Traffic Impact Study

QuikTrip 4217

Aurora, Colorado

Prepared for:

QuikTrip Corporation

Kimley»Horn

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

QuikTrip 4217

Aurora, Colorado

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March 2025

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1.0 EXECUTIVE SUMMARY

QuikTrip 4217 is proposed to be located on the southeast corner of the 38th Avenue and Chambers Road intersection in Aurora, Colorado. The project is proposed to include a 7,318 square foot convenience store with 20 fueling positions and four (4) truck fueling positions. It is expected that QuikTrip 4217 will be completed in the next several years. Therefore, analysis was conducted for the 2027 short-term buildout horizon as well as the 2050 long-term planning horizon.

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 intersections of 38th Avenue & Chambers Road and 35th Place & Chambers Road were incorporated into this traffic study in accordance with the City of Aurora scope.

In addition, the existing access along Chambers Road approximately 340 feet south of 38th Avenue (measured center to center) and the existing full movement access along 38th Avenue to the east of Chambers Road were evaluated.

Regional access to the site will be provided by Interstate 70 (I-70) while primary access will be provided by Chambers Road. Direct access will be provided by the existing full movement access along 38th Avenue, the existing access along Chambers Road which aligns with the Maverik driveway, and the future east leg of the 35th Place and Chambers Road intersection. Cross access is provided to 35th Avenue, but project traffic is not anticipated to utilize this access.

QuikTrip 4217 is expected to generate approximately 7,812 daily weekday driveway trips, with 688 of these trips occurring during the morning peak hour and 600 trips occurring during the afternoon peak hour. Accounting for pass-by, expected net new (non pass-by) trips to the surrounding street network results in approximately 1,954 weekday daily trips, of which 165 trips and 150 trips are anticipated during the weekday morning and afternoon peak hours, respectively.

Based on the analysis presented in this report, Kimley-Horn believes QuikTrip 4217 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:

- With redevelopment of the existing site to a gas station, the existing full access along Chambers Road will be restricted to a three-quarter access (left-in/right-in/right-out). An R3-5R Right Turn Only sign is recommended to be installed at the exiting of this approach. Exiting westbound left turn movements will be prohibited and no longer allowed at the project access. The existing full access along 38th Avenue will remain. An R1-1 "STOP" sign is recommended to be kept at both 38th Avenue and Chambers Road approaches exiting the site.

- With redevelopment of the site, the east leg of the signalized 35th Place and Chambers Road intersection will be constructed to provide site access. It is recommended to install a 100-foot southbound left turn lane at the 35th Place and Chambers Road intersection and a shared taper with the adjacent northbound left turn lane.

- A corridor safety analysis of Chambers Road along the project frontage has been performed in this study, identifying potential safety hazards within the study area, if any, as well as assessing sight distance for all westbound right turning vehicles along Chambers Road at 38th Avenue, 35th Place, and the proposed three-quarter movement access to the south of 38th Avenue. Based on AASHTO standards and the posted 40 mile per hour speed limit on Chambers Road, the intersection sight distance for these westbound right turning vehicles from stop is 385 feet to the left. Therefore, all obstructions for right turning vehicles from stop at these intersections should be clear to the left within the triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way and a line-of-sight distance of 385 feet located in the middle of the outer northbound through lane. These required sight distances have been reviewed at each of these intersections along Chambers Road based on the existing clear lines of sight for the required distance of 385 feet and it is not believed there are any existing obstructions that would restrict proper line of sight for westbound right turning vehicles. However, it is recommended to ensure that with redevelopment of the existing site which will become the proposed QT 4217 gas station that all signage, landscaping, and other obstructions be of minimal height and a sufficient distance from each

of these intersections to keep the required 385-foot sight distance maintained to ensure proper safety with project construction.

- As part of the project, it is recommended that left turn signals heads on the northbound and southbound approaches of the 38th Avenue and Chambers Road intersection be upgraded to four-section flashing yellow signal heads with reflective backplates.

- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Aurora and the Manual on Uniform Traffic Control Devices (MUTCD) – 11th Edition, 2023.

2.0 INTRODUCTION

Kimley-Horn has prepared this report to document the results of a Traffic Impact Study for QuikTrip 4217 proposed to replace the existing recreational vehicle sales development located on the southeast corner of the 38th Avenue and Chambers Road intersection in Aurora, Colorado. A vicinity map illustrating the project development location is shown in **Figure 1**. The project is proposed to include a 7,318 square foot convenience store with 20 fueling positions and four (4) truck fueling positions. A conceptual site plan is attached in **Appendix A**. It is expected that the project will be completed in the next several years; therefore, analysis was conducted for the 2027 short-term buildout horizon as well as the 2050 long-term planning horizon.

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 intersections of 38th Avenue & Chambers Road and 35th Place & Chambers Road were incorporated into this traffic study in accordance with the City of Aurora scope.

In addition, the existing access along Chambers Road approximately 340 feet south of 38th Avenue (measured center to center) and the existing full movement access along 38th Avenue to the east of Chambers Road were evaluated.

Regional access to the site will be provided by Interstate 70 (I-70) while primary access will be provided by Chambers Road. Direct access will be provided by the existing full movement access along 38th Avenue, the existing access along Chambers Road which aligns with the Maverik driveway, and the future east leg of the 35th Place and Chambers Road intersection. Cross access is provided to 35th Avenue, but project traffic is not anticipated to utilize this access.

Kimley»Horn
NORTH
NTS 096888048

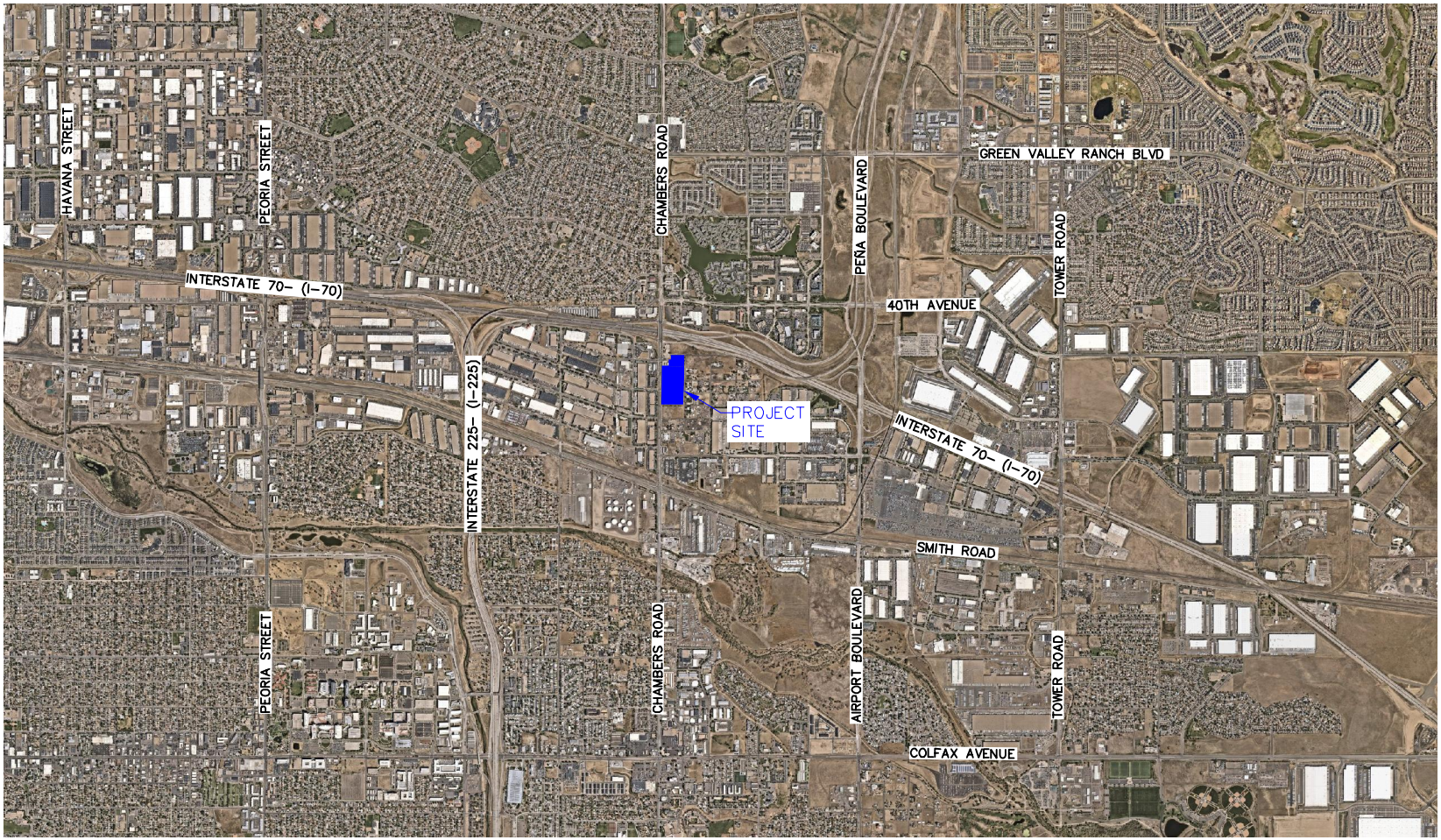


FIGURE 1
QUIKTRIP 4217
AURORA, COLORADO
VICINITY MAP

Kimley»Horn

3.1 Existing Study Area

The existing site is a shop for the sales of recreational vehicles. Surrounding the area are commercial, residential, and industrial land uses, including some undeveloped areas. North of the site is the Interstate I-70 Freeway. On both southwest and southeast corners of 38th Avenue and Chambers Roads there are gas stations with convenience store.

3.2 Existing Roadway Network

38th Avenue extends in the east-west direction as a two-lane roadway. It has a posted speed limit of 30 miles per hour. In the nearby vicinity, 38th Avenue extends from Sable Boulevard to Kalispell Street.

35th Place extends in the east-west direction as a two-lane roadway. It has a posted speed limit of 30 miles per hour. Within the surrounding area, 35th Place extends from Abilene Street to Chambers Road and from Helena Street to Laredo Street.

Chambers Road extends in the north-south direction as a six-lane roadway with a raised median dividing the northbound and southbound traffic. It has a posted speed limit of 40 miles per hour.

The signalized intersection of 38th Avenue and Chambers Road operates with permissive-only left turn phasing on the east-west 38th Avenue legs and on the northbound approach of Chambers Road, while the southbound approach operates with protected-permissive left turn phasing. The northbound and southbound approaches provide one left turn lane and three through lanes with the outside through lane being a shared through/right turn lane. The eastbound approach provides a left turn lane and a shared through/right turn lane. The westbound approach provides a left turn lane, a through lane, and a channelized yield-controlled right turn lane. An aerial photo of the existing intersection configuration is below.

38th Avenue & Chambers Road (#1)

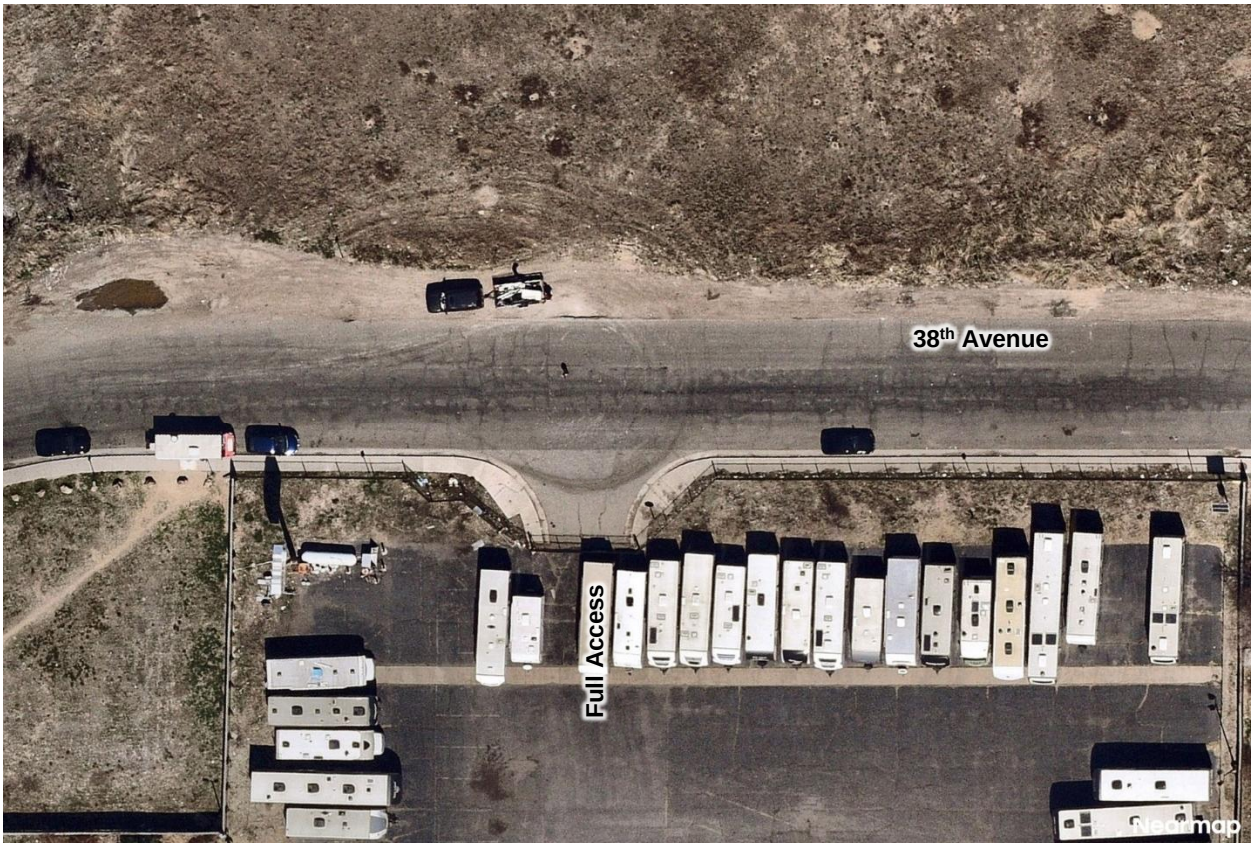
The signalized ‘T’-intersection of 35th Place and Chambers Road (#2) operates with permissive-only left turn phasing on the northbound Chambers Road approach and the eastbound 35th Place approach. The northbound approach provides a left turn lane and three through lanes. The southbound approach provides three through lanes with the outside lane being a shared through/right turn lane. The eastbound 35th Place approach provides a separate left and right turn lane. An aerial photo of the existing intersection configuration is below.

35th Place & Chambers Road (#2)

The unsignalized intersection of Chambers Road with the Maverik driveway to the west and the existing full access to the east is located approximately 340 feet south of 38th Avenue, measured center to center. This intersection operates with stop control on both the eastbound and westbound approaches. The southbound and northbound approaches provide one left turn lane and three through lanes with the outside lane being a shared through/right turn lane. The eastbound Maverik driveway approach is restricted to right turn only movements with signing and striping on this approach to clarify its turning movement restriction. The westbound approach provides enough lane width to accommodate a left turn and a right turn lane, but no lane markings are provided. It should be noted that vehicles were observed performing prohibited eastbound left turn movements from the Maverik access.

Maverik Driveway / Full Access & Chambers Road (#3)

The unsignalized intersection of 38th Avenue and the existing full access is located approximately 475 feet east of Chambers Road, measured center to center. This intersection operates with stop control on the northbound approach. The northbound approach provides one shared left/right turn lane. The eastbound approach provides one shared through/right turn lane. The westbound approach provides one shared left turn/through lane. It should be noted that the south leg of this intersection is gated and as such is not believed to be used under existing conditions.



38th Avenue & Full Access (#4)

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

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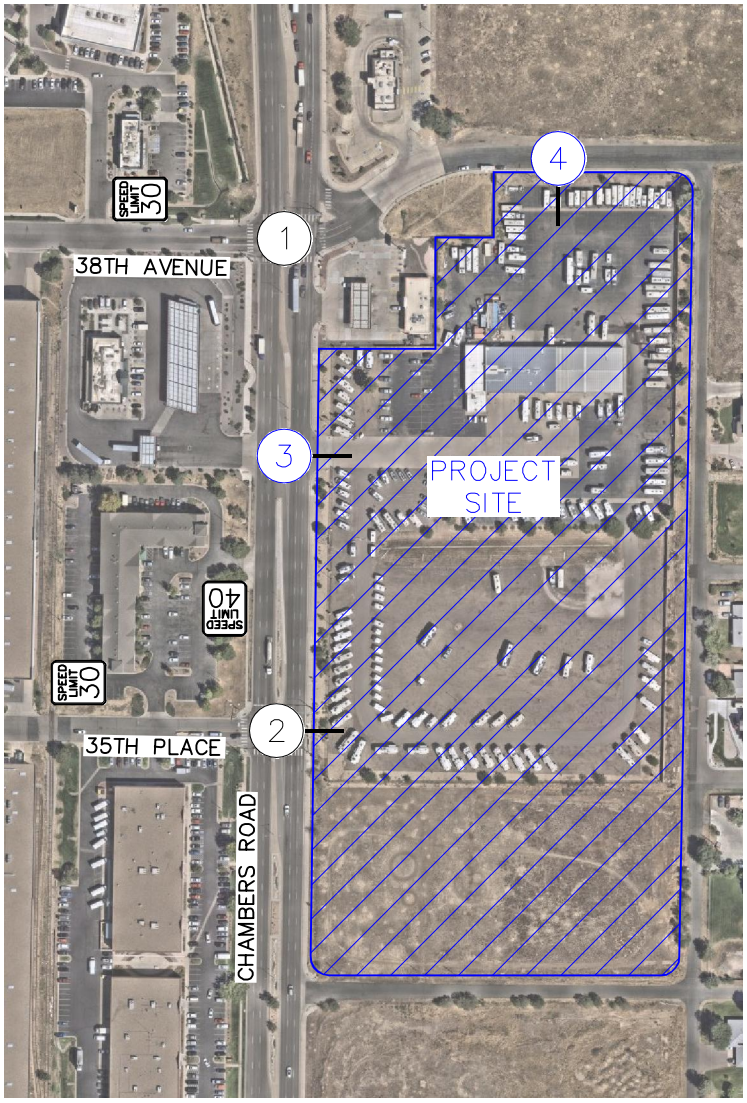

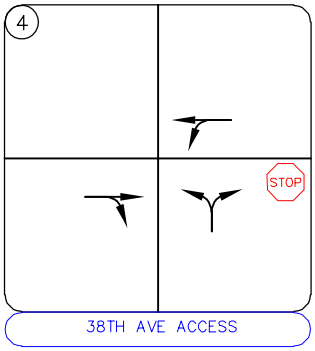

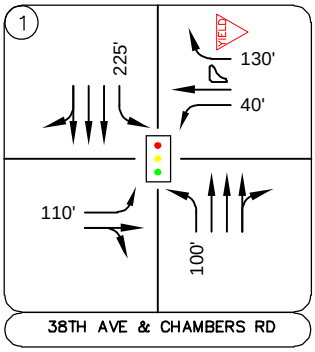

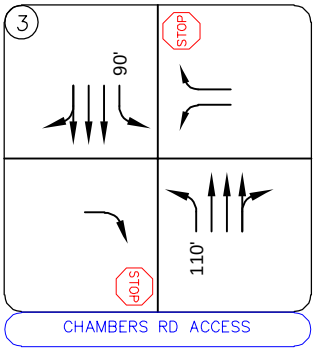

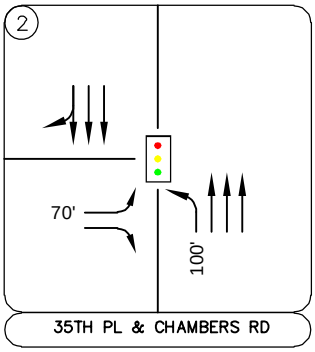

LEGEND

- X — Study Area Key Intersection
- X — Existing Access Intersection
- Signalized Intersection
- YIELD — Yield Controlled Movement
- STOP — Stop Controlled Approach
- SPEED LIMIT XX — Roadway Speed Limit
- 100' — Turn Lane Length (feet)

FIGURE 2
QUIKTRIP 4217
AURORA, COLORADO
EXISTING GEOMETRY AND CONTROL

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3.3 Existing Traffic Volumes

Existing turning movement counts were conducted at the study intersections on Thursday, September 5, 2024, during the weekday 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 B**.

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 30-year growth factor of approximately 1.52. This growth factor equates to an annual growth rate of 1.39 percent. Future traffic volume projections and growth rate calculations are provided in **Appendix C**. This annual growth rate was used to estimate short-term 2027 and long-term 2050 traffic volume projections at the key intersections. Of note, existing volumes on the minor legs of intersections with fully built out development were not grown. The calculated background traffic volumes for 2027 and 2050 are shown in **Figure 4** and **Figure 5,** respectively.

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NORTH
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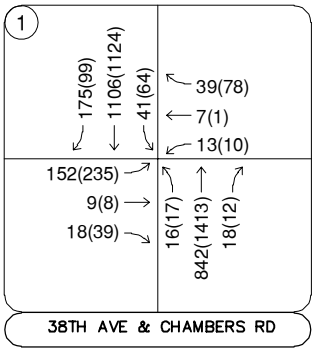
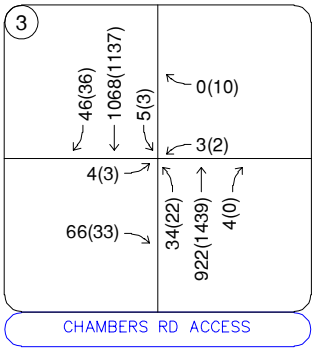
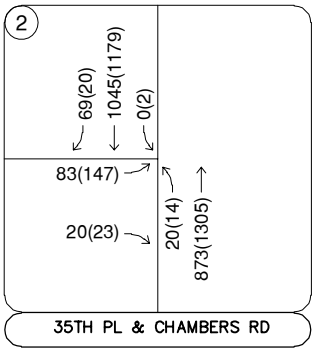


Thursday,
September 5, 2024
7:15 to 8:15AM
(4:30 to 5:30PM)



Thursday,
September 5, 2024
7:30 to 8:30AM
(4:30 to 5:30PM)



Thursday,
September 5, 2024
7:30 to 8:30AM
(4:30 to 5:30PM)

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

FIGURE 3
QUIKTRIP 4217
AURORA, COLORADO
2024 EXISTING TRAFFIC VOLUMES

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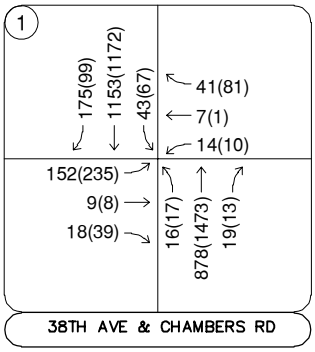

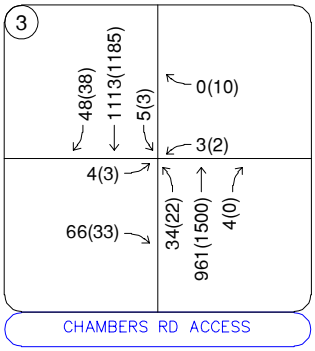

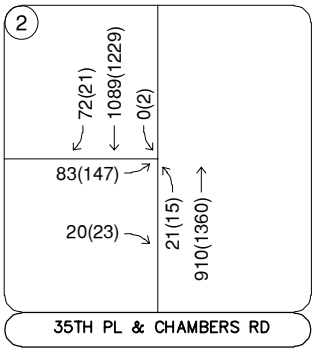

LEGEND

(X) Study Area Key Intersection

(X) Project Access Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

FIGURE 4
QUIKTRIP 4217
AURORA, COLORADO
2027 BACKGROUND TRAFFIC VOLUMES

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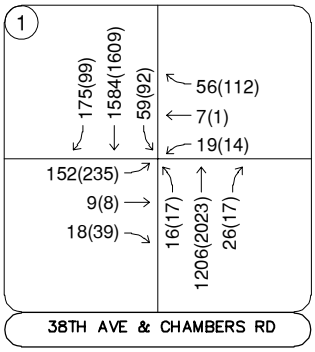

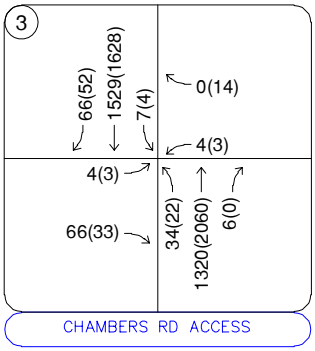

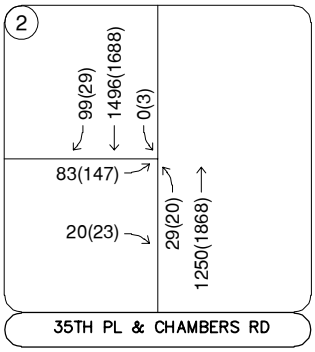

LEGEND

X — Study Area Key Intersection

X — Project Access Intersection

XXX(XXX) — Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 — Estimated Daily Traffic Volume

FIGURE 5
QUIKTRIP 4217
AURORA, COLORADO
2050 BACKGROUND TRAFFIC VOLUMES

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 average rates that apply to Convenience Store/Gas Station and Truck Stop uses (ITE Land Use Codes 945 and 950, respectively) for traffic associated with the development.

Since the project is a commercial development, pass-by trips are expected. These pass-by trips are vehicles already on the street network that will be attracted to the project site en route to a final destination. The pass-by percentages were obtained from the ITE "Trip Generation Manual", Eleventh Edition which shows a morning peak hour pass-by percentage of 76 percent and an afternoon peak hour pass-by percentage of 75 percent for the gas station use. As ITE "Trip Generation Manual", Eleventh Edition does not include pass-by data for truck stop land use, gas station percentages were utilized to calculate truck stop land use pass-by trips.

QuikTrip 4217 is expected to generate approximately 7,812 daily weekday driveway trips, with 688 of these trips occurring during the morning peak hour and 600 trips occurring during the afternoon peak hour. Accounting for pass-by, expected net new (non pass-by) trips to the surrounding street network results in approximately 1,954 weekday daily trips, of which 165 trips and 150 trips are anticipated during the weekday morning and afternoon peak hours, respectively. 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 site. The trip generation worksheets are included in **Appendix D**.

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

Table 1 – QuikTrip 4217 Traffic Generation

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Convenience Store/Gas Station (ITE 945) 20 VFP / 7,318 Square Feet	6,916	316	316	632	269	269	538
Truck Stop (ITE 950) – 4 Truck Fueling Positions	896	27	29	56	33	29	62
Total Site Generated Trips	**7,812**	**343**	**345**	**688**	**302**	**298**	**600**
Non Pass-By Trips	**1,954**	**82**	**83**	**165**	**75**	**75**	**150**
Pass-By Trips	**5,858**	**261**	**262**	**523**	**226**	**224**	**450**

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 non pass-by project trip distribution for the proposed development is illustrated in **Figure 6**.

Since the project is a commercial development, a certain amount of traffic attracted to the gas station and truck stop development will already be passing by the site. This pass-by distribution is a means to quantify the amount of traffic arriving to the site from a given direction and then leaving the site in the same original direction of travel, continuing the driver's trip. The expected weekday morning and afternoon peak hour pass-by trip distributions were calculated based on actual traffic volumes at the study intersections. Directional differences in the morning and afternoon peak hours were accounted for in the pass-by distributions as shown in **Figures 7** and **8**, respectively.

4.3 Traffic Assignment

The project traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. Project non pass-by traffic assignment is shown in **Figure 9**, while **Figure 10** illustrates the expected pass-by traffic assignment.

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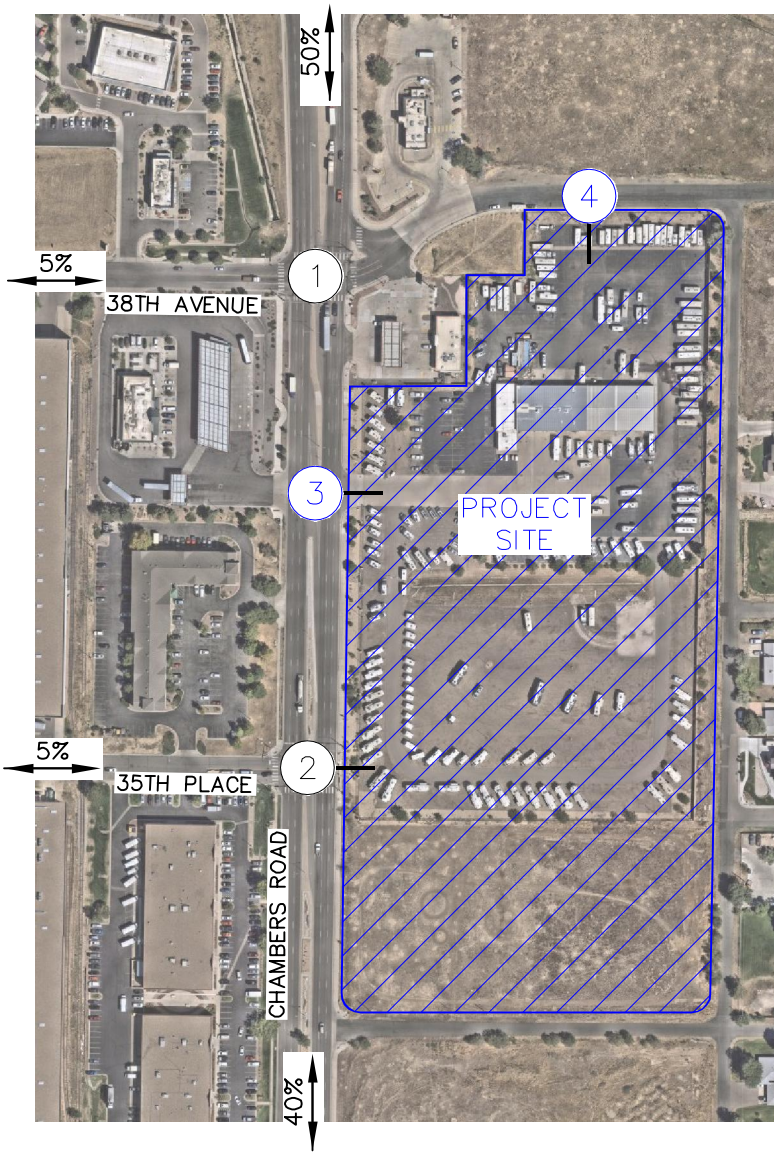

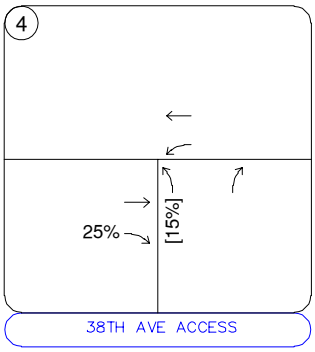

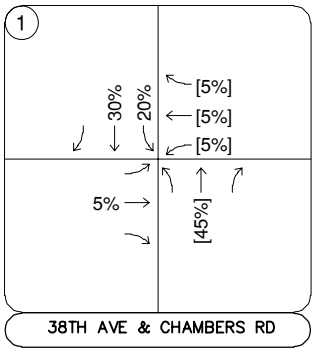

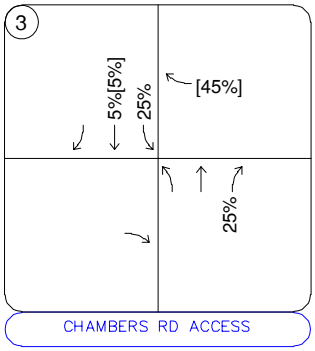

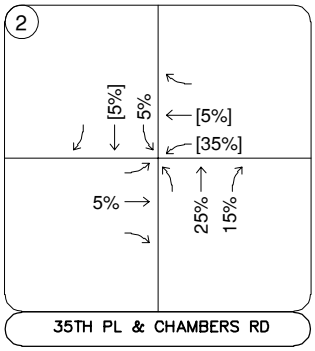

LEGEND

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

FIGURE 6
QUIKTRIP 4217
AURORA, COLORADO
NON PASS-BY TRIP DISTRIBUTION

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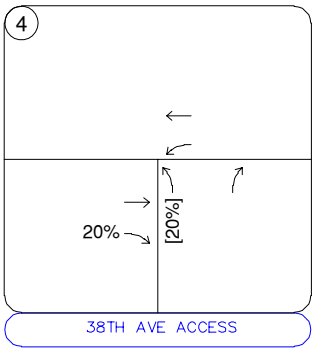

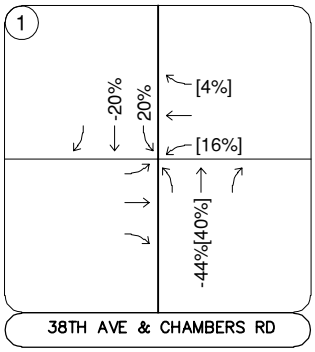

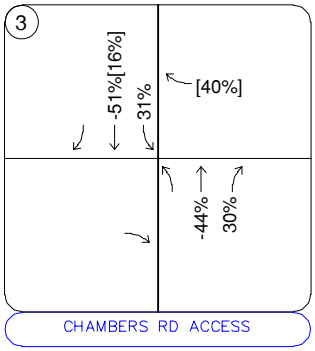

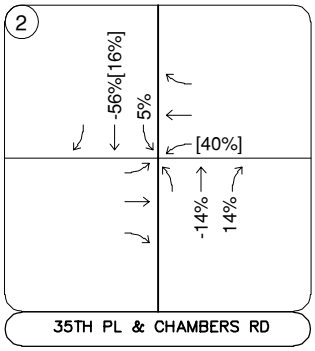

LEGEND

(X) Study Area Key Intersection

(X) Project Access Intersection

XX% External Trip Distribution Percentage

XX%[XX%] Entering[Exiting] Trip Distribution Percentage

FIGURE 7
QUIKTRIP 4217
AURORA, COLORADO
AM PASS-BY TRIP DISTRIBUTION

Kimley»Horn NORTH
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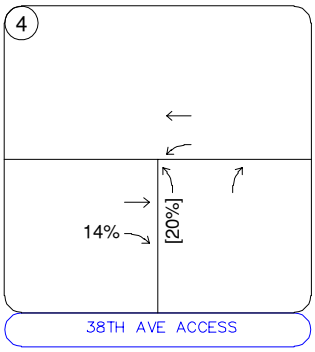
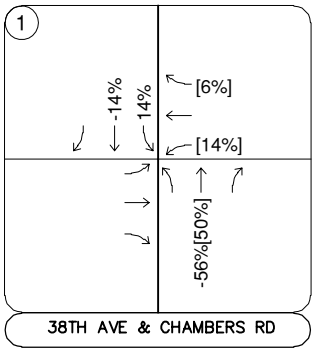
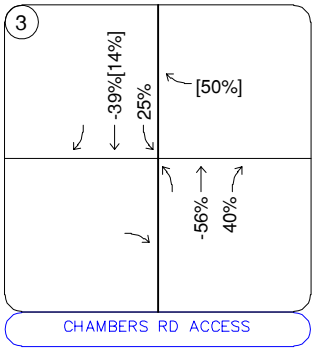
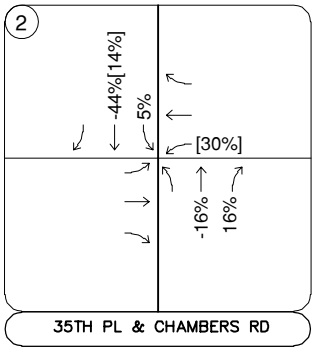






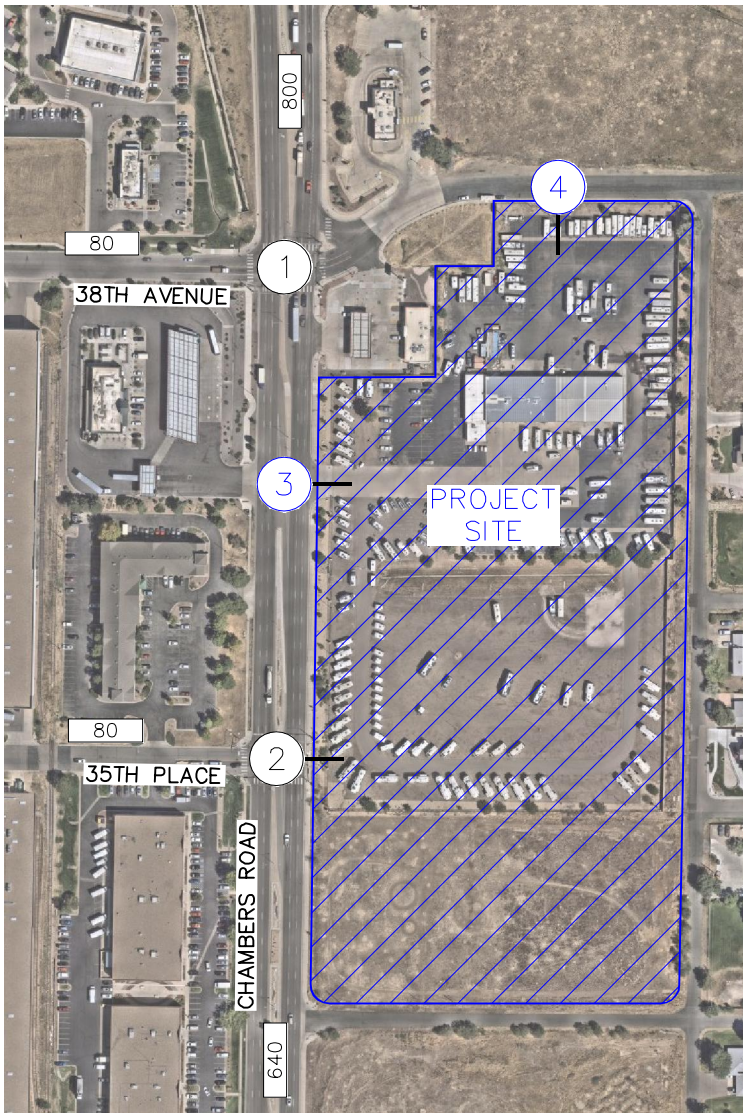


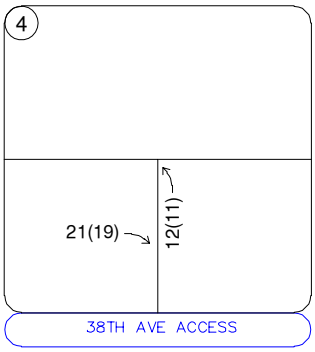
LEGEND

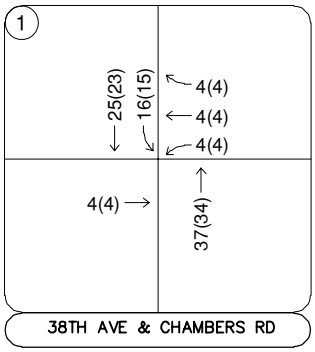
(X)	Study Area Key Intersection
(X)	Project Access Intersection
XX%	External Trip Distribution Percentage
XX%[XX%]	Entering[Exiting] Trip Distribution Percentage

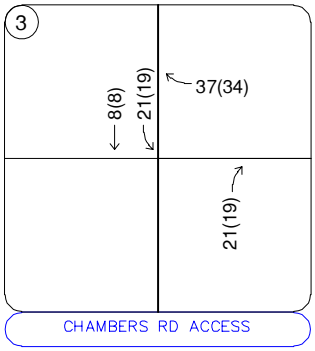
FIGURE 8
QUIKTRIP 4217
AURORA, COLORADO
PM PASS-BY TRIP DISTRIBUTION

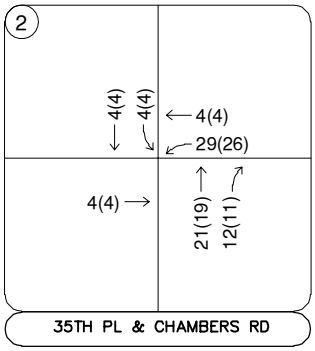
Kimley»Horn











LEGEND

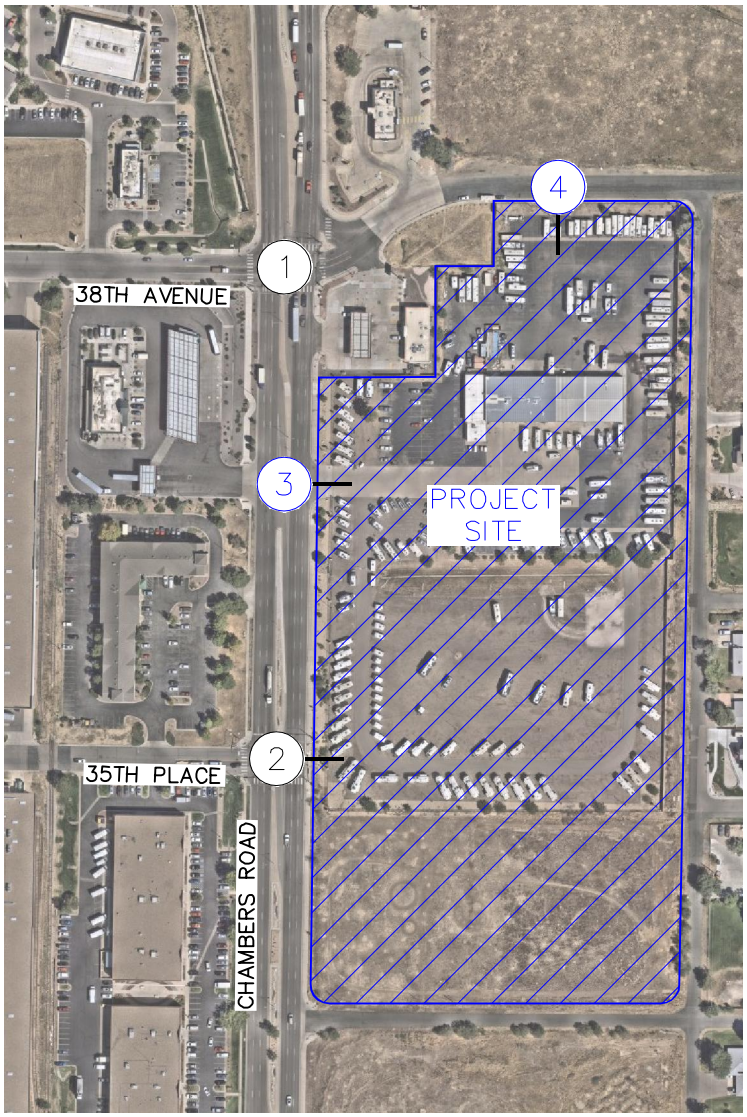
(X) Study Area Key Intersection

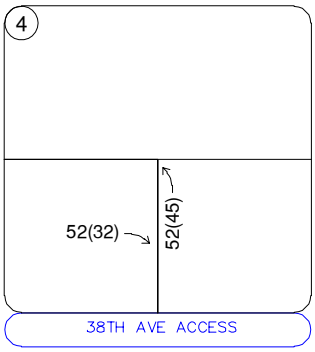
(X) Project Access Intersection

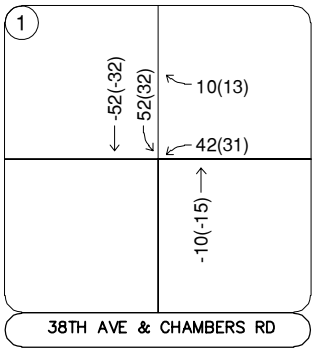
XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

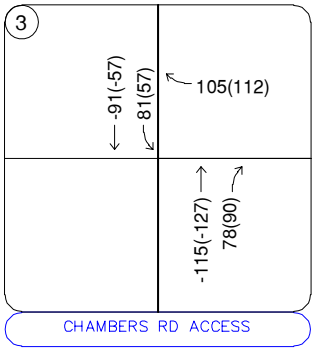
XX,X00 Estimated Daily Traffic Volume

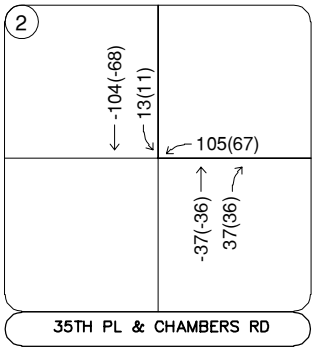
FIGURE 9
QUIKTRIP 4217
AURORA, COLORADO
NON PASS-BY TRAFFIC ASSIGNMENT











LEGEND

(X) Study Area Key Intersection

(X) Project Access Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

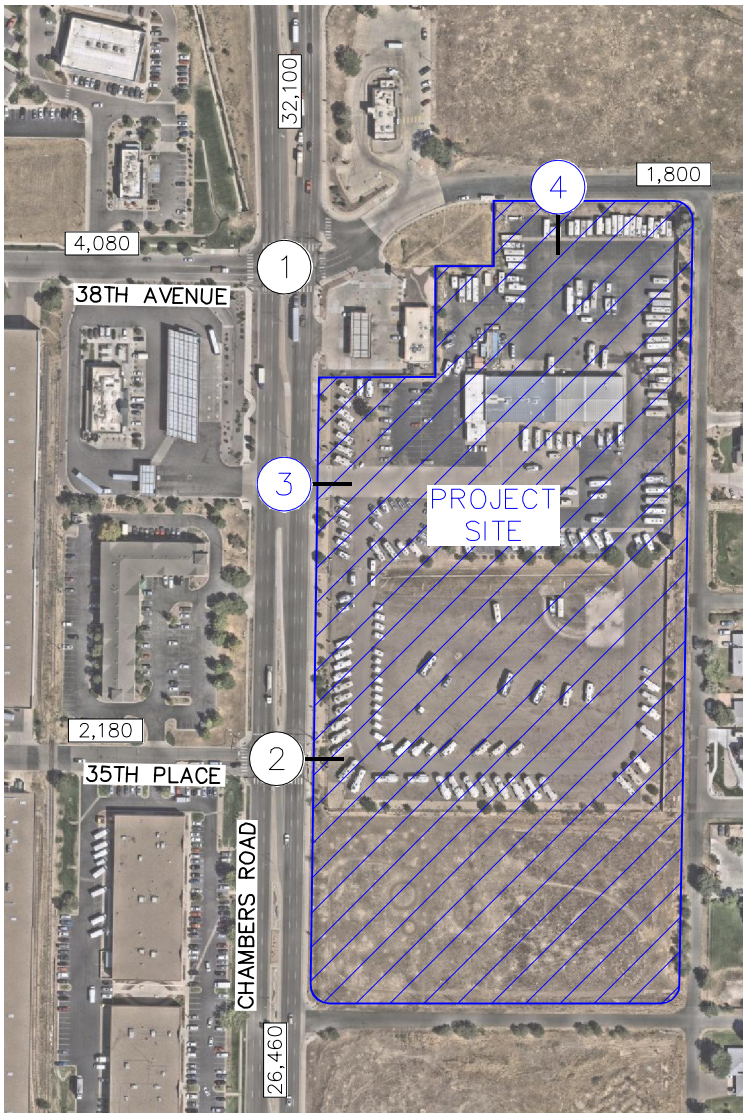
XX,X00 Estimated Daily Traffic Volume

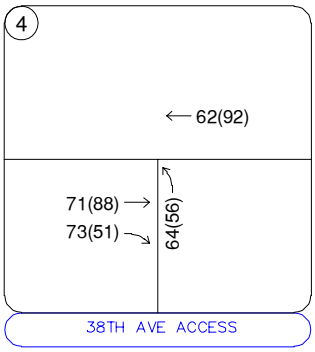
FIGURE 10
QUIKTRIP 4217
AURORA, COLORADO
PASS-BY TRAFFIC ASSIGNMENT

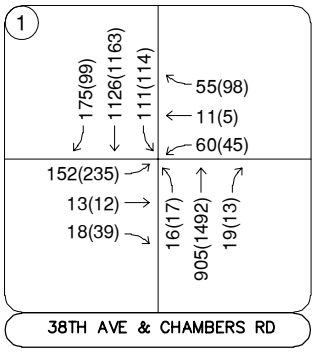
4.4 Total (Background Plus Project) Traffic

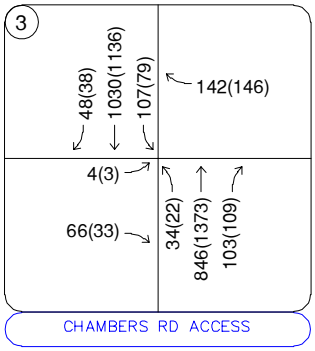
Site traffic volumes were added to the background volumes to represent estimated traffic conditions for the short-term 2027 buildout horizon and long-term 2050 planning horizon. These total traffic volumes for the study area are illustrated for the 2027 and 2050 horizon years in **Figures 11** and **12**, respectively.

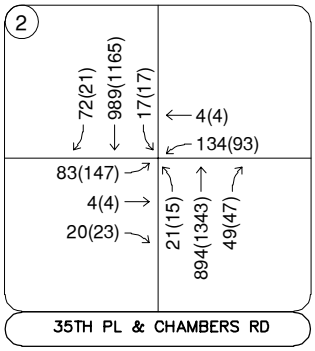
Kimley»Horn NORTH
NTS 096888048









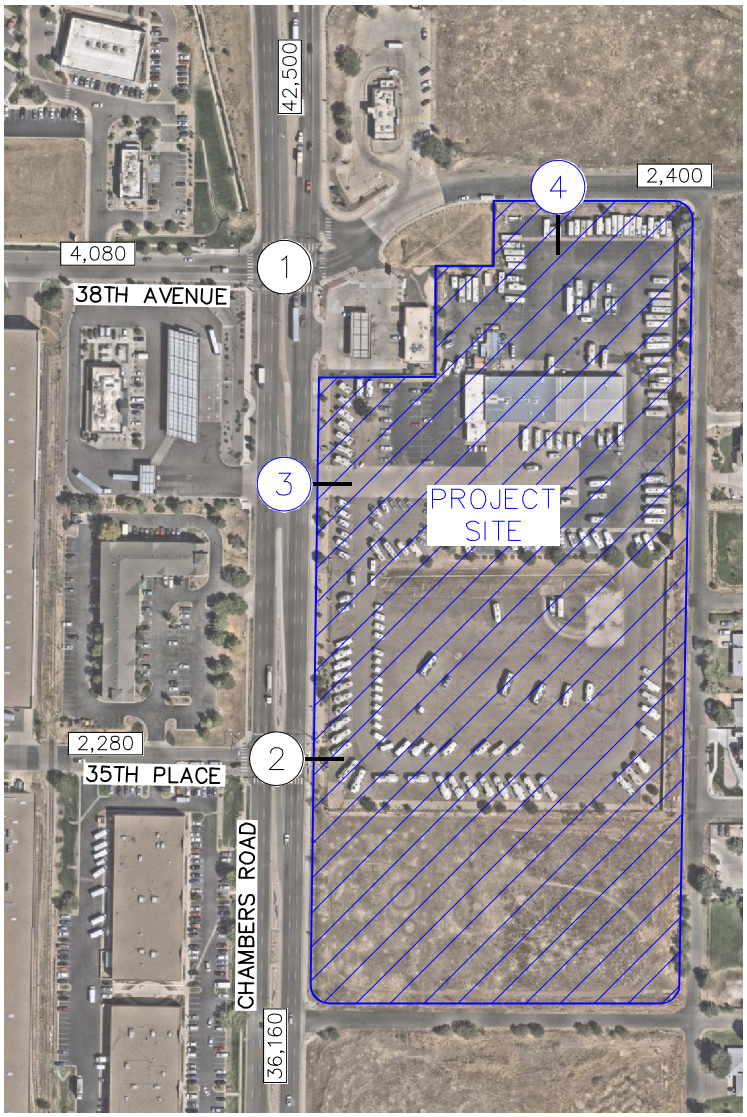


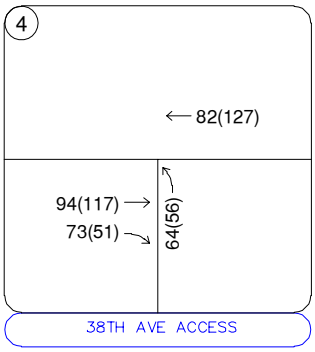
LEGEND

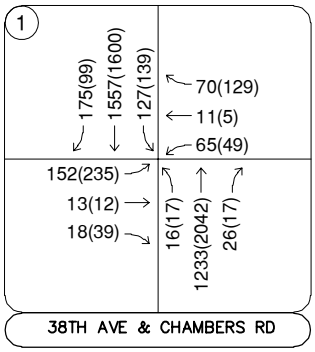
(X)	Study Area Key Intersection
(X)	Project Access Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

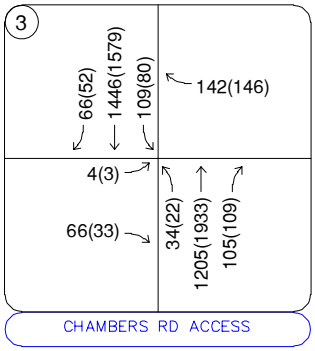
FIGURE 11
QUIKTRIP 4217
AURORA, COLORADO
2027 TOTAL TRAFFIC VOLUMES

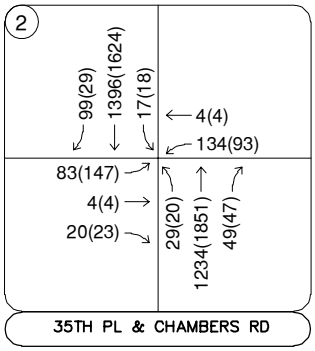
Kimley»Horn











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

FIGURE 12
QUIKTRIP 4217
AURORA, COLORADO
2050 TOTAL TRAFFIC VOLUMES

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2027 and 2050 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is 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). According to City of Aurora guidelines for signalized intersections, individual movements may be allowed to fall to LOS E, but in most cases the overall intersection must operate (or be projected to operate) at a LOS D or better during AM and PM peak periods. If the existing LOS for an intersection is worse than LOS D, potential alternatives to improve the intersection to achieve LOS D should be provided or maintain the existing critical lane volume with the addition of site generated traffic. Minor movements at unsignalized intersections, such as left turns onto a major arterial from a side street, may be allowed to fall below LOS D pending the specific conditions. Movements which have a light traffic demand, and a viable travel alternative may be allowed to fall below LOS D. **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, Seventh Edition, Transportation Research Board, 2022.

[2] Transportation Research Board, *Highway Capacity Manual*, Seventh Edition, Washington DC, 2022.

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 all-way stop controlled intersections are defined for each approach and for the overall intersection.

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 E**. 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 analysis. The existing heavy vehicle percentages obtained from the turning movement counts were also used in each horizon year. The signalized intersection analysis utilizes the signal timings provided by City of Aurora staff. Synchro traffic analysis software was used to analyze the signalized and unsignalized key intersections for HCM level of service.

38th Avenue and Chambers Road

The signalized intersection of 38th Avenue and Chambers Road operates with protected-permitted left turn phasing on the southbound approach and permitted left turn phasing on the other three approaches to the intersection. The intersection movements operate acceptably during both peak hours under existing conditions. With project traffic, all movements are anticipated to continue operating at an acceptable level of service throughout the 2050 horizon. Of note, the overall eastbound approach and eastbound left turning movement operate at LOS E during the morning peak hour under existing conditions and through the 2050 horizon. However, this is not of concern as it is a product of the cycle length being 140 seconds during the morning peak hour to prioritize northbound/southbound traffic along Chambers Road and it is not believed additional time should be allocated to the minor street approach as it would sacrifice operations along Chambers Road. Therefore, no improvements or modifications are anticipated to be needed at this intersection based on the addition of project traffic and this operational level of service analysis. Of note, the future traffic conditions can sometimes report less delays than the existing condition when traffic assignment volumes are added to movement that have less movement delay than the average intersection delay. **Table 3** provides the results of the LOS analysis conducted at this intersection.

Table 3 – 38th Avenue and Chambers Road LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2024 Existing	**9.1**	**A**	**10.2**	**B**
Eastbound Approach	60.4	E	35.8	D
Eastbound Left	62.4	E	37.0	D
Eastbound Through	49.1	D	29.7	C
Eastbound Right	49.1	D	29.7	C
Westbound Approach	49.8	D	30.5	C
Westbound Left	50.7	D	30.7	C
Westbound Through	47.9	D	28.6	C
Westbound Right	47.9	D	28.6	C
Northbound Approach	0.5	A	7.4	A
Northbound Left	0.6	A	5.7	A
Northbound Through	0.4	A	7.2	A
Northbound Right	0.7	A	8.0	A
Southbound Approach	7.1	A	7.5	A
Southbound Left	5.5	A	7.4	A
Southbound Through	7.1	A	7.3	A
Southbound Right	7.5	A	7.8	A
2027 Background	**9.0**	**A**	**10.3**	**B**
Eastbound Approach	60.4	E	35.8	D
Eastbound Left	62.4	E	37.0	D
Eastbound Through	49.1	D	29.7	C
Eastbound Right	49.1	D	29.7	C
Westbound Approach	49.8	D	30.5	C
Westbound Left	50.7	D	30.7	C
Westbound Through	47.9	D	28.6	C
Westbound Right	47.9	D	28.6	C
Northbound Approach	0.5	A	7.7	A
Northbound Left	0.7	A	5.9	A
Northbound Through	0.4	A	7.4	A
Northbound Right	0.8	A	8.3	A
Southbound Approach	7.3	A	7.6	A
Southbound Left	5.5	A	7.6	A
Southbound Through	7.2	A	7.5	A
Southbound Right	7.6	A	7.9	A

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2027 Background Plus Project	**9.8**	**A**	**10.9**	**B**
Eastbound Approach	60.2	E	35.6	D
Eastbound Left	62.5	E	36.9	D
Eastbound Through	48.9	D	29.6	C
Eastbound Right	48.9	D	29.6	C
Westbound Approach	52.4	D	31.4	C
Westbound Left	53.3	D	31.8	C
Westbound Through	47.7	D	28.5	C
Westbound Right	47.7	D	28.5	C
Northbound Approach	0.6	A	8.5	A
Northbound Left	0.6	A	6.2	A
Northbound Through	0.5	A	8.1	A
Northbound Right	0.8	A	9.1	A
Southbound Approach	7.3	A	7.8	A
Southbound Left	6.1	A	8.8	A
Southbound Through	7.3	A	7.5	A
Southbound Right	7.7	A	8.0	A
2050 Background	**8.9**	**A**	**12.2**	**B**
Eastbound Approach	60.4	E	35.8	D
Eastbound Left	62.4	E	37.0	D
Eastbound Through	49.1	D	29.7	C
Eastbound Right	49.1	D	29.7	C
Westbound Approach	50.2	D	30.7	C
Westbound Left	51.0	D	30.9	C
Westbound Through	47.9	D	28.6	C
Westbound Right	47.9	D	28.6	C
Northbound Approach	0.9	A	11.4	B
Northbound Left	2.2	A	8.6	A
Northbound Through	0.7	A	10.6	B
Northbound Right	1.3	A	12.9	B
Southbound Approach	8.6	A	9.3	A
Southbound Left	5.7	A	13.7	B
Southbound Through	8.5	A	8.8	A
Southbound Right	9.2	A	9.6	A

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2050 Background Plus Project	**9.6**	**A**	**16.7**	**B**
Eastbound Approach	60.2	E	35.6	D
Eastbound Left	62.5	E	36.9	D
Eastbound Through	48.9	D	29.6	C
Eastbound Right	48.9	D	29.6	C
Westbound Approach	52.7	D	31.6	C
Westbound Left	53.6	D	31.9	C
Westbound Through	47.7	D	28.5	C
Westbound Right	47.7	D	28.5	C
Northbound Approach	1.0	A	19.5	B
Northbound Left	2.0	A	14.1	B
Northbound Through	0.7	A	18.6	B
Northbound Right	1.4	A	21.1	C
Southbound Approach	8.7	A	10.2	B
Southbound Left	6.5	A	22.5	C
Southbound Through	8.6	A	8.9	A
Southbound Right	9.3	A	9.7	A

35th Place/Project Access and Chambers Road

The signalized intersection of 35th Place and Chambers Road operates with permissive-only left turn phasing on eastbound and northbound approaches to the intersection. The intersection operates acceptably at LOS A during both peak hours under existing conditions. With redevelopment of the site, the east leg of this intersection will be constructed to provide site access. With project traffic, the intersection is anticipated to continue operating at an acceptable level of service throughout the 2050 horizon. Of note, the overall eastbound approach operates at LOS E during the morning peak hour under existing conditions and through the 2050 horizon, while the future westbound approach in the background plus project scenarios would also operate at LOS E. However, this is not of concern as it is a product of the cycle length being 140 seconds during the morning peak hour to prioritize northbound/southbound traffic along Chambers Road and it is not believed additional time should be allocated to the minor street approach as it would sacrifice operations along Chambers Road. Additionally, the future traffic conditions can sometimes report less delays than the existing condition when traffic assignment volumes are added to movement that have less movement delay than the average intersection delay. **Table 4** provides the results of the LOS analysis conducted at this intersection.

Table 4 – 35th Place/Project Access and Chambers Road LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2024 Existing	**4.8**	**A**	**5.5**	**A**
Eastbound Approach	73.7	E	45.1	D
Eastbound Left	76.5	E	46.7	D
Eastbound Right	62.0	E	34.6	C
Northbound Approach	2.5	A	4.9	A
Northbound Left	2.2	A	3.6	A
Northbound Through	2.5	A	4.9	A
Southbound Approach	0.4	A	0.5	A
Southbound Through	0.3	A	0.4	A
Southbound Right	0.5	A	0.7	A

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2027 Background	**4.7**	**A**	**5.4**	**A**
Eastbound Approach	73.7	E	45.1	D
Eastbound Left	76.5	E	46.7	D
Eastbound Right	62.0	E	34.6	C
Northbound Approach	2.5	A	5.0	A
Northbound Left	2.2	A	3.6	A
Northbound Through	2.5	A	5.0	A
Southbound Approach	0.4	A	0.6	A
Southbound Through	0.3	A	0.4	A
Southbound Right	0.5	A	0.8	A
2027 Background Plus Project	**8.7**	**A**	**6.9**	**A**
Eastbound Approach	57.4	E	37.5	D
Eastbound Left	58.5	E	38.5	D
Eastbound Through	53.5	D	32.0	C
Eastbound Right	53.5	D	32.0	C
Westbound Approach	63.8	E	35.6	D
Westbound Left	64.1	E	35.8	D
Westbound Through	52.6	D	31.1	C
Westbound Right	52.6	D	31.1	C
Northbound Approach	4.8	A	6.6	A
Northbound Left	3.9	A	4.5	A
Northbound Through	4.7	A	6.4	A
Northbound Right	5.0	A	6.9	A
Southbound Approach	0.4	A	0.6	A
Southbound Left	0.6	A	1.6	A
Southbound Through	0.3	A	0.4	A
Southbound Right	0.6	A	0.8	A
2050 Background	**4.1**	**A**	**7.9**	**A**
Eastbound Approach	73.7	E	45.1	D
Eastbound Left	76.5	E	46.7	D
Eastbound Right	62.0	E	34.6	C
Northbound Approach	2.9	A	6.2	A
Northbound Left	3.1	A	9.9	A
Northbound Through	2.9	A	6.1	A
Southbound Approach	0.6	A	6.1	A
Southbound Through	0.5	A	5.9	A
Southbound Right	0.9	A	6.5	A

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2050 Background Plus Project	**7.6**	**A**	**7.1**	**A**
Eastbound Approach	57.4	E	37.5	D
Eastbound Left	58.5	E	38.5	D
Eastbound Through	53.5	D	32.0	C
Eastbound Right	53.5	D	32.0	C
Westbound Approach	63.8	E	35.6	D
Westbound Left	64.1	E	35.8	D
Westbound Through	52.6	D	31.1	C
Westbound Right	52.6	D	31.1	C
Northbound Approach	5.5	A	8.2	A
Northbound Left	4.8	A	5.2	A
Northbound Through	5.4	A	7.9	A
Northbound Right	5.8	A	8.8	A
Southbound Approach	0.7	A	1.1	A
Southbound Left	1.3	A	4.5	A
Southbound Through	0.5	A	0.8	A
Southbound Right	1.0	A	1.5	A

Project Accesses

With redevelopment of the existing site to a gas station, the existing full movement access along Chambers Road will be restricted to a three-quarter movement access (left-in/right-in/right-out). Exiting westbound left turn movements will be prohibited and no longer allowed at the project access. It is recommended that an R3-5R Right Turn Only sign be installed on the westbound approach, exiting the development, in addition to the existing R1-1 "STOP" sign. Of note, the west leg of access currently serves as a driveway for the Maverik gas station and is also restricted to three-quarter movement. However, from the existing traffic counts, vehicles were observed making prohibited eastbound left turns out of the adjacent site. Additionally, the full movement access along 38th Avenue to the east of Chambers Road will continue to serve the site. **Table 5** provides the results of the level of service for the project access intersections. As shown in the table, the project access intersections are anticipated to have all movements operating with acceptable LOS during the peak hours in both the buildout year 2027 and the 2050 long-term horizons.

Table 5 – Project Access Level of Service Results

Intersection	2027 Total				2050 Total			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS
Chambers Rd Access								
Eastbound Right	10.7	B	10.1	B	11.4	B	10.8	B
Westbound Right	10.7	B	11.5	B	11.2	B	12.9	B
Northbound Left	12.3	B	12.5	B	15.3	C	15.7	C
Southbound Left	12.5	B	17.2	C	16.1	C	29.5	D
38th Avenue Access								
Northbound Approach	9.9	A	10.1	B	10.2	B	10.7	B

5.3 Turn Bay Length Analysis

The City of Aurora defaults to the Colorado Department of Transportation (CDOT) State Highway Access Code guidelines to determine if turn lanes are warranted at studied intersections. CDOT classifies their state highways based on roadway types. It is believed that Chambers Road match the characteristics of a CDOT NR-B roadway. According to the State Highway Access Code for category NR-B roadways, the following threshold applies for determining the need for a turn lane:

- A left turn lane with storage length plus taper length is required for any access with a projected peak hour left ingress turning volume greater than 25 vehicles per hour (vph). If the posted speed is greater than 40 mph (not applicable in this case), a deceleration lane and taper is required for any access with a projected peak hour left ingress turning volume greater than 10 vph.
- A right turn lane with storage length plus taper is required for any access with a projected peak hour right ingress turning volume greater than 50 vehicles per hour. If the posted speed limit is greater than 40 miles per hour (not applicable), a right turn lane deceleration lane and taper is required for any access with a project peak hour right ingress turning volume greater than 25 vehicles per hour.

However, since Chambers Road provides three through lanes in each direction, the auxiliary right turn lanes can be absorbed within the third through lane. Therefore, based on the 2050 traffic volume projection, the southbound left turn lane warrant into the project access along Chambers Road is the following:

Chambers Road Access

- A southbound left turn lane **is** warranted at the project access along Chambers Road based on projected 2027 background plus project traffic volumes being 107 southbound left turns during the peak hour and the threshold being 25 vph. However, an existing southbound left turn lane is provided with a length of approximately 90 feet. Based on the 40 miles per hour speed limit, the turn lane should provide a storage of 125 feet with a 165-foot taper (13.5:1). However, the turn lane cannot be further extended to the north since extending the turn lane would reduce the northbound left turn lane at the intersection located to the north. Of note, the southbound left turn reported queue length is calculated to remain within the existing turn lane.

35th Place/Project Access & Chambers Road

- A southbound left turn lane **is not** warranted at the project access along Chambers Road based on projected 2027 background plus project traffic volumes being 17 southbound left turns during the peak hour and the threshold being 25 vph. However, a southbound left turn lane is recommended to be constructed within the existing raised median along Chambers Road. Based on the 40 miles per hour speed limit, the turn lane should provide a minimum standard length storage of 100 feet plus a 165-foot taper (13.5:1). Although not needed from a volume standard, it should be noted additional storage length cannot be accommodated due to back-to-back left turn lanes; however, the southbound left turn reported queue length is calculated to remain within the proposed turn lane.

5.4 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 6** with calculations provided within the level of service operational sheets of **Appendix E** for unsignalized intersections and **Appendix F** for signalized intersections.

Table 6 – Turn Lane Queuing Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2027 Calculated Queue (feet)	2027 Recommended Length (feet)	2050 Calculated Queue (feet)	2050 Recommended Length (feet)
38th Ave & Chambers (#1)					
Eastbound Left	C (110')	219'	C (110')	219'	C (110')
Westbound Left	C (40')	92'	C (40')	97'	C (40')
Northbound Left	100'	25'	100'	25'	100'
Southbound Left	225'	71'	225'	98'	225'
Westbound Right	130'	38'	130'	42'	130'
35th Pl & Chambers (#2)					
Eastbound Left	C (70')	138'	C (70')	138'	C (70')
Northbound Left	100'	25'	100'	26'	100'
Southbound Left	DNE	25'	**100'**	25'	100'
Chambers Rd Access (#3)					
Northbound Left	110'	25'	110'	25'	110'
Southbound Left	90'	25'	90'	50'	90'

DNE = Does Not Exist; C (XX') = Continuous Lane (Striped Length); **Blue** Text = Recommendation

All queues are anticipated to remain within the existing or recommended turn lane striped lengths through 2050, except for the eastbound and westbound left turn lane at 38th Avenue and Chambers Road and the eastbound left turn lane at 35th Place and Chambers Roads. These left

turn lane queues are expected to spill back beyond striped lengths and into the existing continuous lane without impacting the adjacent through/right turn lanes. The City of Aurora could consider extending striped lengths; however, vehicles can also continue queuing in space extending beyond the striped left turn lanes.

It is recommended to install a 100 foot southbound left turn lane at the 35th Place and Chambers intersection and a shared taper with the adjacent northbound left turn lane.

5.5 Chambers Road Corridor Safety Analysis

Based on communication with City of Aurora staff, a simple corridor safety analysis within the study area along Chambers Road was requested to be performed. As such, any traffic safety hazards in the area, if any, are identified in this section, while an evaluation of sight distance and other roadway considerations including those for pedestrians and bicyclists are also included in this analysis.

Based on the surrounding existing and proposed conditions along Chambers Road adjacent to the project site, there are no observable traffic safety hazards in the area. While there is a gradual downward slope along Chambers Road to the north of 38th Avenue due to the overpass at the I-70 interchange, it is not believed that vehicles at the 38th Avenue & Chambers Road intersection experience any safety concerns because of this grade. However, a sight distance evaluation of the westbound right turning vehicles at all three intersections was performed as project traffic is anticipated to perform these turning movements. Westbound left/through movements at 35th Place and 38th Avenue along Chambers Road are not applicable for evaluation, as these movements are governed by a traffic signal, while the westbound right turning vehicles may turn right after stop at these signals as well as at the proposed three-quarter movement access along Chambers Road.

The posted speed limit along Chambers Road within the study area is 40 miles per hour. Based on AASHTO – A Policy on Geometric Design of Highways and Streets, 7th Edition, standards and the posted speed limit on Chambers Road of 40 miles per hour, the westbound right turning vehicles from stop at 38th Avenue & Chambers Road (#1), 35th Place & Chambers Road (#2), and the three-quarter access on Chambers Road (#3) should have available sight distance of 385 feet to the left. Therefore, all obstructions for right turning vehicles from stop at these intersections

should be clear to the left within the triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way and a line-of-sight distance of 385 feet located in the middle of the outer northbound through lane. These required sight distances have been reviewed at each of these intersections along Chambers Road based on the existing clear lines of sight for the required distance of 385 feet and it is not believed there are any existing obstructions that would restrict proper line of sight for westbound right turning vehicles. However, it is recommended to ensure that with redevelopment of the existing site which will become the proposed QT 4217 gas station that all signage, landscaping, and other obstructions be of minimal height and a sufficient distance from each of these intersections to keep the required 385-foot sight distance maintained to ensure proper safety with project construction.

It is understood that a 10-foot detached sidewalk or sidewalk easement along the east side of Chambers Road will be constructed adjacent to the property, while a 5.5-foot detached sidewalk or sidewalk easement along the south side of 38th Avenue adjacent to the property will be provided, while all curb ramps at all existing and proposed accesses will be provided and will be ADA compliant. Sidewalk is present today along the east side of Chambers Road and along the project frontage on the south side of 38th Avenue. With project construction, considerations for pedestrians and bicyclists should be accounted for to ensure proper safety for all users.

Additionally, the City provided crash data summary for the 38th Avenue & Chambers Road intersection over the past five-years (2019-2023). The summary of crash type and severity is provided in **Table 7**.

Table 7 – 38th Avenue and Chambers Road Crash Summary

Crash Severity		Crash Type	
Fatal	0	Broadside	13
Injury	18	Rear End	5
Property Damage Only	22	Sideswipe	1
Total Crashes	40	Approach Turn	18
		Overtaking Turn	2
		Bicycle	1

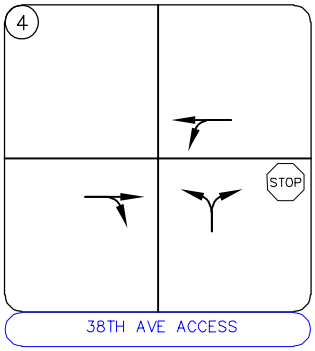
As shown in the table above, out of the 40 crashes approximately 45% resulted in a reported injury. The two major crash types at this intersection are broadside and approach turn, accounting for 77.5% of the total crashes in the past five years. Broadside crashes, typically T-bones likely

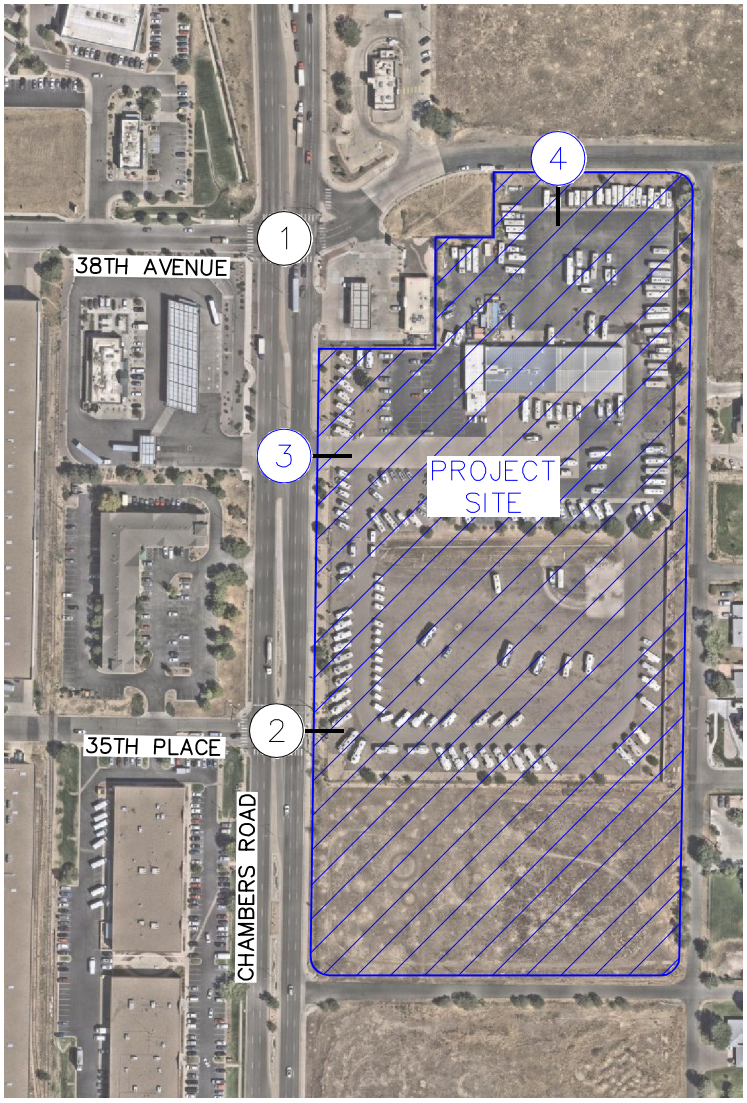
occur at the intersection when a left turning vehicles fails to yield to through traffic. Likewise, the approach turn crash also occurs when a driver attempts to turn left across oncoming traffic. Since the severity and crash type are not provided for each specific, an assumption could be made that the broadside and approach crash could occur on all four legs but specifically on the northbound and southbound approaches. Upgrading the left turn signal head to a four-section with flashing yellow and a reflective backplate for the northbound and southbound approaches is recommended as part of the project. The flashing yellowing signal head alerts drivers of the yield condition instead of the traditional green ball indication. Additionally, depending on the pattern of this type of crash on a specific approach can easily change the operations to a protected left turn phase depending on the time of day. The CMF Clearing House has a CMF of 0.857 for installing a left turn flashing arrow signal which is a reduction in 14.3% of left turning crashes. As mentioned, converting the phasing to protected-only during peak hours will reduce the number of left turning crashing, assuming they are happening on the northbound and southbound approaches.

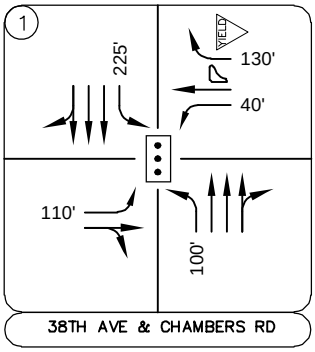
5.6 Improvement Summary

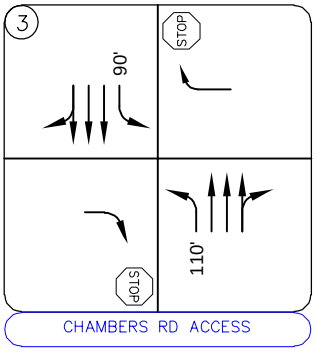
Based on the results of the intersection operational and vehicle queuing analysis, the key intersection recommended improvements and control are shown in **Figure 13**.

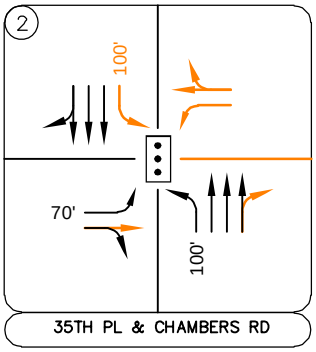
Kimley»Horn NORTH
NTS 096888048











LEGEND

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

FIGURE 13
QUIKTRIP 4217
AURORA, COLORADO
2027 RECOMMENDED GEOMETRY AND CONTROL

Kimley»Horn

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes QuikTrip 4217 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:

- With redevelopment of the existing site to a gas station, the existing full access along Chambers Road will be restricted to a three-quarter access (left-in/right-in/right-out). An R3-5R Right Turn Only sign is recommended to be installed at the exiting of this approach. Exiting westbound left turn movements will be prohibited and no longer allowed at the project access. The existing full access along 38th Avenue will remain. An R1-1 "STOP" sign is recommended to be kept at both 38th Avenue and Chambers Road approaches exiting the site.

- With redevelopment of the site, the east leg of the signalized 35th Place and Chambers Road intersection will be constructed to provide site access. It is recommended to install a 100-foot southbound left turn lane at the 35th Place and Chambers Road intersection and a shared taper with the adjacent northbound left turn lane.

- A corridor safety analysis of Chambers Road along the project frontage has been performed in this study, identifying potential safety hazards within the study area, if any, as well as assessing sight distance for all westbound right turning vehicles along Chambers Road at 38th Avenue, 35th Place, and the proposed three-quarter movement access to the south of 38th Avenue. Based on AASHTO standards and the posted 40 mile per hour speed limit on Chambers Road, the intersection sight distance for these westbound right turning vehicles from stop is 385 feet to the left. Therefore, all obstructions for right turning vehicles from stop at these intersections should be clear to the left within the triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way and a line-of-sight distance of 385 feet located in the middle of the outer northbound through lane. These required sight distances have been reviewed at each of these intersections along Chambers Road based on the existing clear lines of sight for the required distance of 385 feet and it is not believed there are any existing obstructions that would restrict proper line of sight for westbound right turning vehicles. However, it is recommended to ensure that with redevelopment of the

existing site which will become the proposed QT 4217 gas station that all signage, landscaping, and other obstructions be of minimal height and a sufficient distance from each of these intersections to keep the required 385-foot sight distance maintained to ensure proper safety with project construction.

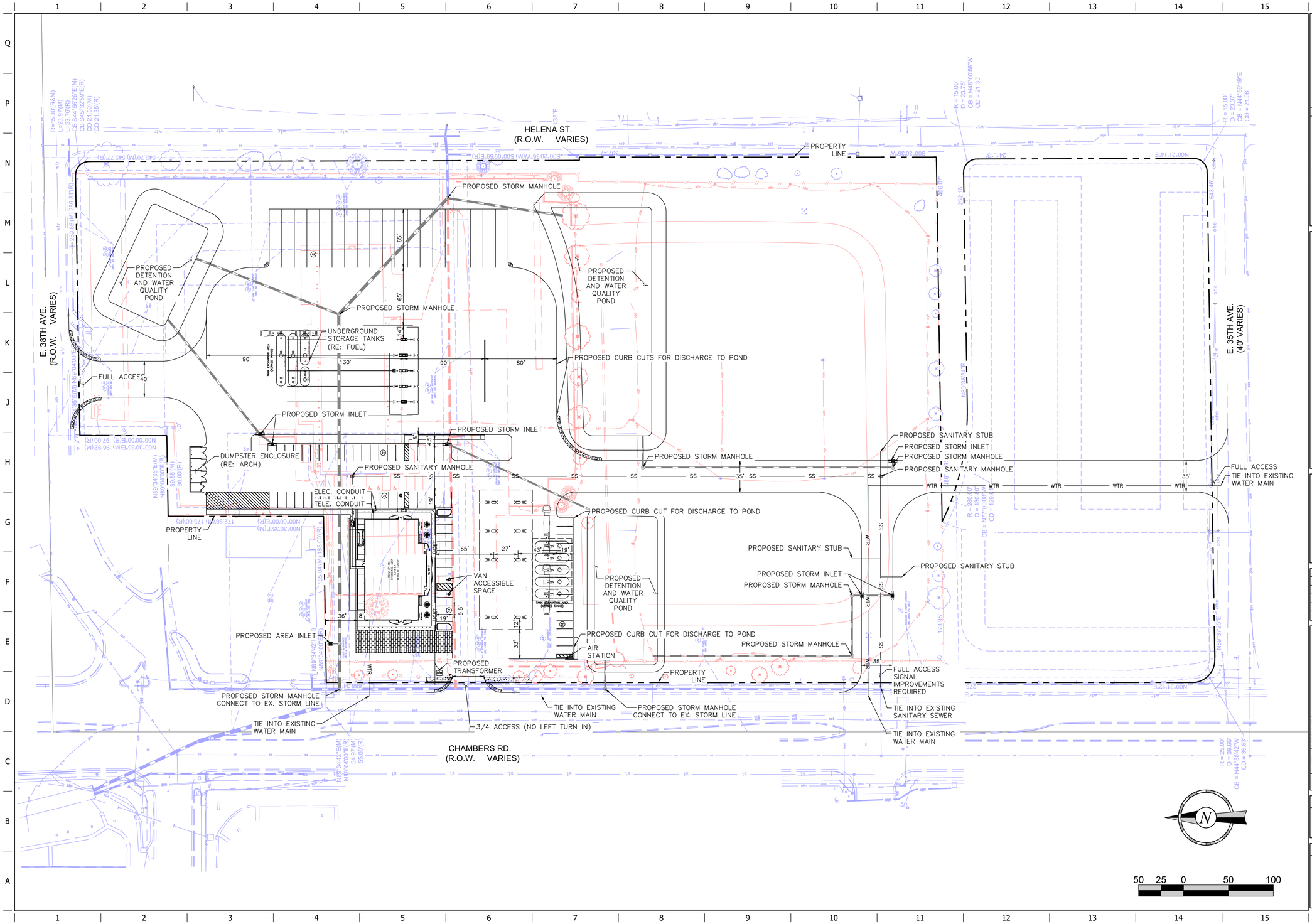
- As part of the project, it is recommended that left turn signals heads on the northbound and southbound approaches of the 38th Avenue and Chambers Road intersection be upgraded to four-section flashing yellow signal heads with reflective backplates.

- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Aurora and the Manual on Uniform Traffic Control Devices (MUTCD) – 11th Edition, 2023.

APPENDICES

APPENDIX A

Conceptual Site Plan



PROJECT NO.:096888048

Kimley»Horn

QuikTrip No. 4217

SEC CHAMBERS RD. & 38TH AVE.
AURORA, CO

PROTOTYPE:	P-116
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

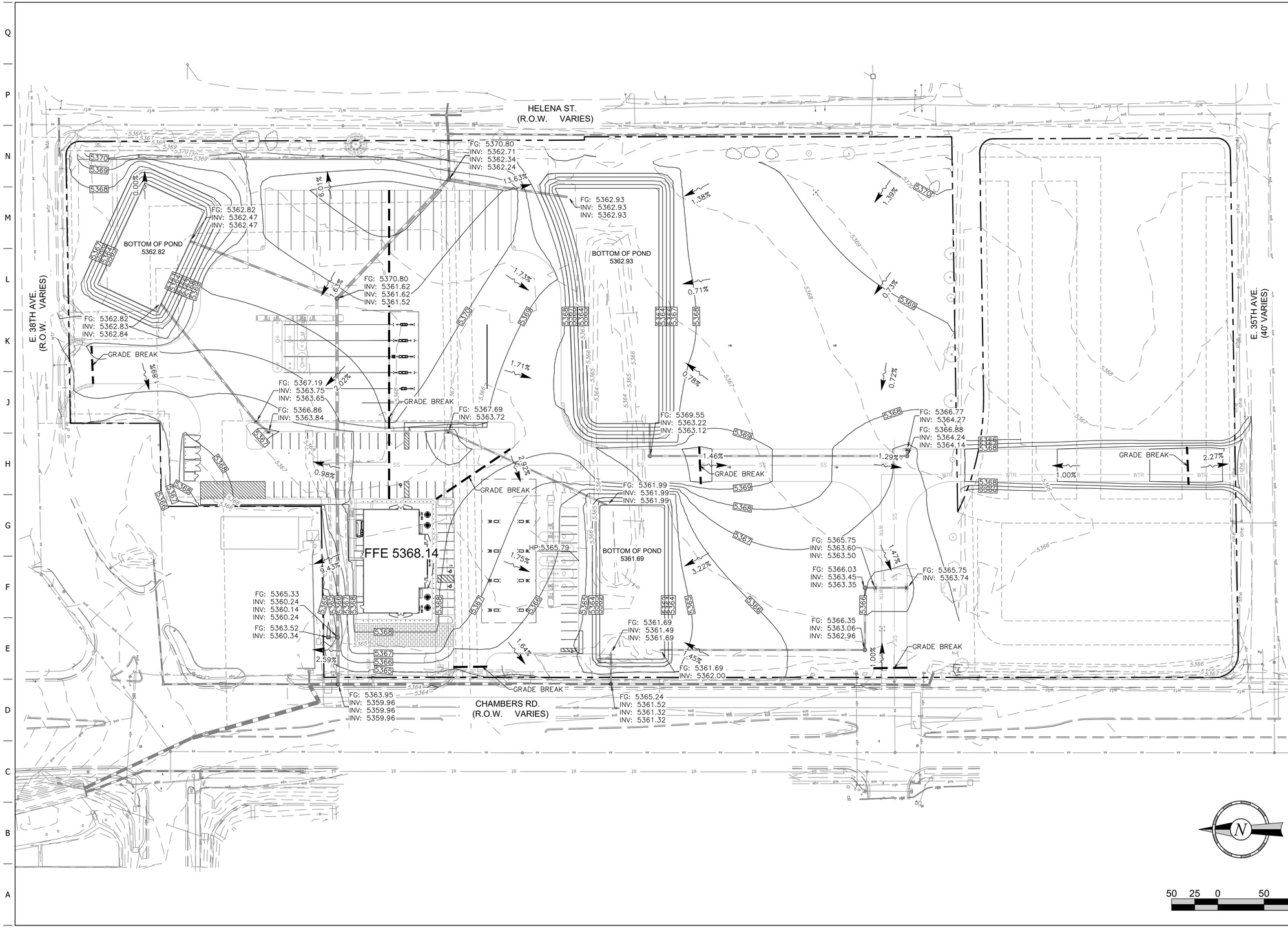
REV	DATE	DESCRIPTION
		ORIGINAL ISSUE DATE:

SHEET TITLE:

SITE/DEMO PLAN

SHEET NUMBER:

1



PROJECT NO.:096888048

Kimley»Horn

6200 South Syracuse Way, Suite 300
Greenwood Village, Colorado (303) 228-2300

QuikTrip No. 4217

SEC CHAMBERS RD. & 38TH AVE.
AURORA, CO

PROTOTYPE:	P-116
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE:

SHEET TITLE:

CDP GRADING

SHEET NUMBER:

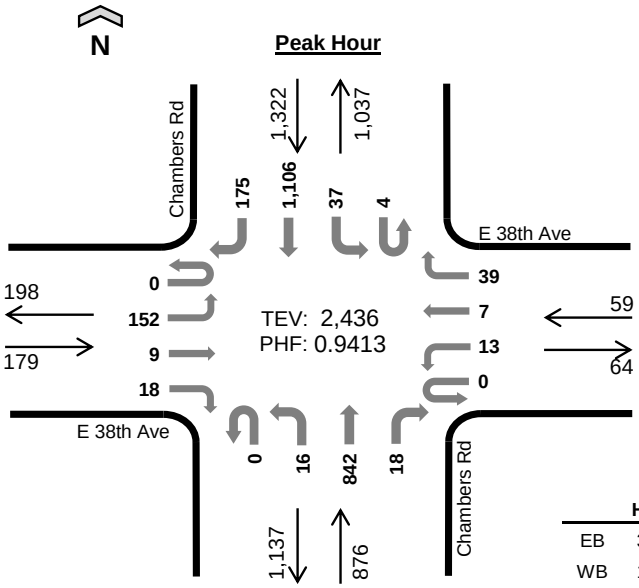
2

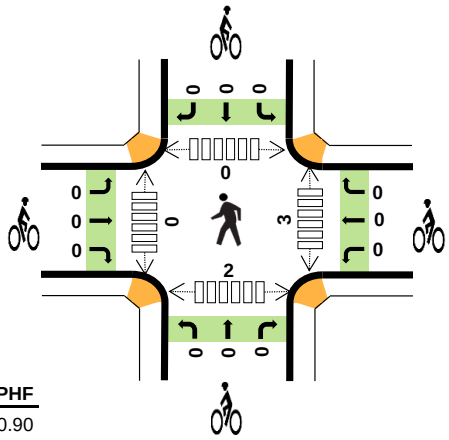
APPENDIX B

Intersection Count Sheets

Chambers Rd
E 38th Ave

Date: 9/5/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV%	PHF
EB	35%	0.90
WB	17%	0.78
NB	20%	0.83
SB	9%	0.89
TOTAL	15%	0.94

Peak Hour Count Summaries

Peak Hour Interval Start		E 38th Ave Eastbound				E 38th Ave Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:15 AM		0	37	4	1	0	4	2	6	0	3	215	7	1	11	265	27	583	0
7:30 AM		0	31	2	5	0	2	2	15	0	4	181	1	0	6	273	49	571	0
7:45 AM		0	48	0	2	0	3	1	10	0	3	195	3	0	6	320	44	635	0
8:00 AM		0	36	3	10	0	4	2	8	0	6	251	7	3	14	248	55	647	2,436
Pk Hr	All	0	152	9	18	0	13	7	39	0	16	842	18	4	37	1,106	175	2,436	
	HV	0	58	1	4	0	0	1	9	0	4	161	6	0	3	97	18	362	
	HV%	-	38%	11%	22%	-	0%	14%	23%	-	25%	19%	33%	0%	8%	9%	10%	15%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries 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	E	W	N	S	Total
7:15 AM	20	0	49	24	*93*	0	0	0	0	*0*	3	0	0	1	*4*
7:30 AM	14	7	37	31	*89*	0	0	0	0	*0*	0	0	0	1	*1*
7:45 AM	21	2	38	33	*94*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	8	1	47	30	*86*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	63	10	171	118	*362*	0	0	0	0	*0*	3	0	0	2	*5*

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Count Summaries - All Vehicles

Interval Start	E 38th Ave				E 38th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	32	1	7	0	0	0	11	0	2	164	1	0	14	232	49	513	0
7:15 AM	**0**	**37**	**4**	**1**	**0**	**4**	**2**	**6**	**0**	**3**	**215**	**7**	**1**	**11**	**265**	**27**	**583**	**0**
7:30 AM	**0**	**31**	**2**	**5**	**0**	**2**	**2**	**15**	**0**	**4**	**181**	**1**	**0**	**6**	**273**	**49**	**571**	**0**
7:45 AM	**0**	**48**	**0**	**2**	**0**	**3**	**1**	**10**	**0**	**3**	**195**	**3**	**0**	**6**	**320**	**44**	**635**	**2,302**
8:00 AM	**0**	**36**	**3**	**10**	**0**	**4**	**2**	**8**	**0**	**6**	**251**	**7**	**3**	**14**	**248**	**55**	**647**	**2,436**
8:15 AM	0	42	1	5	0	4	4	13	1	7	222	2	1	11	223	37	573	2,426
8:30 AM	0	39	3	7	0	5	1	17	1	3	192	3	0	12	243	30	556	2,411
8:45 AM	0	35	4	5	0	6	0	14	0	3	136	3	0	9	225	38	478	2,254
Count Total	0	300	18	42	0	28	12	94	2	31	1,556	27	5	83	2,029	329	4,556	
Pk Hr All	**0**	**152**	**9**	**18**	**0**	**13**	**7**	**39**	**0**	**16**	**842**	**18**	**4**	**37**	**1,106**	**175**	**2,436**	
Pk Hr HV	**0**	**58**	**1**	**4**	**0**	**0**	**1**	**9**	**0**	**4**	**161**	**6**	**0**	**3**	**97**	**18**	**362**	
Pk Hr HV%	**-**	**38%**	**11%**	**22%**	**-**	**0%**	**14%**	**23%**	**-**	**25%**	**19%**	**33%**	**0%**	**8%**	**9%**	**10%**	**15%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	21	3	47	34	*105*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**20**	**0**	**49**	**24**	**93**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**4**
7:30 AM	**14**	**7**	**37**	**31**	**89**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
7:45 AM	**21**	**2**	**38**	**33**	**94**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**8**	**1**	**47**	**30**	**86**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	11	4	45	27	*87*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	10	6	35	32	*83*	0	0	0	0	*0*	0	0	0	2	*2*
8:45 AM	8	3	32	30	*73*	0	0	0	0	*0*	2	0	0	0	*2*
Count Total	113	26	330	241	*710*	0	0	0	0	*0*	5	0	0	4	*9*
Peak Hour	**63**	**10**	**171**	**118**	***362***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**2**	**5**

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Count Summaries - Heavy Vehicles

Interval Start	E 38th Ave				E 38th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	18	0	3	0	0	0	3	0	0	47	0	0	2	26	6	105	0
7:15 AM	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**46**	**3**	**0**	**1**	**20**	**3**	**93**	**0**
7:30 AM	**0**	**11**	**1**	**2**	**0**	**0**	**1**	**6**	**0**	**2**	**34**	**1**	**0**	**0**	**22**	**9**	**89**	**0**
7:45 AM	**0**	**20**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**38**	**0**	**0**	**0**	**31**	**2**	**94**	**381**
8:00 AM	**0**	**7**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**43**	**2**	**0**	**2**	**24**	**4**	**86**	**362**
8:15 AM	0	10	0	1	0	0	0	4	0	1	44	0	0	3	22	2	87	356
8:30 AM	0	9	0	1	0	2	0	4	0	1	34	0	0	1	27	4	83	350
8:45 AM	0	6	1	1	0	1	0	2	0	0	32	0	0	1	22	7	73	329
Count Total	0	101	2	10	0	3	1	22	0	6	318	6	0	10	194	37	710	
Pk Hr Heavy	**0**	**58**	**1**	**4**	**0**	**0**	**1**	**9**	**0**	**4**	**161**	**6**	**0**	**3**	**97**	**18**	**362**	

Count Summaries - Bikes

Interval Start	E 38th Ave				E 38th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	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	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**	**0**	**0**	**0**	**0**
7:30 AM	**0**	**0**	**0**	**0**	**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**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**0**	**0**	**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	0	0	0	0
8:30 AM	0	0	0	0	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	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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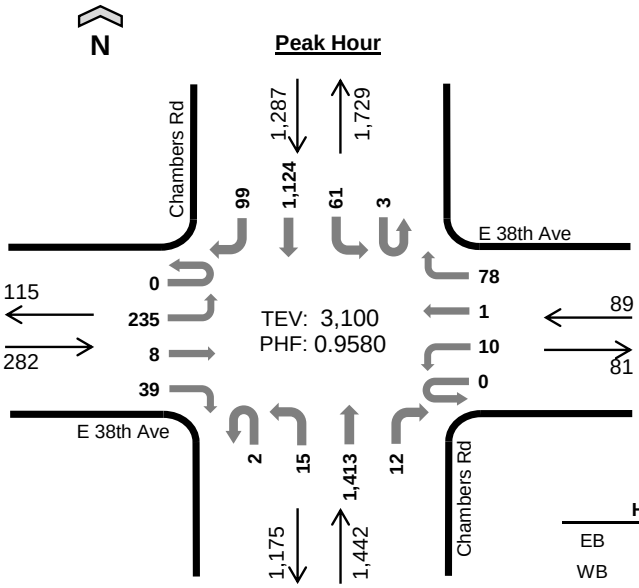
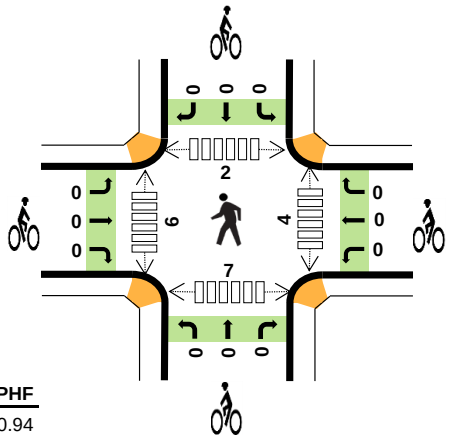
Chambers Rd
E 38th Ave

Date: 9/5/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV%	PHF
EB	4%	0.94
WB	7%	0.89
NB	6%	0.95
SB	7%	0.95
TOTAL	6%	0.96

Peak Hour Count Summaries

Peak Hour Interval Start		E 38th Ave Eastbound				E 38th Ave Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		**0**	**58**	**2**	**13**	**0**	**0**	**0**	**17**	**0**	**5**	**374**	**1**	**0**	**8**	**314**	**17**	**809**	**0**
4:45 PM		**0**	**48**	**3**	**11**	**0**	**5**	**0**	**19**	**2**	**5**	**346**	**4**	**0**	**19**	**279**	**31**	**772**	**0**
5:00 PM		**0**	**65**	**0**	**10**	**0**	**3**	**1**	**21**	**0**	**3**	**340**	**2**	**1**	**14**	**269**	**25**	**754**	**0**
5:15 PM		**0**	**64**	**3**	**5**	**0**	**2**	**0**	**21**	**0**	**2**	**353**	**5**	**2**	**20**	**262**	**26**	**765**	**3,100**
Pk Hr	All	**0**	**235**	**8**	**39**	**0**	**10**	**1**	**78**	**2**	**15**	**1,413**	**12**	**3**	**61**	**1,124**	**99**	**3,100**	
	HV	**0**	**8**	**1**	**1**	**0**	**0**	**0**	**6**	**0**	**2**	**82**	**1**	**0**	**5**	**71**	**18**	**195**	
	HV%	-	**3%**	**13%**	**3%**	-	**0%**	**0%**	**8%**	**0%**	**13%**	**6%**	**8%**	**0%**	**8%**	**6%**	**18%**	**6%**	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries 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	E	W	N	S	Total
4:30 PM	**4**	**1**	**20**	**30**	***55***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
4:45 PM	**2**	**0**	**15**	**24**	***41***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:00 PM	**3**	**0**	**19**	**22**	***44***	**0**	**0**	**0**	**0**	***0***	**4**	**2**	**1**	**3**	***10***
5:15 PM	**1**	**5**	**31**	**18**	***55***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**1**	**4**	***8***
Peak Hour	**10**	**6**	**85**	**94**	***195***	**0**	**0**	**0**	**0**	***0***	**4**	**6**	**2**	**7**	***19***

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Count Summaries - All Vehicles

Interval Start	E 38th Ave				E 38th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	61	2	8	0	2	1	7	0	3	303	5	1	9	261	28	691	0
4:15 PM	0	56	1	4	0	2	0	13	0	1	287	2	1	8	318	20	713	0
4:30 PM	**0**	**58**	**2**	**13**	**0**	**0**	**0**	**17**	**0**	**5**	**374**	**1**	**0**	**8**	**314**	**17**	**809**	**0**
4:45 PM	**0**	**48**	**3**	**11**	**0**	**5**	**0**	**19**	**2**	**5**	**346**	**4**	**0**	**19**	**279**	**31**	**772**	**2,985**
5:00 PM	**0**	**65**	**0**	**10**	**0**	**3**	**1**	**21**	**0**	**3**	**340**	**2**	**1**	**14**	**269**	**25**	**754**	**3,048**
5:15 PM	**0**	**64**	**3**	**5**	**0**	**2**	**0**	**21**	**0**	**2**	**353**	**5**	**2**	**20**	**262**	**26**	**765**	**3,100**
5:30 PM	0	39	0	6	0	5	2	13	1	3	328	3	4	13	232	30	679	2,970
5:45 PM	0	53	4	3	0	4	2	8	0	1	281	3	2	19	224	22	626	2,824
Count Total	0	444	15	60	0	23	6	119	3	23	2,612	25	11	110	2,159	199	5,809	
Pk Hr All	**0**	**235**	**8**	**39**	**0**	**10**	**1**	**78**	**2**	**15**	**1,413**	**12**	**3**	**61**	**1,124**	**99**	**3,100**	
Pk Hr HV	**0**	**8**	**1**	**1**	**0**	**0**	**0**	**6**	**0**	**2**	**82**	**1**	**0**	**5**	**71**	**18**	**195**	
Pk Hr HV%	**-**	**3%**	**13%**	**3%**	**-**	**0%**	**0%**	**8%**	**0%**	**13%**	**6%**	**8%**	**0%**	**8%**	**6%**	**18%**	**6%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	**Total**	EB	WB	NB	SB	**Total**	E	W	N	S	**Total**
4:00 PM	3	0	16	26	*45*	0	0	0	0	*0*	2	1	0	0	*3*
4:15 PM	7	1	22	29	*59*	0	0	0	0	*0*	0	1	0	1	*2*
4:30 PM	**4**	**1**	**20**	**30**	**55**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**
4:45 PM	**2**	**0**	**15**	**24**	**41**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	**3**	**0**	**19**	**22**	**44**	**0**	**0**	**0**	**0**	**0**	**4**	**2**	**1**	**3**	**10**
5:15 PM	**1**	**5**	**31**	**18**	**55**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**4**	**8**
5:30 PM	4	0	17	30	*51*	0	0	0	0	*0*	1	0	1	1	*3*
5:45 PM	3	2	7	24	*36*	0	0	0	0	*0*	1	0	0	1	*2*
Count Total	27	9	147	203	*386*	0	0	0	0	*0*	8	8	3	10	*29*
Peak Hour	**10**	**6**	**85**	**94**	***195***	**0**	**0**	**0**	**0**	***0***	**4**	**6**	**2**	**7**	**19**

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Count Summaries - Heavy Vehicles

Interval Start	E 38th Ave				E 38th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	3	0	0	0	0	0	0	0	0	15	1	0	0	22	4	45	0
4:15 PM	0	7	0	0	0	0	0	1	0	0	22	0	0	1	22	6	59	0
4:30 PM	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**20**	**0**	**0**	**2**	**25**	**3**	**55**	**0**
4:45 PM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**14**	**0**	**0**	**0**	**19**	**5**	**41**	**200**
5:00 PM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**0**	**0**	**3**	**14**	**5**	**44**	**199**
5:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	**0**	**1**	**29**	**1**	**0**	**0**	**13**	**5**	**55**	**195**
5:30 PM	0	2	0	2	0	0	0	0	0	0	17	0	0	4	16	10	51	191
5:45 PM	0	3	0	0	0	0	1	1	0	0	7	0	0	6	13	5	36	186
Count Total	0	23	1	3	0	0	1	8	0	2	143	2	0	16	144	43	386	
Pk Hr Heavy	**0**	**8**	**1**	**1**	**0**	**0**	**0**	**6**	**0**	**2**	**82**	**1**	**0**	**5**	**71**	**18**	**195**	

Count Summaries - Bikes

Interval Start	E 38th Ave				E 38th Ave				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	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	0	0	0	0
4:15 PM	0	0	0	0	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**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**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**	**0**	**0**	**0**	**0**
5:15 PM	**0**	**0**	**0**	**0**	**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	0	0	0	0
5:45 PM	0	0	0	0	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	0	0	0	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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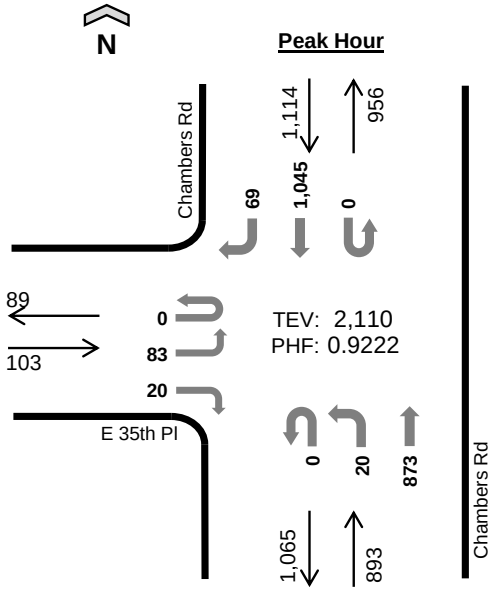
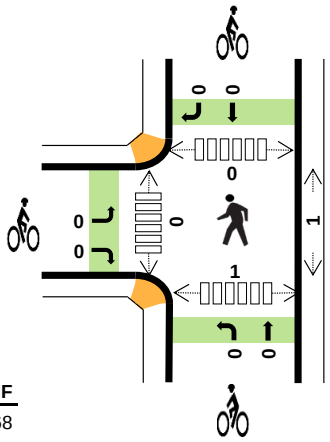
Chambers Rd
E 35th Pl

Date: 9/5/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM





	HV%	PHF
EB	31%	0.68
WB	--	--
NB	18%	0.90
SB	9%	0.85
TOTAL	14%	0.92

Peak Hour Count Summaries

Peak Hour Interval Start		E 35th Pl Eastbound				n/a Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:30 AM		**0**	**11**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**3**	**198**	**0**	**0**	**0**	**256**	**19**	**491**	**0**
7:45 AM		**0**	**23**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**4**	**210**	**0**	**0**	**0**	**309**	**18**	**572**	**0**
8:00 AM		**0**	**17**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**7**	**241**	**0**	**0**	**0**	**260**	**15**	**542**	**0**
8:15 AM		**0**	**32**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**6**	**224**	**0**	**0**	**0**	**220**	**17**	**505**	**2,110**
Pk Hr	All	**0**	**83**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**20**	**873**	**0**	**0**	**0**	**1,045**	**69**	**2,110**	
	HV	**0**	**25**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**4**	**154**	**0**	**0**	**0**	**91**	**11**	**292**	
	HV%	**-**	**30%**	**-**	**35%**	**-**	**-**	**-**	**-**	**-**	**20%**	**18%**	**-**	**-**	**-**	**9%**	**16%**	**14%**	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries 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	E	W	N	S	Total
7:30 AM	**4**	**0**	**41**	**24**	***69***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
7:45 AM	**11**	**0**	**32**	**32**	***75***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	***2***
8:00 AM	**6**	**0**	**48**	**25**	***79***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	**11**	**0**	**37**	**21**	***69***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Peak Hour	**32**	**0**	**158**	**102**	***292***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	***2***

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Count Summaries - All Vehicles

Interval Start	E 35th Pl				n/a				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	18	0	2	0	0	0	0	0	3	163	0	0	0	228	17	431	0
7:15 AM	0	15	0	1	0	0	0	0	0	2	220	0	0	0	239	12	489	0
7:30 AM	**0**	**11**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**3**	**198**	**0**	**0**	**0**	**256**	**19**	**491**	**0**
7:45 AM	**0**	**23**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**4**	**210**	**0**	**0**	**0**	**309**	**18**	**572**	**1,983**
8:00 AM	**0**	**17**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**7**	**241**	**0**	**0**	**0**	**260**	**15**	**542**	**2,094**
8:15 AM	**0**	**32**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**6**	**224**	**0**	**0**	**0**	**220**	**17**	**505**	**2,110**
8:30 AM	0	17	0	5	0	0	0	0	0	6	196	0	0	0	237	15	476	2,095
8:45 AM	0	15	0	0	0	0	0	0	0	6	133	0	0	0	221	15	390	1,913
Count Total	0	148	0	28	0	0	0	0	0	37	1,585	0	0	0	1,970	128	3,896	
Pk Hr All	**0**	**83**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**20**	**873**	**0**	**0**	**0**	**1,045**	**69**	**2,110**	
Pk Hr HV	**0**	**25**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**4**	**154**	**0**	**0**	**0**	**91**	**11**	**292**	
Pk Hr HV%	**-**	**30%**	**-**	**35%**	**-**	**-**	**-**	**-**	**-**	**20%**	**18%**	**-**	**-**	**-**	**9%**	**16%**	**14%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	14	0	32	24	*70*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	7	0	45	23	*75*	0	0	0	0	*0*	1	0	0	1	*2*
7:30 AM	**4**	**0**	**41**	**24**	**69**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:45 AM	**11**	**0**	**32**	**32**	**75**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**2**
8:00 AM	**6**	**0**	**48**	**25**	**79**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	**11**	**0**	**37**	**21**	**69**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	1	0	33	29	*63*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	6	0	34	26	*66*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	60	0	302	204	*566*	0	0	0	0	*0*	2	0	0	2	*4*
Peak Hour	**32**	**0**	**158**	**102**	***292***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	**2**

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Count Summaries - Heavy Vehicles

Interval Start	E 35th Pl				n/a				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	12	0	2	0	0	0	0	0	0	32	0	0	0	20	4	70	0
7:15 AM	0	7	0	0	0	0	0	0	0	0	45	0	0	0	22	1	75	0
7:30 AM	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**41**	**0**	**0**	**0**	**24**	**0**	**69**	**0**
7:45 AM	**0**	**9**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**31**	**0**	**0**	**0**	**28**	**4**	**75**	**289**
8:00 AM	**0**	**4**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**46**	**0**	**0**	**0**	**22**	**3**	**79**	**298**
8:15 AM	**0**	**9**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**36**	**0**	**0**	**0**	**17**	**4**	**69**	**292**
8:30 AM	0	0	0	1	0	0	0	0	0	2	31	0	0	0	23	6	63	286
8:45 AM	0	6	0	0	0	0	0	0	0	4	30	0	0	0	23	3	66	277
Count Total	0	50	0	10	0	0	0	0	0	10	292	0	0	0	179	25	566	
Pk Hr Heavy	**0**	**25**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**4**	**154**	**0**	**0**	**0**	**91**	**11**	**292**	

Count Summaries - Bikes

Interval Start	E 35th Pl				n/a				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	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	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	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**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**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**0**	**0**	**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**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	0	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	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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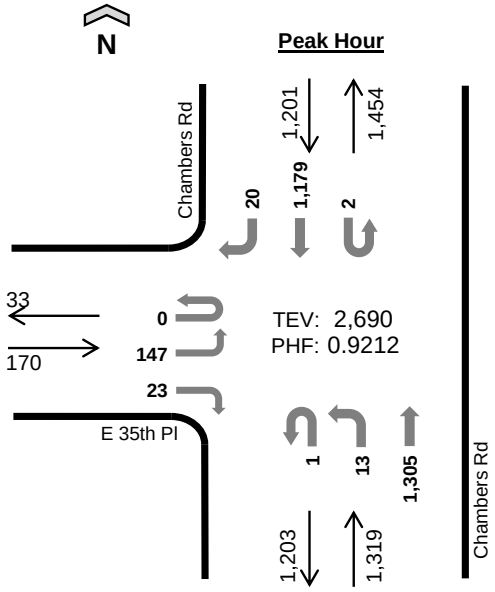
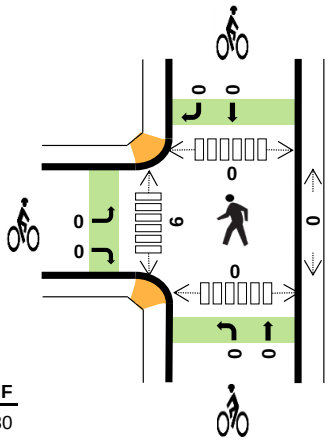
Chambers Rd
E 35th Pl

Date: 9/5/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV%	PHF
EB	10%	0.80
WB	--	--
NB	6%	0.98
SB	6%	0.88
TOTAL	6%	0.92

Peak Hour Count Summaries

Peak Hour Interval Start		E 35th Pl Eastbound				n/a Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		**0**	**48**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**3**	**331**	**0**	**1**	**0**	**335**	**7**	**730**	**0**
4:45 PM		**0**	**37**	**0**	**5**	**0**	**0**	**0**	**0**	**1**	**5**	**330**	**0**	**0**	**0**	**294**	**7**	**679**	**0**
5:00 PM		**0**	**35**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**3**	**315**	**0**	**0**	**0**	**281**	**4**	**650**	**0**
5:15 PM		**0**	**27**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**329**	**0**	**1**	**0**	**269**	**2**	**631**	**2,690**
Pk Hr	All	**0**	**147**	**0**	**23**	**0**	**0**	**0**	**0**	**1**	**13**	**1,305**	**0**	**2**	**0**	**1,179**	**20**	**2,690**	
	HV	**0**	**12**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**4**	**69**	**0**	**0**	**0**	**65**	**3**	**158**	
	HV%	**-**	**8%**	**-**	**22%**	**-**	**-**	**-**	**-**	**0%**	**31%**	**5%**	**-**	**0%**	**-**	**6%**	**15%**	**6%**	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries 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	E	W	N	S	Total
4:30 PM	**2**	**0**	**17**	**24**	***43***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
4:45 PM	**4**	**0**	**11**	**16**	***31***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:00 PM	**8**	**0**	**17**	**14**	***39***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
5:15 PM	**3**	**0**	**28**	**14**	***45***	**0**	**0**	**0**	**0**	***0***	**0**	**5**	**0**	**0**	***5***
Peak Hour	**17**	**0**	**73**	**68**	***158***	**0**	**0**	**0**	**0**	***0***	**0**	**6**	**0**	**0**	***6***

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Count Summaries - All Vehicles

Interval Start	E 35th Pl				n/a				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	44	0	10	0	0	0	0	0	1	272	0	0	0	264	6	597	0
4:15 PM	0	38	0	7	0	0	0	0	1	3	254	0	0	0	305	7	615	0
4:30 PM	**0**	**48**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**3**	**331**	**0**	**1**	**0**	**335**	**7**	**730**	**0**
4:45 PM	**0**	**37**	**0**	**5**	**0**	**0**	**0**	**0**	**1**	**5**	**330**	**0**	**0**	**0**	**294**	**7**	**679**	**2,621**
5:00 PM	**0**	**35**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**3**	**315**	**0**	**0**	**0**	**281**	**4**	**650**	**2,674**
5:15 PM	**0**	**27**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**329**	**0**	**1**	**0**	**269**	**2**	**631**	**2,690**
5:30 PM	0	26	0	5	0	0	0	0	0	2	310	0	0	0	232	6	581	2,541
5:45 PM	0	35	0	2	0	0	0	0	1	2	267	0	0	0	236	6	549	2,411
Count Total	0	290	0	47	0	0	0	0	3	21	2,408	0	2	0	2,216	45	5,032	
Pk Hr All	**0**	**147**	**0**	**23**	**0**	**0**	**0**	**0**	**1**	**13**	**1,305**	**0**	**2**	**0**	**1,179**	**20**	**2,690**	
Pk Hr HV	**0**	**12**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**4**	**69**	**0**	**0**	**0**	**65**	**3**	**158**	
Pk Hr HV%	**-**	**8%**	**-**	**22%**	**-**	**-**	**-**	**-**	**0%**	**31%**	**5%**	**-**	**0%**	**-**	**6%**	**15%**	**6%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	3	0	17	18	*38*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	2	0	21	20	*43*	0	0	0	0	*0*	0	4	0	1	*5*
4:30 PM	**2**	**0**	**17**	**24**	**43**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**4**	**0**	**11**	**16**	**31**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	**8**	**0**	**17**	**14**	**39**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**
5:15 PM	**3**	**0**	**28**	**14**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**5**
5:30 PM	4	0	14	16	*34*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	2	0	5	12	*19*	0	0	0	0	*0*	0	2	0	0	*2*
Count Total	28	0	130	134	*292*	0	0	0	0	*0*	0	12	0	1	*13*
Peak Hour	**17**	**0**	**73**	**68**	***158***	**0**	**0**	**0**	**0**	***0***	**0**	**6**	**0**	**0**	**6**

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Count Summaries - Heavy Vehicles

Interval Start	E 35th Pl				n/a				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	2	0	1	0	0	0	0	0	0	17	0	0	0	16	2	38	0
4:15 PM	0	2	0	0	0	0	0	0	0	0	21	0	0	0	19	1	43	0
4:30 PM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**15**	**0**	**0**	**0**	**23**	**1**	**43**	**0**
4:45 PM	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**15**	**1**	**31**	**155**
5:00 PM	**0**	**5**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**16**	**0**	**0**	**0**	**13**	**1**	**39**	**156**
5:15 PM	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**27**	**0**	**0**	**0**	**14**	**0**	**45**	**158**
5:30 PM	0	3	0	1	0	0	0	0	0	0	14	0	0	0	15	1	34	149
5:45 PM	0	2	0	0	0	0	0	0	0	0	5	0	0	0	12	0	19	137
Count Total	0	21	0	7	0	0	0	0	0	4	126	0	0	0	127	7	292	
Pk Hr Heavy	**0**	**12**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**4**	**69**	**0**	**0**	**0**	**65**	**3**	**158**	

Count Summaries - Bikes

Interval Start	E 35th Pl				n/a				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	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	0	0	0	0
4:15 PM	0	0	0	0	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**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**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**	**0**	**0**	**0**	**0**
5:15 PM	**0**	**0**	**0**	**0**	**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	0	0	0	0
5:45 PM	0	0	0	0	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	0	0	0	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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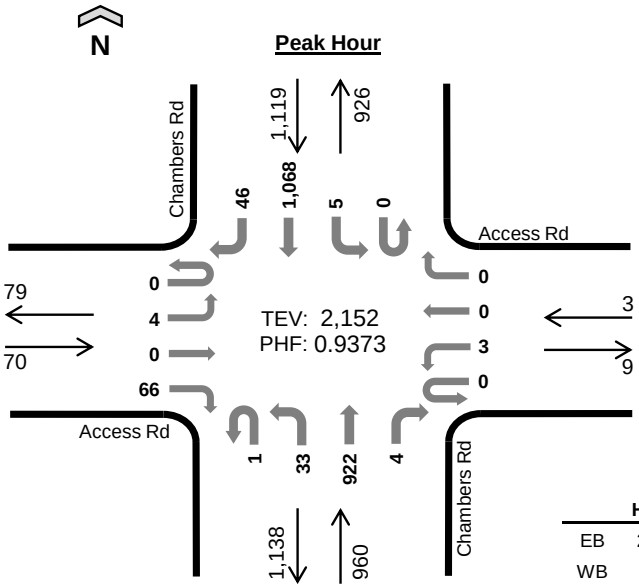
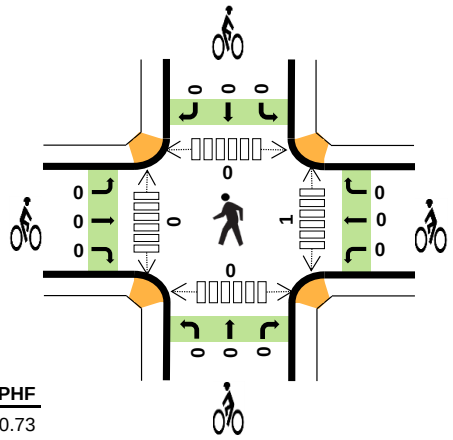
Chambers Rd
Access Rd

Date: 9/5/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM





	HV%	PHF
EB	23%	0.73
WB	0%	0.38
NB	19%	0.90
SB	9%	0.85
TOTAL	14%	0.94

Peak Hour Count Summaries

Peak Hour Interval Start		Access Rd Eastbound				Access Rd Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:30 AM		0	0	0	14	0	0	0	0	0	7	195	2	0	0	283	9	510	0
7:45 AM		0	0	0	14	0	2	0	0	1	7	221	1	0	4	316	8	574	0
8:00 AM		0	4	0	20	0	0	0	0	0	9	250	1	0	0	250	14	548	0
8:15 AM		0	0	0	18	0	1	0	0	0	10	256	0	0	1	219	15	520	2,152
Pk Hr	All	0	4	0	66	0	3	0	0	1	33	922	4	0	5	1,068	46	2,152	
	HV	0	1	0	15	0	0	0	0	0	15	165	0	0	0	99	4	299	
	HV%	-	25%	-	23%	-	0%	-	-	0%	45%	18%	0%	-	0%	9%	9%	14%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries 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	E	W	N	S	Total
7:30 AM	4	0	44	23	*71*	0	0	0	0	*0*	1	0	0	0	*1*
7:45 AM	2	0	40	31	*73*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	8	0	50	26	*84*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	2	0	46	23	*71*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	16	0	180	103	*299*	0	0	0	0	*0*	1	0	0	0	*1*

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Count Summaries - All Vehicles

Interval Start	Access Rd Eastbound				Access Rd Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	0	11	0	0	0	0	0	7	165	0	0	0	227	6	418	0
7:15 AM	0	2	0	8	0	0	0	2	0	11	228	2	0	4	245	8	510	0
7:30 AM	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**7**	**195**	**2**	**0**	**0**	**283**	**9**	**510**	**0**
7:45 AM	**0**	**0**	**0**	**14**	**0**	**2**	**0**	**0**	**1**	**7**	**221**	**1**	**0**	**4**	**316**	**8**	**574**	**2,012**
8:00 AM	**0**	**4**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**9**	**250**	**1**	**0**	**0**	**250**	**14**	**548**	**2,142**
8:15 AM	**0**	**0**	**0**	**18**	**0**	**1**	**0**	**0**	**0**	**10**	**256**	**0**	**0**	**1**	**219**	**15**	**520**	**2,152**
8:30 AM	0	4	0	12	0	0	0	1	0	6	206	1	0	0	238	13	481	2,123
8:45 AM	0	1	0	15	0	0	0	1	0	7	141	0	0	2	234	7	408	1,957
Count Total	0	13	0	112	0	3	0	4	1	64	1,662	7	0	11	2,012	80	3,969	
Pk Hr All	**0**	**4**	**0**	**66**	**0**	**3**	**0**	**0**	**1**	**33**	**922**	**4**	**0**	**5**	**1,068**	**46**	**2,152**	
Pk Hr HV	**0**	**1**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**15**	**165**	**0**	**0**	**0**	**99**	**4**	**299**	
Pk Hr HV%	**-**	**25%**	**-**	**23%**	**-**	**0%**	**-**	**-**	**0%**	**45%**	**18%**	**0%**	**-**	**0%**	**9%**	**9%**	**14%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	4	0	43	29	*76*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	4	0	54	21	*79*	0	0	0	0	*0*	1	0	0	0	*1*
7:30 AM	**4**	**0**	**44**	**23**	**71**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
7:45 AM	**2**	**0**	**40**	**31**	**73**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**8**	**0**	**50**	**26**	**84**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	**2**	**0**	**46**	**23**	**71**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	4	1	32	29	*66*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	5	0	34	24	*63*	0	0	0	0	*0*	2	0	0	0	*2*
Count Total	33	1	343	206	*583*	0	0	0	0	*0*	4	0	0	0	*4*
Peak Hour	**16**	**0**	**180**	**103**	***299***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	**1**

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Count Summaries - Heavy Vehicles

Interval Start	Access Rd				Access Rd				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	0	2	0	0	0	0	0	4	39	0	0	0	27	2	76	0
7:15 AM	0	0	0	4	0	0	0	0	0	2	52	0	0	0	19	2	79	0
7:30 AM	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**5**	**39**	**0**	**0**	**0**	**23**	**0**	**71**	**0**
7:45 AM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**38**	**0**	**0**	**0**	**30**	**1**	**73**	**299**
8:00 AM	**0**	**1**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**5**	**45**	**0**	**0**	**0**	**25**	**1**	**84**	**307**
8:15 AM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**43**	**0**	**0**	**0**	**21**	**2**	**71**	**299**
8:30 AM	0	1	0	3	0	0	0	1	0	1	30	1	0	0	28	1	66	294
8:45 AM	0	0	0	5	0	0	0	0	0	2	32	0	0	0	22	2	63	284
Count Total	0	4	0	29	0	0	0	1	0	24	318	1	0	0	195	11	583	
Pk Hr Heavy	**0**	**1**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**15**	**165**	**0**	**0**	**0**	**99**	**4**	**299**	

Count Summaries - Bikes

Interval Start	Access Rd				Access Rd				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	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	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	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**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**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**0**	**0**	**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**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	0	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	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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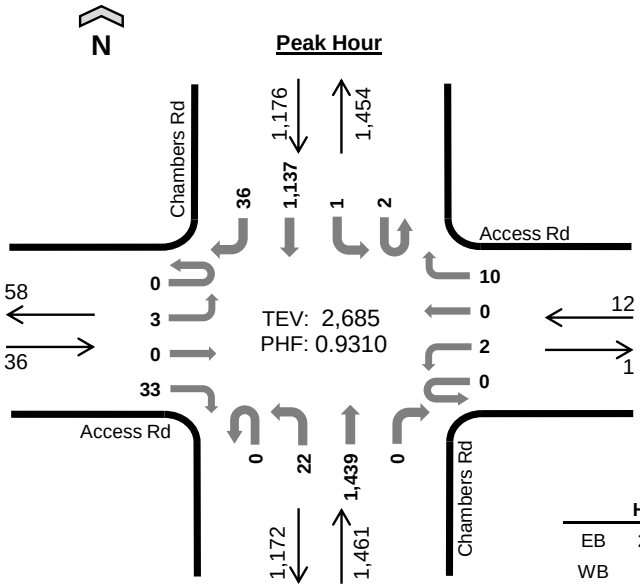
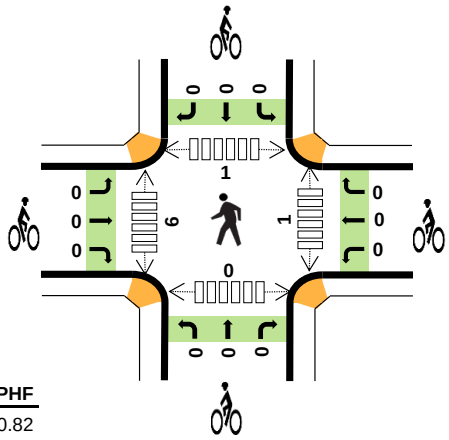
Chambers Rd
Access Rd

Date: 9/5/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV%	PHF
EB	28%	0.82
WB	0%	0.75
NB	5%	0.95
SB	6%	0.90
TOTAL	6%	0.93

Peak Hour Count Summaries

Peak Hour Interval Start		Access Rd Eastbound				Access Rd Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		**0**	**2**	**0**	**8**	**0**	**2**	**0**	**0**	**0**	**9**	**374**	**0**	**0**	**0**	**319**	**7**	**721**	**0**
4:45 PM		**0**	**0**	**0**	**6**	**0**	**0**	**0**	**4**	**0**	**3**	**359**	**0**	**2**	**1**	**287**	**9**	**671**	**0**
5:00 PM		**0**	**0**	**0**	**9**	**0**	**0**	**0**	**4**	**0**	**4**	**353**	**0**	**0**	**0**	**270**	**13**	**653**	**0**
5:15 PM		**0**	**1**	**0**	**10**	**0**	**0**	**0**	**2**	**0**	**6**	**353**	**0**	**0**	**0**	**261**	**7**	**640**	**2,685**
Pk Hr	All	**0**	**3**	**0**	**33**	**0**	**2**	**0**	**10**	**0**	**22**	**1,439**	**0**	**2**	**1**	**1,137**	**36**	**2,685**	
	HV	**0**	**2**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**2**	**78**	**0**	**0**	**0**	**67**	**5**	**162**	
	HV%	**-**	**67%**	**-**	**24%**	**-**	**0%**	**-**	**0%**	**-**	**9%**	**5%**	**-**	**0%**	**0%**	**6%**	**14%**	**6%**	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries 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	E	W	N	S	Total
4:30 PM	**4**	**0**	**18**	**26**	***48***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**1**	**0**	***3***
4:45 PM	**1**	**0**	**15**	**19**	***35***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
5:00 PM	**3**	**0**	**19**	**14**	***36***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
5:15 PM	**2**	**0**	**28**	**13**	***43***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**0**	***3***
Peak Hour	**10**	**0**	**80**	**72**	***162***	**0**	**0**	**0**	**0**	***0***	**1**	**6**	**1**	**0**	***8***

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Count Summaries - All Vehicles

Interval Start	Access Rd Eastbound				Access Rd Westbound				Chambers Rd Northbound				Chambers Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	2	0	5	0	0	0	2	0	4	313	0	0	1	256	8	591	0
4:15 PM	0	3	0	6	0	0	0	1	0	3	293	0	0	2	318	8	634	0
4:30 PM	**0**	**2**	**0**	**8**	**0**	**2**	**0**	**0**	**0**	**9**	**374**	**0**	**0**	**0**	**319**	**7**	**721**	**0**
4:45 PM	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**4**	**0**	**3**	**359**	**0**	**2**	**1**	**287**	**9**	**671**	**2,617**
5:00 PM	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**4**	**0**	**4**	**353**	**0**	**0**	**0**	**270**	**13**	**653**	**2,679**
5:15 PM	**0**	**1**	**0**	**10**	**0**	**0**	**0**	**2**	**0**	**6**	**353**	**0**	**0**	**0**	**261**	**7**	**640**	**2,685**
5:30 PM	0	1	0	8	0	0	0	1	0	5	328	0	0	0	236	8	587	2,551
5:45 PM	0	0	0	8	0	1	0	3	0	3	291	0	0	0	225	6	537	2,417
Count Total	0	9	0	60	0	3	0	17	0	37	2,664	0	2	4	2,172	66	5,034	
Pk Hr All	**0**	**3**	**0**	**33**	**0**	**2**	**0**	**10**	**0**	**22**	**1,439**	**0**	**2**	**1**	**1,137**	**36**	**2,685**	
Pk Hr HV	**0**	**2**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**2**	**78**	**0**	**0**	**0**	**67**	**5**	**162**	
Pk Hr HV%	**-**	**67%**	**-**	**24%**	**-**	**0%**	**-**	**0%**	**-**	**9%**	**5%**	**-**	**0%**	**0%**	**6%**	**14%**	**6%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	**Total**	EB	WB	NB	SB	**Total**	E	W	N	S	**Total**
4:00 PM	2	0	20	20	*42*	0	0	0	0	*0*	1	1	0	0	*2*
4:15 PM	1	0	20	22	*43*	0	0	0	0	*0*	1	1	0	1	*3*
4:30 PM	**4**	**0**	**18**	**26**	**48**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**3**
4:45 PM	**1**	**0**	**15**	**19**	**35**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
5:00 PM	**3**	**0**	**19**	**14**	**36**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**
5:15 PM	**2**	**0**	**28**	**13**	**43**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**
5:30 PM	1	0	17	19	*37*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	0	7	12	*20*	0	0	0	0	*0*	0	1	0	0	*1*
Count Total	15	0	144	145	*304*	0	0	0	0	*0*	3	9	1	1	*14*
Peak Hour	**10**	**0**	**80**	**72**	***162***	**0**	**0**	**0**	**0**	***0***	**1**	**6**	**1**	**0**	**8**

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Count Summaries - Heavy Vehicles

Interval Start	Access Rd				Access Rd				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	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	0	1	0	0	0	0	0	2	18	0	0	0	18	2	42	0
4:15 PM	0	1	0	0	0	0	0	0	0	1	19	0	0	0	22	0	43	0
4:30 PM	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**0**	**0**	**24**	**2**	**48**	**0**
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**14**	**0**	**0**	**0**	**19**	**0**	**35**	**168**
5:00 PM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**18**	**0**	**0**	**0**	**12**	**2**	**36**	**162**
5:15 PM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	**0**	**0**	**0**	**12**	**1**	**43**	**162**
5:30 PM	0	0	0	1	0	0	0	0	0	1	16	0	0	0	18	1	37	151
5:45 PM	0	0	0	1	0	0	0	0	0	0	7	0	0	0	11	1	20	136
Count Total	0	4	0	11	0	0	0	0	0	6	138	0	0	0	136	9	304	
Pk Hr Heavy	**0**	**2**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**2**	**78**	**0**	**0**	**0**	**67**	**5**	**162**	

Count Summaries - Bikes

Interval Start	Access Rd				Access Rd				Chambers Rd				Chambers Rd				15-min Total	Rolling Hour Total
	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	0	0	0	0
4:15 PM	0	0	0	0	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**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**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**	**0**	**0**	**0**	**0**
5:15 PM	**0**	**0**	**0**	**0**	**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	0	0	0	0
5:45 PM	0	0	0	0	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	0	0	0	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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APPENDIX C

Future Traffic Projections

DRCOG Traffic Projections: QuikTrip 4217

Location	2020	2050	Growth Factor	Annual Growth
Chambers Rd btwn Moncrieff & I-70	33,000	50,000	1.52	1.39%
Total	33,000	50,000	1.52	**1.39%**

APPENDIX D

Trip Generation Worksheets

Kimley»Horn

Project	QuikTrip 4217				
Subject	Trip Generation for Gasoline/Service Station with Convenience Market				
Designed by	GAM	*Date*	October 01, 2024	*Job No.*	096888040
Checked by	MG	*Date*	October 01, 2024	*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Convenience Store/Gas Station - GFA (5.5-10K) (945)

Independent Variable - Vehicle Fueling Positions (X)

Vehicle Fueling Positions= 20 Positions
X = 20
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Page 881)

Average Weekday
T = 31.60 (X)
T = 31.60 * 20

Directional Distribution: 50% ent. 50% exit.
T = 632 Average Vehicle Trip Ends
316 entering 316 exiting

316 + 316 = 632

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Page 882)

Average Weekday
T = 26.90 (X)
T = 26.90 * 20.000

Directional Distribution: 50% ent. 50% exit.
T = 538 Average Vehicle Trip Ends
269 entering 269 exiting

269 + 269 = 538

Weekday (Page 872)

Average Weekday
T = 345.75 (X)
T = 345.75 * 20.000

Directional Distribution: 50% entering, 50% exiting
T = 6916 Average Vehicle Trip Ends
3458 entering 3458 exiting

3458 + 3458 = 6916

Non Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

PM Peak Hour = 25% Non-Pass By AM Peak Hour = 24% Non-Pass By

	IN	Out	Total
AM Peak	76	76	152
PM Peak	67	67	135
Daily	865	865	1730

PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

PM Peak Hour = 75% Pass By AM Peak Hour = 76% Pass By

	IN	Out	Total
AM Peak	240	240	480
PM Peak	202	202	404
Daily	2593	2593	5186

PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	QuikTrip 4217				
Subject	Trip Generation for Truck Stop				
Designed by	GAM	*Date*	September 26, 2024	*Job No.*	096888040
Checked by	MG	*Date*	September 26, 2024	*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Truck Stop (950)

Independent Variable - Vehicle Fueling Positions (X)

Vehicle Fueling Positions= 4 Positions
X = 4
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Page 942)

Average Weekday
T = 13.97 (X)
T = 13.97 * 4

Directional Distribution: 49% ent. 51% exit.
T = 56 Average Vehicle Trip Ends
27 entering 29 exiting

27 + 29 = 56

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Page 943)

Average Weekday
T = 15.42 (X)
T = 15.42 * 4

Directional Distribution: 53% ent. 47% exit.
T = 62 Average Vehicle Trip Ends
33 entering 29 exiting

33 + 29 = 62

Weekday (Page 941)

Average Weekday
T = 224.0 (X)
T = 224.0 * 4

Directional Distribution: 50% entering, 50% exiting
T = 896 Average Vehicle Trip Ends
448 entering 448 exiting

448 + 448 = 896

Non Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

PM Peak Hour = 25% Non-Pass By AM Peak Hour = 24% Non-Pass By

	IN	Out	Total
AM Peak	6	7	13
PM Peak	8	7	16
Daily	112	112	224

PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

PM Peak Hour = 75% Pass By AM Peak Hour = 76% Pass By

	IN	Out	Total
AM Peak	21	22	43
PM Peak	25	22	47
Daily	336	336	672

PM Peak Hour Rate Applied to Daily

APPENDIX E

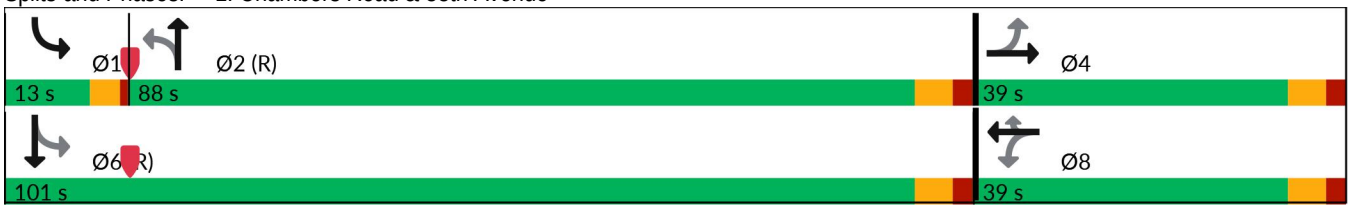
Intersection Analysis Worksheets

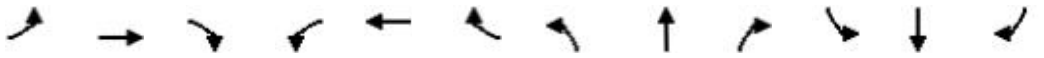
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	152	9	13	7	39	16	842	41	1106
Future Volume (vph)	152	9	13	7	39	16	842	41	1106
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases		4		8			2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	11.0	11.0	6.0	11.0
Minimum Split (s)	36.0	36.0	39.0	39.0	39.0	21.0	21.0	10.0	25.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	88.0	88.0	13.0	101.0
Total Split (%)	27.9%	27.9%	27.9%	27.9%	27.9%	62.9%	62.9%	9.3%	72.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0
Lead/Lag						Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 55 (39%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Chambers Road & 38th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	9	18	13	7	39	16	842	18	41	1106	175
Future Volume (veh/h)	152	9	18	13	7	39	16	842	18	41	1106	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1381	1381	1381	1648	1648	1648	1604	1604	1604	1767	1767	1767
Adj Flow Rate, veh/h	162	10	19	14	7	0	17	896	19	44	1177	186
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, %	35	35	35	17	17	17	20	20	20	9	9	9
Cap, veh/h	229	74	141	240	288		270	2982	63	500	3106	491
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.00	1.00	1.00	1.00	0.04	0.74	0.74
Sat Flow, veh/h	1040	426	810	1217	1648	1397	342	4412	93	1682	4199	663
Grp Volume(v), veh/h	162	0	29	14	7	0	17	592	323	44	901	462
Grp Sat Flow(s),veh/h/ln	1040	0	1236	1217	1648	1397	342	1459	1587	1682	1608	1647
Q Serve(g_s), s	21.4	0.0	2.8	1.4	0.5	0.0	0.4	0.0	0.0	1.0	14.2	14.2
Cycle Q Clear(g_c), s	21.9	0.0	2.8	4.2	0.5	0.0	5.7	0.0	0.0	1.0	14.2	14.2
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.06	1.00		0.40
Lane Grp Cap(c), veh/h	229	0	216	240	288		270	1973	1073	500	2378	1218
V/C Ratio(X)	0.71	0.00	0.13	0.06	0.02		0.06	0.30	0.30	0.09	0.38	0.38
Avail Cap(c_a), veh/h	293	0	291	314	388		270	1973	1073	549	2378	1218
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	48.8	50.6	47.9	0.0	0.2	0.0	0.0	5.4	6.6	6.6
Incr Delay (d2), s/veh	5.4	0.0	0.3	0.1	0.0	0.0	0.4	0.4	0.7	0.1	0.5	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.9	0.4	0.2	0.0	0.0	0.1	0.2	0.4	4.7	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.4	0.0	49.1	50.7	47.9	0.0	0.6	0.4	0.7	5.5	7.1	7.5
LnGrp LOS	E		D	D	D		A	A	A	A	A	A
Approach Vol, veh/h		191			21			932			1407	
Approach Delay, s/veh		60.4			49.8			0.5			7.1	
Approach LOS		E			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.9	100.6		30.4		109.6		30.4				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	82.0		33.0		95.0		33.0				
Max Q Clear Time (g_c+I1), s	3.0	7.7		23.9		16.2		6.2				
Green Ext Time (p_c), s	0.0	8.4		0.5		14.6		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	9.1
HCM 7th LOS	A

Notes

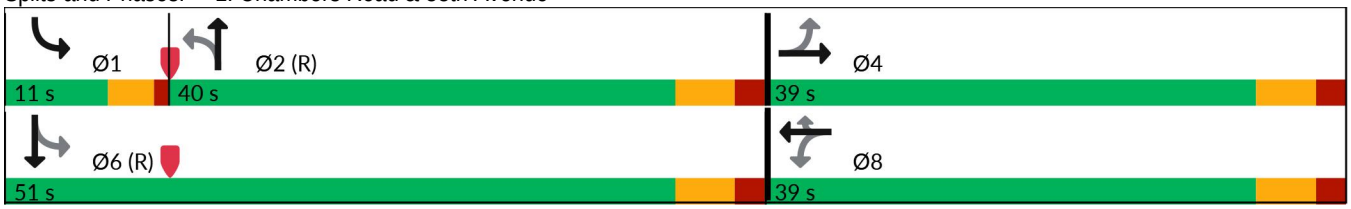
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	235	8	10	1	78	17	1413	64	1124
Future Volume (vph)	235	8	10	1	78	17	1413	64	1124
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases		4		8			2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	11.0	11.0	6.0	11.0
Minimum Split (s)	36.0	36.0	39.0	39.0	39.0	21.0	21.0	10.0	25.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	40.0	40.0	11.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	44.4%	44.4%	12.2%	56.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0
Lead/Lag						Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 37 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 1: Chambers Road & 38th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	8	39	10	1	78	17	1413	12	64	1124	99
Future Volume (veh/h)	235	8	39	10	1	78	17	1413	12	64	1124	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1841	1841	1841	1796	1796	1796	1811	1811	1811	1796	1796	1796
Adj Flow Rate, veh/h	245	8	41	10	1	0	18	1472	12	67	1171	103
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	7	7	7	6	6	6	7	7	7
Cap, veh/h	362	53	271	311	364		311	2861	23	326	3048	268
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.00	0.75	0.75	0.75	0.05	0.66	0.66
Sat Flow, veh/h	1394	261	1339	1302	1796	1522	421	5059	41	1711	4589	403
Grp Volume(v), veh/h	245	0	49	10	1	0	18	959	525	67	834	440
Grp Sat Flow(s),veh/h/ln	1394	0	1600	1302	1796	1522	421	1648	1804	1711	1635	1724
Q Serve(g_s), s	15.3	0.0	2.3	0.6	0.0	0.0	1.1	10.6	10.6	1.3	10.4	10.4
Cycle Q Clear(g_c), s	15.4	0.0	2.3	2.8	0.0	0.0	2.6	10.6	10.6	1.3	10.4	10.4
Prop In Lane	1.00		0.84	1.00		1.00	1.00		0.02	1.00		0.23
Lane Grp Cap(c), veh/h	362	0	324	311	364		311	1864	1020	326	2171	1145
V/C Ratio(X)	0.68	0.00	0.15	0.03	0.00		0.06	0.51	0.51	0.21	0.38	0.38
Avail Cap(c_a), veh/h	590	0	587	525	659		311	1864	1020	366	2171	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	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	34.8	0.0	29.5	30.7	28.6	0.0	5.4	6.2	6.2	7.1	6.8	6.8
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.0	0.0	0.0	0.4	1.0	1.9	0.3	0.5	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	5.3	0.0	0.9	0.2	0.0	0.0	0.1	2.9	3.4	0.4	3.2	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.0	0.0	29.7	30.7	28.6	0.0	5.7	7.2	8.0	7.4	7.3	7.8
LnGrp LOS	D		C	C	C		A	A	A	A	A	A
Approach Vol, veh/h		294			11			1502			1341	
Approach Delay, s/veh		35.8			30.5			7.4			7.5	
Approach LOS		D			C			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.9	56.9		24.2		65.8		24.2				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	7.0	34.0		33.0		45.0		33.0				
Max Q Clear Time (g_c+I1), s	3.3	12.6		17.4		12.4		4.8				
Green Ext Time (p_c), s	0.0	11.3		0.9		11.1		0.0				

Intersection Summary			
HCM 7th Control Delay, s/veh		10.2	
HCM 7th LOS		B	

Notes

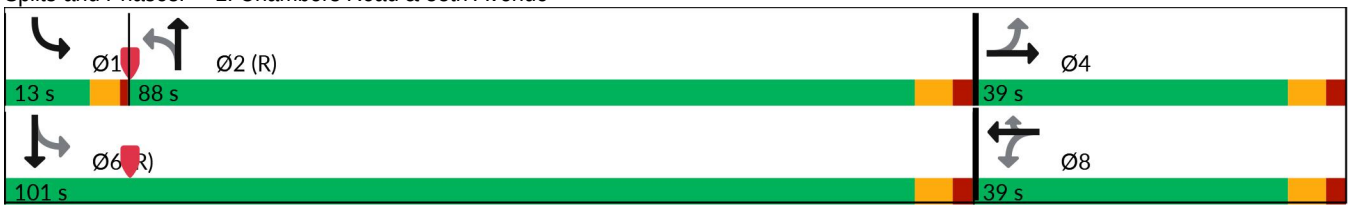
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

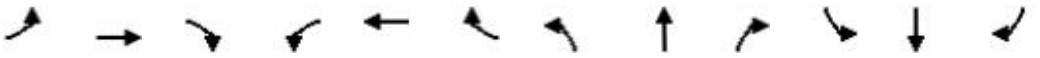
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	152	9	14	7	41	16	878	43	1153
Future Volume (vph)	152	9	14	7	41	16	878	43	1153
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases		4		8			2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	11.0	11.0	6.0	11.0
Minimum Split (s)	36.0	36.0	39.0	39.0	39.0	21.0	21.0	10.0	25.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	88.0	88.0	13.0	101.0
Total Split (%)	27.9%	27.9%	27.9%	27.9%	27.9%	62.9%	62.9%	9.3%	72.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0
Lead/Lag						Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 55 (39%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Chambers Road & 38th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	9	18	14	7	41	16	878	19	43	1153	175
Future Volume (veh/h)	152	9	18	14	7	41	16	878	19	43	1153	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1381	1381	1381	1648	1648	1648	1604	1604	1604	1767	1767	1767
Adj Flow Rate, veh/h	162	10	19	15	7	0	17	934	20	46	1227	186
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, %	35	35	35	17	17	17	20	20	20	9	9	9
Cap, veh/h	229	74	141	240	288		258	2979	64	487	3126	474
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.00	1.00	1.00	1.00	0.04	0.74	0.74
Sat Flow, veh/h	1040	426	810	1217	1648	1397	326	4411	94	1682	4226	641
Grp Volume(v), veh/h	162	0	29	15	7	0	17	618	336	46	934	479
Grp Sat Flow(s),veh/h/ln	1040	0	1236	1217	1648	1397	326	1459	1587	1682	1608	1651
Q Serve(g_s), s	21.4	0.0	2.8	1.5	0.5	0.0	0.5	0.0	0.0	1.1	14.9	14.9
Cycle Q Clear(g_c), s	21.9	0.0	2.8	4.3	0.5	0.0	6.4	0.0	0.0	1.1	14.9	14.9
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.06	1.00		0.39
Lane Grp Cap(c), veh/h	229	0	216	240	288		258	1971	1072	487	2378	1221
V/C Ratio(X)	0.71	0.00	0.13	0.06	0.02		0.07	0.31	0.31	0.09	0.39	0.39
Avail Cap(c_a), veh/h	293	0	291	314	388		258	1971	1072	535	2378	1221
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	48.8	50.6	47.9	0.0	0.2	0.0	0.0	5.4	6.7	6.7
Incr Delay (d2), s/veh	5.4	0.0	0.3	0.1	0.0	0.0	0.5	0.4	0.8	0.1	0.5	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.9	0.5	0.2	0.0	0.0	0.1	0.2	0.4	4.9	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.4	0.0	49.1	50.7	47.9	0.0	0.7	0.4	0.8	5.5	7.2	7.6
LnGrp LOS	E		D	D	D		A	A	A	A	A	A
Approach Vol, veh/h		191			22			971			1459	
Approach Delay, s/veh		60.4			49.8			0.5			7.3	
Approach LOS		E			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	100.6		30.4		109.6		30.4				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	82.0		33.0		95.0		33.0				
Max Q Clear Time (g_c+I1), s	3.1	8.4		23.9		16.9		6.3				
Green Ext Time (p_c), s	0.0	8.9		0.5		15.6		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			9.0									
HCM 7th LOS			A									

Notes

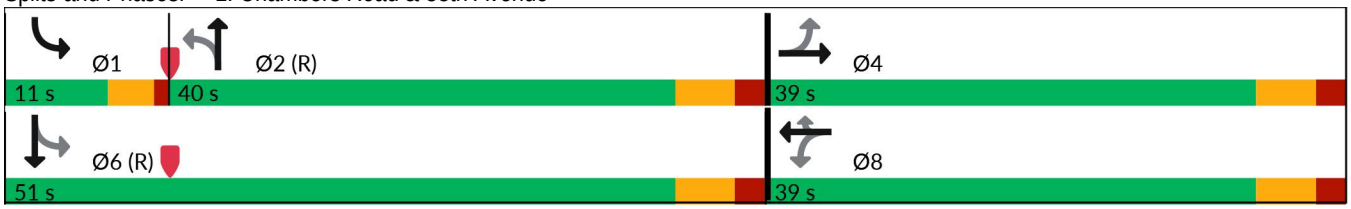
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

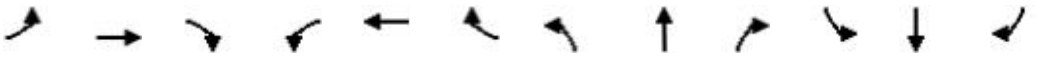
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	235	8	10	1	81	17	1473	67	1172
Future Volume (vph)	235	8	10	1	81	17	1473	67	1172
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases		4		8			2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	11.0	11.0	6.0	11.0
Minimum Split (s)	36.0	36.0	39.0	39.0	39.0	21.0	21.0	10.0	25.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	40.0	40.0	11.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	44.4%	44.4%	12.2%	56.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0
Lead/Lag						Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 37 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 1: Chambers Road & 38th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	8	39	10	1	81	17	1473	13	67	1172	99
Future Volume (veh/h)	235	8	39	10	1	81	17	1473	13	67	1172	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1841	1841	1841	1796	1796	1796	1811	1811	1811	1796	1796	1796
Adj Flow Rate, veh/h	245	8	41	10	1	0	18	1534	14	70	1221	103
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	7	7	7	6	6	6	7	7	7
Cap, veh/h	362	53	271	311	364		298	2853	26	315	3060	258
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.00	0.75	0.75	0.75	0.06	0.66	0.66
Sat Flow, veh/h	1394	261	1339	1302	1796	1522	401	5053	46	1711	4607	389
Grp Volume(v), veh/h	245	0	49	10	1	0	18	1001	547	70	866	458
Grp Sat Flow(s),veh/h/ln	1394	0	1600	1302	1796	1522	401	1648	1803	1711	1635	1726
Q Serve(g_s), s	15.3	0.0	2.3	0.6	0.0	0.0	1.2	11.4	11.4	1.4	10.9	10.9
Cycle Q Clear(g_c), s	15.4	0.0	2.3	2.8	0.0	0.0	3.1	11.4	11.4	1.4	10.9	10.9
Prop In Lane	1.00		0.84	1.00		1.00	1.00		0.03	1.00		0.23
Lane Grp Cap(c), veh/h	362	0	324	311	364		298	1861	1018	315	2171	1147
V/C Ratio(X)	0.68	0.00	0.15	0.03	0.00		0.06	0.54	0.54	0.22	0.40	0.40
Avail Cap(c_a), veh/h	590	0	587	525	659		298	1861	1018	354	2171	1147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	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	34.8	0.0	29.5	30.7	28.6	0.0	5.6	6.3	6.3	7.3	6.9	6.9
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.0	0.0	0.0	0.4	1.1	2.0	0.4	0.5	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	5.3	0.0	0.9	0.2	0.0	0.0	0.1	3.1	3.6	0.5	3.4	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.0	0.0	29.7	30.7	28.6	0.0	5.9	7.4	8.3	7.6	7.5	7.9
LnGrp LOS	D		C	C	C		A	A	A	A	A	A
Approach Vol, veh/h		294			11			1566			1394	
Approach Delay, s/veh		35.8			30.5			7.7			7.6	
Approach LOS		D			C			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	56.8		24.2		65.8		24.2				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	7.0	34.0		33.0		45.0		33.0				
Max Q Clear Time (g_c+I1), s	3.4	13.4		17.4		12.9		4.8				
Green Ext Time (p_c), s	0.0	11.6		0.9		11.6		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	10.3
HCM 7th LOS	B

Notes

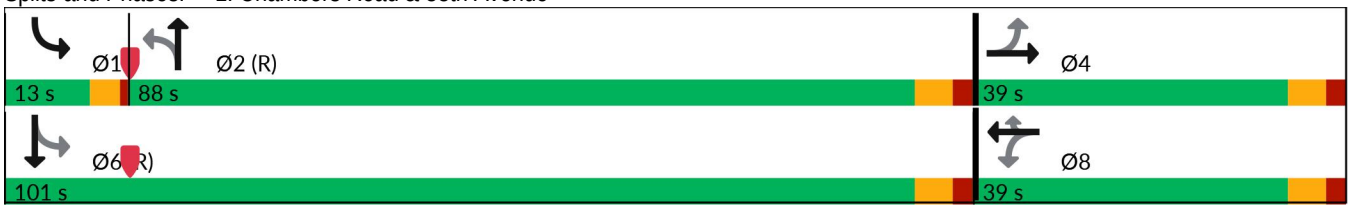
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

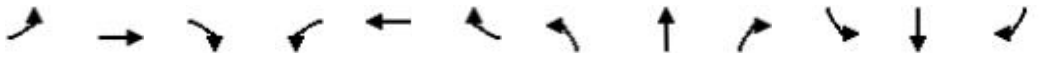
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	152	13	60	11	55	16	905	111	1126
Future Volume (vph)	152	13	60	11	55	16	905	111	1126
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases		4		8			2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	11.0	11.0	6.0	11.0
Minimum Split (s)	36.0	36.0	39.0	39.0	39.0	21.0	21.0	10.0	25.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	88.0	88.0	13.0	101.0
Total Split (%)	27.9%	27.9%	27.9%	27.9%	27.9%	62.9%	62.9%	9.3%	72.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0
Lead/Lag						Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 55 (39%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Chambers Road & 38th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	13	18	60	11	55	16	905	19	111	1126	175
Future Volume (veh/h)	152	13	18	60	11	55	16	905	19	111	1126	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1381	1381	1381	1648	1648	1648	1604	1604	1604	1767	1767	1767
Adj Flow Rate, veh/h	162	14	19	64	12	0	17	963	20	118	1198	186
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, %	35	35	35	17	17	17	20	20	20	9	9	9
Cap, veh/h	229	94	128	240	293		263	2937	61	483	3101	481
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.00	1.00	1.00	1.00	0.04	0.74	0.74
Sat Flow, veh/h	1036	531	721	1212	1648	1397	335	4414	92	1682	4211	654
Grp Volume(v), veh/h	162	0	33	64	12	0	17	636	347	118	915	469
Grp Sat Flow(s),veh/h/ln	1036	0	1252	1212	1648	1397	335	1459	1587	1682	1608	1649
Q Serve(g_s), s	21.5	0.0	3.1	6.6	0.8	0.0	0.4	0.0	0.0	2.9	14.7	14.7
Cycle Q Clear(g_c), s	22.3	0.0	3.1	9.7	0.8	0.0	5.1	0.0	0.0	2.9	14.7	14.7
Prop In Lane	1.00		0.58	1.00		1.00	1.00		0.06	1.00		0.40
Lane Grp Cap(c), veh/h	229	0	223	240	293		263	1942	1056	483	2368	1214
V/C Ratio(X)	0.71	0.00	0.15	0.27	0.04		0.06	0.33	0.33	0.24	0.39	0.39
Avail Cap(c_a), veh/h	289	0	295	310	388		263	1942	1056	519	2368	1214
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.9	0.0	48.6	52.7	47.7	0.0	0.1	0.0	0.0	5.8	6.8	6.8
Incr Delay (d2), s/veh	5.6	0.0	0.3	0.6	0.1	0.0	0.5	0.5	0.8	0.3	0.5	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	1.0	2.1	0.4	0.0	0.0	0.1	0.2	1.0	4.9	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.5	0.0	48.9	53.3	47.7	0.0	0.6	0.5	0.8	6.1	7.3	7.7
LnGrp LOS	E		D	D	D		A	A	A	A	A	A
Approach Vol, veh/h		195			76			1000			1502	
Approach Delay, s/veh		60.2			52.4			0.6			7.3	
Approach LOS		E			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.9	99.2		30.9		109.1		30.9				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	82.0		33.0		95.0		33.0				
Max Q Clear Time (g_c+I1), s	4.9	7.1		24.3		16.7		11.7				
Green Ext Time (p_c), s	0.1	9.3		0.6		15.0		0.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	9.8
HCM 7th LOS	A

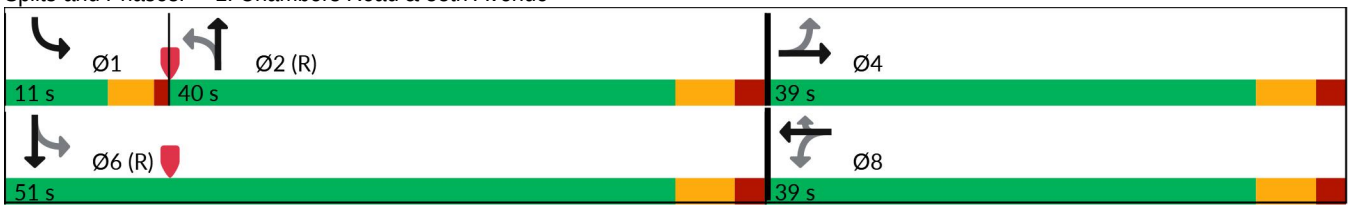
Notes

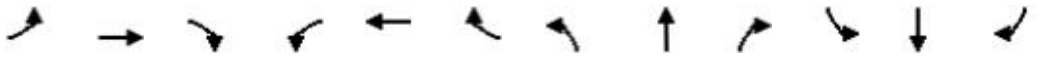
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	235	12	45	5	98	17	1492	114	1163
Future Volume (vph)	235	12	45	5	98	17	1492	114	1163
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases		4		8			2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	11.0	11.0	6.0	11.0
Minimum Split (s)	36.0	36.0	39.0	39.0	39.0	21.0	21.0	10.0	25.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	40.0	40.0	11.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	44.4%	44.4%	12.2%	56.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0
Lead/Lag						Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 37 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 1: Chambers Road & 38th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	12	39	45	5	98	17	1492	13	114	1163	99
Future Volume (veh/h)	235	12	39	45	5	98	17	1492	13	114	1163	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1841	1841	1841	1796	1796	1796	1811	1811	1811	1796	1796	1796
Adj Flow Rate, veh/h	245	12	41	47	5	0	18	1554	14	119	1211	103
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	7	7	7	6	6	6	7	7	7
Cap, veh/h	362	75	256	311	368		299	2799	25	319	3046	259
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.00	0.74	0.74	0.74	0.06	0.66	0.66
Sat Flow, veh/h	1389	366	1250	1298	1796	1522	405	5054	46	1711	4604	391
Grp Volume(v), veh/h	245	0	53	47	5	0	18	1014	554	119	860	454
Grp Sat Flow(s),veh/h/ln	1389	0	1616	1298	1796	1522	405	1648	1803	1711	1635	1726
Q Serve(g_s), s	15.4	0.0	2.4	2.8	0.2	0.0	1.2	12.3	12.3	2.4	10.9	10.9
Cycle Q Clear(g_c), s	15.6	0.0	2.4	5.2	0.2	0.0	2.4	12.3	12.3	2.4	10.9	10.9
Prop In Lane	1.00		0.77	1.00		1.00	1.00		0.03	1.00		0.23
Lane Grp Cap(c), veh/h	362	0	331	311	368		299	1826	999	319	2163	1142
V/C Ratio(X)	0.68	0.00	0.16	0.15	0.01		0.06	0.56	0.56	0.37	0.40	0.40
Avail Cap(c_a), veh/h	586	0	592	521	659		299	1826	999	344	2163	1142
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	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	34.7	0.0	29.4	31.5	28.5	0.0	5.8	6.9	6.9	8.1	7.0	7.0
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.2	0.0	0.0	0.4	1.2	2.2	0.7	0.5	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	5.3	0.0	1.0	0.9	0.1	0.0	0.1	3.3	3.9	0.8	3.4	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.9	0.0	29.6	31.8	28.5	0.0	6.2	8.1	9.1	8.8	7.5	8.0
LnGrp LOS	D		C	C	C		A	A	A	A	A	A
Approach Vol, veh/h		298			52			1586			1433	
Approach Delay, s/veh		35.6			31.4			8.5			7.8	
Approach LOS		D			C			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.7	55.8		24.5		65.5		24.5				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	7.0	34.0		33.0		45.0		33.0				
Max Q Clear Time (g_c+I1), s	4.4	14.3		17.6		12.9		7.2				
Green Ext Time (p_c), s	0.1	11.4		0.9		11.5		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	10.9
HCM 7th LOS	B

Notes

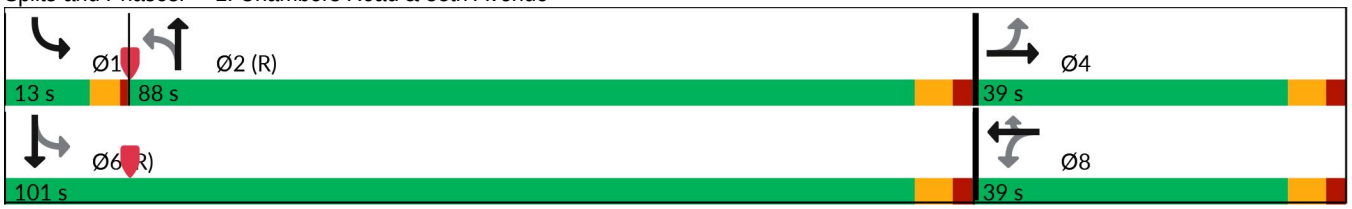
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

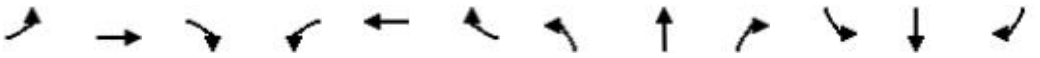
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	152	9	19	7	56	16	1206	59	1584
Future Volume (vph)	152	9	19	7	56	16	1206	59	1584
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases		4		8			2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	11.0	11.0	6.0	11.0
Minimum Split (s)	36.0	36.0	39.0	39.0	39.0	21.0	21.0	10.0	25.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	88.0	88.0	13.0	101.0
Total Split (%)	27.9%	27.9%	27.9%	27.9%	27.9%	62.9%	62.9%	9.3%	72.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0
Lead/Lag						Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 55 (39%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 1: Chambers Road & 38th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	9	18	19	7	56	16	1206	26	59	1584	175
Future Volume (veh/h)	152	9	18	19	7	56	16	1206	26	59	1584	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1381	1381	1381	1648	1648	1648	1604	1604	1604	1767	1767	1767
Adj Flow Rate, veh/h	162	10	19	20	7	0	17	1283	28	63	1685	186
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, %	35	35	35	17	17	17	20	20	20	9	9	9
Cap, veh/h	229	74	141	240	288		172	2962	65	384	3261	359
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.00	1.00	1.00	1.00	0.04	0.74	0.74
Sat Flow, veh/h	1040	426	810	1217	1648	1397	209	4409	96	1682	4409	485
Grp Volume(v), veh/h	162	0	29	20	7	0	17	849	462	63	1227	644
Grp Sat Flow(s),veh/h/ln	1040	0	1236	1217	1648	1397	209	1459	1586	1682	1608	1679
Q Serve(g_s), s	21.4	0.0	2.8	2.0	0.5	0.0	1.8	0.0	0.0	1.5	22.5	22.6
Cycle Q Clear(g_c), s	21.9	0.0	2.8	4.8	0.5	0.0	15.0	0.0	0.0	1.5	22.5	22.6
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.06	1.00		0.29
Lane Grp Cap(c), veh/h	229	0	216	240	288		172	1961	1066	384	2378	1242
V/C Ratio(X)	0.71	0.00	0.13	0.08	0.02		0.10	0.43	0.43	0.16	0.52	0.52
Avail Cap(c_a), veh/h	293	0	291	314	388		172	1961	1066	426	2378	1242
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	48.8	50.8	47.9	0.0	1.0	0.0	0.0	5.5	7.7	7.7
Incr Delay (d2), s/veh	5.4	0.0	0.3	0.1	0.0	0.0	1.1	0.7	1.3	0.2	0.8	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.9	0.6	0.2	0.0	0.1	0.2	0.4	0.5	7.5	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.4	0.0	49.1	51.0	47.9	0.0	2.2	0.7	1.3	5.7	8.5	9.2
LnGrp LOS	E		D	D	D		A	A	A	A	A	A
Approach Vol, veh/h		191			27			1328			1934	
Approach Delay, s/veh		60.4			50.2			0.9			8.6	
Approach LOS		E			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.5	100.1		30.4		109.6		30.4				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	82.0		33.0		95.0		33.0				
Max Q Clear Time (g_c+I1), s	3.5	17.0		23.9		24.6		6.8				
Green Ext Time (p_c), s	0.0	14.8		0.5		26.2		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	8.9
HCM 7th LOS	A

Notes

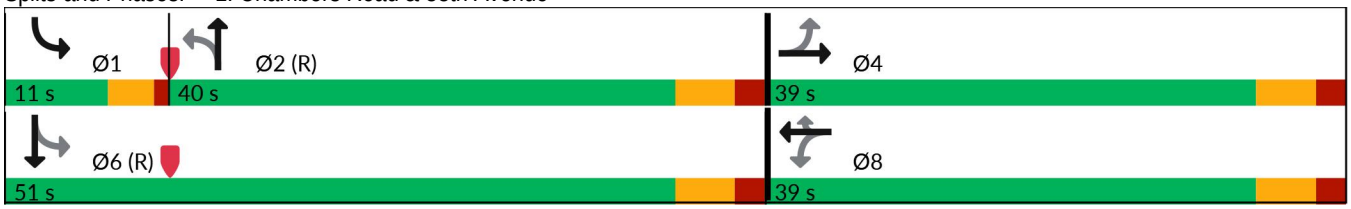
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

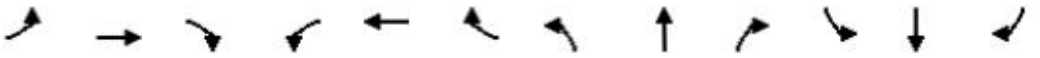
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	235	8	14	1	112	17	2023	92	1609
Future Volume (vph)	235	8	14	1	112	17	2023	92	1609
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases		4		8			2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	11.0	11.0	6.0	11.0
Minimum Split (s)	36.0	36.0	39.0	39.0	39.0	21.0	21.0	10.0	25.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	40.0	40.0	11.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	44.4%	44.4%	12.2%	56.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0
Lead/Lag						Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 37 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Chambers Road & 38th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	8	39	14	1	112	17	2023	17	92	1609	99
Future Volume (veh/h)	235	8	39	14	1	112	17	2023	17	92	1609	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1841	1841	1841	1796	1796	1796	1811	1811	1811	1796	1796	1796
Adj Flow Rate, veh/h	245	8	41	15	1	0	18	2107	18	96	1676	103
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	7	7	7	6	6	6	7	7	7
Cap, veh/h	362	53	271	311	364		204	2827	24	242	3137	193
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.00	0.74	0.74	0.74	0.06	0.66	0.66
Sat Flow, veh/h	1394	261	1339	1302	1796	1522	259	5056	43	1711	4723	290
Grp Volume(v), veh/h	245	0	49	15	1	0	18	1373	752	96	1160	619
Grp Sat Flow(s),veh/h/ln	1394	0	1600	1302	1796	1522	259	1648	1803	1711	1635	1744
Q Serve(g_s), s	15.3	0.0	2.3	0.9	0.0	0.0	2.5	21.6	21.6	1.9	16.6	16.6
Cycle Q Clear(g_c), s	15.4	0.0	2.3	3.1	0.0	0.0	9.7	21.6	21.6	1.9	16.6	16.6
Prop In Lane	1.00		0.84	1.00		1.00	1.00		0.02	1.00		0.17
Lane Grp Cap(c), veh/h	362	0	324	311	364		204	1843	1008	242	2171	1158
V/C Ratio(X)	0.68	0.00	0.15	0.05	0.00		0.09	0.75	0.75	0.40	0.53	0.53
Avail Cap(c_a), veh/h	590	0	587	525	659		204	1843	1008	271	2171	1158
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	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	34.8	0.0	29.5	30.8	28.6	0.0	7.8	7.8	7.9	12.6	7.9	7.9
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.1	0.0	0.0	0.9	2.8	5.0	1.1	0.9	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	5.3	0.0	0.9	0.3	0.0	0.0	0.2	5.0	6.1	0.8	5.2	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.0	0.0	29.7	30.9	28.6	0.0	8.6	10.6	12.9	13.7	8.8	9.6
LnGrp LOS	D		C	C	C		A	B	B	B	A	A
Approach Vol, veh/h		294			16			2143			1875	
Approach Delay, s/veh		35.8			30.7			11.4			9.3	
Approach LOS		D			C			B			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.5	56.3		24.2		65.8		24.2				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	7.0	34.0		33.0		45.0		33.0				
Max Q Clear Time (g_c+I1), s	3.9	23.6		17.4		18.6		5.1				
Green Ext Time (p_c), s	0.1	8.8		0.9		15.4		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	12.2
HCM 7th LOS	B

Notes

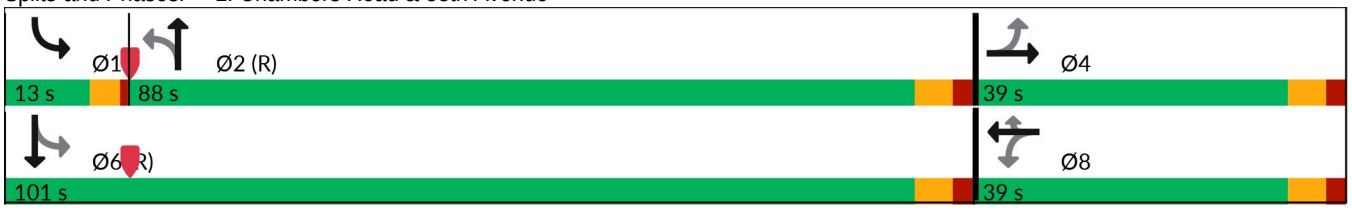
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

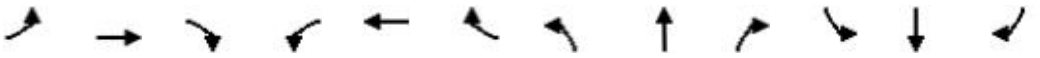
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	152	13	65	11	70	16	1233	127	1557
Future Volume (vph)	152	13	65	11	70	16	1233	127	1557
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases		4		8			2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	11.0	11.0	6.0	11.0
Minimum Split (s)	36.0	36.0	39.0	39.0	39.0	21.0	21.0	10.0	25.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	88.0	88.0	13.0	101.0
Total Split (%)	27.9%	27.9%	27.9%	27.9%	27.9%	62.9%	62.9%	9.3%	72.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0
Lead/Lag						Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 55 (39%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 1: Chambers Road & 38th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	13	18	65	11	70	16	1233	26	127	1557	175
Future Volume (veh/h)	152	13	18	65	11	70	16	1233	26	127	1557	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1381	1381	1381	1648	1648	1648	1604	1604	1604	1767	1767	1767
Adj Flow Rate, veh/h	162	14	19	69	12	0	17	1312	28	135	1656	186
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, %	35	35	35	17	17	17	20	20	20	9	9	9
Cap, veh/h	229	94	128	240	293		176	2935	63	379	3241	363
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.00	1.00	1.00	1.00	0.04	0.74	0.74
Sat Flow, veh/h	1036	531	721	1212	1648	1397	215	4411	94	1682	4400	493
Grp Volume(v), veh/h	162	0	33	69	12	0	17	868	472	135	1209	633
Grp Sat Flow(s),veh/h/ln	1036	0	1252	1212	1648	1397	215	1459	1587	1682	1608	1678
Q Serve(g_s), s	21.5	0.0	3.1	7.1	0.8	0.0	1.7	0.0	0.0	3.4	22.2	22.4
Cycle Q Clear(g_c), s	22.3	0.0	3.1	10.3	0.8	0.0	14.1	0.0	0.0	3.4	22.2	22.4
Prop In Lane	1.00		0.58	1.00		1.00	1.00		0.06	1.00		0.29
Lane Grp Cap(c), veh/h	229	0	223	240	293		176	1942	1056	379	2368	1236
V/C Ratio(X)	0.71	0.00	0.15	0.29	0.04		0.10	0.45	0.45	0.36	0.51	0.51
Avail Cap(c_a), veh/h	289	0	295	310	388		176	1942	1056	416	2368	1236
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.9	0.0	48.6	52.9	47.7	0.0	0.9	0.0	0.0	5.9	7.8	7.8
Incr Delay (d2), s/veh	5.6	0.0	0.3	0.7	0.1	0.0	1.1	0.7	1.4	0.6	0.8	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	1.0	2.2	0.4	0.0	0.1	0.2	0.4	1.2	7.4	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.5	0.0	48.9	53.6	47.7	0.0	2.0	0.7	1.4	6.5	8.6	9.3
LnGrp LOS	E		D	D	D		A	A	A	A	A	A
Approach Vol, veh/h		195			81			1357			1977	
Approach Delay, s/veh		60.2			52.7			1.0			8.7	
Approach LOS		E			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	99.1		30.9		109.1		30.9				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	82.0		33.0		95.0		33.0				
Max Q Clear Time (g_c+I1), s	5.4	16.1		24.3		24.4		12.3				
Green Ext Time (p_c), s	0.1	15.3		0.6		25.4		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			9.6									
HCM 7th LOS			A									

Notes

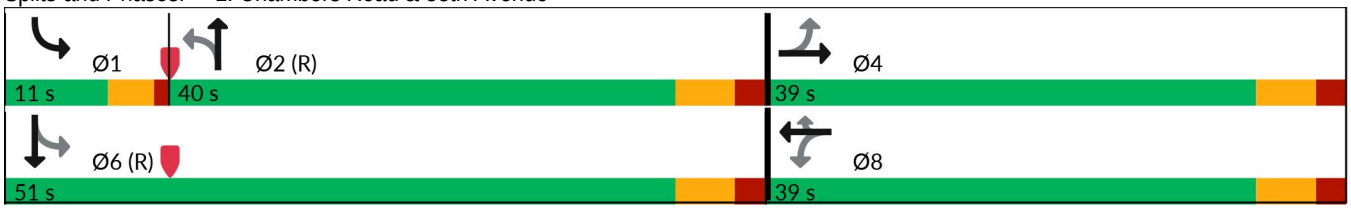
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

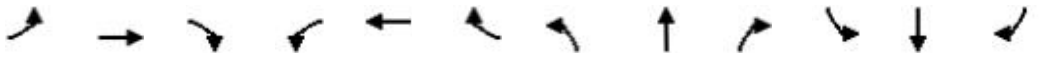
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	235	12	49	5	129	17	2042	139	1600
Future Volume (vph)	235	12	49	5	129	17	2042	139	1600
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases		4		8			2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	11.0	11.0	6.0	11.0
Minimum Split (s)	36.0	36.0	39.0	39.0	39.0	21.0	21.0	10.0	25.0
Total Split (s)	39.0	39.0	39.0	39.0	39.0	40.0	40.0	11.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	44.4%	44.4%	12.2%	56.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0
Lead/Lag						Lag	Lag	Lead	
Lead-Lag Optimize?						Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 37 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Chambers Road & 38th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	12	39	49	5	129	17	2042	17	139	1600	99
Future Volume (veh/h)	235	12	39	49	5	129	17	2042	17	139	1600	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1841	1841	1841	1796	1796	1796	1811	1811	1811	1796	1796	1796
Adj Flow Rate, veh/h	245	12	41	51	5	0	18	2127	18	145	1667	103
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	7	7	7	6	6	6	7	7	7
Cap, veh/h	362	75	256	311	368		204	2793	24	232	3124	193
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.00	0.55	0.55	0.55	0.06	0.66	0.66
Sat Flow, veh/h	1389	366	1250	1298	1796	1522	261	5057	43	1711	4722	291
Grp Volume(v), veh/h	245	0	53	51	5	0	18	1386	759	145	1154	616
Grp Sat Flow(s),veh/h/ln	1389	0	1616	1298	1796	1522	261	1648	1803	1711	1635	1744
Q Serve(g_s), s	15.4	0.0	2.4	3.0	0.2	0.0	3.5	29.2	29.3	3.0	16.6	16.6
Cycle Q Clear(g_c), s	15.6	0.0	2.4	5.5	0.2	0.0	10.3	29.2	29.3	3.0	16.6	16.6
Prop In Lane	1.00		0.77	1.00		1.00	1.00		0.02	1.00		0.17
Lane Grp Cap(c), veh/h	362	0	331	311	368		204	1820	996	232	2163	1154
V/C Ratio(X)	0.68	0.00	0.16	0.16	0.01		0.09	0.76	0.76	0.63	0.53	0.53
Avail Cap(c_a), veh/h	586	0	592	521	659		204	1820	996	254	2163	1154
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	0.0	29.4	31.6	28.5	0.0	13.2	15.6	15.6	18.4	8.0	8.0
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.2	0.0	0.0	0.8	3.1	5.5	4.2	0.9	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	5.3	0.0	1.0	1.0	0.1	0.0	0.2	10.7	12.4	1.9	5.3	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.9	0.0	29.6	31.9	28.5	0.0	14.1	18.6	21.1	22.5	8.9	9.7
LnGrp LOS	D		C	C	C		B	B	C	C	A	A
Approach Vol, veh/h		298			56			2163			1915	
Approach Delay, s/veh		35.6			31.6			19.5			10.2	
Approach LOS		D			C			B			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.8	55.7		24.5		65.5		24.5				
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	7.0	34.0		33.0		45.0		33.0				
Max Q Clear Time (g_c+I1), s	5.0	31.3		17.6		18.6		7.5				
Green Ext Time (p_c), s	0.1	2.5		0.9		15.4		0.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			16.7									
HCM 7th LOS			B									

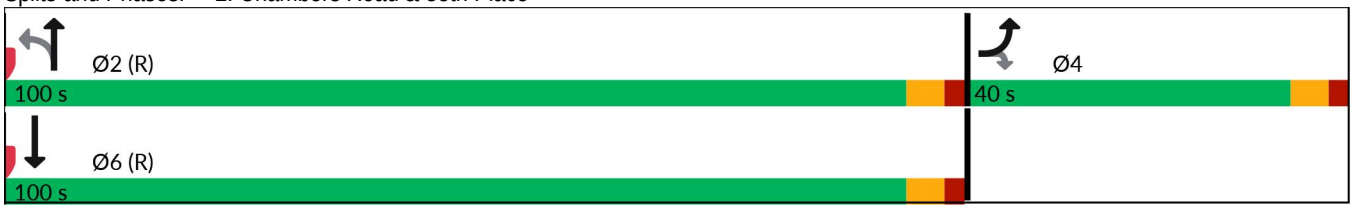
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	83	20	20	873	1045
Future Volume (vph)	83	20	20	873	1045
Turn Type	Prot	Perm	Perm	NA	NA
Protected Phases	4			2	6
Permitted Phases		4	2		
Detector Phase	4	4	2	2	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	11.0	11.0	11.0
Minimum Split (s)	34.0	34.0	24.0	24.0	24.0
Total Split (s)	40.0	40.0	100.0	100.0	100.0
Total Split (%)	28.6%	28.6%	71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 66 (47%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: Chambers Road & 35th Place



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	83	20	20	873	1045	69
Future Volume (veh/h)	83	20	20	873	1045	69
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1559	1559	1618	1618	1767	1767
Adj Flow Rate, veh/h	90	22	22	949	1136	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	23	23	19	19	9	9
Cap, veh/h	111	99	386	3708	3879	256
Arrive On Green	0.08	0.08	0.84	0.84	1.00	1.00
Sat Flow, veh/h	1485	1321	399	4564	4781	305
Grp Volume(v), veh/h	90	22	22	949	790	421
Grp Sat Flow(s),veh/h/ln	1485	1321	399	1473	1608	1712
Q Serve(g_s), s	8.4	2.2	1.3	6.2	0.0	0.0
Cycle Q Clear(g_c), s	8.4	2.2	1.3	6.2	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.18
Lane Grp Cap(c), veh/h	111	99	386	3708	2698	1437
V/C Ratio(X)	0.81	0.22	0.06	0.26	0.29	0.29
Avail Cap(c_a), veh/h	361	321	386	3708	2698	1437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.8	60.9	1.9	2.3	0.0	0.0
Incr Delay (d2), s/veh	12.8	1.1	0.3	0.2	0.3	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.8	0.1	1.4	0.1	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	76.5	62.0	2.2	2.5	0.3	0.5
LnGrp LOS	E	E	A	A	A	A
Approach Vol, veh/h	112			971	1211	
Approach Delay, s/veh	73.7			2.5	0.4	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		123.5		16.5		123.5
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		94.0		34.0		94.0
Max Q Clear Time (g_c+I1), s		8.2		10.4		2.0
Green Ext Time (p_c), s		9.7		0.3		11.8

Intersection Summary		
HCM 7th Control Delay, s/veh		4.8
HCM 7th LOS		A

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	147	23	14	1305	1179
Future Volume (vph)	147	23	14	1305	1179
Turn Type	Prot	Perm	Perm	NA	NA
Protected Phases	4			2	6
Permitted Phases		4	2		
Detector Phase	4	4	2	2	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	11.0	11.0	11.0
Minimum Split (s)	34.0	34.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	56.0	56.0	56.0
Total Split (%)	37.8%	37.8%	62.2%	62.2%	62.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: Chambers Road & 35th Place

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	23	14	1305	1179	20
Future Volume (veh/h)	147	23	14	1305	1179	20
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1485	1485	1826	1826	1811	1811
Adj Flow Rate, veh/h	160	25	15	1418	1282	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	28	28	5	5	6	6
Cap, veh/h	193	171	381	3641	3657	63
Arrive On Green	0.14	0.14	0.73	0.73	1.00	1.00
Sat Flow, veh/h	1414	1259	412	5149	5169	86
Grp Volume(v), veh/h	160	25	15	1418	844	460
Grp Sat Flow(s),veh/h/ln	1414	1259	412	1662	1648	1796
Q Serve(g_s), s	9.9	1.6	0.9	9.6	0.0	0.0
Cycle Q Clear(g_c), s	9.9	1.6	0.9	9.6	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.05
Lane Grp Cap(c), veh/h	193	171	381	3641	2408	1312
V/C Ratio(X)	0.83	0.15	0.04	0.39	0.35	0.35
Avail Cap(c_a), veh/h	440	392	381	3641	2408	1312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	34.3	3.4	4.6	0.0	0.0
Incr Delay (d2), s/veh	8.9	0.4	0.2	0.3	0.4	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.5	0.1	2.7	0.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	46.7	34.6	3.6	4.9	0.4	0.7
LnGrp LOS	D	C	A	A	A	A
Approach Vol, veh/h	185			1433	1304	
Approach Delay, s/veh	45.1			4.9	0.5	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		71.7		18.3		71.7
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		50.0		28.0		50.0
Max Q Clear Time (g_c+I1), s		11.6		11.9		2.0
Green Ext Time (p_c), s		14.8		0.5		12.5

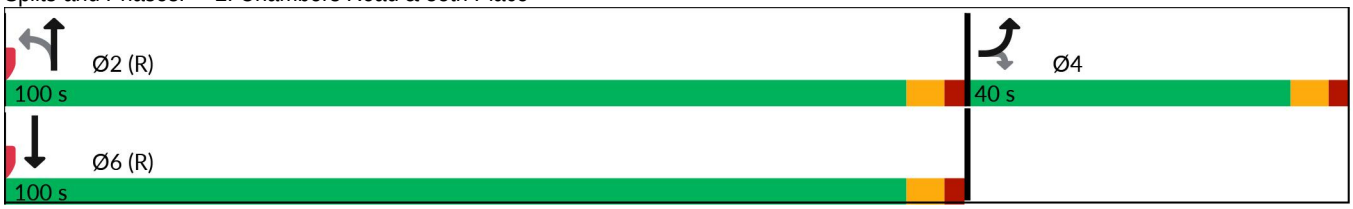
Intersection Summary	
HCM 7th Control Delay, s/veh	5.5
HCM 7th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	83	20	21	910	1089
Future Volume (vph)	83	20	21	910	1089
Turn Type	Prot	Perm	Perm	NA	NA
Protected Phases	4			2	6
Permitted Phases		4	2		
Detector Phase	4	4	2	2	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	11.0	11.0	11.0
Minimum Split (s)	34.0	34.0	24.0	24.0	24.0
Total Split (s)	40.0	40.0	100.0	100.0	100.0
Total Split (%)	28.6%	28.6%	71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 66 (47%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: Chambers Road & 35th Place



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	83	20	21	910	1089	72
Future Volume (veh/h)	83	20	21	910	1089	72
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1559	1559	1618	1618	1767	1767
Adj Flow Rate, veh/h	90	22	23	989	1184	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	23	23	19	19	9	9
Cap, veh/h	111	99	371	3708	3879	255
Arrive On Green	0.08	0.08	0.84	0.84	1.00	1.00
Sat Flow, veh/h	1485	1321	380	4564	4782	304
Grp Volume(v), veh/h	90	22	23	989	823	439
Grp Sat Flow(s),veh/h/ln	1485	1321	380	1473	1608	1712
Q Serve(g_s), s	8.4	2.2	1.4	6.5	0.0	0.0
Cycle Q Clear(g_c), s	8.4	2.2	1.4	6.5	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.18
Lane Grp Cap(c), veh/h	111	99	371	3708	2698	1437
V/C Ratio(X)	0.81	0.22	0.06	0.27	0.31	0.31
Avail Cap(c_a), veh/h	361	321	371	3708	2698	1437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.8	60.9	1.9	2.3	0.0	0.0
Incr Delay (d2), s/veh	12.8	1.1	0.3	0.2	0.3	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.8	0.1	1.5	0.1	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	76.5	62.0	2.2	2.5	0.3	0.5
LnGrp LOS	E	E	A	A	A	A
Approach Vol, veh/h	112			1012	1262	
Approach Delay, s/veh	73.7			2.5	0.4	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		123.5		16.5		123.5
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		94.0		34.0		94.0
Max Q Clear Time (g_c+I1), s		8.5		10.4		2.0
Green Ext Time (p_c), s		10.3		0.3		12.7

Intersection Summary	
HCM 7th Control Delay, s/veh	4.7
HCM 7th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	147	23	15	1360	1229
Future Volume (vph)	147	23	15	1360	1229
Turn Type	Prot	Perm	Perm	NA	NA
Protected Phases	4			2	6
Permitted Phases		4	2		
Detector Phase	4	4	2	2	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	11.0	11.0	11.0
Minimum Split (s)	34.0	34.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	56.0	56.0	56.0
Total Split (%)	37.8%	37.8%	62.2%	62.2%	62.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: Chambers Road & 35th Place

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	23	15	1360	1229	21
Future Volume (veh/h)	147	23	15	1360	1229	21
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1485	1485	1826	1826	1811	1811
Adj Flow Rate, veh/h	160	25	16	1478	1336	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	28	28	5	5	6	6
Cap, veh/h	193	171	366	3641	3656	63
Arrive On Green	0.14	0.14	0.73	0.73	1.00	1.00
Sat Flow, veh/h	1414	1259	391	5149	5169	86
Grp Volume(v), veh/h	160	25	16	1478	880	479
Grp Sat Flow(s),veh/h/ln	1414	1259	391	1662	1648	1796
Q Serve(g_s), s	9.9	1.6	1.0	10.2	0.0	0.0
Cycle Q Clear(g_c), s	9.9	1.6	1.0	10.2	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.05
Lane Grp Cap(c), veh/h	193	171	366	3641	2408	1312
V/C Ratio(X)	0.83	0.15	0.04	0.41	0.37	0.37
Avail Cap(c_a), veh/h	440	392	366	3641	2408	1312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	34.3	3.4	4.6	0.0	0.0
Incr Delay (d2), s/veh	8.9	0.4	0.2	0.3	0.4	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.5	0.1	2.8	0.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	46.7	34.6	3.6	5.0	0.4	0.8
LnGrp LOS	D	C	A	A	A	A
Approach Vol, veh/h	185			1494	1359	
Approach Delay, s/veh	45.1			5.0	0.6	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		71.7		18.3		71.7
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		50.0		28.0		50.0
Max Q Clear Time (g_c+I1), s		12.2		11.9		2.0
Green Ext Time (p_c), s		15.6		0.5		13.3

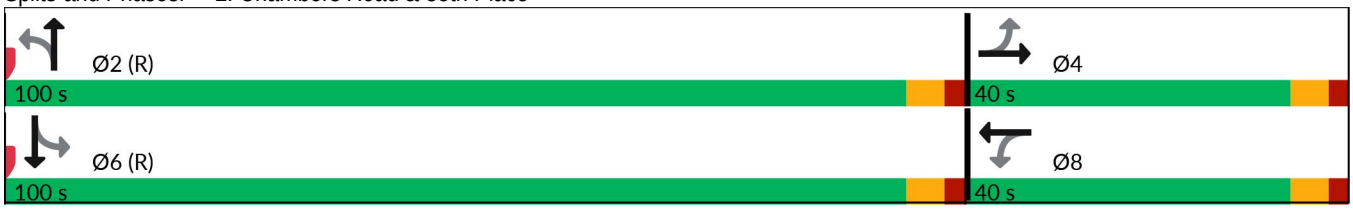
Intersection Summary	
HCM 7th Control Delay, s/veh	5.4
HCM 7th LOS	A

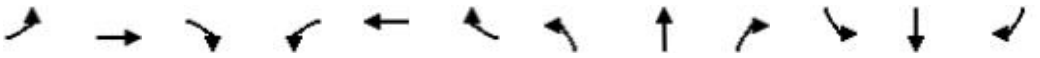
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	83	4	134	4	21	894	17	989
Future Volume (vph)	83	4	134	4	21	894	17	989
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	11.0	11.0	11.0	11.0
Minimum Split (s)	34.0	34.0	34.0	34.0	24.0	24.0	24.0	24.0
Total Split (s)	40.0	40.0	40.0	40.0	100.0	100.0	100.0	100.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	71.4%	71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 66 (47%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: Chambers Road & 35th Place





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	4	20	134	4	0	21	894	49	17	989	72
Future Volume (veh/h)	83	4	20	134	4	0	21	894	49	17	989	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1559	1870	1559	1870	1870	1870	1618	1618	1870	1870	1767	1767
Adj Flow Rate, veh/h	90	4	22	146	4	0	23	972	53	18	1075	78
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, %	23	2	23	2	2	2	19	19	2	2	9	9
Cap, veh/h	208	34	185	218	251	0	380	3344	182	445	3579	259
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.78	0.78	0.78	1.00	1.00	1.00
Sat Flow, veh/h	1177	250	1373	1385	1870	0	422	4288	233	550	4589	333
Grp Volume(v), veh/h	90	0	26	146	4	0	23	667	358	18	753	400
Grp Sat Flow(s),veh/h/ln	1177	0	1623	1385	1870	0	422	1473	1576	550	1608	1707
Q Serve(g_s), s	10.1	0.0	2.0	14.5	0.3	0.0	1.8	9.0	9.1	0.4	0.0	0.0
Cycle Q Clear(g_c), s	10.3	0.0	2.0	16.5	0.3	0.0	1.8	9.0	9.1	9.4	0.0	0.0
Prop In Lane	1.00		0.85	1.00		0.00	1.00		0.15	1.00		0.19
Lane Grp Cap(c), veh/h	208	0	218	218	251	0	380	2297	1229	445	2507	1331
V/C Ratio(X)	0.43	0.00	0.12	0.67	0.02	0.00	0.06	0.29	0.29	0.04	0.30	0.30
Avail Cap(c_a), veh/h	335	0	394	368	454	0	380	2297	1229	445	2507	1331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	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	57.0	0.0	53.3	60.5	52.6	0.0	3.6	4.4	4.4	0.4	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.2	3.5	0.0	0.0	0.3	0.3	0.6	0.2	0.3	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.8	5.3	0.1	0.0	0.2	2.6	2.8	0.0	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.5	0.0	53.5	64.1	52.6	0.0	3.9	4.7	5.0	0.6	0.3	0.6
LnGrp LOS	E		D	E	D		A	A	A	A	A	A
Approach Vol, veh/h		116			150			1048			1171	
Approach Delay, s/veh		57.4			63.8			4.8			0.4	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	115.2	24.8	115.2	24.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	94.0	34.0	94.0	34.0
Max Q Clear Time (g_c+I1), s	11.1	12.3	11.4	18.5
Green Ext Time (p_c), s	9.9	0.4	11.3	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	8.7
HCM 7th LOS	A

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	147	4	93	4	15	1343	17	1165
Future Volume (vph)	147	4	93	4	15	1343	17	1165
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	11.0	11.0	11.0	11.0
Minimum Split (s)	34.0	34.0	34.0	34.0	24.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	34.0	34.0	56.0	56.0	56.0	56.0
Total Split (%)	37.8%	37.8%	37.8%	37.8%	62.2%	62.2%	62.2%	62.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: Chambers Road & 35th Place

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	4	23	93	4	0	15	1343	47	17	1165	21
Future Volume (veh/h)	147	4	23	93	4	0	15	1343	47	17	1165	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1485	1485	1485	1870	1870	1870	1826	1826	1826	1811	1811	1811
Adj Flow Rate, veh/h	160	4	25	101	4	0	16	1460	51	18	1266	23
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, %	28	28	28	2	2	2	5	5	5	6	6	6
Cap, veh/h	268	30	188	287	317	0	372	3448	120	271	3487	63
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.00	0.70	0.70	0.70	1.00	1.00	1.00
Sat Flow, veh/h	1121	177	1108	1381	1870	0	418	4945	173	335	5000	91
Grp Volume(v), veh/h	160	0	29	101	4	0	16	981	530	18	835	454
Grp Sat Flow(s),veh/h/ln	1121	0	1286	1381	1870	0	418	1662	1795	335	1648	1795
Q Serve(g_s), s	12.5	0.0	1.7	6.0	0.2	0.0	1.1	11.4	11.4	1.0	0.0	0.0
Cycle Q Clear(g_c), s	12.6	0.0	1.7	7.8	0.2	0.0	1.1	11.4	11.4	12.4	0.0	0.0
Prop In Lane	1.00		0.86	1.00		0.00	1.00		0.10	1.00		0.05
Lane Grp Cap(c), veh/h	268	0	218	287	317	0	372	2317	1252	271	2298	1251
V/C Ratio(X)	0.60	0.00	0.13	0.35	0.01	0.00	0.04	0.42	0.42	0.07	0.36	0.36
Avail Cap(c_a), veh/h	427	0	400	483	582	0	372	2317	1252	271	2298	1251
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	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	36.4	0.0	31.8	35.1	31.1	0.0	4.3	5.9	5.9	1.1	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.3	0.7	0.0	0.0	0.2	0.6	1.1	0.5	0.4	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.5	2.1	0.1	0.0	0.1	3.4	3.9	0.0	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.5	0.0	32.0	35.8	31.1	0.0	4.5	6.4	6.9	1.6	0.4	0.8
LnGrp LOS	D		C	D	C		A	A	A	A	A	A
Approach Vol, veh/h		189			105			1527			1307	
Approach Delay, s/veh		37.5			35.6			6.6			0.6	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	68.8	21.2	68.8	21.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	50.0	28.0	50.0	28.0
Max Q Clear Time (g_c+I1), s	13.4	14.6	14.4	9.8
Green Ext Time (p_c), s	15.0	0.6	12.0	0.2

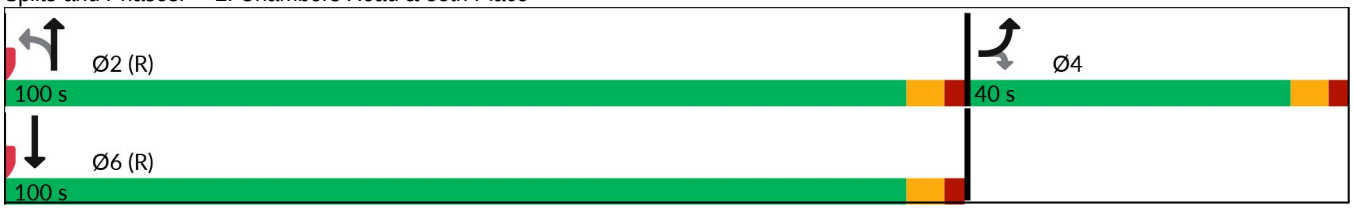
Intersection Summary	
HCM 7th Control Delay, s/veh	6.9
HCM 7th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	83	20	29	1250	1496
Future Volume (vph)	83	20	29	1250	1496
Turn Type	Prot	Perm	Perm	NA	NA
Protected Phases	4			2	6
Permitted Phases		4	2		
Detector Phase	4	4	2	2	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	11.0	11.0	11.0
Minimum Split (s)	34.0	34.0	24.0	24.0	24.0
Total Split (s)	40.0	40.0	100.0	100.0	100.0
Total Split (%)	28.6%	28.6%	71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 66 (47%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: Chambers Road & 35th Place



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	83	20	29	1250	1496	99
Future Volume (veh/h)	83	20	29	1250	1496	99
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1559	1559	1618	1618	1767	1767
Adj Flow Rate, veh/h	90	22	32	1359	1626	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	23	23	19	19	9	9
Cap, veh/h	111	99	254	3708	3877	257
Arrive On Green	0.08	0.08	0.84	0.84	1.00	1.00
Sat Flow, veh/h	1485	1321	242	4564	4779	307
Grp Volume(v), veh/h	90	22	32	1359	1131	603
Grp Sat Flow(s),veh/h/ln	1485	1321	242	1473	1608	1711
Q Serve(g_s), s	8.4	2.2	3.4	10.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	2.2	3.4	10.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.18
Lane Grp Cap(c), veh/h	111	99	254	3708	2698	1436
V/C Ratio(X)	0.81	0.22	0.13	0.37	0.42	0.42
Avail Cap(c_a), veh/h	361	321	254	3708	2698	1436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.8	60.9	2.1	2.6	0.0	0.0
Incr Delay (d2), s/veh	12.8	1.1	1.0	0.3	0.5	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.8	0.2	2.3	0.2	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	76.5	62.0	3.1	2.9	0.5	0.9
LnGrp LOS	E	E	A	A	A	A
Approach Vol, veh/h	112			1391	1734	
Approach Delay, s/veh	73.7			2.9	0.6	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		123.5		16.5		123.5
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		94.0		34.0		94.0
Max Q Clear Time (g_c+I1), s		12.0		10.4		2.0
Green Ext Time (p_c), s		18.3		0.3		23.4

Intersection Summary		
HCM 7th Control Delay, s/veh	4.1	
HCM 7th LOS	A	

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	147	23	20	1868	1688
Future Volume (vph)	147	23	20	1868	1688
Turn Type	Prot	Perm	Perm	NA	NA
Protected Phases	4			6	2
Permitted Phases		4	6		
Detector Phase	4	4	6	6	2
Switch Phase					
Minimum Initial (s)	6.0	6.0	11.0	11.0	11.0
Minimum Split (s)	34.0	34.0	17.0	17.0	24.0
Total Split (s)	34.0	34.0	56.0	56.0	56.0
Total Split (%)	37.8%	37.8%	62.2%	62.2%	62.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 2: Chambers Road & 35th Place

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	23	20	1868	1688	29
Future Volume (veh/h)	147	23	20	1868	1688	29
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1485	1485	1826	1826	1811	1811
Adj Flow Rate, veh/h	160	25	22	2030	1835	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	28	28	5	5	6	6
Cap, veh/h	193	171	217	3641	3655	64
Arrive On Green	0.14	0.14	0.73	0.73	0.73	0.73
Sat Flow, veh/h	1414	1259	239	5149	5167	87
Grp Volume(v), veh/h	160	25	22	2030	1208	659
Grp Sat Flow(s),veh/h/ln	1414	1259	239	1662	1648	1795
Q Serve(g_s), s	9.9	1.6	3.9	16.7	14.0	14.1
Cycle Q Clear(g_c), s	9.9	1.6	17.9	16.7	14.0	14.1
Prop In Lane	1.00	1.00	1.00			0.05
Lane Grp Cap(c), veh/h	193	171	217	3641	2408	1311
V/C Ratio(X)	0.83	0.15	0.10	0.56	0.50	0.50
Avail Cap(c_a), veh/h	440	392	217	3641	2408	1311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	34.3	9.0	5.5	5.2	5.2
Incr Delay (d2), s/veh	8.9	0.4	0.9	0.6	0.8	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.5	0.2	4.6	3.9	4.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	46.7	34.6	9.9	6.1	5.9	6.5
LnGrp LOS	D	C	A	A	A	A
Approach Vol, veh/h	185			2052	1867	
Approach Delay, s/veh	45.1			6.2	6.1	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		71.7		18.3		71.7
Change Period (Y+Rc), s		6.0		6.0		6.0
Max Green Setting (Gmax), s		50.0		28.0		50.0
Max Q Clear Time (g_c+I1), s		16.1		11.9		19.9
Green Ext Time (p_c), s		18.9		0.5		20.9

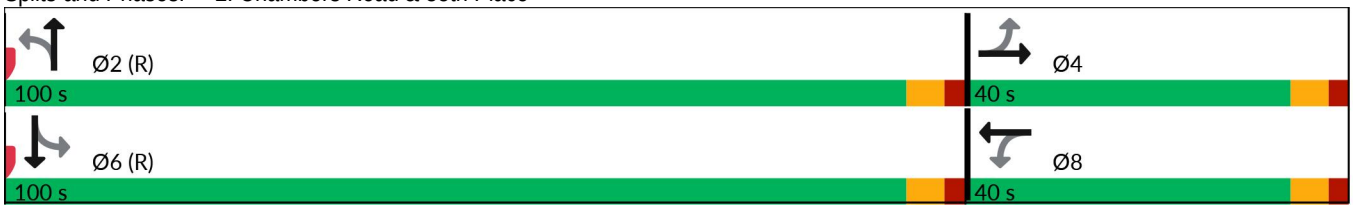
Intersection Summary	
HCM 7th Control Delay, s/veh	7.9
HCM 7th LOS	A

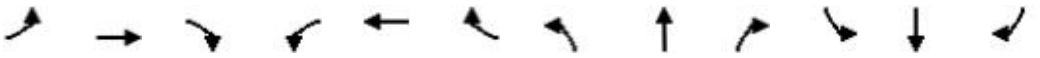
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	83	4	134	4	29	1234	17	1396
Future Volume (vph)	83	4	134	4	29	1234	17	1396
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	11.0	11.0	11.0	11.0
Minimum Split (s)	34.0	34.0	34.0	34.0	24.0	24.0	24.0	24.0
Total Split (s)	40.0	40.0	40.0	40.0	100.0	100.0	100.0	100.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	71.4%	71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 66 (47%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: Chambers Road & 35th Place





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	4	20	134	4	0	29	1234	49	17	1396	99
Future Volume (veh/h)	83	4	20	134	4	0	29	1234	49	17	1396	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1559	1870	1559	1870	1870	1870	1618	1618	1870	1870	1767	1767
Adj Flow Rate, veh/h	90	4	22	146	4	0	32	1341	53	18	1517	108
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, %	23	2	23	2	2	2	19	19	2	2	9	9
Cap, veh/h	208	34	185	218	251	0	261	3401	134	316	3584	255
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.78	0.78	0.78	1.00	1.00	1.00
Sat Flow, veh/h	1177	250	1373	1385	1870	0	268	4361	172	387	4596	327
Grp Volume(v), veh/h	90	0	26	146	4	0	32	906	488	18	1061	564
Grp Sat Flow(s),veh/h/ln	1177	0	1623	1385	1870	0	268	1473	1587	387	1608	1708
Q Serve(g_s), s	10.1	0.0	2.0	14.5	0.3	0.0	4.2	13.7	13.7	0.9	0.0	0.0
Cycle Q Clear(g_c), s	10.3	0.0	2.0	16.5	0.3	0.0	4.2	13.7	13.7	14.6	0.0	0.0
Prop In Lane	1.00		0.85	1.00		0.00	1.00		0.11	1.00		0.19
Lane Grp Cap(c), veh/h	208	0	218	218	251	0	261	2297	1238	316	2507	1332
V/C Ratio(X)	0.43	0.00	0.12	0.67	0.02	0.00	0.12	0.39	0.39	0.06	0.42	0.42
Avail Cap(c_a), veh/h	335	0	394	368	454	0	261	2297	1238	316	2507	1332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	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	57.0	0.0	53.3	60.5	52.6	0.0	3.9	4.9	4.9	0.9	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.2	3.5	0.0	0.0	1.0	0.5	0.9	0.3	0.5	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	3.1	0.0	0.8	5.3	0.1	0.0	0.3	3.9	4.3	0.1	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.5	0.0	53.5	64.1	52.6	0.0	4.8	5.4	5.8	1.3	0.5	1.0
LnGrp LOS	E		D	E	D		A	A	A	A	A	A
Approach Vol, veh/h		116			150			1426			1643	
Approach Delay, s/veh		57.4			63.8			5.5			0.7	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		115.2		24.8		115.2		24.8				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		94.0		34.0		94.0		34.0				
Max Q Clear Time (g_c+I1), s		15.7		12.3		16.6		18.5				
Green Ext Time (p_c), s		17.3		0.4		20.9		0.3				

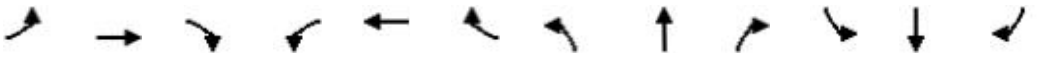
Intersection Summary	
HCM 7th Control Delay, s/veh	7.6
HCM 7th LOS	A

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	147	4	93	4	20	1851	18	1624
Future Volume (vph)	147	4	93	4	20	1851	18	1624
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	11.0	11.0	11.0	11.0
Minimum Split (s)	34.0	34.0	34.0	34.0	24.0	24.0	24.0	24.0
Total Split (s)	34.0	34.0	34.0	34.0	56.0	56.0	56.0	56.0
Total Split (%)	37.8%	37.8%	37.8%	37.8%	62.2%	62.2%	62.2%	62.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 54 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 2: Chambers Road & 35th Place



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	4	23	93	4	0	20	1851	47	18	1624	29
Future Volume (veh/h)	147	4	23	93	4	0	20	1851	47	18	1624	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1485	1485	1485	1870	1870	1870	1826	1826	1826	1811	1811	1811
Adj Flow Rate, veh/h	160	4	25	101	4	0	22	2012	51	20	1765	32
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, %	28	28	28	2	2	2	5	5	5	6	6	6
Cap, veh/h	268	30	188	287	317	0	259	3486	88	177	3487	63
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.00	0.70	0.70	0.70	1.00	1.00	1.00
Sat Flow, veh/h	1121	177	1108	1381	1870	0	256	5000	127	196	5000	91
Grp Volume(v), veh/h	160	0	29	101	4	0	22	1336	727	20	1163	634
Grp Sat Flow(s),veh/h/ln	1121	0	1286	1381	1870	0	256	1662	1803	196	1648	1795
Q Serve(g_s), s	12.5	0.0	1.7	6.0	0.2	0.0	2.6	18.3	18.4	3.2	0.0	0.0
Cycle Q Clear(g_c), s	12.6	0.0	1.7	7.8	0.2	0.0	2.6	18.3	18.4	21.5	0.0	0.0
Prop In Lane	1.00		0.86	1.00		0.00	1.00		0.07	1.00		0.05
Lane Grp Cap(c), veh/h	268	0	218	287	317	0	259	2317	1257	177	2298	1252
V/C Ratio(X)	0.60	0.00	0.13	0.35	0.01	0.00	0.09	0.58	0.58	0.11	0.51	0.51
Avail Cap(c_a), veh/h	427	0	400	483	582	0	259	2317	1257	177	2298	1252
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	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	36.4	0.0	31.8	35.1	31.1	0.0	4.5	6.9	6.9	3.2	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.3	0.7	0.0	0.0	0.6	1.1	1.9	1.3	0.8	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.5	2.1	0.1	0.0	0.2	5.6	6.4	0.1	0.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.5	0.0	32.0	35.8	31.1	0.0	5.2	7.9	8.8	4.5	0.8	1.5
LnGrp LOS	D		C	D	C		A	A	A	A	A	A
Approach Vol, veh/h		189			105			2085			1817	
Approach Delay, s/veh		37.5			35.6			8.2			1.1	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		68.8		21.2		68.8		21.2				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		50.0		28.0		50.0		28.0				
Max Q Clear Time (g_c+I1), s		20.4		14.6		23.5		9.8				
Green Ext Time (p_c), s		20.3		0.6		16.3		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			7.1									
HCM 7th LOS			A									

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	66	0	0	142	34	846	103	107	1030	48
Future Vol, veh/h	4	0	66	0	0	142	34	846	103	107	1030	48
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	110	-	-	-	-	-
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, %	31	31	31	2	2	2	18	18	18	9	9	9
Mvmt Flow	4	0	72	0	0	154	37	920	112	116	1120	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1820	-	586	-	-	516	1172	0	0	1032	0	0
Stage 1	1378	-	-	-	-	-	-	-	-	-	-	-
Stage 2	442	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.02	-	7.72	-	-	7.14	5.66	-	-	5.48	-	-
Critical Hdwy Stg 1	7.92	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.32	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	4.11	-	4.21	-	-	3.92	3.28	-	-	3.19	-	-
Pot Cap-1 Maneuver	*165	0	*707	0	0	*786	529	-	-	593	-	-
Stage 1	*216	0	-	0	0	-	-	-	-	-	-	-
Stage 2	*749	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %	0		0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	*99	-	*707	-	-	*786	529	-	-	593	-	-
Mov Cap-2 Maneuver	*99	-	-	-	-	-	-	-	-	-	-	-
Stage 1	*173	-	-	-	-	-	-	-	-	-	-	-
Stage 2	*560	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.66	10.7	0.43	1.13
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	529	-	-	707	786	593	-	-
HCM Lane V/C Ratio	0.07	-	-	0.101	0.196	0.196	-	-
HCM Control Delay (s/veh)	12.3	-	-	10.7	10.7	12.5	-	-
HCM Lane LOS	B	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.7	0.7	-	-

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

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	3	0	33	0	0	146	22	1373	109	79	1136	38
Future Vol, veh/h	3	0	33	0	0	146	22	1373	109	79	1136	38
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	110	-	-	-	-	-
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, %	10	10	10	2	2	2	6	6	6	6	6	6
Mvmt Flow	3	0	36	0	0	159	24	1492	118	86	1235	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2072	-	638	-	-	805	1276	0	0	1611	0	0
Stage 1	1427	-	-	-	-	-	-	-	-	-	-	-
Stage 2	645	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.6	-	7.3	-	-	7.14	5.42	-	-	5.42	-	-
Critical Hdwy Stg 1	7.5	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.9	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.9	-	4	-	-	3.92	3.16	-	-	3.16	-	-
Pot Cap-1 Maneuver	*320	0	*737	0	0	*712	507	-	-	380	-	-
Stage 1	*233	0	-	0	0	-	-	-	-	-	-	-
Stage 2	*715	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %	0		0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	*183	-	*737	-	-	*712	507	-	-	380	-	-
Mov Cap-2 Maneuver	*183	-	-	-	-	-	-	-	-	-	-	-
Stage 1	*180	-	-	-	-	-	-	-	-	-	-	-
Stage 2	*530	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.14	11.5	0.18	1.09
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	507	-	-	737	712	380	-	-
HCM Lane V/C Ratio	0.047	-	-	0.049	0.223	0.226	-	-
HCM Control Delay (s/veh)	12.5	-	-	10.1	11.5	17.2	-	-
HCM Lane LOS	B	-	-	B	B	C	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.9	0.9	-	-

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

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	66	0	0	142	34	1205	105	109	1446	66
Future Vol, veh/h	4	0	66	0	0	142	34	1205	105	109	1446	66
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	110	-	-	-	-	-
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, %	31	31	31	2	2	2	18	18	18	9	9	9
Mvmt Flow	4	0	72	0	0	154	37	1310	114	118	1572	72

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2442	-	822	-	-	712	1643	0	0	1424	0	0
Stage 1	1845	-	-	-	-	-	-	-	-	-	-	-
Stage 2	598	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.02	-	7.72	-	-	7.14	5.66	-	-	5.48	-	-
Critical Hdwy Stg 1	7.92	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.32	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	4.11	-	4.21	-	-	3.92	3.28	-	-	3.19	-	-
Pot Cap-1 Maneuver	*61	0	*635	0	0	*734	387	-	-	441	-	-
Stage 1	*138	0	-	0	0	-	-	-	-	-	-	-
Stage 2	*700	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %	0		0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	*32	-	*635	-	-	*734	387	-	-	441	-	-
Mov Cap-2 Maneuver	*32	-	-	-	-	-	-	-	-	-	-	-
Stage 1	*101	-	-	-	-	-	-	-	-	-	-	-
Stage 2	*500	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	11.39	11.21	0.39	1.09
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	387	-	-	635	734	441	-	-
HCM Lane V/C Ratio	0.096	-	-	0.113	0.21	0.269	-	-
HCM Control Delay (s/veh)	15.3	-	-	11.4	11.2	16.1	-	-
HCM Lane LOS	C	-	-	B	B	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.4	0.8	1.1	-	-

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

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	33	0	0	146	22	1933	109	80	1579	52
Future Vol, veh/h	3	0	33	0	0	146	22	1933	109	80	1579	52
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	110	-	-	-	-	-
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, %	10	10	10	2	2	2	6	6	6	6	6	6
Mvmt Flow	3	0	36	0	0	159	24	2101	118	87	1716	57

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2807	-	886	-	-	1110	1773	0	0	2220	0	0
Stage 1	1918	-	-	-	-	-	-	-	-	-	-	-
Stage 2	888	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.6	-	7.3	-	-	7.14	5.42	-	-	5.42	-	-
Critical Hdwy Stg 1	7.5	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.9	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.9	-	4	-	-	3.92	3.16	-	-	3.16	-	-
Pot Cap-1 Maneuver	*155	0	*658	0	0	*611	359	-	-	232	-	-
Stage 1	*145	0	-	0	0	-	-	-	-	-	-	-
Stage 2	*614	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %	1		0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	*67	-	*658	-	-	*611	359	-	-	232	-	-
Mov Cap-2 Maneuver	*67	-	-	-	-	-	-	-	-	-	-	-
Stage 1	*91	-	-	-	-	-	-	-	-	-	-	-
Stage 2	*425	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.79	12.94	0.17	1.38
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	359	-	-	658	611	232	-	-
HCM Lane V/C Ratio	0.067	-	-	0.055	0.26	0.374	-	-
HCM Control Delay (s/veh)	15.7	-	-	10.8	12.9	29.5	-	-
HCM Lane LOS	C	-	-	B	B	D	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	1	1.6	-	-

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

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	71	73	0	62	64	0
Future Vol, veh/h	71	73	0	62	64	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	77	79	0	67	70	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	157	0	184	117
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	67	-
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	-	-	1423	-	805	935
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1423	-	805	935
Mov Cap-2 Maneuver	-	-	-	-	805	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	9.89
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	805	-	-	1423	-
HCM Lane V/C Ratio	0.086	-	-	-	-
HCM Control Delay (s/veh)	9.9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	88	51	0	92	56	0
Future Vol, veh/h	88	51	0	92	56	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	96	55	0	100	61	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	151	0	223	123
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	100	-
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	-	-	1430	-	765	927
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	924	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1430	-	765	927
Mov Cap-2 Maneuver	-	-	-	-	765	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	924	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	10.11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	765	-	-	1430	-
HCM Lane V/C Ratio	0.08	-	-	-	-
HCM Control Delay (s/veh)	10.1	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	94	73	0	82	64	0
Future Vol, veh/h	94	73	0	82	64	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	102	79	0	89	70	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	182	0	231	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	89	-
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	-	-	1394	-	757	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1394	-	757	906
Mov Cap-2 Maneuver	-	-	-	-	757	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	10.23
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	757	-	-	1394	-
HCM Lane V/C Ratio	0.092	-	-	-	-
HCM Control Delay (s/veh)	10.2	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	117	51	0	127	56	0
Future Vol, veh/h	117	51	0	127	56	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	127	55	0	138	61	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	183	0	293	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	138	-
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	-	-	1392	-	698	891
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1392	-	698	891
Mov Cap-2 Maneuver	-	-	-	-	698	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	889	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	10.65
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	698	-	-	1392	-
HCM Lane V/C Ratio	0.087	-	-	-	-
HCM Control Delay (s/veh)	10.7	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

APPENDIX F

Queue Analysis Worksheets

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	162	33	64	12	59	17	983	118	1384
v/c Ratio	0.83	0.13	0.29	0.04	0.19	0.09	0.35	0.30	0.40
Control Delay (s/veh)	87.0	25.2	50.5	43.4	11.5	11.8	10.6	7.8	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	87.0	25.2	50.5	43.4	11.5	11.8	10.6	7.8	7.9
Queue Length 50th (ft)	143	11	50	9	0	5	122	27	157
Queue Length 95th (ft)	219	40	92	27	38	15	145	55	217
Internal Link Dist (ft)		608		373			262		587
Turn Bay Length (ft)	110		40		130	100		170	
Base Capacity (vph)	248	317	281	382	370	186	2778	401	3418
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	0.65	0.10	0.23	0.03	0.16	0.09	0.35	0.29	0.40

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	245	54	47	5	102	18	1568	119	1314
v/c Ratio	0.74	0.12	0.15	0.01	0.23	0.10	0.64	0.49	0.43
Control Delay (s/veh)	44.7	10.6	25.4	22.0	6.2	29.1	26.0	16.9	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.7	10.6	25.4	22.0	6.2	29.1	26.0	16.9	9.8
Queue Length 50th (ft)	129	6	21	2	0	6	220	23	124
Queue Length 95th (ft)	187	30	43	9	33	m21	393	71	201
Internal Link Dist (ft)		608		373			262		587
Turn Bay Length (ft)	110		40		130	100		170	
Base Capacity (vph)	505	619	470	651	617	174	2420	243	3012
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	0.49	0.09	0.10	0.01	0.17	0.10	0.65	0.49	0.44

Intersection Summary

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)	162	33	69	12	74	17	1340	135	1842
v/c Ratio	0.83	0.13	0.31	0.04	0.23	0.15	0.48	0.47	0.53
Control Delay (s/veh)	87.0	25.2	51.2	43.4	10.9	14.8	11.6	11.3	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	87.0	25.2	51.2	43.4	10.9	14.8	11.6	11.3	9.5
Queue Length 50th (ft)	143	11	55	9	0	5	165	31	247
Queue Length 95th (ft)	219	40	97	27	42	m14	186	61	334
Internal Link Dist (ft)		608		373			262		587
Turn Bay Length (ft)	110		40		130	100		170	
Base Capacity (vph)	248	317	281	382	381	108	2769	295	3431
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	0.65	0.10	0.25	0.03	0.19	0.16	0.48	0.46	0.54

Intersection Summary

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)	245	54	51	5	134	18	2145	145	1770
v/c Ratio	0.74	0.13	0.16	0.01	0.28	0.17	0.90	0.59	0.58
Control Delay (s/veh)	44.7	20.7	25.6	22.0	5.9	34.5	35.4	23.2	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.7	20.7	25.6	22.0	5.9	34.5	35.4	23.2	11.7
Queue Length 50th (ft)	129	19	23	2	0	7	382	28	194
Queue Length 95th (ft)	187	43	46	9	38	m18	#646	98	308
Internal Link Dist (ft)		608		373			262		587
Turn Bay Length (ft)	110		40		130	100		170	
Base Capacity (vph)	505	600	470	651	638	105	2382	245	3019
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	0.49	0.09	0.11	0.01	0.21	0.17	0.90	0.59	0.59

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	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	90	26	146	4	23	1025	18	1153
v/c Ratio	0.53	0.11	0.73	0.01	0.08	0.30	0.04	0.31
Control Delay (s/veh)	66.0	21.5	77.9	47.2	6.0	5.4	2.4	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	66.0	21.5	77.9	47.2	6.0	5.4	2.4	2.3
Queue Length 50th (ft)	77	3	129	3	5	87	1	29
Queue Length 95th (ft)	129	30	195	14	16	135	m4	36
Internal Link Dist (ft)		626		501		636		366
Turn Bay Length (ft)	70				100		100	
Base Capacity (vph)	283	353	334	452	276	3358	374	3632
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.07	0.44	0.01	0.08	0.31	0.05	0.32

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	160	29	101	4	16	1511	18	1289
v/c Ratio	0.71	0.10	0.36	0.01	0.07	0.46	0.10	0.39
Control Delay (s/veh)	49.6	12.1	32.8	24.7	8.4	8.5	6.2	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	49.6	12.1	32.8	24.7	8.4	8.5	6.2	7.1
Queue Length 50th (ft)	85	2	50	2	3	133	4	158
Queue Length 95th (ft)	138	22	86	9	14	215	m10	236
Internal Link Dist (ft)		626		501		636		366
Turn Bay Length (ft)	70				100		100	
Base Capacity (vph)	348	419	427	579	224	3274	168	3248
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.07	0.24	0.01	0.07	0.46	0.11	0.40

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	90	26	146	4	32	1394	18	1625
v/c Ratio	0.53	0.11	0.73	0.01	0.20	0.41	0.07	0.44
Control Delay (s/veh)	66.0	21.5	77.9	47.2	9.3	6.2	2.1	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	66.0	21.5	77.9	47.2	9.3	6.2	2.1	2.0
Queue Length 50th (ft)	77	3	129	3	7	135	0	31
Queue Length 95th (ft)	129	30	195	14	26	204	m2	38
Internal Link Dist (ft)		626		501		636		366
Turn Bay Length (ft)	70				100		100	
Base Capacity (vph)	283	353	334	452	158	3357	244	3632
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.07	0.44	0.01	0.20	0.42	0.07	0.45

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	160	29	101	4	22	2063	20	1797
v/c Ratio	0.71	0.10	0.36	0.01	0.19	0.62	0.25	0.55
Control Delay (s/veh)	49.6	17.7	32.8	24.7	13.1	10.6	14.7	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	49.6	17.7	32.8	24.7	13.1	10.6	14.7	8.5
Queue Length 50th (ft)	85	7	50	2	4	217	4	256
Queue Length 95th (ft)	138	27	86	9	23	346	m11	374
Internal Link Dist (ft)		626		501		636		366
Turn Bay Length (ft)	70				100		100	
Base Capacity (vph)	348	411	427	579	115	3277	79	3248
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.07	0.24	0.01	0.19	0.63	0.25	0.55

Intersection Summary

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