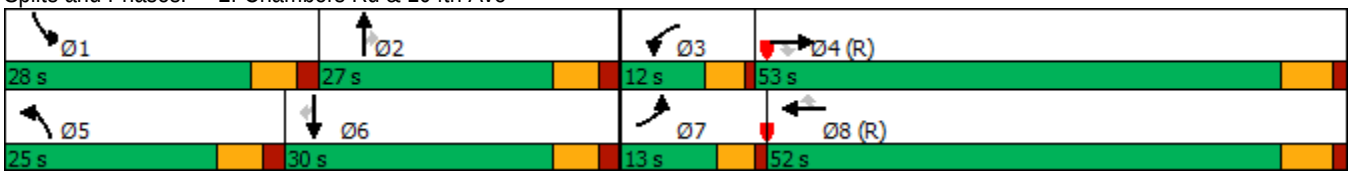
Notes

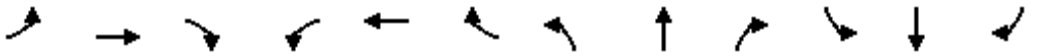
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	1454	215	164	1551	322	473	366	173	394	249	350
Future Volume (vph)	175	1454	215	164	1551	322	473	366	173	394	249	350
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	13.0	53.0	53.0	12.0	52.0	52.0	25.0	27.0	27.0	28.0	30.0	30.0
Total Split (%)	10.8%	44.2%	44.2%	10.0%	43.3%	43.3%	20.8%	22.5%	22.5%	23.3%	25.0%	25.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	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)	4.5	6.0	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	8.5	47.0	47.0	7.5	46.0	46.0	19.0	23.5	23.5	19.5	24.0	24.0
Actuated g/C Ratio	0.07	0.39	0.39	0.06	0.38	0.38	0.16	0.20	0.20	0.16	0.20	0.20
v/c Ratio	0.78	0.79	0.31	0.83	0.87	0.43	0.95	0.57	0.46	0.77	0.38	0.92
Control Delay	55.9	45.2	16.1	85.8	39.9	4.3	72.8	44.6	15.9	57.7	43.4	59.7
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	55.9	45.2	16.1	85.8	39.9	4.3	72.8	44.6	15.9	57.7	43.4	59.7
LOS	E	D	B	F	D	A	E	D	B	E	D	E
Approach Delay		42.8			37.9			52.9			54.8	
Approach LOS		D			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 44.9	Intersection LOS: D
Intersection Capacity Utilization 80.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Chambers Rd & 104th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	1454	215	164	1551	322	473	366	173	394	249	350
Future Volume (veh/h)	175	1454	215	164	1551	322	473	366	173	394	249	350
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	190	1580	234	178	1686	0	514	398	188	428	271	152
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	2000	621	216	1957		547	761	339	499	711	317
Arrive On Green	0.02	0.13	0.13	0.06	0.38	0.00	0.05	0.07	0.07	0.14	0.20	0.20
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	190	1580	234	178	1686	0	514	398	188	428	271	152
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	6.6	36.0	16.2	6.1	36.5	0.0	17.8	13.0	13.8	14.5	7.9	10.2
Cycle Q Clear(g_c), s	6.6	36.0	16.2	6.1	36.5	0.0	17.8	13.0	13.8	14.5	7.9	10.2
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	245	2000	621	216	1957		547	761	339	499	711	317
V/C Ratio(X)	0.78	0.79	0.38	0.82	0.86		0.94	0.52	0.55	0.86	0.38	0.48
Avail Cap(c_a), veh/h	245	2000	621	216	1957		547	761	339	634	711	317
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	1.00	1.00	0.00	0.88	0.88	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	47.5	38.8	55.6	34.1	0.0	56.3	49.9	50.2	50.1	41.6	42.5
Incr Delay (d2), s/veh	10.9	2.4	1.3	22.1	5.3	0.0	22.3	2.3	5.6	9.4	1.6	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	16.9	7.1	3.3	15.8	0.0	10.0	6.4	6.4	6.9	3.6	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.6	49.9	40.1	77.7	39.3	0.0	78.6	52.1	55.9	59.5	43.1	47.6
LnGrp LOS	E	D	D	E	D		E	D	E	E	D	D
Approach Vol, veh/h		2004			1864			1100			851	
Approach Delay, s/veh		50.5			43.0			65.1			52.2	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.3	31.7	12.0	53.0	25.0	30.0	13.0	52.0
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	22.0	21.0	7.5	47.0	19.0	24.0	8.5	46.0
Max Q Clear Time (g_c+I1), s	16.5	15.8	8.1	38.0	19.8	12.2	8.6	38.5
Green Ext Time (p_c), s	0.8	1.5	0.0	6.8	0.0	1.7	0.0	5.8

Intersection Summary	
HCM 6th Ctrl Delay	51.1
HCM 6th LOS	D

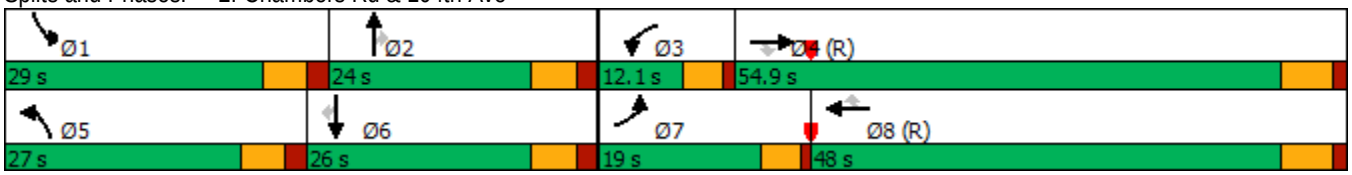
Notes

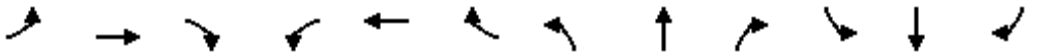
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	311	1519	366	157	1504	447	495	412	187	534	381	197
Future Volume (vph)	311	1519	366	157	1504	447	495	412	187	534	381	197
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	19.0	54.9	54.9	12.1	48.0	48.0	27.0	24.0	24.0	29.0	26.0	26.0
Total Split (%)	15.8%	45.8%	45.8%	10.1%	40.0%	40.0%	22.5%	20.0%	20.0%	24.2%	21.7%	21.7%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	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)	4.5	6.0	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Act Effct Green (s)	14.1	48.9	48.9	7.6	42.4	42.4	20.4	18.9	18.9	22.1	20.6	20.6
Actuated g/C Ratio	0.12	0.41	0.41	0.06	0.35	0.35	0.17	0.16	0.16	0.18	0.17	0.17
v/c Ratio	0.80	0.76	0.44	0.75	0.86	0.54	0.87	0.77	0.50	0.87	0.65	0.50
Control Delay	59.2	28.5	3.8	76.3	42.3	5.1	62.8	50.5	10.9	62.9	52.2	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.2	28.5	3.8	76.3	42.3	5.1	62.8	50.5	10.9	62.9	52.2	15.8
LOS	E	C	A	E	D	A	E	D	B	E	D	B
Approach Delay		28.7			36.9			49.3			50.9	
Approach LOS		C			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 38.6	Intersection LOS: D
Intersection Capacity Utilization 83.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Chambers Rd & 104th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	311	1519	366	157	1504	447	495	412	187	534	381	197
Future Volume (veh/h)	311	1519	366	157	1504	447	495	412	187	534	381	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	321	1566	377	162	1551	0	510	425	85	551	393	79
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	380	2131	661	216	1889		574	552	246	613	592	264
Arrive On Green	0.07	0.28	0.28	0.06	0.37	0.00	0.05	0.05	0.05	0.18	0.17	0.17
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	321	1566	377	162	1551	0	510	425	85	551	393	79
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	11.0	33.4	24.5	5.5	33.0	0.0	17.6	14.2	6.2	18.7	12.4	5.2
Cycle Q Clear(g_c), s	11.0	33.4	24.5	5.5	33.0	0.0	17.6	14.2	6.2	18.7	12.4	5.2
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	380	2131	661	216	1889		574	552	246	613	592	264
V/C Ratio(X)	0.84	0.73	0.57	0.75	0.82		0.89	0.77	0.35	0.90	0.66	0.30
Avail Cap(c_a), veh/h	418	2131	661	219	1889		605	552	246	662	592	264
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.43	0.43	0.43	1.00	1.00	0.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	37.2	34.0	55.3	34.2	0.0	55.6	54.8	51.0	48.3	46.8	43.9
Incr Delay (d2), s/veh	6.5	1.0	1.5	13.2	4.2	0.0	12.8	8.6	3.2	14.6	5.8	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	14.7	10.2	2.8	14.2	0.0	9.2	7.4	2.8	9.3	6.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.0	38.2	35.5	68.6	38.4	0.0	68.4	63.4	54.3	62.9	52.6	46.7
LnGrp LOS	E	D	D	E	D		E	E	D	E	D	D
Approach Vol, veh/h		2264			1713			1020			1023	
Approach Delay, s/veh		41.0			41.2			65.1			57.7	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.3	24.6	12.0	56.1	25.9	26.0	17.7	50.4
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	6.0	6.0	4.5	6.0
Max Green Setting (Gmax), s	23.0	18.0	7.6	48.9	21.0	20.0	14.5	42.0
Max Q Clear Time (g_c+I1), s	20.7	16.2	7.5	35.4	19.6	14.4	13.0	35.0
Green Ext Time (p_c), s	0.5	0.6	0.0	9.8	0.3	1.4	0.2	5.2

Intersection Summary	
HCM 6th Ctrl Delay	48.0
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	10	20	48	7	119	7	236	30	105	162	6
Future Vol, veh/h	13	10	20	48	7	119	7	236	30	105	162	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	12	24	56	8	140	8	278	35	124	191	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	829	772	195	773	758	296	198	0	0	313	0	0
Stage 1	443	443	-	312	312	-	-	-	-	-	-	-
Stage 2	386	329	-	461	446	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	290	330	846	316	336	743	1375	-	-	1247	-	-
Stage 1	594	576	-	699	658	-	-	-	-	-	-	-
Stage 2	637	646	-	581	574	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	210	291	846	271	296	743	1375	-	-	1247	-	-
Mov Cap-2 Maneuver	210	291	-	271	296	-	-	-	-	-	-	-
Stage 1	590	511	-	694	653	-	-	-	-	-	-	-
Stage 2	507	641	-	490	510	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.7	14.5	0.2	3.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1375	-	-	359	271	685	1247	-	-
HCM Lane V/C Ratio	0.006	-	-	0.141	0.208	0.216	0.099	-	-
HCM Control Delay (s)	7.6	0	-	16.7	21.7	11.7	8.2	0	-
HCM Lane LOS	A	A	-	C	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.8	0.8	0.3	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	7	30	6	113	19	300	38	156	259	12
Future Vol, veh/h	8	1	7	30	6	113	19	300	38	156	259	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1	7	32	6	120	20	319	40	166	276	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1057	1014	283	998	1000	339	289	0	0	359	0	0
Stage 1	615	615	-	379	379	-	-	-	-	-	-	-
Stage 2	442	399	-	619	621	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	203	239	756	223	243	703	1273	-	-	1200	-	-
Stage 1	479	482	-	643	615	-	-	-	-	-	-	-
Stage 2	594	602	-	476	479	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	141	196	756	189	199	703	1273	-	-	1200	-	-
Mov Cap-2 Maneuver	141	196	-	189	199	-	-	-	-	-	-	-
Stage 1	469	402	-	630	603	-	-	-	-	-	-	-
Stage 2	477	590	-	393	400	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.3	15.4	0.4	3.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1273	-	-	225	189	623	1200	-	-
HCM Lane V/C Ratio	0.016	-	-	0.076	0.169	0.203	0.138	-	-
HCM Control Delay (s)	7.9	0	-	22.3	27.9	12.2	8.5	0	-
HCM Lane LOS	A	A	-	C	D	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.6	0.8	0.5	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕		↰	↱			⇕			⇕	
Traffic Vol, veh/h	14	10	21	48	7	119	7	261	30	105	179	6
Future Vol, veh/h	14	10	21	48	7	119	7	261	30	105	179	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	12	25	56	8	140	8	307	35	124	211	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	878	821	215	822	807	325	218	0	0	342	0	0
Stage 1	463	463	-	341	341	-	-	-	-	-	-	-
Stage 2	415	358	-	481	466	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	268	309	825	293	315	716	1352	-	-	1217	-	-
Stage 1	579	564	-	674	639	-	-	-	-	-	-	-
Stage 2	615	628	-	566	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	191	271	825	249	277	716	1352	-	-	1217	-	-
Mov Cap-2 Maneuver	191	271	-	249	277	-	-	-	-	-	-	-
Stage 1	575	499	-	669	635	-	-	-	-	-	-	-
Stage 2	485	624	-	474	497	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	15.3	0.2	3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1352	-	-	332	249	658	1217	-	-
HCM Lane V/C Ratio	0.006	-	-	0.159	0.227	0.225	0.102	-	-
HCM Control Delay (s)	7.7	0	-	17.9	23.6	12.1	8.3	0	-
HCM Lane LOS	A	A	-	C	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.8	0.9	0.3	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕		↰	↑			⇕			⇕	
Traffic Vol, veh/h	8	1	7	30	6	113	20	331	38	156	286	12
Future Vol, veh/h	8	1	7	30	6	113	20	331	38	156	286	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1	7	32	6	120	21	352	40	166	304	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1120	1077	311	1061	1063	372	317	0	0	392	0	0
Stage 1	643	643	-	414	414	-	-	-	-	-	-	-
Stage 2	477	434	-	647	649	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	184	219	729	202	223	674	1243	-	-	1167	-	-
Stage 1	462	468	-	616	593	-	-	-	-	-	-	-
Stage 2	569	581	-	460	466	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	126	177	729	170	180	674	1243	-	-	1167	-	-
Mov Cap-2 Maneuver	126	177	-	170	180	-	-	-	-	-	-	-
Stage 1	452	387	-	602	580	-	-	-	-	-	-	-
Stage 2	452	568	-	375	385	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.4	16.4	0.4	3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1243	-	-	203	170	592	1167	-	-
HCM Lane V/C Ratio	0.017	-	-	0.084	0.188	0.214	0.142	-	-
HCM Control Delay (s)	7.9	0	-	24.4	31	12.7	8.6	0	-
HCM Lane LOS	A	A	-	C	D	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.7	0.8	0.5	-	-

Intersection	
Int Delay, s/veh	68.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↱			↕			↕	
Traffic Vol, veh/h	133	28	52	48	17	119	59	287	30	105	190	91
Future Vol, veh/h	133	28	52	48	17	119	59	287	30	105	190	91
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	156	33	61	56	20	140	69	338	35	124	224	107

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1100	1037	278	1067	1073	356	331	0	0	373	0	0
Stage 1	526	526	-	494	494	-	-	-	-	-	-	-
Stage 2	574	511	-	573	579	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	190	231	761	200	220	688	1228	-	-	1185	-	-
Stage 1	535	529	-	557	546	-	-	-	-	-	-	-
Stage 2	504	537	-	505	501	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 118	187	761	136	178	688	1228	-	-	1185	-	-
Mov Cap-2 Maneuver	~ 118	187	-	136	178	-	-	-	-	-	-	-
Stage 1	497	460	-	517	507	-	-	-	-	-	-	-
Stage 2	358	499	-	375	436	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 343.1	24.1	1.3	2.3
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1228	-	-	158	136	507	1185	-	-
HCM Lane V/C Ratio	0.057	-	-	1.586	0.415	0.316	0.104	-	-
HCM Control Delay (s)	8.1	0	-	$ 343.1	49.1	15.3	8.4	0	-
HCM Lane LOS	A	A	-	F	E	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	17.1	1.8	1.3	0.3	-	-

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

Intersection	
Int Delay, s/veh	16.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↑			↕			↕	
Traffic Vol, veh/h	69	6	21	30	8	113	73	350	38	156	323	94
Future Vol, veh/h	69	6	21	30	8	113	73	350	38	156	323	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	73	6	22	32	9	120	78	372	40	166	344	100

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1339	1294	394	1288	1324	392	444	0	0	412	0	0
Stage 1	726	726	-	548	548	-	-	-	-	-	-	-
Stage 2	613	568	-	740	776	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	130	163	655	141	156	657	1116	-	-	1147	-	-
Stage 1	416	430	-	521	517	-	-	-	-	-	-	-
Stage 2	480	506	-	409	407	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	80	119	655	104	114	657	1116	-	-	1147	-	-
Mov Cap-2 Maneuver	80	119	-	104	114	-	-	-	-	-	-	-
Stage 1	378	346	-	474	470	-	-	-	-	-	-	-
Stage 2	350	460	-	312	328	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	166.7	22.6	1.3	2.4
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1116	-	-	102	104	500	1147	-	-
HCM Lane V/C Ratio	0.07	-	-	1.001	0.307	0.257	0.145	-	-
HCM Control Delay (s)	8.5	0	-	166.7	54.3	14.7	8.7	0	-
HCM Lane LOS	A	A	-	F	F	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	6.2	1.2	1	0.5	-	-

Intersection	
Int Delay, s/veh	12.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	133	28	52	48	17	119	59	287	30	105	190	91
Future Vol, veh/h	133	28	52	48	17	119	59	287	30	105	190	91
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	100	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	156	33	61	56	20	140	69	338	35	124	224	107

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1046	983	224	1067	1073	356	331	0	0	373	0	0
Stage 1	472	472	-	494	494	-	-	-	-	-	-	-
Stage 2	574	511	-	573	579	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	206	249	815	200	220	688	1228	-	-	1185	-	-
Stage 1	573	559	-	557	546	-	-	-	-	-	-	-
Stage 2	504	537	-	505	501	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 137	210	815	149	186	688	1228	-	-	1185	-	-
Mov Cap-2 Maneuver	200	291	-	244	281	-	-	-	-	-	-	-
Stage 1	541	500	-	526	515	-	-	-	-	-	-	-
Stage 2	364	507	-	391	448	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.4	16.3	1.3	2.3
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1228	-	-	200	500	244	583	1185	-	-
HCM Lane V/C Ratio	0.057	-	-	0.782	0.188	0.231	0.274	0.104	-	-
HCM Control Delay (s)	8.1	-	-	67.5	13.9	24.1	13.5	8.4	-	-
HCM Lane LOS	A	-	-	F	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	5.4	0.7	0.9	1.1	0.3	-	-

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

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	69	6	21	30	8	113	73	350	38	156	323	94
Future Vol, veh/h	69	6	21	30	8	113	73	350	38	156	323	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	100	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	73	6	22	32	9	120	78	372	40	166	344	100

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1289	1244	344	1288	1324	392	444	0	0	412	0	0
Stage 1	676	676	-	548	548	-	-	-	-	-	-	-
Stage 2	613	568	-	740	776	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	141	174	699	141	156	657	1116	-	-	1147	-	-
Stage 1	443	453	-	521	517	-	-	-	-	-	-	-
Stage 2	480	506	-	409	407	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	94	138	699	113	124	657	1116	-	-	1147	-	-
Mov Cap-2 Maneuver	154	217	-	197	208	-	-	-	-	-	-	-
Stage 1	412	387	-	485	481	-	-	-	-	-	-	-
Stage 2	358	471	-	333	348	-	-	-	-	-	-	-

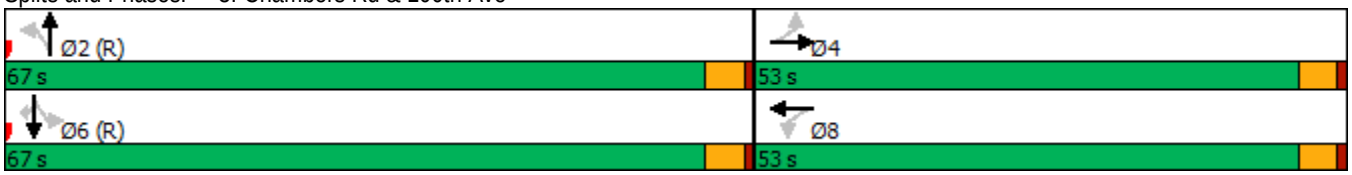
Approach	EB	WB	NB	SB
HCM Control Delay, s	38.2	15.8	1.3	2.4
HCM LOS	E	C		

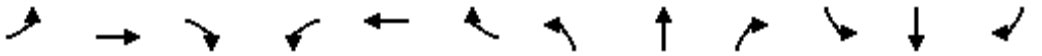
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1116	-	-	154	468	197	575	1147	-	-
HCM Lane V/C Ratio	0.07	-	-	0.477	0.061	0.162	0.224	0.145	-	-
HCM Control Delay (s)	8.5	-	-	48	13.2	26.8	13.1	8.7	-	-
HCM Lane LOS	A	-	-	E	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	2.2	0.2	0.6	0.9	0.5	-	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	133	28	48	17	59	287	105	190	91
Future Volume (vph)	133	28	48	17	59	287	105	190	91
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	53.0	53.0	53.0	53.0	67.0	67.0	67.0	67.0	67.0
Total Split (%)	44.2%	44.2%	44.2%	44.2%	55.8%	55.8%	55.8%	55.8%	55.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	21.9	21.9	21.9	21.9	89.1	89.1	89.1	89.1	89.1
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.74	0.74	0.74	0.74	0.74
v/c Ratio	0.91	0.26	0.25	0.39	0.08	0.27	0.17	0.16	0.09
Control Delay	96.2	17.6	41.9	11.3	4.7	5.2	5.8	5.4	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.2	17.6	41.9	11.3	4.7	5.2	5.8	5.4	1.0
LOS	F	B	D	B	A	A	A	A	A
Approach Delay		66.6		19.2		5.2		4.5	
Approach LOS		E		B		A		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 53.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Chambers Rd & 100th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	28	52	48	17	119	59	287	30	105	190	91
Future Volume (veh/h)	133	28	52	48	17	119	59	287	30	105	190	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	156	33	61	56	20	140	69	338	35	124	224	107
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	137	254	305	47	330	741	1152	119	758	1293	1096
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	1.00	1.00	1.00	0.69	0.69	0.69
Sat Flow, veh/h	1226	588	1087	1302	202	1414	1049	1667	173	1009	1870	1585
Grp Volume(v), veh/h	156	0	94	56	0	160	69	0	373	124	224	107
Grp Sat Flow(s),veh/h/ln	1226	0	1675	1302	0	1616	1049	0	1839	1009	1870	1585
Q Serve(g_s), s	14.9	0.0	5.5	4.4	0.0	10.1	0.5	0.0	0.0	5.2	5.0	2.7
Cycle Q Clear(g_c), s	25.0	0.0	5.5	9.8	0.0	10.1	5.6	0.0	0.0	5.2	5.0	2.7
Prop In Lane	1.00		0.65	1.00		0.88	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	243	0	391	305	0	377	741	0	1272	758	1293	1096
V/C Ratio(X)	0.64	0.00	0.24	0.18	0.00	0.42	0.09	0.00	0.29	0.16	0.17	0.10
Avail Cap(c_a), veh/h	452	0	677	527	0	653	741	0	1272	758	1293	1096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	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	0.57	0.57	0.57
Uniform Delay (d), s/veh	49.8	0.0	37.3	41.3	0.0	39.1	0.2	0.0	0.0	6.5	6.5	6.1
Incr Delay (d2), s/veh	2.8	0.0	0.3	0.3	0.0	0.8	0.2	0.0	0.6	0.3	0.2	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	4.7	0.0	2.3	1.4	0.0	4.1	0.1	0.0	0.2	1.1	1.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	0.0	37.7	41.6	0.0	39.9	0.4	0.0	0.6	6.8	6.7	6.2
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		250			216			442			455	
Approach Delay, s/veh		47.0			40.3			0.6			6.6	
Approach LOS		D			D			A			A	

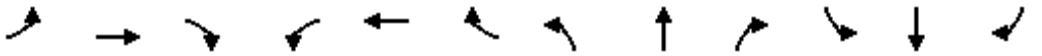
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		87.5		32.5		87.5		32.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		62.5		48.5		62.5		48.5				
Max Q Clear Time (g_c+I1), s		7.6		27.0		7.2		12.1				
Green Ext Time (p_c), s		2.9		1.0		2.4		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			17.4									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	69	6	30	8	73	350	156	323	94
Future Volume (vph)	69	6	30	8	73	350	156	323	94
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	38.0	38.0	38.0	38.0	82.0	82.0	82.0	82.0	82.0
Total Split (%)	31.7%	31.7%	31.7%	31.7%	68.3%	68.3%	68.3%	68.3%	68.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	12.8	12.8	12.8	12.8	98.2	98.2	98.2	98.2	98.2
Actuated g/C Ratio	0.11	0.11	0.11	0.11	0.82	0.82	0.82	0.82	0.82
v/c Ratio	0.78	0.14	0.22	0.46	0.09	0.27	0.21	0.23	0.08
Control Delay	97.1	22.6	50.3	15.5	2.3	2.9	3.2	2.8	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.1	22.6	50.3	15.5	2.3	2.9	3.2	2.8	0.7
LOS	F	C	D	B	A	A	A	A	A
Approach Delay		76.4		22.4		2.8		2.6	
Approach LOS		E		C		A		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 55.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Chambers Rd & 100th Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	6	21	30	8	113	73	350	38	156	323	94
Future Volume (veh/h)	69	6	21	30	8	113	73	350	38	156	323	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	6	22	32	9	120	78	372	40	166	344	100
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	53	193	247	17	224	745	1286	138	815	1449	1228
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	1.00	1.00	1.00	0.77	0.77	0.77
Sat Flow, veh/h	1261	351	1287	1382	112	1490	946	1660	178	974	1870	1585
Grp Volume(v), veh/h	73	0	28	32	0	129	78	0	412	166	344	100
Grp Sat Flow(s),veh/h/ln	1261	0	1639	1382	0	1602	946	0	1838	974	1870	1585
Q Serve(g_s), s	6.8	0.0	1.8	2.5	0.0	8.9	0.7	0.0	0.0	5.6	6.1	1.8
Cycle Q Clear(g_c), s	15.7	0.0	1.8	4.2	0.0	8.9	6.8	0.0	0.0	5.6	6.1	1.8
Prop In Lane	1.00		0.79	1.00		0.93	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	155	0	246	247	0	240	745	0	1424	815	1449	1228
V/C Ratio(X)	0.47	0.00	0.11	0.13	0.00	0.54	0.10	0.00	0.29	0.20	0.24	0.08
Avail Cap(c_a), veh/h	318	0	457	425	0	447	745	0	1424	815	1449	1228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	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	0.72	0.72	0.72
Uniform Delay (d), s/veh	54.4	0.0	44.1	45.9	0.0	47.1	0.2	0.0	0.0	3.7	3.7	3.2
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.2	0.0	1.9	0.3	0.0	0.5	0.4	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.7	0.9	0.0	3.7	0.1	0.0	0.2	1.0	2.1	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	0.0	44.3	46.2	0.0	49.0	0.5	0.0	0.5	4.1	4.0	3.3
LnGrp LOS	E	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		101			161			490			610	
Approach Delay, s/veh		53.2			48.4			0.5			3.9	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		97.5		22.5		97.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		77.5		33.5		77.5		33.5				
Max Q Clear Time (g_c+I1), s		8.8		17.7		8.1		10.9				
Green Ext Time (p_c), s		3.4		0.3		3.7		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			11.6									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	250	216	442	455
Demand Flow Rate, veh/h	255	220	451	463
Vehicles Circulating, veh/h	411	574	319	147
Vehicles Exiting, veh/h	199	196	347	647
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.0	8.1	9.0	7.0
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	255	220	451	463
Cap Entry Lane, veh/h	907	768	997	1188
Entry HV Adj Factor	0.982	0.980	0.981	0.982
Flow Entry, veh/h	250	216	442	455
Cap Entry, veh/h	891	753	977	1166
V/C Ratio	0.281	0.286	0.453	0.390
Control Delay, s/veh	7.0	8.1	9.0	7.0
LOS	A	A	A	A
95th %tile Queue, veh	1	1	2	2

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	101	161	490	610
Demand Flow Rate, veh/h	102	164	500	622
Vehicles Circulating, veh/h	553	533	249	122
Vehicles Exiting, veh/h	191	216	406	575
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.0	6.8	8.7	8.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	102	164	500	622
Cap Entry Lane, veh/h	785	801	1070	1218
Entry HV Adj Factor	0.989	0.981	0.979	0.981
Flow Entry, veh/h	101	161	490	610
Cap Entry, veh/h	776	786	1048	1195
V/C Ratio	0.130	0.205	0.467	0.511
Control Delay, s/veh	6.0	6.8	8.7	8.7
LOS	A	A	A	A
95th %tile Queue, veh	0	1	3	3

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↑			↕			↕	
Traffic Vol, veh/h	17	10	25	48	7	119	9	509	30	105	350	8
Future Vol, veh/h	17	10	25	48	7	119	9	509	30	105	350	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	11	27	52	8	129	10	553	33	114	380	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1271	1219	385	1222	1207	570	389	0	0	586	0	0
Stage 1	613	613	-	590	590	-	-	-	-	-	-	-
Stage 2	658	606	-	632	617	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	145	180	663	156	183	521	1170	-	-	989	-	-
Stage 1	480	483	-	494	495	-	-	-	-	-	-	-
Stage 2	453	487	-	468	481	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	92	152	663	124	154	521	1170	-	-	989	-	-
Mov Cap-2 Maneuver	92	152	-	124	154	-	-	-	-	-	-	-
Stage 1	474	412	-	488	489	-	-	-	-	-	-	-
Stage 2	331	481	-	373	410	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	33.9	26.4	0.1	2.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1170	-	-	180	124	460	989	-	-
HCM Lane V/C Ratio	0.008	-	-	0.314	0.421	0.298	0.115	-	-
HCM Control Delay (s)	8.1	0	-	33.9	53.6	16.1	9.1	0	-
HCM Lane LOS	A	A	-	D	F	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.3	1.8	1.2	0.4	-	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↑			↕			↕	
Traffic Vol, veh/h	10	1	9	30	6	113	24	647	38	156	558	15
Future Vol, veh/h	10	1	9	30	6	113	24	647	38	156	558	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	10	32	6	120	26	688	40	166	594	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1757	1714	602	1700	1702	708	610	0	0	728	0	0
Stage 1	934	934	-	760	760	-	-	-	-	-	-	-
Stage 2	823	780	-	940	942	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	66	90	500	73	92	435	969	-	-	876	-	-
Stage 1	319	345	-	398	414	-	-	-	-	-	-	-
Stage 2	368	406	-	316	342	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	33	61	500	53	63	435	969	-	-	876	-	-
Mov Cap-2 Maneuver	33	61	-	53	63	-	-	-	-	-	-	-
Stage 1	305	246	-	380	395	-	-	-	-	-	-	-
Stage 2	250	388	-	220	244	-	-	-	-	-	-	-

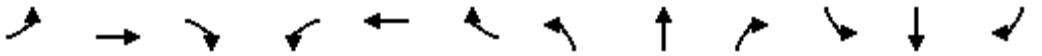
Approach	EB	WB	NB	SB
HCM Control Delay, s	97.1	47	0.3	2.2
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	969	-	-	59	53	335	876	-	-
HCM Lane V/C Ratio	0.026	-	-	0.361	0.602	0.378	0.189	-	-
HCM Control Delay (s)	8.8	0	-	97.1	145.9	22.1	10.1	0	-
HCM Lane LOS	A	A	-	F	F	C	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	2.4	1.7	0.7	-	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	136	28	48	17	61	535	105	361	93
Future Volume (vph)	136	28	48	17	61	535	105	361	93
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	34.0	34.0	34.0	34.0	86.0	86.0	86.0	86.0	86.0
Total Split (%)	28.3%	28.3%	28.3%	28.3%	71.7%	71.7%	71.7%	71.7%	71.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	21.3	21.3	21.3	21.3	89.7	89.7	89.7	89.7	89.7
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.75	0.75	0.75	0.75	0.75
v/c Ratio	0.85	0.26	0.23	0.38	0.09	0.45	0.22	0.28	0.08
Control Delay	83.8	17.4	42.2	11.7	6.1	9.5	1.7	1.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.8	17.4	42.2	11.7	6.1	9.5	1.7	1.3	0.1
LOS	F	B	D	B	A	A	A	A	A
Approach Delay		58.5		19.6		9.2		1.2	
Approach LOS		E		B		A		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 14.4	Intersection LOS: B
Intersection Capacity Utilization 66.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Chambers Rd & 100th Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	28	56	48	17	119	61	535	30	105	361	93
Future Volume (veh/h)	136	28	56	48	17	119	61	535	30	105	361	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	30	61	52	18	129	66	582	33	114	392	101
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	118	241	282	43	305	702	1244	71	633	1328	1125
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1241	550	1119	1306	198	1417	904	1753	99	807	1870	1585
Grp Volume(v), veh/h	148	0	91	52	0	147	66	0	615	114	392	101
Grp Sat Flow(s),veh/h/ln	1241	0	1669	1306	0	1615	904	0	1852	807	1870	1585
Q Serve(g_s), s	14.0	0.0	5.4	4.1	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	23.5	0.0	5.4	9.6	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.67	1.00		0.88	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	229	0	359	282	0	348	702	0	1315	633	1328	1125
V/C Ratio(X)	0.64	0.00	0.25	0.18	0.00	0.42	0.09	0.00	0.47	0.18	0.30	0.09
Avail Cap(c_a), veh/h	268	0	410	322	0	397	702	0	1315	633	1328	1125
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	50.8	0.0	39.1	43.1	0.0	40.7	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.2	0.0	0.4	0.3	0.0	0.8	0.3	0.0	1.2	0.5	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	2.3	1.4	0.0	3.8	0.1	0.0	0.4	0.1	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	0.0	39.5	43.4	0.0	41.5	0.3	0.0	1.2	0.5	0.5	0.1
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		239			199			681			607	
Approach Delay, s/veh		49.0			42.0			1.1			0.4	
Approach LOS		D			D			A			A	

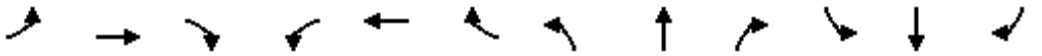
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		89.7		30.3		89.7		30.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		81.5		29.5		81.5		29.5				
Max Q Clear Time (g_c+I1), s		2.0		25.5		2.0		11.6				
Green Ext Time (p_c), s		5.5		0.4		4.0		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			12.2									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	71	6	30	8	77	666	156	595	97
Future Volume (vph)	71	6	30	8	77	666	156	595	97
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	27.0	27.0	27.0	27.0	93.0	93.0	93.0	93.0	93.0
Total Split (%)	22.5%	22.5%	22.5%	22.5%	77.5%	77.5%	77.5%	77.5%	77.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	13.7	13.7	13.7	13.7	97.3	97.3	97.3	97.3	97.3
Actuated g/C Ratio	0.11	0.11	0.11	0.11	0.81	0.81	0.81	0.81	0.81
v/c Ratio	0.73	0.14	0.21	0.45	0.14	0.50	0.33	0.42	0.08
Control Delay	86.5	21.4	48.9	14.7	4.0	6.8	2.9	2.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.5	21.4	48.9	14.7	4.0	6.8	2.9	2.9	0.1
LOS	F	C	D	B	A	A	A	A	A
Approach Delay		68.1		21.5		6.5		2.6	
Approach LOS		E		C		A		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 72.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Chambers Rd & 100th Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	6	23	30	8	113	77	666	38	156	595	97
Future Volume (veh/h)	71	6	23	30	8	113	77	666	38	156	595	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	6	24	32	9	120	82	709	40	166	633	103
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	49	198	247	17	225	618	1357	77	612	1447	1227
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1261	327	1308	1380	112	1490	722	1754	99	713	1870	1585
Grp Volume(v), veh/h	76	0	30	32	0	129	82	0	749	166	633	103
Grp Sat Flow(s),veh/h/ln	1261	0	1635	1380	0	1602	722	0	1853	713	1870	1585
Q Serve(g_s), s	7.1	0.0	1.9	2.5	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.0	0.0	1.9	4.4	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.80	1.00		0.93	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	157	0	247	247	0	242	618	0	1434	612	1447	1227
V/C Ratio(X)	0.48	0.00	0.12	0.13	0.00	0.53	0.13	0.00	0.52	0.27	0.44	0.08
Avail Cap(c_a), veh/h	203	0	307	297	0	300	618	0	1434	612	1447	1227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.58	0.58	0.58
Uniform Delay (d), s/veh	54.4	0.0	44.0	45.9	0.0	47.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.2	0.2	0.0	1.8	0.4	0.0	1.4	0.6	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.8	0.9	0.0	3.7	0.1	0.0	0.5	0.1	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.7	0.0	44.3	46.2	0.0	48.8	0.4	0.0	1.4	0.6	0.6	0.1
LnGrp LOS	E	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		106			161			831			902	
Approach Delay, s/veh		53.2			48.3			1.3			0.5	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		97.4		22.6		97.4		22.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		88.5		22.5		88.5		22.5				
Max Q Clear Time (g_c+I1), s		2.0		18.0		2.0		10.9				
Green Ext Time (p_c), s		7.8		0.1		7.6		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			7.5									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	239	199	681	607
Demand Flow Rate, veh/h	244	203	695	619
Vehicles Circulating, veh/h	569	812	298	138
Vehicles Exiting, veh/h	188	181	515	877
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.5	10.9	14.4	8.9
Approach LOS	A	B	B	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	244	203	695	619
Cap Entry Lane, veh/h	772	603	1018	1199
Entry HV Adj Factor	0.981	0.979	0.980	0.981
Flow Entry, veh/h	239	199	681	607
Cap Entry, veh/h	758	590	998	1176
V/C Ratio	0.316	0.337	0.683	0.516
Control Delay, s/veh	8.5	10.9	14.4	8.9
LOS	A	B	B	A
95th %tile Queue, veh	1	1	6	3

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	106	161	831	902
Demand Flow Rate, veh/h	108	164	848	920
Vehicles Circulating, veh/h	848	885	253	126
Vehicles Exiting, veh/h	198	216	703	923
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.7	10.7	19.3	15.6
Approach LOS	A	B	C	C

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	108	164	848	920
Cap Entry Lane, veh/h	581	560	1066	1213
Entry HV Adj Factor	0.980	0.981	0.980	0.981
Flow Entry, veh/h	106	161	831	902
Cap Entry, veh/h	570	549	1044	1190
V/C Ratio	0.186	0.293	0.795	0.758
Control Delay, s/veh	8.7	10.7	19.3	15.6
LOS	A	B	C	C
95th %tile Queue, veh	1	1	9	8

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	1	12	0	87	0	158	4	66	175	0
Future Vol, veh/h	0	0	1	12	0	87	0	158	4	66	175	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	13	0	97	0	176	4	73	194	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	567	520	194	519	518	178	194	0	0	180	0	0
Stage 1	340	340	-	178	178	-	-	-	-	-	-	-
Stage 2	227	180	-	341	340	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	459	478	847	498	480	942	1379	-	-	1421	-	-
Stage 1	675	639	-	890	784	-	-	-	-	-	-	-
Stage 2	832	782	-	674	639	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	394	450	847	475	452	942	1379	-	-	1421	-	-
Mov Cap-2 Maneuver	394	450	-	475	452	-	-	-	-	-	-	-
Stage 1	675	602	-	890	784	-	-	-	-	-	-	-
Stage 2	747	782	-	634	602	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.9	0	2.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1379	-	-	847	842	1421	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.131	0.052	-	-
HCM Control Delay (s)	0	-	-	9.3	9.9	7.7	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0.2	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	0	9	0	66	0	278	16	126	163	1
Future Vol, veh/h	0	0	0	9	0	66	0	278	16	126	163	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	0	73	0	309	18	140	181	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	817	789	182	780	780	318	182	0	0	327	0	0
Stage 1	462	462	-	318	318	-	-	-	-	-	-	-
Stage 2	355	327	-	462	462	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	307	327	861	330	331	843	1393	-	-	1262	-	-
Stage 1	580	565	-	796	701	-	-	-	-	-	-	-
Stage 2	753	693	-	580	565	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	254	286	861	299	291	843	1393	-	-	1262	-	-
Mov Cap-2 Maneuver	254	286	-	299	291	-	-	-	-	-	-	-
Stage 1	580	496	-	796	701	-	-	-	-	-	-	-
Stage 2	687	693	-	509	496	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.9	0	3.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1393	-	-	-	692	1262	-	-
HCM Lane V/C Ratio	-	-	-	-	0.12	0.111	-	-
HCM Control Delay (s)	0	-	-	0	10.9	8.2	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.4	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	1	12	0	87	0	175	4	66	193	0
Future Vol, veh/h	0	0	1	12	0	87	0	175	4	66	193	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	13	0	97	0	194	4	73	214	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	605	558	214	557	556	196	214	0	0	198	0	0
Stage 1	360	360	-	196	196	-	-	-	-	-	-	-
Stage 2	245	198	-	361	360	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	436	457	826	475	459	940	1356	-	-	1407	-	-
Stage 1	658	626	-	887	778	-	-	-	-	-	-	-
Stage 2	828	776	-	657	626	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	374	430	826	453	432	940	1356	-	-	1407	-	-
Mov Cap-2 Maneuver	374	430	-	453	432	-	-	-	-	-	-	-
Stage 1	658	589	-	887	778	-	-	-	-	-	-	-
Stage 2	743	776	-	617	589	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	10	0	2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1356	-	-	826	832	1407	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.132	0.052	-	-
HCM Control Delay (s)	0	-	-	9.4	10	7.7	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.2	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	0	9	0	66	0	307	16	126	181	1
Future Vol, veh/h	0	0	0	9	0	66	0	307	16	126	181	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	0	73	0	341	18	140	201	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	869	841	202	832	832	350	202	0	0	359	0	0
Stage 1	482	482	-	350	350	-	-	-	-	-	-	-
Stage 2	387	359	-	482	482	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	280	301	839	301	305	822	1370	-	-	1229	-	-
Stage 1	565	553	-	777	683	-	-	-	-	-	-	-
Stage 2	733	676	-	565	553	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	230	263	839	272	266	822	1370	-	-	1229	-	-
Mov Cap-2 Maneuver	230	263	-	272	266	-	-	-	-	-	-	-
Stage 1	565	482	-	777	683	-	-	-	-	-	-	-
Stage 2	668	676	-	493	482	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	11.2	0	3.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1370	-	-	-	661	1229	-	-
HCM Lane V/C Ratio	-	-	-	-	0.126	0.114	-	-
HCM Control Delay (s)	0	-	-	0	11.2	8.3	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.4	-	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	0	40	12	4	93	29	210	4	75	272	5
Future Vol, veh/h	26	0	40	12	4	93	29	210	4	75	272	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	0	44	13	4	103	32	233	4	83	302	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	824	772	305	792	773	235	308	0	0	237	0	0
Stage 1	471	471	-	299	299	-	-	-	-	-	-	-
Stage 2	353	301	-	493	474	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	299	333	735	317	333	910	1253	-	-	1364	-	-
Stage 1	573	560	-	783	699	-	-	-	-	-	-	-
Stage 2	725	698	-	558	558	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	242	299	735	275	299	910	1253	-	-	1364	-	-
Mov Cap-2 Maneuver	242	299	-	275	299	-	-	-	-	-	-	-
Stage 1	556	519	-	761	679	-	-	-	-	-	-	-
Stage 2	620	678	-	486	517	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.7	11.4	0.9	1.7
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1253	-	-	408	685	1364	-	-
HCM Lane V/C Ratio	0.026	-	-	0.18	0.177	0.061	-	-
HCM Control Delay (s)	7.9	0	-	15.7	11.4	7.8	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.6	0.2	-	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	19	0	28	9	1	67	64	357	16	128	225	16
Future Vol, veh/h	19	0	28	9	1	67	64	357	16	128	225	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	0	31	10	1	74	71	397	18	142	250	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1129	1100	259	1107	1100	406	268	0	0	415	0	0
Stage 1	543	543	-	548	548	-	-	-	-	-	-	-
Stage 2	586	557	-	559	552	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	164	189	780	172	189	*790	1296	-	-	1172	-	-
Stage 1	524	520	-	589	540	-	-	-	-	-	-	-
Stage 2	552	533	-	513	515	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	125	151	780	139	151	*790	1296	-	-	1172	-	-
Mov Cap-2 Maneuver	125	151	-	139	151	-	-	-	-	-	-	-
Stage 1	487	446	-	547	501	-	-	-	-	-	-	-
Stage 2	464	495	-	422	441	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.2	13.8	1.2	2.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1296	-	-	250	493	1172	-	-
HCM Lane V/C Ratio	0.055	-	-	0.209	0.174	0.121	-	-
HCM Control Delay (s)	7.9	0	-	23.2	13.8	8.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	0.6	0.4	-	-

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

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	0	40	12	4	93	29	210	4	75	272	5
Future Vol, veh/h	26	0	40	12	4	93	29	210	4	75	272	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	0	44	13	4	103	32	233	4	83	302	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	824	772	305	792	773	235	308	0	0	237	0	0
Stage 1	471	471	-	299	299	-	-	-	-	-	-	-
Stage 2	353	301	-	493	474	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	299	333	735	317	333	910	1253	-	-	1364	-	-
Stage 1	573	560	-	783	699	-	-	-	-	-	-	-
Stage 2	725	698	-	558	558	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	246	304	735	278	304	910	1253	-	-	1364	-	-
Mov Cap-2 Maneuver	362	393	-	375	392	-	-	-	-	-	-	-
Stage 1	558	526	-	763	681	-	-	-	-	-	-	-
Stage 2	622	680	-	492	524	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	10.7	0.9	1.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1253	-	-	523	755	1364	-	-
HCM Lane V/C Ratio	0.026	-	-	0.14	0.16	0.061	-	-
HCM Control Delay (s)	7.9	-	-	13	10.7	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.6	0.2	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	0	28	9	1	67	64	357	16	128	225	16
Future Vol, veh/h	19	0	28	9	1	67	64	357	16	128	225	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	0	31	10	1	74	71	397	18	142	250	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1129	1100	259	1107	1100	406	268	0	0	415	0	0
Stage 1	543	543	-	548	548	-	-	-	-	-	-	-
Stage 2	586	557	-	559	552	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	164	189	780	172	189	*790	1296	-	-	1172	-	-
Stage 1	524	520	-	589	540	-	-	-	-	-	-	-
Stage 2	552	533	-	513	515	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	129	157	780	144	157	*790	1296	-	-	1172	-	-
Mov Cap-2 Maneuver	236	254	-	262	269	-	-	-	-	-	-	-
Stage 1	495	457	-	557	510	-	-	-	-	-	-	-
Stage 2	472	504	-	433	453	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	11.6	1.2	2.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1296	-	-	404	627	1172	-	-
HCM Lane V/C Ratio	0.055	-	-	0.129	0.136	0.121	-	-
HCM Control Delay (s)	7.9	-	-	15.2	11.6	8.5	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0.5	0.4	-	-

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	2	12	0	87	0	341	4	66	377	0
Future Vol, veh/h	0	0	2	12	0	87	0	341	4	66	377	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	13	0	95	0	371	4	72	410	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	975	929	410	928	927	373	410	0	0	375	0	0
Stage 1	554	554	-	373	373	-	-	-	-	-	-	-
Stage 2	421	375	-	555	554	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	227	259	642	251	260	814	1149	-	-	1216	-	-
Stage 1	517	514	-	768	673	-	-	-	-	-	-	-
Stage 2	710	671	-	516	514	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	189	239	642	235	240	814	1149	-	-	1216	-	-
Mov Cap-2 Maneuver	189	239	-	235	240	-	-	-	-	-	-	-
Stage 1	517	474	-	768	673	-	-	-	-	-	-	-
Stage 2	628	671	-	475	474	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	11.9	0	1.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1149	-	-	642	627	1216	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.172	0.059	-	-
HCM Control Delay (s)	0	-	-	10.6	11.9	8.1	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0.2	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	0	9	0	66	0	600	16	126	352	2
Future Vol, veh/h	0	0	0	9	0	66	0	600	16	126	352	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	0	72	0	652	17	137	383	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1355	1327	384	1319	1320	661	385	0	0	669	0	0
Stage 1	658	658	-	661	661	-	-	-	-	-	-	-
Stage 2	697	669	-	658	659	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	83	*102	664	*92	*104	*581	1173	-	-	*869	-	-
Stage 1	453	*461	-	*548	*480	-	-	-	-	-	-	-
Stage 2	547	*480	-	*453	*461	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	62	*82	664	*78	*83	*581	1173	-	-	*869	-	-
Mov Cap-2 Maneuver	62	*82	-	*78	*83	-	-	-	-	-	-	-
Stage 1	453	*368	-	*548	*480	-	-	-	-	-	-	-
Stage 2	480	*480	-	*362	*368	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	19.6	0	2.6
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1173	-	-	-	328	* 869	-	-
HCM Lane V/C Ratio	-	-	-	-	0.249	0.158	-	-
HCM Control Delay (s)	0	-	-	0	19.6	9.9	0	-
HCM Lane LOS	A	-	-	A	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	1	0.6	-	-

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

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	0	41	12	4	93	29	376	4	75	456	5
Future Vol, veh/h	26	0	41	12	4	93	29	376	4	75	456	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	45	13	4	101	32	409	4	82	496	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1191	1140	499	1160	1140	411	501	0	0	413	0	0
Stage 1	663	663	-	475	475	-	-	-	-	-	-	-
Stage 2	528	477	-	685	665	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	134	165	*711	151	165	*764	*1064	-	-	*1143	-	-
Stage 1	511	471	-	683	604	-	-	-	-	-	-	-
Stage 2	623	602	-	490	470	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	106	148	*711	130	148	*764	*1064	-	-	*1143	-	-
Mov Cap-2 Maneuver	260	280	-	280	283	-	-	-	-	-	-	-
Stage 1	495	437	-	662	586	-	-	-	-	-	-	-
Stage 2	520	584	-	427	436	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	12.3	0.6	1.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 1064	-	-	425	610	* 1143	-	-
HCM Lane V/C Ratio	0.03	-	-	0.171	0.194	0.071	-	-
HCM Control Delay (s)	8.5	-	-	15.2	12.3	8.4	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.7	0.2	-	-

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

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	0	28	9	1	67	64	650	16	128	396	17
Future Vol, veh/h	19	0	28	9	1	67	64	650	16	128	396	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	0	30	10	1	73	70	707	17	139	430	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1610	1581	439	1588	1582	716	448	0	0	724	0	0
Stage 1	717	717	-	856	856	-	-	-	-	-	-	-
Stage 2	893	864	-	732	726	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	84	109	618	87	109	430	1112	-	-	879	-	-
Stage 1	421	434	-	352	374	-	-	-	-	-	-	-
Stage 2	336	371	-	413	430	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	58	86	618	69	86	430	1112	-	-	879	-	-
Mov Cap-2 Maneuver	102	156	-	69	86	-	-	-	-	-	-	-
Stage 1	394	365	-	330	350	-	-	-	-	-	-	-
Stage 2	261	348	-	331	362	-	-	-	-	-	-	-

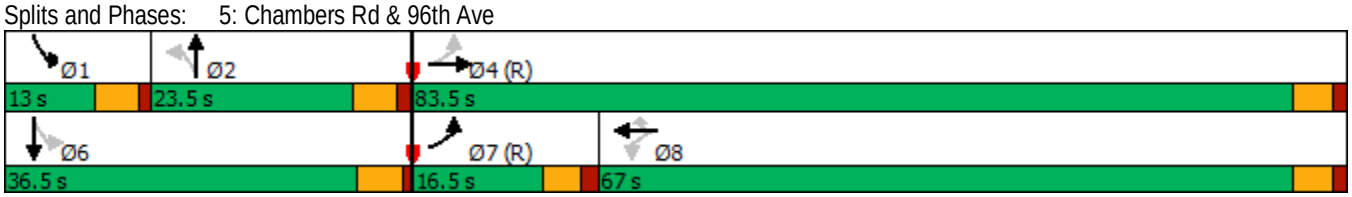
Approach	EB	WB	NB	SB
HCM Control Delay, s	28.6	25.5	0.7	2.3
HCM LOS	D	D		

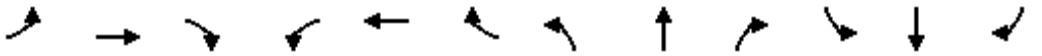
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1112	-	-	203	258	879	-	-
HCM Lane V/C Ratio	0.063	-	-	0.252	0.324	0.158	-	-
HCM Control Delay (s)	8.5	-	-	28.6	25.5	9.9	-	-
HCM Lane LOS	A	-	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1	1.4	0.6	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	Ø2
Lane Configurations							
Traffic Volume (vph)	53	352	506	105	83	0	
Future Volume (vph)	53	352	506	105	83	0	
Turn Type	pm+pt	NA	NA	Perm	pm+pt	NA	
Protected Phases	7	4	8		1	6	2
Permitted Phases	4			8	6		
Detector Phase	7	4	8	8	1	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.0	23.0	23.5
Total Split (s)	16.5	83.5	67.0	67.0	13.0	36.5	23.5
Total Split (%)	13.8%	69.6%	55.8%	55.8%	10.8%	30.4%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.5
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
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	None	Max	Max
Act Effct Green (s)	78.5	78.5	62.0	62.0	31.5	31.5	
Actuated g/C Ratio	0.65	0.65	0.52	0.52	0.26	0.26	
v/c Ratio	0.12	0.31	0.56	0.13	0.26	0.17	
Control Delay	8.0	9.8	22.5	2.9	29.4	0.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	8.0	9.8	22.5	2.9	29.4	0.8	
LOS	A	A	C	A	C	A	
Approach Delay		9.6	19.1			12.8	
Approach LOS		A	B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36.5 (30%), Referenced to phase 4:EBTL and 7:EBL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 14.9	Intersection LOS: B
Intersection Capacity Utilization 59.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Chambers Rd & 96th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	352	0	0	506	105	0	0	0	83	0	115
Future Volume (veh/h)	53	352	0	0	506	105	0	0	0	83	0	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	56	374	0	0	538	112	0	0	0	88	0	122
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	685	1481	0	0	1080	915	0	313	0	392	0	416
Arrive On Green	0.17	0.79	0.00	0.00	0.58	0.58	0.00	0.00	0.00	0.05	0.00	0.26
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Grp Volume(v), veh/h	56	374	0	0	538	112	0	0	0	88	0	122
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Q Serve(g_s), s	0.9	6.2	0.0	0.0	20.5	3.9	0.0	0.0	0.0	4.8	0.0	7.4
Cycle Q Clear(g_c), s	0.9	6.2	0.0	0.0	20.5	3.9	0.0	0.0	0.0	4.8	0.0	7.4
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	685	1481	0	0	1080	915	0	313	0	392	0	416
V/C Ratio(X)	0.08	0.25	0.00	0.00	0.50	0.12	0.00	0.00	0.00	0.22	0.00	0.29
Avail Cap(c_a), veh/h	685	1481	0	0	1080	915	0	313	0	416	0	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.6	3.3	0.0	0.0	15.1	11.5	0.0	0.0	0.0	36.7	0.0	35.4
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.3	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.1	0.0	0.0	8.6	1.4	0.0	0.0	0.0	2.1	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	3.7	0.0	0.0	15.4	11.6	0.0	0.0	0.0	37.0	0.0	37.1
LnGrp LOS	A	A	A	A	B	B	A	A	A	D	A	D
Approach Vol, veh/h		430			650			0			210	
Approach Delay, s/veh		3.9			14.8			0.0			37.1	
Approach LOS		A			B						D	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	11.4	25.6		100.5		37.0	26.2	74.3				
Change Period (Y+Rc), s	5.0	5.5		5.0		* 5.5	5.0	5.0				
Max Green Setting (Gmax), s	8.0	18.0		78.5		* 32	11.5	62.0				
Max Q Clear Time (g_c+I1), s	6.8	0.0		8.2		9.4	2.9	22.5				
Green Ext Time (p_c), s	0.0	0.0		2.6		0.7	0.1	4.4				

Intersection Summary		
HCM 6th Ctrl Delay		14.8
HCM 6th LOS		B

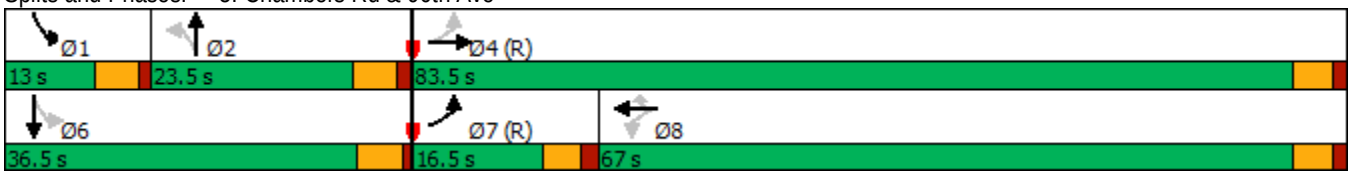
Notes

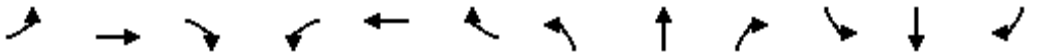
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	Ø2
Lane Configurations							
Traffic Volume (vph)	166	598	505	127	97	0	
Future Volume (vph)	166	598	505	127	97	0	
Turn Type	pm+pt	NA	NA	Perm	pm+pt	NA	
Protected Phases	7	4	8		1	6	2
Permitted Phases	4			8	6		
Detector Phase	7	4	8	8	1	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.0	23.0	23.5
Total Split (s)	16.5	83.5	67.0	67.0	13.0	36.5	23.5
Total Split (%)	13.8%	69.6%	55.8%	55.8%	10.8%	30.4%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.5
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
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	None	Max	Max
Act Effct Green (s)	78.5	78.5	62.0	62.0	31.5	31.5	
Actuated g/C Ratio	0.65	0.65	0.52	0.52	0.26	0.26	
v/c Ratio	0.35	0.51	0.54	0.15	0.30	0.11	
Control Delay	10.1	12.5	22.1	2.9	32.7	0.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	10.1	12.5	22.1	2.9	32.7	0.3	
LOS	B	B	C	A	C	A	
Approach Delay		12.0	18.2			18.6	
Approach LOS		B	B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36.5 (30%), Referenced to phase 4:EBTL and 7:EBL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 15.2	Intersection LOS: B
Intersection Capacity Utilization 75.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Chambers Rd & 96th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	598	0	0	505	127	0	0	0	97	0	75
Future Volume (veh/h)	166	598	0	0	505	127	0	0	0	97	0	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	616	0	0	521	131	0	0	0	100	0	77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	696	1481	0	0	1063	901	0	301	0	395	0	416
Arrive On Green	0.18	0.79	0.00	0.00	0.57	0.57	0.00	0.00	0.00	0.06	0.00	0.26
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Grp Volume(v), veh/h	171	616	0	0	521	131	0	0	0	100	0	77
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Q Serve(g_s), s	3.0	12.3	0.0	0.0	20.0	4.7	0.0	0.0	0.0	5.4	0.0	4.5
Cycle Q Clear(g_c), s	3.0	12.3	0.0	0.0	20.0	4.7	0.0	0.0	0.0	5.4	0.0	4.5
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	696	1481	0	0	1063	901	0	301	0	395	0	416
V/C Ratio(X)	0.25	0.42	0.00	0.00	0.49	0.15	0.00	0.00	0.00	0.25	0.00	0.19
Avail Cap(c_a), veh/h	696	1481	0	0	1063	901	0	301	0	407	0	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.2	3.9	0.0	0.0	15.5	12.2	0.0	0.0	0.0	37.0	0.0	34.3
Incr Delay (d2), s/veh	0.2	0.9	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.3	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.1	0.0	0.0	8.4	1.7	0.0	0.0	0.0	2.4	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	4.7	0.0	0.0	15.8	12.3	0.0	0.0	0.0	37.3	0.0	35.3
LnGrp LOS	A	A	A	A	B	B	A	A	A	D	A	D
Approach Vol, veh/h		787			652			0			177	
Approach Delay, s/veh		5.1			15.1			0.0			36.4	
Approach LOS		A			B						D	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	12.2	24.8		100.5		37.0	27.2	73.3				
Change Period (Y+Rc), s	5.0	5.5		5.0		* 5.5	5.0	5.0				
Max Green Setting (Gmax), s	8.0	18.0		78.5		* 32	11.5	62.0				
Max Q Clear Time (g_c+I1), s	7.4	0.0		14.3		6.5	5.0	22.0				
Green Ext Time (p_c), s	0.0	0.0		5.0		0.4	0.2	4.3				

Intersection Summary			
HCM 6th Ctrl Delay		12.6	
HCM 6th LOS		B	

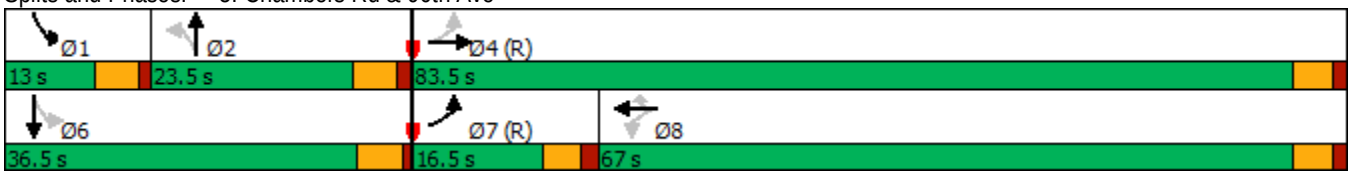
Notes

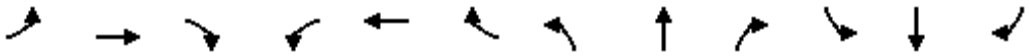
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	Ø2
Lane Configurations							
Traffic Volume (vph)	58	389	559	117	91	0	
Future Volume (vph)	58	389	559	117	91	0	
Turn Type	pm+pt	NA	NA	Perm	pm+pt	NA	
Protected Phases	7	4	8		1	6	2
Permitted Phases	4			8	6		
Detector Phase	7	4	8	8	1	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.0	23.0	23.5
Total Split (s)	16.5	83.5	67.0	67.0	13.0	36.5	23.5
Total Split (%)	13.8%	69.6%	55.8%	55.8%	10.8%	30.4%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.5
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
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	None	Max	Max
Act Effct Green (s)	78.5	78.5	62.0	62.0	31.5	31.5	
Actuated g/C Ratio	0.65	0.65	0.52	0.52	0.26	0.26	
v/c Ratio	0.14	0.34	0.62	0.14	0.29	0.20	
Control Delay	8.2	10.2	24.1	2.9	43.1	0.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	8.2	10.2	24.1	2.9	43.1	0.6	
LOS	A	B	C	A	D	A	
Approach Delay		9.9	20.5			18.4	
Approach LOS		A	C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36.5 (30%), Referenced to phase 4:EBTL and 7:EBL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Chambers Rd & 96th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	389	0	0	559	117	0	0	0	91	0	127
Future Volume (veh/h)	58	389	0	0	559	117	0	0	0	91	0	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	414	0	0	595	124	0	0	0	97	0	135
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	647	1481	0	0	1078	913	0	304	0	394	0	416
Arrive On Green	0.17	0.79	0.00	0.00	0.58	0.58	0.00	0.00	0.00	0.06	0.00	0.26
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Grp Volume(v), veh/h	62	414	0	0	595	124	0	0	0	97	0	135
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Q Serve(g_s), s	1.0	7.1	0.0	0.0	23.7	4.3	0.0	0.0	0.0	5.3	0.0	8.2
Cycle Q Clear(g_c), s	1.0	7.1	0.0	0.0	23.7	4.3	0.0	0.0	0.0	5.3	0.0	8.2
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	647	1481	0	0	1078	913	0	304	0	394	0	416
V/C Ratio(X)	0.10	0.28	0.00	0.00	0.55	0.14	0.00	0.00	0.00	0.25	0.00	0.32
Avail Cap(c_a), veh/h	647	1481	0	0	1078	913	0	304	0	409	0	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.4	3.3	0.0	0.0	15.8	11.7	0.0	0.0	0.0	36.9	0.0	35.7
Incr Delay (d2), s/veh	0.1	0.5	0.0	0.0	0.6	0.1	0.0	0.0	0.0	0.3	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.3	0.0	0.0	10.0	1.5	0.0	0.0	0.0	2.3	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	3.8	0.0	0.0	16.4	11.8	0.0	0.0	0.0	37.2	0.0	37.7
LnGrp LOS	A	A	A	A	B	B	A	A	A	D	A	D
Approach Vol, veh/h		476			719			0			232	
Approach Delay, s/veh		4.2			15.6			0.0			37.5	
Approach LOS		A			B						D	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	12.0	25.0		100.5		37.0	26.4	74.1				
Change Period (Y+Rc), s	5.0	5.5		5.0		* 5.5	5.0	5.0				
Max Green Setting (Gmax), s	8.0	18.0		78.5		* 32	11.5	62.0				
Max Q Clear Time (g_c+I1), s	7.3	0.0		9.1		10.2	3.0	25.7				
Green Ext Time (p_c), s	0.0	0.0		2.9		0.7	0.1	5.0				

Intersection Summary	
HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B

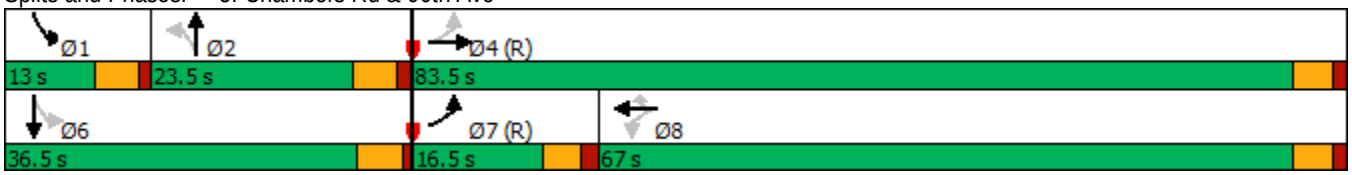
Notes

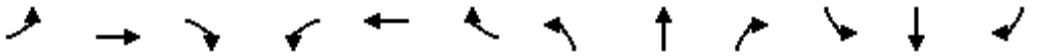
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	Ø2
Lane Configurations							
Traffic Volume (vph)	184	661	558	141	107	0	
Future Volume (vph)	184	661	558	141	107	0	
Turn Type	pm+pt	NA	NA	Perm	pm+pt	NA	
Protected Phases	7	4	8		1	6	2
Permitted Phases	4			8	6		
Detector Phase	7	4	8	8	1	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.0	23.0	23.5
Total Split (s)	16.5	83.5	67.0	67.0	13.0	36.5	23.5
Total Split (%)	13.8%	69.6%	55.8%	55.8%	10.8%	30.4%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.5
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
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	None	Max	Max
Act Effct Green (s)	78.5	78.5	62.0	62.0	31.5	31.5	
Actuated g/C Ratio	0.65	0.65	0.52	0.52	0.26	0.26	
v/c Ratio	0.43	0.56	0.60	0.16	0.33	0.12	
Control Delay	11.1	13.5	23.5	2.8	38.8	0.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	11.1	13.5	23.5	2.8	38.8	0.3	
LOS	B	B	C	A	D	A	
Approach Delay		13.0	19.4			21.9	
Approach LOS		B	B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36.5 (30%), Referenced to phase 4:EBTL and 7:EBL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 16.5	Intersection LOS: B
Intersection Capacity Utilization 82.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Chambers Rd & 96th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	661	0	0	558	141	0	0	0	107	0	83
Future Volume (veh/h)	184	661	0	0	558	141	0	0	0	107	0	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	190	681	0	0	575	145	0	0	0	110	0	86
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	661	1481	0	0	1057	895	0	291	0	397	0	416
Arrive On Green	0.19	0.79	0.00	0.00	0.56	0.56	0.00	0.00	0.00	0.07	0.00	0.26
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Grp Volume(v), veh/h	190	681	0	0	575	145	0	0	0	110	0	86
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Q Serve(g_s), s	3.3	14.3	0.0	0.0	23.2	5.3	0.0	0.0	0.0	6.0	0.0	5.1
Cycle Q Clear(g_c), s	3.3	14.3	0.0	0.0	23.2	5.3	0.0	0.0	0.0	6.0	0.0	5.1
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	661	1481	0	0	1057	895	0	291	0	397	0	416
V/C Ratio(X)	0.29	0.46	0.00	0.00	0.54	0.16	0.00	0.00	0.00	0.28	0.00	0.21
Avail Cap(c_a), veh/h	661	1481	0	0	1057	895	0	291	0	399	0	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.3	4.1	0.0	0.0	16.4	12.5	0.0	0.0	0.0	37.2	0.0	34.5
Incr Delay (d2), s/veh	0.2	1.0	0.0	0.0	0.6	0.1	0.0	0.0	0.0	0.4	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.8	0.0	0.0	9.8	1.9	0.0	0.0	0.0	2.7	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	5.1	0.0	0.0	17.0	12.6	0.0	0.0	0.0	37.6	0.0	35.6
LnGrp LOS	A	A	A	A	B	B	A	A	A	D	A	D
Approach Vol, veh/h		871			720			0			196	
Approach Delay, s/veh		5.6			16.1			0.0			36.7	
Approach LOS		A			B						D	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	12.8	24.2		100.5		37.0	27.6	72.9				
Change Period (Y+Rc), s	5.0	5.5		5.0		* 5.5	5.0	5.0				
Max Green Setting (Gmax), s	8.0	18.0		78.5		* 32	11.5	62.0				
Max Q Clear Time (g_c+I1), s	8.0	0.0		16.3		7.1	5.3	25.2				
Green Ext Time (p_c), s	0.0	0.0		5.8		0.4	0.3	4.9				

Intersection Summary	
HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

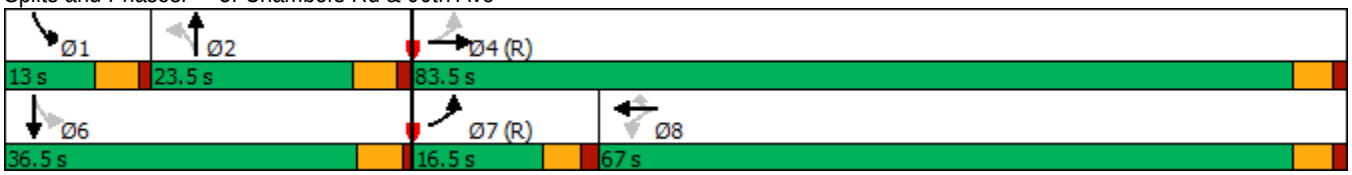
Notes

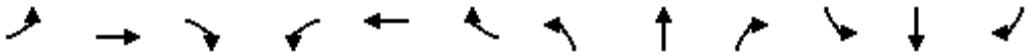
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	Ø2
Lane Configurations							
Traffic Volume (vph)	92	389	559	148	135	0	
Future Volume (vph)	92	389	559	148	135	0	
Turn Type	pm+pt	NA	NA	Perm	pm+pt	NA	
Protected Phases	7	4	8		1	6	2
Permitted Phases	4			8	6		
Detector Phase	7	4	8	8	1	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.0	23.0	23.5
Total Split (s)	16.5	83.5	67.0	67.0	13.0	36.5	23.5
Total Split (%)	13.8%	69.6%	55.8%	55.8%	10.8%	30.4%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.5
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
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	None	Max	Max
Act Effct Green (s)	78.5	78.5	62.0	62.0	31.5	31.5	
Actuated g/C Ratio	0.65	0.65	0.52	0.52	0.26	0.26	
v/c Ratio	0.23	0.34	0.62	0.18	0.43	0.31	
Control Delay	8.9	10.2	24.1	2.8	35.1	1.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	8.9	10.2	24.1	2.8	35.1	1.9	
LOS	A	B	C	A	D	A	
Approach Delay		9.9	19.7			15.2	
Approach LOS		A	B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36.5 (30%), Referenced to phase 4:EBTL and 7:EBL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 15.6	Intersection LOS: B
Intersection Capacity Utilization 74.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Chambers Rd & 96th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	389	0	0	559	148	0	0	0	135	0	202
Future Volume (veh/h)	92	389	0	0	559	148	0	0	0	135	0	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	414	0	0	595	157	0	0	0	144	0	215
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	641	1481	0	0	1071	907	0	288	0	397	0	416
Arrive On Green	0.18	0.79	0.00	0.00	0.57	0.57	0.00	0.00	0.00	0.07	0.00	0.26
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Grp Volume(v), veh/h	98	414	0	0	595	157	0	0	0	144	0	215
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Q Serve(g_s), s	1.6	7.1	0.0	0.0	23.9	5.6	0.0	0.0	0.0	8.0	0.0	13.9
Cycle Q Clear(g_c), s	1.6	7.1	0.0	0.0	23.9	5.6	0.0	0.0	0.0	8.0	0.0	13.9
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	641	1481	0	0	1071	907	0	288	0	397	0	416
V/C Ratio(X)	0.15	0.28	0.00	0.00	0.56	0.17	0.00	0.00	0.00	0.36	0.00	0.52
Avail Cap(c_a), veh/h	641	1481	0	0	1071	907	0	288	0	397	0	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	3.3	0.0	0.0	16.1	12.2	0.0	0.0	0.0	38.0	0.0	37.8
Incr Delay (d2), s/veh	0.1	0.5	0.0	0.0	0.6	0.1	0.0	0.0	0.0	0.6	0.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.3	0.0	0.0	10.1	2.0	0.0	0.0	0.0	3.6	0.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	3.8	0.0	0.0	16.7	12.3	0.0	0.0	0.0	38.5	0.0	42.3
LnGrp LOS	A	A	A	A	B	B	A	A	A	D	A	D
Approach Vol, veh/h		512			752			0			359	
Approach Delay, s/veh		4.4			15.8			0.0			40.8	
Approach LOS		A			B						D	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	13.0	24.0		100.5		37.0	26.8	73.7				
Change Period (Y+Rc), s	5.0	5.5		5.0		* 5.5	5.0	5.0				
Max Green Setting (Gmax), s	8.0	18.0		78.5		* 32	11.5	62.0				
Max Q Clear Time (g_c+I1), s	10.0	0.0		9.1		15.9	3.6	25.9				
Green Ext Time (p_c), s	0.0	0.0		2.9		1.1	0.1	5.1				

Intersection Summary			
HCM 6th Ctrl Delay		17.7	
HCM 6th LOS		B	

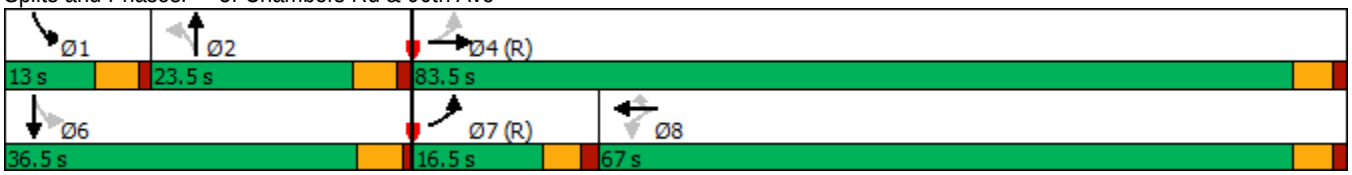
Notes

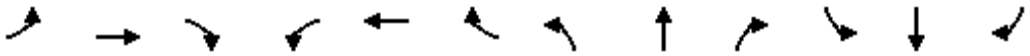
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	Ø2
Lane Configurations							
Traffic Volume (vph)	263	661	558	176	131	0	
Future Volume (vph)	263	661	558	176	131	0	
Turn Type	pm+pt	NA	NA	Perm	pm+pt	NA	
Protected Phases	7	4	8		1	6	2
Permitted Phases	4			8	6		
Detector Phase	7	4	8	8	1	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.0	23.0	23.5
Total Split (s)	16.5	83.5	67.0	67.0	13.0	36.5	23.5
Total Split (%)	13.8%	69.6%	55.8%	55.8%	10.8%	30.4%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.5
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
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	None	Max	Max
Act Effct Green (s)	78.5	78.5	62.0	62.0	31.5	31.5	
Actuated g/C Ratio	0.65	0.65	0.52	0.52	0.26	0.26	
v/c Ratio	0.61	0.56	0.60	0.20	0.40	0.19	
Control Delay	14.7	13.5	23.5	2.7	34.0	0.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	14.7	13.5	23.5	2.7	34.0	0.9	
LOS	B	B	C	A	C	A	
Approach Delay		13.8	18.5			17.4	
Approach LOS		B	B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36.5 (30%), Referenced to phase 4:EBTL and 7:EBL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 16.1	Intersection LOS: B
Intersection Capacity Utilization 84.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Chambers Rd & 96th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	661	0	0	558	176	0	0	0	131	0	132
Future Volume (veh/h)	263	661	0	0	558	176	0	0	0	131	0	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	271	681	0	0	575	181	0	0	0	135	0	136
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	664	1481	0	0	1028	871	0	288	0	397	0	416
Arrive On Green	0.20	0.79	0.00	0.00	0.55	0.55	0.00	0.00	0.00	0.07	0.00	0.26
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Grp Volume(v), veh/h	271	681	0	0	575	181	0	0	0	135	0	136
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Q Serve(g_s), s	5.0	14.3	0.0	0.0	24.0	7.0	0.0	0.0	0.0	7.5	0.0	8.3
Cycle Q Clear(g_c), s	5.0	14.3	0.0	0.0	24.0	7.0	0.0	0.0	0.0	7.5	0.0	8.3
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	664	1481	0	0	1028	871	0	288	0	397	0	416
V/C Ratio(X)	0.41	0.46	0.00	0.00	0.56	0.21	0.00	0.00	0.00	0.34	0.00	0.33
Avail Cap(c_a), veh/h	664	1481	0	0	1028	871	0	288	0	397	0	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.5	4.1	0.0	0.0	17.6	13.7	0.0	0.0	0.0	37.8	0.0	35.7
Incr Delay (d2), s/veh	0.4	1.0	0.0	0.0	0.7	0.1	0.0	0.0	0.0	0.5	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.8	0.0	0.0	10.3	2.5	0.0	0.0	0.0	3.3	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	5.1	0.0	0.0	18.2	13.8	0.0	0.0	0.0	38.3	0.0	37.8
LnGrp LOS	A	A	A	A	B	B	A	A	A	D	A	D
Approach Vol, veh/h		952			756			0			271	
Approach Delay, s/veh		6.2			17.2			0.0			38.0	
Approach LOS		A			B						D	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	13.0	24.0		100.5		37.0	29.4	71.1				
Change Period (Y+Rc), s	5.0	5.5		5.0		* 5.5	5.0	5.0				
Max Green Setting (Gmax), s	8.0	18.0		78.5		* 32	11.5	62.0				
Max Q Clear Time (g_c+I1), s	9.5	0.0		16.3		10.3	7.0	26.0				
Green Ext Time (p_c), s	0.0	0.0		5.8		0.7	0.3	5.0				

Intersection Summary		
HCM 6th Ctrl Delay		14.8
HCM 6th LOS		B

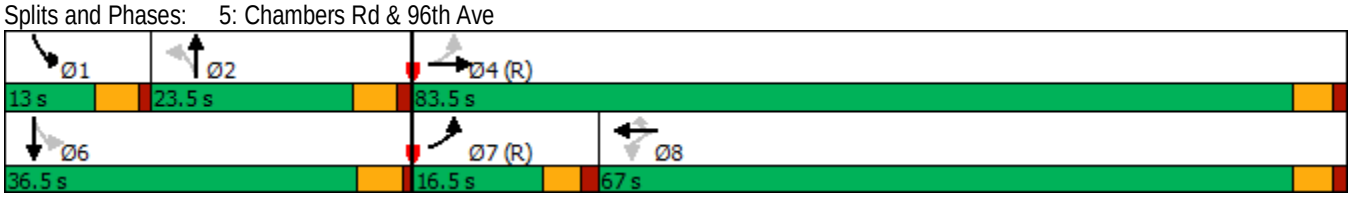
Notes

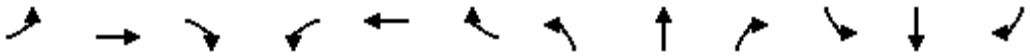
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	Ø2
Lane Configurations							
Traffic Volume (vph)	114	759	1091	228	178	0	
Future Volume (vph)	114	759	1091	228	178	0	
Turn Type	pm+pt	NA	NA	Perm	pm+pt	NA	
Protected Phases	7	4	8		1	6	2
Permitted Phases	4			8	6		
Detector Phase	7	4	8	8	1	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.0	23.0	23.5
Total Split (s)	16.5	83.5	67.0	67.0	13.0	36.5	23.5
Total Split (%)	13.8%	69.6%	55.8%	55.8%	10.8%	30.4%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.5
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
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	None	Max	Max
Act Effct Green (s)	78.5	78.5	62.0	62.0	31.5	31.5	
Actuated g/C Ratio	0.65	0.65	0.52	0.52	0.26	0.26	
v/c Ratio	0.52	0.66	1.21	0.27	0.56	0.46	
Control Delay	26.1	16.0	131.4	7.3	41.8	11.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.1	16.0	131.4	7.3	41.8	11.3	
LOS	C	B	F	A	D	B	
Approach Delay		17.3	109.9			24.0	
Approach LOS		B	F			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36.5 (30%), Referenced to phase 4:EBTL and 7:EBL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.21	
Intersection Signal Delay: 65.1	Intersection LOS: E
Intersection Capacity Utilization 118.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 5: Chambers Rd & 96th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	759	0	0	1091	228	0	0	0	178	0	248
Future Volume (veh/h)	114	759	0	0	1091	228	0	0	0	178	0	248
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	121	807	0	0	1161	243	0	0	0	189	0	264
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	379	1481	0	0	1068	905	0	288	0	397	0	416
Arrive On Green	0.18	0.79	0.00	0.00	0.57	0.57	0.00	0.00	0.00	0.07	0.00	0.26
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Grp Volume(v), veh/h	121	807	0	0	1161	243	0	0	0	189	0	264
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Q Serve(g_s), s	2.8	19.0	0.0	0.0	68.5	9.3	0.0	0.0	0.0	8.0	0.0	17.7
Cycle Q Clear(g_c), s	2.8	19.0	0.0	0.0	68.5	9.3	0.0	0.0	0.0	8.0	0.0	17.7
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	379	1481	0	0	1068	905	0	288	0	397	0	416
V/C Ratio(X)	0.32	0.55	0.00	0.00	1.09	0.27	0.00	0.00	0.00	0.48	0.00	0.63
Avail Cap(c_a), veh/h	379	1481	0	0	1068	905	0	288	0	397	0	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.0	4.6	0.0	0.0	25.7	13.0	0.0	0.0	0.0	39.6	0.0	39.2
Incr Delay (d2), s/veh	0.5	1.4	0.0	0.0	54.2	0.2	0.0	0.0	0.0	0.9	0.0	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	6.3	0.0	0.0	44.5	3.3	0.0	0.0	0.0	5.0	0.0	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	6.0	0.0	0.0	80.0	13.2	0.0	0.0	0.0	40.5	0.0	46.4
LnGrp LOS	C	A	A	A	F	B	A	A	A	D	A	D
Approach Vol, veh/h		928			1404			0			453	
Approach Delay, s/veh		8.8			68.4			0.0			43.9	
Approach LOS		A			E						D	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	13.0	24.0		100.5		37.0	26.9	73.6				
Change Period (Y+Rc), s	5.0	5.5		5.0		* 5.5	5.0	5.0				
Max Green Setting (Gmax), s	8.0	18.0		78.5		* 32	11.5	62.0				
Max Q Clear Time (g_c+I1), s	10.0	0.0		21.0		19.7	4.8	70.5				
Green Ext Time (p_c), s	0.0	0.0		7.6		1.3	0.1	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		44.6
HCM 6th LOS		D

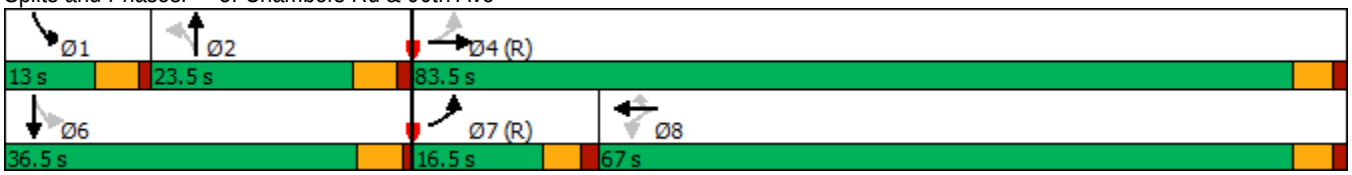
Notes

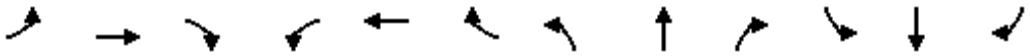
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	Ø2
Lane Configurations							
Traffic Volume (vph)	359	1289	1089	274	210	0	
Future Volume (vph)	359	1289	1089	274	210	0	
Turn Type	pm+pt	NA	NA	Perm	pm+pt	NA	
Protected Phases	7	4	8		1	6	2
Permitted Phases	4			8	6		
Detector Phase	7	4	8	8	1	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.0	23.0	23.5
Total Split (s)	16.5	83.5	67.0	67.0	13.0	36.5	23.5
Total Split (%)	13.8%	69.6%	55.8%	55.8%	10.8%	30.4%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.5
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
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	None	Max	Max
Act Effct Green (s)	78.5	78.5	62.0	62.0	31.5	31.5	
Actuated g/C Ratio	0.65	0.65	0.52	0.52	0.26	0.26	
v/c Ratio	1.59	1.09	1.17	0.31	0.64	0.29	
Control Delay	313.9	76.6	115.3	7.3	36.0	1.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	313.9	76.6	115.3	7.3	36.0	1.3	
LOS	F	E	F	A	D	A	
Approach Delay		128.2	93.6			20.8	
Approach LOS		F	F			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36.5 (30%), Referenced to phase 4:EBTL and 7:EBL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.59	
Intersection Signal Delay: 102.5	Intersection LOS: F
Intersection Capacity Utilization 149.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 5: Chambers Rd & 96th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	359	1289	0	0	1089	274	0	0	0	210	0	163
Future Volume (veh/h)	359	1289	0	0	1089	274	0	0	0	210	0	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	1329	0	0	1123	282	0	0	0	216	0	168
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	476	1481	0	0	966	819	0	288	0	397	0	416
Arrive On Green	0.23	0.79	0.00	0.00	0.52	0.52	0.00	0.00	0.00	0.07	0.00	0.26
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Grp Volume(v), veh/h	370	1329	0	0	1123	282	0	0	0	216	0	168
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Q Serve(g_s), s	19.0	61.4	0.0	0.0	62.0	12.6	0.0	0.0	0.0	8.0	0.0	10.5
Cycle Q Clear(g_c), s	19.0	61.4	0.0	0.0	62.0	12.6	0.0	0.0	0.0	8.0	0.0	10.5
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	476	1481	0	0	966	819	0	288	0	397	0	416
V/C Ratio(X)	0.78	0.90	0.00	0.00	1.16	0.34	0.00	0.00	0.00	0.54	0.00	0.40
Avail Cap(c_a), veh/h	476	1481	0	0	966	819	0	288	0	397	0	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.5	9.0	0.0	0.0	29.0	17.1	0.0	0.0	0.0	40.6	0.0	36.5
Incr Delay (d2), s/veh	8.0	8.9	0.0	0.0	84.5	0.2	0.0	0.0	0.0	1.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	22.3	0.0	0.0	49.1	4.6	0.0	0.0	0.0	1.9	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	17.9	0.0	0.0	113.5	17.3	0.0	0.0	0.0	42.1	0.0	39.4
LnGrp LOS	D	B	A	A	F	B	A	A	A	D	A	D
Approach Vol, veh/h		1699			1405			0			384	
Approach Delay, s/veh		23.7			94.2			0.0			40.9	
Approach LOS		C			F						D	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	13.0	24.0		100.5		37.0	33.5	67.0				
Change Period (Y+Rc), s	5.0	5.5		5.0		* 5.5	5.0	5.0				
Max Green Setting (Gmax), s	8.0	18.0		78.5		* 32	11.5	62.0				
Max Q Clear Time (g_c+I1), s	10.0	0.0		63.4		12.5	21.0	64.0				
Green Ext Time (p_c), s	0.0	0.0		10.8		0.9	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		54.0
HCM 6th LOS		D

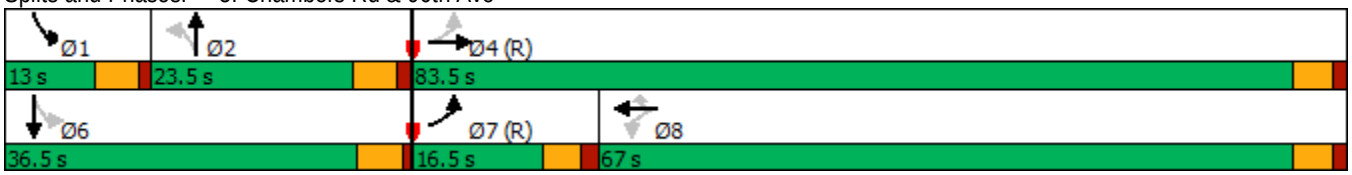
Notes

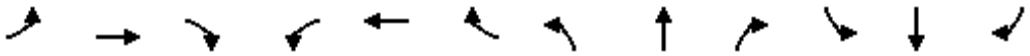
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	Ø2
Lane Configurations							
Traffic Volume (vph)	148	759	1091	259	222	0	
Future Volume (vph)	148	759	1091	259	222	0	
Turn Type	pm+pt	NA	NA	Perm	pm+pt	NA	
Protected Phases	7	4	8		1	6	2
Permitted Phases	4			8	6		
Detector Phase	7	4	8	8	1	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.0	23.0	23.5
Total Split (s)	16.5	83.5	67.0	67.0	13.0	36.5	23.5
Total Split (%)	13.8%	69.6%	55.8%	55.8%	10.8%	30.4%	20%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.5
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
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	None	Max	Max
Act Effct Green (s)	78.5	78.5	62.0	62.0	31.5	31.5	
Actuated g/C Ratio	0.65	0.65	0.52	0.52	0.26	0.26	
v/c Ratio	0.68	0.66	1.21	0.31	0.70	0.60	
Control Delay	38.5	16.0	131.4	7.5	45.8	16.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.5	16.0	131.4	7.5	45.8	16.8	
LOS	D	B	F	A	D	B	
Approach Delay		19.7	107.6			28.6	
Approach LOS		B	F			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36.5 (30%), Referenced to phase 4:EBTL and 7:EBL, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.21	
Intersection Signal Delay: 63.8	Intersection LOS: E
Intersection Capacity Utilization 129.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 5: Chambers Rd & 96th Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	759	0	0	1091	259	0	0	0	222	0	323
Future Volume (veh/h)	148	759	0	0	1091	259	0	0	0	222	0	323
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	157	807	0	0	1161	276	0	0	0	236	0	344
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	1481	0	0	1035	877	0	288	0	397	0	416
Arrive On Green	0.20	0.79	0.00	0.00	0.55	0.55	0.00	0.00	0.00	0.07	0.00	0.26
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Grp Volume(v), veh/h	157	807	0	0	1161	276	0	0	0	236	0	344
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Q Serve(g_s), s	4.9	19.0	0.0	0.0	66.4	11.3	0.0	0.0	0.0	8.0	0.0	24.5
Cycle Q Clear(g_c), s	4.9	19.0	0.0	0.0	66.4	11.3	0.0	0.0	0.0	8.0	0.0	24.5
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	410	1481	0	0	1035	877	0	288	0	397	0	416
V/C Ratio(X)	0.38	0.55	0.00	0.00	1.12	0.31	0.00	0.00	0.00	0.59	0.00	0.83
Avail Cap(c_a), veh/h	410	1481	0	0	1035	877	0	288	0	397	0	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.0	4.6	0.0	0.0	26.8	14.5	0.0	0.0	0.0	41.3	0.0	41.7
Incr Delay (d2), s/veh	0.6	1.4	0.0	0.0	67.6	0.2	0.0	0.0	0.0	2.4	0.0	17.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	6.3	0.0	0.0	47.3	4.1	0.0	0.0	0.0	2.7	0.0	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	6.0	0.0	0.0	94.4	14.7	0.0	0.0	0.0	43.7	0.0	58.6
LnGrp LOS	C	A	A	A	F	B	A	A	A	D	A	E
Approach Vol, veh/h		964			1437			0			580	
Approach Delay, s/veh		9.9			79.1			0.0			52.6	
Approach LOS		A			E						D	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	13.0	24.0		100.5		37.0	29.0	71.5				
Change Period (Y+Rc), s	5.0	5.5		5.0		* 5.5	5.0	5.0				
Max Green Setting (Gmax), s	8.0	18.0		78.5		* 32	11.5	62.0				
Max Q Clear Time (g_c+I1), s	10.0	0.0		21.0		26.5	6.9	68.4				
Green Ext Time (p_c), s	0.0	0.0		7.6		1.0	0.2	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	51.6
HCM 6th LOS	D

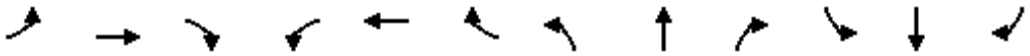
Notes

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

Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	Ø2
Lane Configurations							
Traffic Volume (vph)	438	1289	1089	309	234	0	
Future Volume (vph)	438	1289	1089	309	234	0	
Turn Type	pm+pt	NA	NA	Perm	pm+pt	NA	
Protected Phases	7	4	8		1	6	2
Permitted Phases	4			8	6		
Detector Phase	7	4	8	8	1	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.5
Total Split (s)	61.0	98.0	37.0	37.0	11.0	22.0	11.0
Total Split (%)	50.8%	81.7%	30.8%	30.8%	9.2%	18.3%	9%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	1.0	1.5
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
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	None	Max	Max
Act Effct Green (s)	93.0	93.0	32.0	32.0	17.0	17.0	
Actuated g/C Ratio	0.78	0.78	0.27	0.27	0.14	0.14	
v/c Ratio	0.51	0.92	2.26	0.62	1.53	0.27	
Control Delay	16.6	23.0	598.7	28.5	299.6	0.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	16.6	23.0	598.7	28.5	299.6	0.8	
LOS	B	C	F	C	F	A	
Approach Delay		21.4	472.5			157.3	
Approach LOS		C	F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 36.5 (30%), Referenced to phase 4:EBTL and 7:EBL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 2.26	
Intersection Signal Delay: 215.0	Intersection LOS: F
Intersection Capacity Utilization 150.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 5: Chambers Rd & 96th Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	438	1289	0	0	1089	309	0	0	0	234	0	212
Future Volume (veh/h)	438	1289	0	0	1089	309	0	0	0	234	0	212
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	452	1329	0	0	1123	319	0	0	0	241	0	219
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	676	1707	0	0	982	832	0	94	0	220	0	225
Arrive On Green	0.35	0.91	0.00	0.00	0.53	0.53	0.00	0.00	0.00	0.05	0.00	0.14
Sat Flow, veh/h	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Grp Volume(v), veh/h	452	1329	0	0	1123	319	0	0	0	241	0	219
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	0	1870	0	1781	0	1585
Q Serve(g_s), s	21.2	25.8	0.0	0.0	63.0	14.4	0.0	0.0	0.0	6.0	0.0	16.5
Cycle Q Clear(g_c), s	21.2	25.8	0.0	0.0	63.0	14.4	0.0	0.0	0.0	6.0	0.0	16.5
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	676	1707	0	0	982	832	0	94	0	220	0	225
V/C Ratio(X)	0.67	0.78	0.00	0.00	1.14	0.38	0.00	0.00	0.00	1.10	0.00	0.98
Avail Cap(c_a), veh/h	892	1707	0	0	982	832	0	94	0	220	0	225
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.4	1.6	0.0	0.0	28.5	16.9	0.0	0.0	0.0	54.6	0.0	51.3
Incr Delay (d2), s/veh	1.2	3.6	0.0	0.0	76.8	0.3	0.0	0.0	0.0	88.6	0.0	54.0
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	11.0	1.8	0.0	0.0	47.7	5.2	0.0	0.0	0.0	9.1	0.0	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	5.2	0.0	0.0	105.3	17.2	0.0	0.0	0.0	143.2	0.0	105.3
LnGrp LOS	C	A	A	A	F	B	A	A	A	F	A	F
Approach Vol, veh/h		1781			1442			0			460	
Approach Delay, s/veh		11.6			85.8			0.0			125.2	
Approach LOS		B			F						F	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	11.0	11.5		115.0		22.5	46.9	68.1				
Change Period (Y+Rc), s	5.0	5.5		5.0		* 5.5	5.0	5.0				
Max Green Setting (Gmax), s	6.0	5.5		93.0		* 17	56.0	32.0				
Max Q Clear Time (g_c+I1), s	8.0	0.0		27.8		18.5	23.2	65.0				
Green Ext Time (p_c), s	0.0	0.0		25.4		0.0	1.5	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			54.9									
HCM 6th LOS			D									

Notes

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

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

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	107	0	10	0	0	72	9	139	0	24	87	28
Future Vol, veh/h	107	0	10	0	0	72	9	139	0	24	87	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	116	0	11	0	0	78	10	151	0	26	95	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	372	333	110	339	348	151	125	0	0	151	0	0
Stage 1	162	162	-	171	171	-	-	-	-	-	-	-
Stage 2	210	171	-	168	177	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	585	587	943	615	576	895	1462	-	-	1430	-	-
Stage 1	840	764	-	831	757	-	-	-	-	-	-	-
Stage 2	792	757	-	834	753	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	523	571	943	595	560	895	1462	-	-	1430	-	-
Mov Cap-2 Maneuver	523	571	-	595	560	-	-	-	-	-	-	-
Stage 1	834	749	-	825	752	-	-	-	-	-	-	-
Stage 2	718	752	-	808	738	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	9.4	0.5	1.3
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1462	-	-	544	895	1430	-	-
HCM Lane V/C Ratio	0.007	-	-	0.234	0.087	0.018	-	-
HCM Control Delay (s)	7.5	0	-	13.6	9.4	7.6	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	57	0	2	0	0	42	2	66	0	82	74	61
Future Vol, veh/h	57	0	2	0	0	42	2	66	0	82	74	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	0	2	0	0	46	2	72	0	89	80	66

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	390	367	113	368	400	72	146	0	0	72	0	0
Stage 1	291	291	-	76	76	-	-	-	-	-	-	-
Stage 2	99	76	-	292	324	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	569	562	940	588	538	990	1436	-	-	1528	-	-
Stage 1	717	672	-	933	832	-	-	-	-	-	-	-
Stage 2	907	832	-	716	650	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	516	525	940	557	503	990	1436	-	-	1528	-	-
Mov Cap-2 Maneuver	516	525	-	557	503	-	-	-	-	-	-	-
Stage 1	716	629	-	932	831	-	-	-	-	-	-	-
Stage 2	864	831	-	669	608	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	8.8	0.2	2.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1436	-	-	524	990	1528	-	-
HCM Lane V/C Ratio	0.002	-	-	0.122	0.046	0.058	-	-
HCM Control Delay (s)	7.5	0	-	12.8	8.8	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0.2	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	107	0	10	0	0	72	9	176	0	24	91	28
Future Vol, veh/h	107	0	10	0	0	72	9	176	0	24	91	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	116	0	11	0	0	78	10	191	0	26	99	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	416	377	114	383	392	191	129	0	0	191	0	0
Stage 1	166	166	-	211	211	-	-	-	-	-	-	-
Stage 2	250	211	-	172	181	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	547	555	939	575	544	851	1457	-	-	1383	-	-
Stage 1	836	761	-	791	728	-	-	-	-	-	-	-
Stage 2	754	728	-	830	750	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	486	539	939	556	529	851	1457	-	-	1383	-	-
Mov Cap-2 Maneuver	486	539	-	556	529	-	-	-	-	-	-	-
Stage 1	829	746	-	785	722	-	-	-	-	-	-	-
Stage 2	679	722	-	804	735	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.5	9.7	0.4	1.3
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1457	-	-	507	851	1383	-	-
HCM Lane V/C Ratio	0.007	-	-	0.251	0.092	0.019	-	-
HCM Control Delay (s)	7.5	0	-	14.5	9.7	7.7	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	57	0	2	0	0	42	2	85	0	82	81	61
Future Vol, veh/h	57	0	2	0	0	42	2	85	0	82	81	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	0	2	0	0	46	2	92	0	89	88	66

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	418	395	121	396	428	92	154	0	0	92	0	0
Stage 1	299	299	-	96	96	-	-	-	-	-	-	-
Stage 2	119	96	-	300	332	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	545	542	930	564	519	965	1426	-	-	1503	-	-
Stage 1	710	666	-	911	815	-	-	-	-	-	-	-
Stage 2	885	815	-	709	644	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	493	506	930	534	485	965	1426	-	-	1503	-	-
Mov Cap-2 Maneuver	493	506	-	534	485	-	-	-	-	-	-	-
Stage 1	709	623	-	910	814	-	-	-	-	-	-	-
Stage 2	842	814	-	661	602	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	8.9	0.2	2.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1426	-	-	501	965	1503	-	-
HCM Lane V/C Ratio	0.002	-	-	0.128	0.047	0.059	-	-
HCM Control Delay (s)	7.5	0	-	13.2	8.9	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0.2	-	-

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	67	10	9	75	78	19
Future Vol, veh/h	67	10	9	75	78	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	11	10	82	85	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	92	0	-	0	208	51
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1503	-	-	-	780	1017
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1503	-	-	-	742	1017
Mov Cap-2 Maneuver	-	-	-	-	742	-
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SB
HCM Control Delay, s	6.5	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1503	-	-	-	783
HCM Lane V/C Ratio	0.048	-	-	-	0.135
HCM Control Delay (s)	7.5	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	2	2	25	28	46
Future Vol, veh/h	38	2	2	25	28	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	2	2	27	30	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	100	16
Stage 1	-	-	-	-	16	-
Stage 2	-	-	-	-	84	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1584	-	-	-	899	1063
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	939	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	876	1063
Mov Cap-2 Maneuver	-	-	-	-	876	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	939	-

Approach	EB	WB	SB
HCM Control Delay, s	7	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	984
HCM Lane V/C Ratio	0.026	-	-	-	0.082
HCM Control Delay (s)	7.3	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	67	10	9	75	78	19
Future Vol, veh/h	67	10	9	75	78	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	11	10	82	85	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	92	0	-	0	208	51
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1503	-	-	-	780	1017
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1503	-	-	-	742	1017
Mov Cap-2 Maneuver	-	-	-	-	742	-
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SB
HCM Control Delay, s	6.5	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1503	-	-	-	783
HCM Lane V/C Ratio	0.048	-	-	-	0.135
HCM Control Delay (s)	7.5	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	2	2	25	28	46
Future Vol, veh/h	38	2	2	25	28	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	2	2	27	30	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	100	16
Stage 1	-	-	-	-	16	-
Stage 2	-	-	-	-	84	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1584	-	-	-	899	1063
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	939	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	876	1063
Mov Cap-2 Maneuver	-	-	-	-	876	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	939	-

Approach	EB	WB	SB
HCM Control Delay, s	7	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	984
HCM Lane V/C Ratio	0.026	-	-	-	0.082
HCM Control Delay (s)	7.3	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	57	0	0	85	0	365	28	0	295	7
Future Vol, veh/h	0	0	57	0	0	85	0	365	28	0	295	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	62	0	0	92	0	397	30	0	321	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	325	-	-	412	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	716	0	0	784	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %						1		-	-		-	-
Mov Cap-1 Maneuver	-	-	716	-	-	784	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	10.2	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	716	784	-	-
HCM Lane V/C Ratio	-	-	0.087	0.118	-	-
HCM Control Delay (s)	-	-	10.5	10.2	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.3	0.4	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	33	0	0	58	0	459	95	0	337	22
Future Vol, veh/h	0	0	33	0	0	58	0	459	95	0	337	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	36	0	0	63	0	499	103	0	366	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	378	-	-	551	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	669	0	0	665	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %						1		-	-		-	-
Mov Cap-1 Maneuver	-	-	669	-	-	665	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	11	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	669	665	-	-
HCM Lane V/C Ratio	-	-	0.054	0.095	-	-
HCM Control Delay (s)	-	-	10.7	11	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.2	0.3	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	57	0	0	85	0	615	28	0	479	7
Future Vol, veh/h	0	0	57	0	0	85	0	615	28	0	479	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	62	0	0	92	0	668	30	0	521	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	525	-	-	683	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	*685	0	0	*555	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %			1			1		-	-		-	-
Mov Cap-1 Maneuver	-	-	*685	-	-	*555	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	12.8	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	685	555	-	-
HCM Lane V/C Ratio	-	-	0.09	0.166	-	-
HCM Control Delay (s)	-	-	10.8	12.8	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.3	0.6	-	-

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	33	0	0	58	0	779	95	0	509	22
Future Vol, veh/h	0	0	33	0	0	58	0	779	95	0	509	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	36	0	0	63	0	847	103	0	553	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	565	-	-	899	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	*659	0	0	*425	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %			1			1		-	-		-	-
Mov Cap-1 Maneuver	-	-	*659	-	-	*425	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	14.9	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	659	425	-	-
HCM Lane V/C Ratio	-	-	0.054	0.148	-	-
HCM Control Delay (s)	-	-	10.8	14.9	-	-
HCM Lane LOS	-	-	B	B	-	-
HCM 95th %tile Q(veh)	-	-	0.2	0.5	-	-

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

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	1	0	10	3	0
Future Vol, veh/h	4	1	0	10	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	1	0	11	3	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	5	0	16	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1616	-	1002	1078
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1616	-	1002	1078
Mov Cap-2 Maneuver	-	-	-	-	1002	-
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1002	-	-	1616	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s)	8.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	3	0	7	2	0
Future Vol, veh/h	12	3	0	7	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	3	0	8	2	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	16	0	23	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	8	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1602	-	993	1065
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1602	-	993	1065
Mov Cap-2 Maneuver	-	-	-	-	993	-
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	1015	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	993	-	-	1602	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	8.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	1	0	10	3	0
Future Vol, veh/h	4	1	0	10	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	1	0	11	3	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	5	0	16	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1616	-	1002	1078
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1616	-	1002	1078
Mov Cap-2 Maneuver	-	-	-	-	1002	-
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1002	-	-	1616	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s)	8.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	3	0	7	2	0
Future Vol, veh/h	12	3	0	7	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	3	0	8	2	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	16	0	23	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	8	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1602	-	993	1065
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1602	-	993	1065
Mov Cap-2 Maneuver	-	-	-	-	993	-
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	1015	-

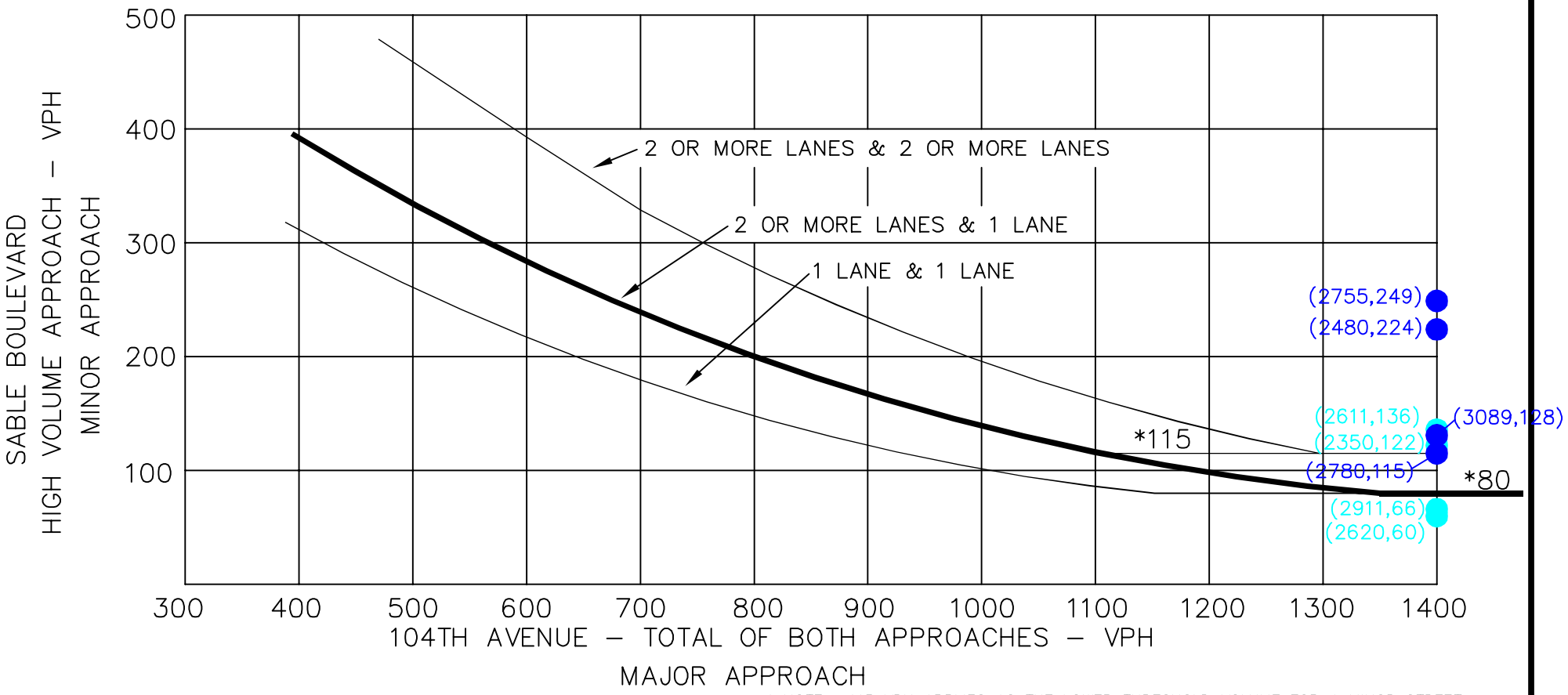
Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	993	-	-	1602	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	8.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

APPENDIX E

Signal Warrant Worksheets

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME



* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

SIGNAL WARRANT ANALYSIS
104TH AVENUE & SABLE BOULEVARD
FOUR HOUR VOLUME WARRANT

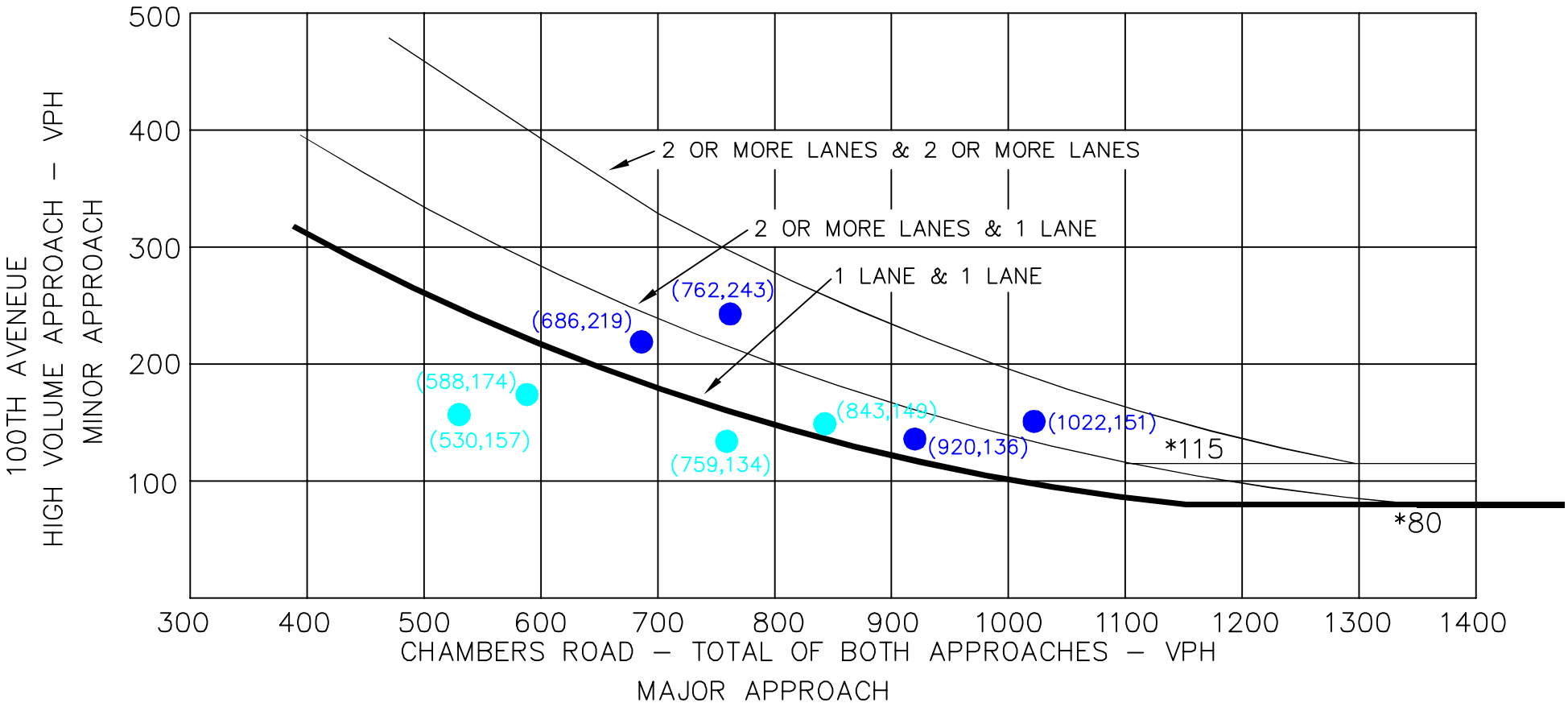
- 2025 BACKGROUND TRAFFIC DATA POINT
- 2025 TOTAL TRAFFIC DATA POINT

FIGURE A

Source: Manual of Uniform Traffic Control Devices 2009

Kimley»Horn

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME



* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

2025 BACKGROUND TRAFFIC DATA POINT
2025 TOTAL TRAFFIC DATA POINT

SIGNAL WARRANT ANALYSIS
100TH AVENUE & CHAMBERS ROAD
FOUR HOUR VOLUME WARRANT

FIGURE B

Source: Manual of Uniform Traffic Control Devices 2009

Kimley»Horn

APPENDIX F

Queue Analysis Worksheets

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1429	84	1654	228	117
v/c Ratio	0.53	0.38	0.61	0.84	0.38
Control Delay	11.9	7.7	5.5	75.4	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	7.7	5.5	75.4	23.3
Queue Length 50th (ft)	311	11	161	174	30
Queue Length 95th (ft)	370	m26	266	#291	82
Internal Link Dist (ft)	2444		2541	1211	
Turn Bay Length (ft)		300			75
Base Capacity (vph)	2711	224	2727	272	305
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.38	0.61	0.84	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1820	108	1467	105	70
v/c Ratio	0.67	0.83	0.54	0.40	0.25
Control Delay	7.7	53.4	5.0	51.1	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.7	53.4	5.0	51.1	17.7
Queue Length 50th (ft)	259	25	151	74	9
Queue Length 95th (ft)	405	m#145	168	131	52
Internal Link Dist (ft)	2444		2541	1211	
Turn Bay Length (ft)		300			75
Base Capacity (vph)	2721	130	2742	265	285
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.67	0.83	0.54	0.40	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2561	89	3013	240	126
v/c Ratio	0.66	1.46	0.77	0.88	0.49
Control Delay	16.0	240.6	12.3	81.5	49.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	240.6	12.3	81.5	49.0
Queue Length 50th (ft)	524	~86	448	184	81
Queue Length 95th (ft)	605	m#76	m377	#331	145
Internal Link Dist (ft)	2444		2541	1211	
Turn Bay Length (ft)		300			75
Base Capacity (vph)	3906	61	3919	272	255
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.66	1.46	0.77	0.88	0.49

Intersection Summary

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

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

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

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	3364	125	2802	114	80
v/c Ratio	0.86	2.02	0.71	0.43	0.33
Control Delay	15.2	497.0	6.2	52.0	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	497.0	6.2	52.0	48.3
Queue Length 50th (ft)	632	~152	173	81	54
Queue Length 95th (ft)	715	m#166	m178	141	104
Internal Link Dist (ft)	2444		2541	1211	
Turn Bay Length (ft)		300			75
Base Capacity (vph)	3924	62	3940	265	240
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.86	2.02	0.71	0.43	0.33

Intersection Summary

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

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

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	133	1247	140	1151	236	364	441	290	461
v/c Ratio	0.85	0.89	0.89	0.81	0.30	0.85	0.43	0.51	0.68
Control Delay	82.9	53.4	104.9	37.7	4.0	46.1	28.1	28.3	38.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.9	53.4	104.9	37.7	4.0	46.1	28.1	28.3	38.1
Queue Length 50th (ft)	54	524	56	411	0	204	116	72	125
Queue Length 95th (ft)	#105	562	#110	468	42	#295	155	98	174
Internal Link Dist (ft)		2541		1247			2546		1241
Turn Bay Length (ft)	275		375		475	300		275	
Base Capacity (vph)	157	1397	157	1415	774	460	1037	568	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.89	0.89	0.81	0.30	0.79	0.43	0.51	0.68

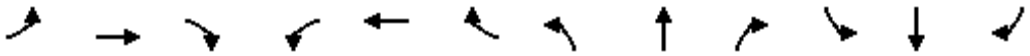
Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	203	1251	122	987	291	333	409	347	385
v/c Ratio	0.69	0.85	0.66	0.71	0.36	0.82	0.47	0.57	0.64
Control Delay	55.1	30.5	73.0	34.1	4.1	44.6	32.8	31.1	45.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	30.5	73.0	34.1	4.1	44.6	32.8	31.1	45.2
Queue Length 50th (ft)	78	367	48	335	0	194	119	93	126
Queue Length 95th (ft)	115	447	#89	414	55	#300	170	130	181
Internal Link Dist (ft)		2541		1247			2546		1241
Turn Bay Length (ft)	275		375		475	300		275	
Base Capacity (vph)	303	1476	185	1392	799	422	866	615	599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.85	0.66	0.71	0.36	0.79	0.47	0.56	0.64

Intersection Summary

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

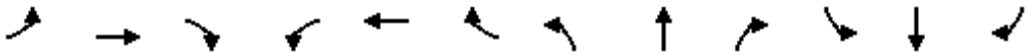


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	233	1942	285	209	2073	432	624	480	215	528	325	466
v/c Ratio	0.67	0.95	0.37	0.65	1.03	0.49	1.09	0.90	0.56	0.93	0.61	1.22
Control Delay	42.6	54.1	19.1	62.1	65.7	4.3	108.2	66.4	13.8	73.0	53.3	149.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	54.1	19.1	62.1	65.7	4.3	108.2	66.4	13.8	73.0	53.3	149.6
Queue Length 50th (ft)	89	570	108	80	~643	0	~276	197	38	209	125	~325
Queue Length 95th (ft)	126	#664	193	122	#739	64	#395	#288	90	#312	175	#535
Internal Link Dist (ft)		2541			1247			2546			1241	
Turn Bay Length (ft)	275			375		475	300			275		
Base Capacity (vph)	374	2042	766	346	2004	885	572	532	384	572	530	381
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.95	0.37	0.60	1.03	0.49	1.09	0.90	0.56	0.92	0.61	1.22

Intersection Summary

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

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	395	1928	455	187	1908	568	623	521	229	678	479	251
v/c Ratio	1.06	0.93	0.53	0.87	1.04	0.63	0.95	0.98	0.61	1.03	0.90	0.67
Control Delay	98.8	34.7	5.9	91.8	69.2	7.6	69.8	79.5	16.9	91.1	71.8	26.7
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	98.8	34.7	5.9	91.8	69.2	7.6	69.8	79.5	16.9	91.1	71.8	26.7
Queue Length 50th (ft)	~170	471	70	75	~583	30	228	217	43	~290	194	61
Queue Length 95th (ft)	m#227	#566	m82	#142	#680	134	#357	#327	115	#409	#290	155
Internal Link Dist (ft)		2541			1247			2546			1241	
Turn Bay Length (ft)	275			375		475	300			275		
Base Capacity (vph)	374	2076	858	214	1839	898	657	530	376	657	530	376
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.93	0.53	0.87	1.04	0.63	0.95	0.98	0.61	1.03	0.90	0.67

Intersection Summary

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

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

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	156	94	56	160	69	373	124	224	107
v/c Ratio	0.91	0.26	0.25	0.39	0.08	0.27	0.17	0.16	0.09
Control Delay	96.2	17.6	41.9	11.3	4.7	5.2	5.8	5.4	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.2	17.6	41.9	11.3	4.7	5.2	5.8	5.4	1.0
Queue Length 50th (ft)	120	22	38	13	11	63	26	46	1
Queue Length 95th (ft)	174	56	66	57	28	133	m38	m68	m2
Internal Link Dist (ft)		510		672		648		2546	
Turn Bay Length (ft)	150		100						
Base Capacity (vph)	379	716	501	737	855	1365	716	1382	1202
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.13	0.11	0.22	0.08	0.27	0.17	0.16	0.09

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	73	28	32	129	78	412	166	344	100
v/c Ratio	0.78	0.14	0.22	0.46	0.09	0.27	0.21	0.23	0.08
Control Delay	97.1	22.6	50.3	15.5	2.3	2.9	3.2	2.8	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.1	22.6	50.3	15.5	2.3	2.9	3.2	2.8	0.7
Queue Length 50th (ft)	56	4	23	6	6	35	20	41	1
Queue Length 95th (ft)	105	31	52	62	m21	137	m46	m86	m6
Internal Link Dist (ft)		510		672		648		2546	
Turn Bay Length (ft)	150		100						
Base Capacity (vph)	247	474	384	533	839	1503	777	1524	1313
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.06	0.08	0.24	0.09	0.27	0.21	0.23	0.08

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	148	91	52	147	66	615	114	392	101
v/c Ratio	0.85	0.26	0.23	0.38	0.09	0.45	0.22	0.28	0.08
Control Delay	83.8	17.4	42.2	11.7	6.3	9.6	2.6	2.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.8	17.4	42.2	11.7	6.3	9.6	2.6	2.1	0.1
Queue Length 50th (ft)	112	20	35	12	15	219	8	30	0
Queue Length 95th (ft)	178	61	67	63	m41	389	m17	47	m0
Internal Link Dist (ft)		510		672		648		2546	
Turn Bay Length (ft)			100						
Base Capacity (vph)	242	457	308	494	705	1382	526	1392	1208
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.20	0.17	0.30	0.09	0.45	0.22	0.28	0.08

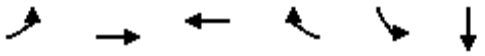
Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	76	30	32	129	82	749	166	633	103
v/c Ratio	0.73	0.14	0.21	0.45	0.14	0.50	0.33	0.42	0.08
Control Delay	86.5	21.4	48.9	14.7	6.4	11.7	2.9	2.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.5	21.4	48.9	14.7	6.4	11.7	2.9	2.9	0.1
Queue Length 50th (ft)	58	4	23	6	26	365	12	46	0
Queue Length 95th (ft)	108	32	52	61	m41	m382	m16	m55	m0
Internal Link Dist (ft)		510		672		648		2546	
Turn Bay Length (ft)			100						
Base Capacity (vph)	171	326	257	397	588	1499	506	1510	1303
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.09	0.12	0.32	0.14	0.50	0.33	0.42	0.08

Intersection Summary

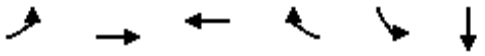
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBT
Lane Group Flow (vph)	98	414	595	157	144	215
v/c Ratio	0.23	0.34	0.62	0.18	0.43	0.31
Control Delay	8.9	10.2	24.1	2.8	35.1	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	10.2	24.1	2.8	35.1	1.9
Queue Length 50th (ft)	26	131	316	0	90	1
Queue Length 95th (ft)	46	186	438	33	m136	m5
Internal Link Dist (ft)		392	445			1263
Turn Bay Length (ft)	75					
Base Capacity (vph)	431	1218	962	893	335	692
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	0.23	0.34	0.62	0.18	0.43	0.31

Intersection Summary

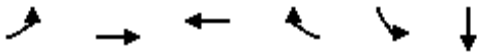
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBT
Lane Group Flow (vph)	271	681	575	181	135	136
v/c Ratio	0.61	0.56	0.60	0.20	0.40	0.19
Control Delay	14.7	13.5	23.5	2.7	34.0	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	13.5	23.5	2.7	34.0	0.9
Queue Length 50th (ft)	79	265	300	0	83	0
Queue Length 95th (ft)	118	365	417	35	m128	m2
Internal Link Dist (ft)		392	445			1263
Turn Bay Length (ft)	75					
Base Capacity (vph)	446	1218	962	905	335	700
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	0.61	0.56	0.60	0.20	0.40	0.19

Intersection Summary

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

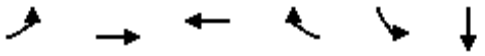


Lane Group	EBL	EBT	WBT	WBR	SBL	SBT
Lane Group Flow (vph)	157	807	1161	276	236	344
v/c Ratio	0.68	0.66	1.21	0.31	0.70	0.60
Control Delay	38.5	16.0	131.4	7.5	45.8	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	16.0	131.4	7.5	45.8	16.8
Queue Length 50th (ft)	66	352	~1096	44	160	96
Queue Length 95th (ft)	#153	485	#1354	96	#243	173
Internal Link Dist (ft)		392	445			1263
Turn Bay Length (ft)	75					
Base Capacity (vph)	232	1218	962	896	335	574
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	0.68	0.66	1.21	0.31	0.70	0.60

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	WBR	SBL	SBT
Lane Group Flow (vph)	452	1329	1123	319	241	219
v/c Ratio	0.51	0.92	2.26	0.62	1.53	0.27
Control Delay	16.6	23.0	598.7	28.5	299.6	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	23.0	598.7	28.5	299.6	0.8
Queue Length 50th (ft)	175	678	~1410	130	~267	0
Queue Length 95th (ft)	271	#1240	#1668	231	#437	0
Internal Link Dist (ft)		392	445			1263
Turn Bay Length (ft)	75					
Base Capacity (vph)	887	1443	496	516	158	820
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.92	2.26	0.62	1.53	0.27

Intersection Summary

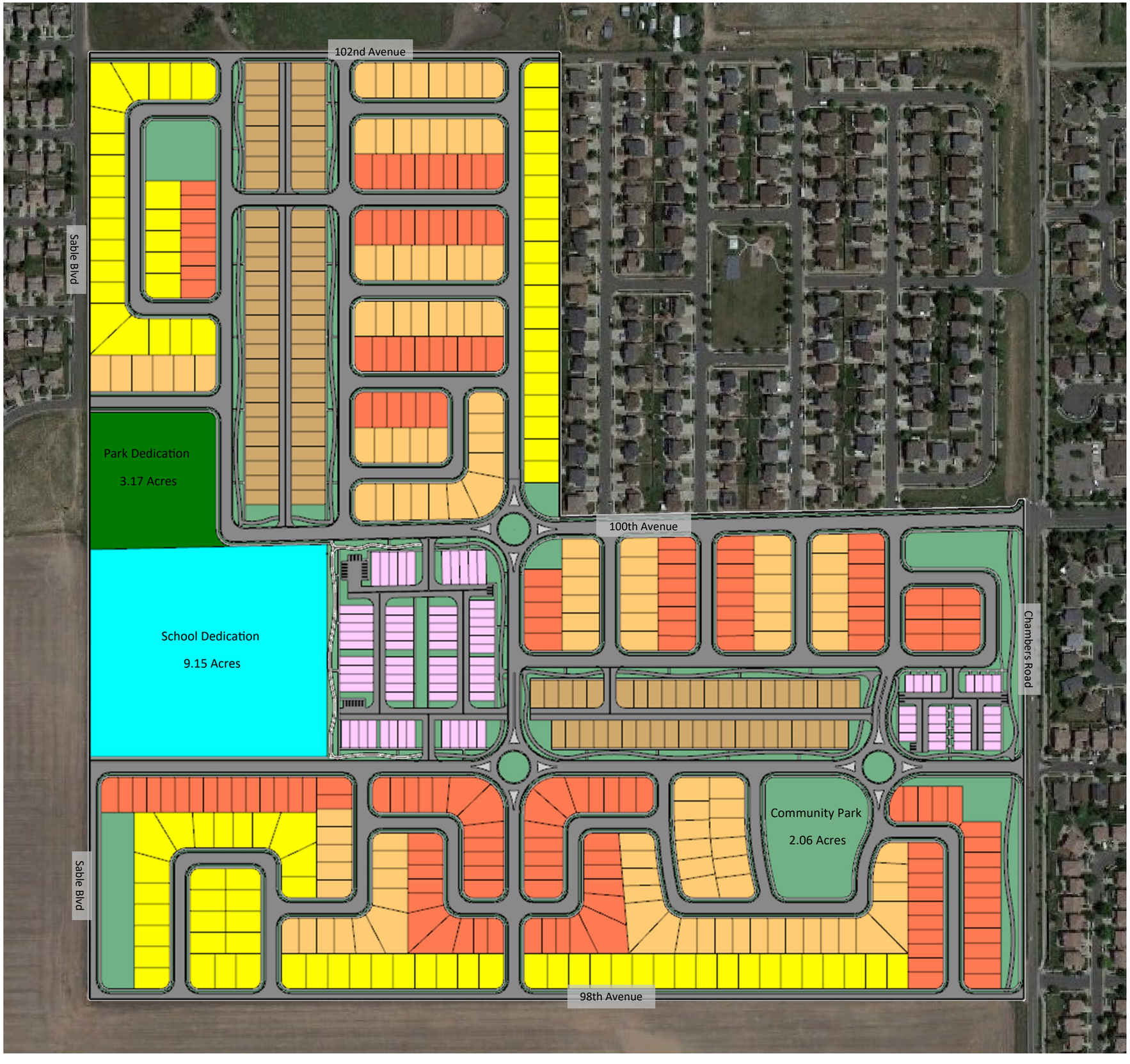
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

APPENDIX G

Conceptual Site Plan

Anderson Ranch
Land Use Concept



Color	Land Use	Acres	Units
	Townhomes SF Unit	7.33	90
	Rear Drive 40' x 80' SF Lot	11.16	99
	40' x 100' SF Lot	17.77	168
	50' x 100' SF Lot	16.50	127
	60' x 100' SF Lot	14.83	97
	Community Trail	3.50	
	Regional Trail	1.44	
	Community Park	2.06	
	Entry Feature	0.44	
	Detention	2.49	
	Regional Park	3.17	
	Elementary School Site	9.15	
	Public ROW	31.11	
Totals		**120.94**	**581.00**

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