Traffic Impact Study

Fine Point Business Park

Aurora, Colorado

Prepared for:

Ambrose Property Group

Kimley»Horn

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

Fine Point Business Park

Aurora, Colorado

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TABLE OF CONTENTS

TABLE OF CONTENTS i
LIST OF TABLES ii
LIST OF FIGURES ii
1.0 EXECUTIVE SUMMARY 1
2.0 INTRODUCTION 5
3.0 EXISTING CONDITIONS 7
3.1 Existing Study Area 7
3.2 Existing and Future Roadway Network 7
3.3 Existing Traffic Volumes 13
3.4 Unspecified Development Traffic Growth 13
4.0 PROJECT TRAFFIC CHARACTERISTICS 17
4.1 Trip Generation 17
4.2 Trip Distribution 19
4.3 Traffic Assignment 19
4.4 Total (Background Plus Project) Traffic 19
5.0 TRAFFIC OPERATIONS ANALYSIS 27
5.1 Analysis Methodology 27
5.2 Key Intersection Operational Analysis 28
5.3 Future Roadway Network 38
5.4 Turn Bay Length Analysis 39
5.5 Vehicle Queuing Analysis 42
5.6 Pedestrian Safety and Traffic Calming 43
5.7 Roadway Classification 44
5.8 Improvement Summary 44
6.0 CONCLUSIONS AND RECOMMENDATIONS 48

APPENDICES

Appendix A – Intersection Count Sheets
Appendix B – Background Studies
Appendix C – Trip Generation Worksheets
Appendix D – Intersection Distribution Figures
Appendix E – Intersection Analysis Worksheets
Appendix F – Queue Analysis Worksheets
Appendix G – Signal Warrant Analysis Worksheets
Appendix H – Conceptual Site Plan

LIST OF TABLES

Table 1 – 2025 Fine Point Business Park Traffic Generation 17
Table 2 – 2040 Fine Point Business Park Traffic Generation 18
Table 3 – Level of Service Definitions 27
Table 4 – 58th Avenue & Jackson Gap Way LOS Results 28
Table 5 – 56th Avenue & Jackson Gap Way LOS Results 30
Table 6 – 56th Avenue & Powhaton Road LOS Results 32
Table 7 – 64th Avenue & Powhaton Road LOS Results 35
Table 8 – Project Access Level of Service Results 37
Table 9 – Turn Lane Warrant and Length Summary 40
Table 10 – Turn Lane Queuing Analysis Results 42

LIST OF FIGURES

Figure 1 – Vicinity Map 6
Figure 2 – Existing Geometry and Control 12
Figure 3 – 2022 Existing Traffic Volumes 14
Figure 4 – 2025 Background Traffic Volumes 15
Figure 5 – 2040 Background Traffic Volumes 16
Figure 6 – 2025 Project Trip Distribution 20
Figure 7 – 2040 Project Trip Distribution 21
Figure 8 – 2025 Project Traffic Assignment 22
Figure 9 – 2040 Project Traffic Assignment (Non Pass-By) 23
Figure 10 – 2040 Project Traffic Assignment (Pass-By) 24
Figure 11 – 2025 Total Traffic Volumes 25
Figure 12 – 2040 Total Traffic Volumes 26
Figure 13 – Roadway Classifications 45
Figure 14 – 2025 Recommended Geometry and Control 46
Figure 15 – 2040 Recommended Geometry and Control 47

1.0 EXECUTIVE SUMMARY

The Fine Point Business Park project proposed to be located on the northeast corner of 56th Avenue and Jackson Gap Way in Aurora, Colorado. Fine Point Business Park is proposed to include approximately 1,500,000 square feet of industrial park and 160,000 square feet of mixed retail. It is expected that Fine Point Business Park will be completed in the next several years. Therefore, analysis was conducted for the 2025 short-term buildout horizon as well as the 2040 long-term twenty-year 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 following intersections were incorporated into this traffic study in accordance with the requested City of Aurora scope:

- 58th Avenue and Jackson Gap Way
- 56th Avenue and Jackson Gap Way
- 56th Avenue and Powhaton Road
- 64th Avenue and Powhaton Road

In addition, the proposed three accesses along Jackson Gap Way, the three (3) accesses along 56th Avenue, the four (4) accesses along 58th Avenue, and the three (3) accesses along Powhaton Road were evaluated.

Regional access to Fine Point Business Park will be provided by E-470 and Peña Boulevard while Primary access will be provided by 56th Avenue, Jackson Gap Way, and Powhaton Road. Direct access will be provided by 58th Avenue, 56th Avenue, Jackson Gap Way, and Powhaton Road from 13 accesses.

Fine Point Business Park is expected to generate approximately 15,738 weekday daily trips, with 774 of these trips occurring during the morning peak hour and 1,328 of these trips occurring during the afternoon peak hour.

Based on the analysis presented in this report, Kimley-Horn believes Fine Point Business Park will be successfully incorporated into the existing and future roadway network. Analysis of the

existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

2025 Improvement Recommendations

- Half street improvements will be provided along the property frontages of 56th Avenue and Powhaton Road which will include a three-lane roadway section in the short-term and the full six-lane section to be completed by others in the future. The short-term improvements include left turn lanes along 56th Avenue and a center two-way left turn lane center lane along Powhaton Road.

- With completion of the Fine Point Business Park project, 58th Avenue will be extended from the mid-section line east of Jackson Gap Way to Powhaton Road (#5) and a total of 13 project accesses will be provided along Jackson Gap Way, 58th Avenue, Powhaton Road, and 56th Avenue. Three (3) accesses (#G, H, and I) are proposed along Jackson Gap Way, four (4) accesses (#C, D, E, & F) are proposed along 58th Avenue, three (3) accesses (#A, B, and J) are proposed along Powhaton Road, and three (3) accesses (#K, L, and M) along 56th Avenue. The future intersection of 58th Avenue and Powhaton Road (#5) is proposed to operate with stop control on the eastbound approach of 58th Avenue. Access B, G, I, and K are proposed to be restricted to right-in/right-out movements. All accesses are recommended to provide R1-1 “STOP” signs on the approaches exiting the development. In addition, at the right-in/right-out accesses, R3-2 “No Left Turn” signs are recommended to be placed below the R1-1 signs.

- The northbound right turn lane at the Jackson Gap Way Middle Access, the westbound right turn lane at the 56th Avenue/Jackson Gap Way intersection, and the eastbound left turn lanes at the 56th Avenue West and East Access are recommended to provide a length of 150 feet with a 140-foot taper (12:1). The left turn movements into the full movement accesses along Jackson Gap Way and Powhaton Road will be accommodated within the existing or future two-way left turn center lane.

- The existing Framework Development Plan (FDP) has identified two public north/south roads from 56th Avenue to 58th Avenue. The project is proposing one private north/south street given the Northeast Area Transportation Study (NEATS) Refresh dated October 2018 indicated no

plan for either of these streets to extend beyond the limits of the property. The local nature of these streets would not provide any regional benefit for traffic flow internal to this site.

2040 Improvement Recommendations

- The NEATS Refresh identifies Jackson Gap Way and 56th Avenue ultimately as six-lane roadways adjacent to the project. However, 56th Avenue and Jackson Gap Way are both expected to operate acceptably as four-lane roadways with 2040 traffic projections; therefore, were evaluated as such in this study. However, 56th Avenue at Powhaton Road may need to provide thee through lanes in each direction. Nonetheless, if both 56th Avenue and Jackson Gap Way are constructed as six-lane roadways by 2040, the intersections and accesses along these roadways within the study limits will operate with reduced vehicles delays than reported in this study for 2040.

- Jackson Gap Way alignment will be part of the future Aerotropolis Parkway alignment and coordination with Aerotropolis Regional Transportation Authority (ARTA) will occur in association with this future parkway. The south leg of Aerotropolis Parkway (Jackson Gap Way alignment) is not anticipated to be provided prior to buildout of this project.

- If 2040 volumes are realized, the intersections of 56th Avenue/Jackson Gap Way and 56th Avenue/Powhaton Road need to be signalized. This recommendation is consistent with adjacent development traffic studies. If, and when, the signals are warranted in the future, the developer will pay a portion of the total into the escrow for each of these intersections.

- The intersections of 56th Avenue/Jackson Gap Way and 56th Avenue/Powhaton Road are planned to have south legs which will allow for future north/south connectivity in the area.

- The eastbound left turn lane at the 56th Avenue/Jackson Gap Way intersection may need to be extended to a length of 350 feet and the westbound right turn lane will need to be reintroduced with a storage bay and taper when the full section of 56th Avenue is provided in the future. Dual left turn lanes may be needed on the eastbound approach of 56th Avenue/Powhaton Road intersection. These improvements are contingent on the full build out of the surrounding adjacent properties and future growth projections and are not included with buildout of the project.

- The 2040 recommendations are for planning level purposes only and should be provided by others with the exception of escrow payments to be coordinated with the City of Aurora in association with future traffic signals.

General Recommendations

- 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) – 2009 Edition.

2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has prepared this report to document the results of a Traffic Impact Study for the Fine Point Business Park project proposed to be located on the northeast corner of 56th Avenue and Jackson Gap Way in Aurora, Colorado. A vicinity map illustrating the Fine Point Business Park development location is shown in **Figure 1**. Fine Point Business Park is proposed to include approximately 1,500,000 square feet of industrial park and 160,000 square feet of mixed retail. A conceptual site plan is attached in **Appendix H**. It is expected that Fine Point Business Park will be completed in the next several years; therefore, analysis was conducted for the 2025 short-term buildout horizon as well as the 2040 long-term twenty-year 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 following intersections were incorporated into this traffic study in accordance with the City of Aurora requested scope:

- 58th Avenue and Jackson Gap Way
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- 56th Avenue and Powhaton Road
- 64th Avenue and Powhaton Road

In addition, the proposed three accesses along Jackson Gap Way, the three (3) accesses along 56th Avenue, the four (4) accesses along 58th Avenue, and the three (3) accesses along Powhaton Road were evaluated.

Regional access to Fine Point Business Park will be provided by E-470 and Peña Boulevard while Primary access will be provided by 56th Avenue, Jackson Gap Way, and Powhaton Road. Direct access will be provided by 58th Avenue, 56th Avenue, Jackson Gap Way, and Powhaton Road from 13 accesses.

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NORTH
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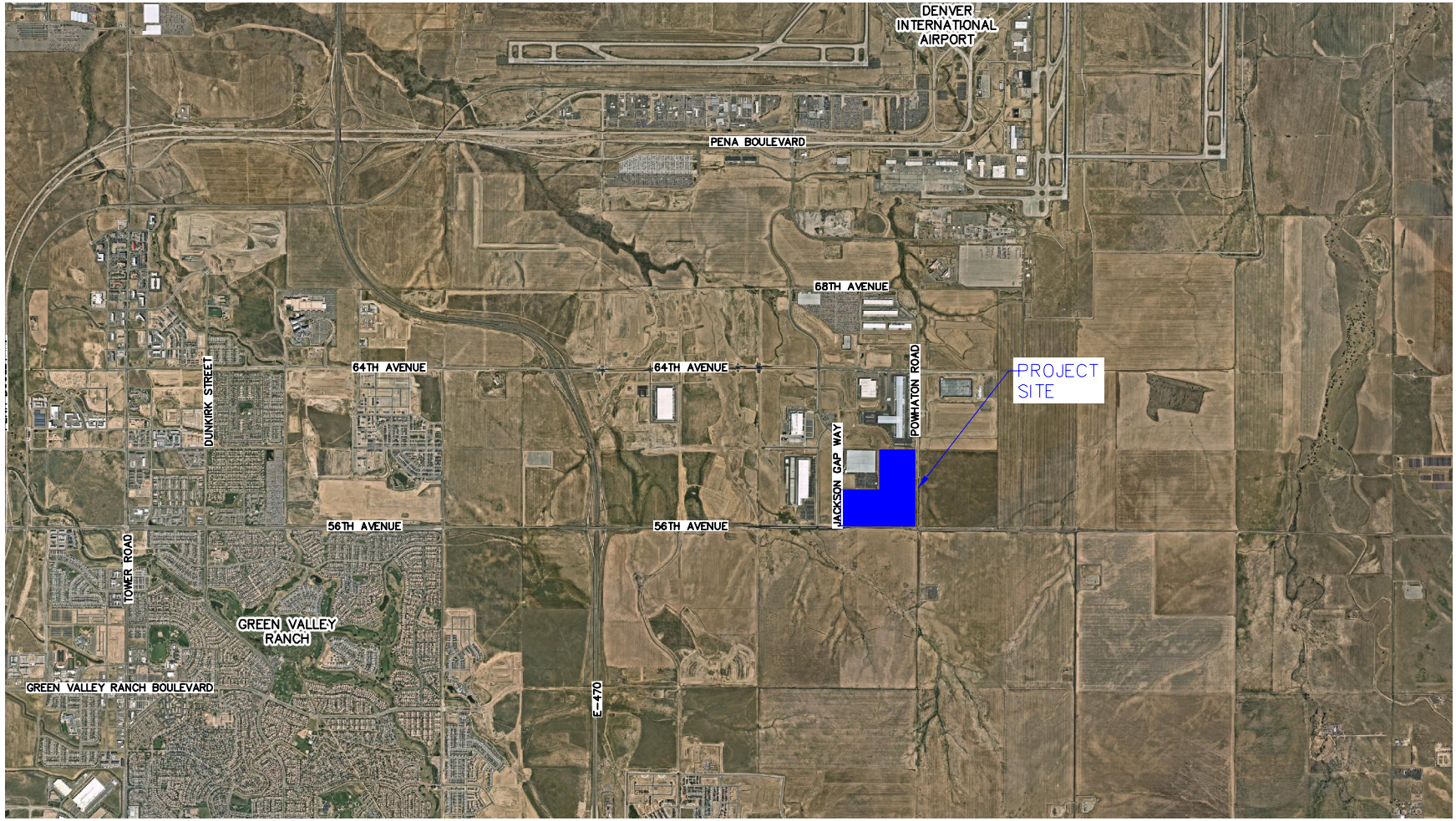


FIGURE 1
FINE POINT BUSINESS PARK
AURORA, COLORADO
VICINITY MAP

Kimley»Horn

3.0 EXISTING CONDITIONS

3.1 Existing Study Area

The existing site consists of vacant land. The surrounding area mostly consists of vacant parcels with industrial/warehouse uses. The project is bounded by 56th Avenue to the south, Jackson Gap Way to the west, and Powhaton Road to the east. The Denver International Airport (DEN) is located approximately 1.5 miles north of the site.

3.2 Existing and Future Roadway Network

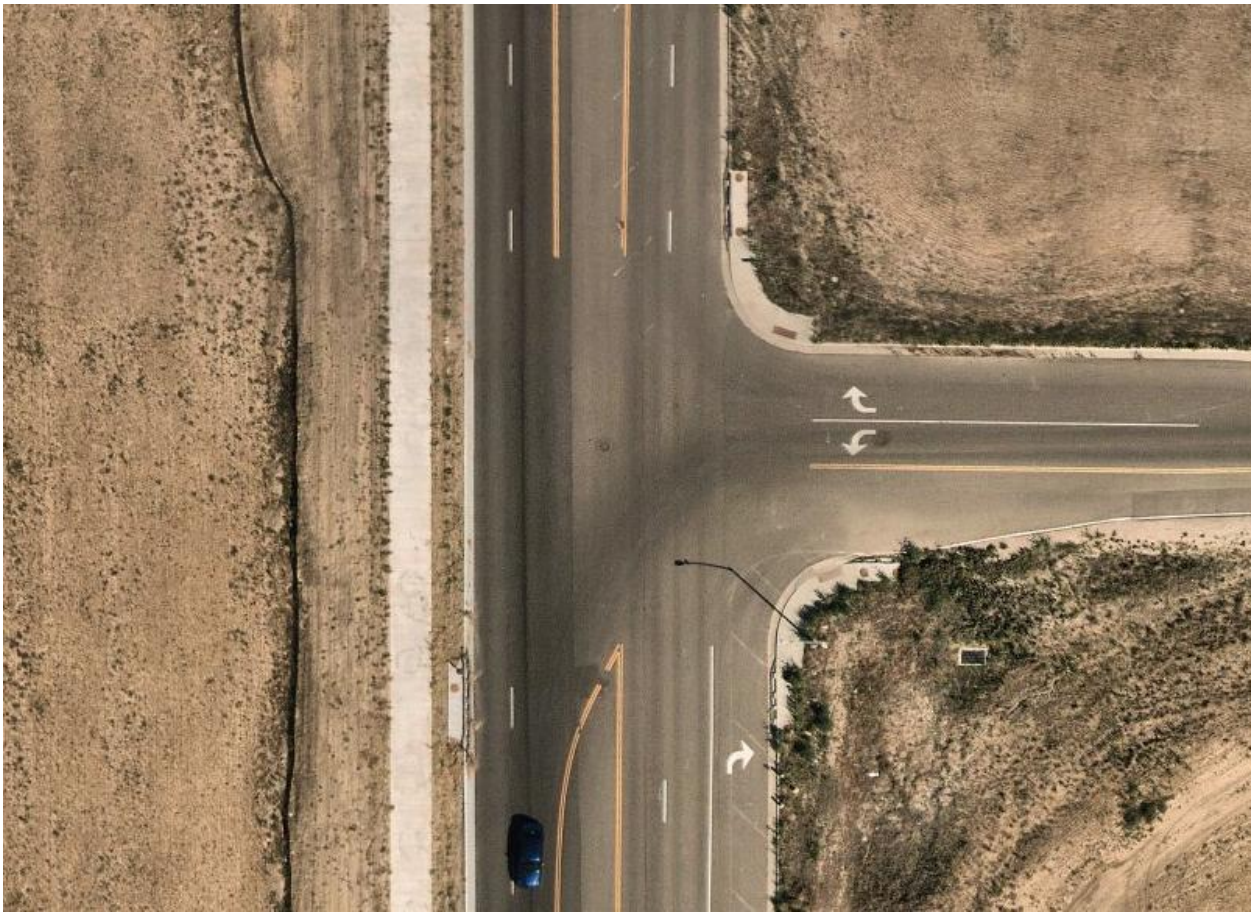
Jackson Gap Way provides a two lanes of travel in both directions, northbound and southbound, with a 40 mile per hour posted speed limit, and a double yellow striped center median.

Powhaton Road extends north-south with one through lane in each direction with a solid yellow centerline striping and has a posted speed limit of 35 miles per hours. Within the study area, Powhaton Road extends from 56th Avenue to 68th Avenue. Powhaton Road is a five-lane section with a two-way left turn center lane fronting the Costco Distribution Center and future Porteos Industrial development.

56th Avenue and 58th Avenue extend eastbound and westbound with one through lane of travel in each direction with striped center medians. 56th Avenue and 58th Avenue provide a speed limit of 40 miles per hour.

64th Avenue extends east/west with two through lanes in each direction and a two-way left-turn lane center lane from Jackson Gap Street to Powhaton Road. The posted speed limit along the roadway is 40 miles per hour with sidewalks provided on the north and south side of the roadway. 64th Avenue is currently constructed from the E-470 interchange to the intersection of Jackson Gap Street. However, the west leg is not open to traffic and barricades block traffic from entering and exiting the west leg.

The unsignalized ‘T’-intersection of 58th Avenue and Jackson Gap Way operates with stop control on the westbound approach of 58th Avenue. The northbound approach of Jackson Gap Way provides two through lanes and a right turn lane while the southbound approach provides a center lane for left turns and two through lanes. The westbound approach provides separate left and right turn lanes. Of note, the center striped median on the north leg of this intersection should be restriped to a two-way left turn lane striped instead of the existing double yellow striping. An aerial photo of the existing intersection configuration is below (north is up - typical).



58th Avenue & Jackson Gap Way

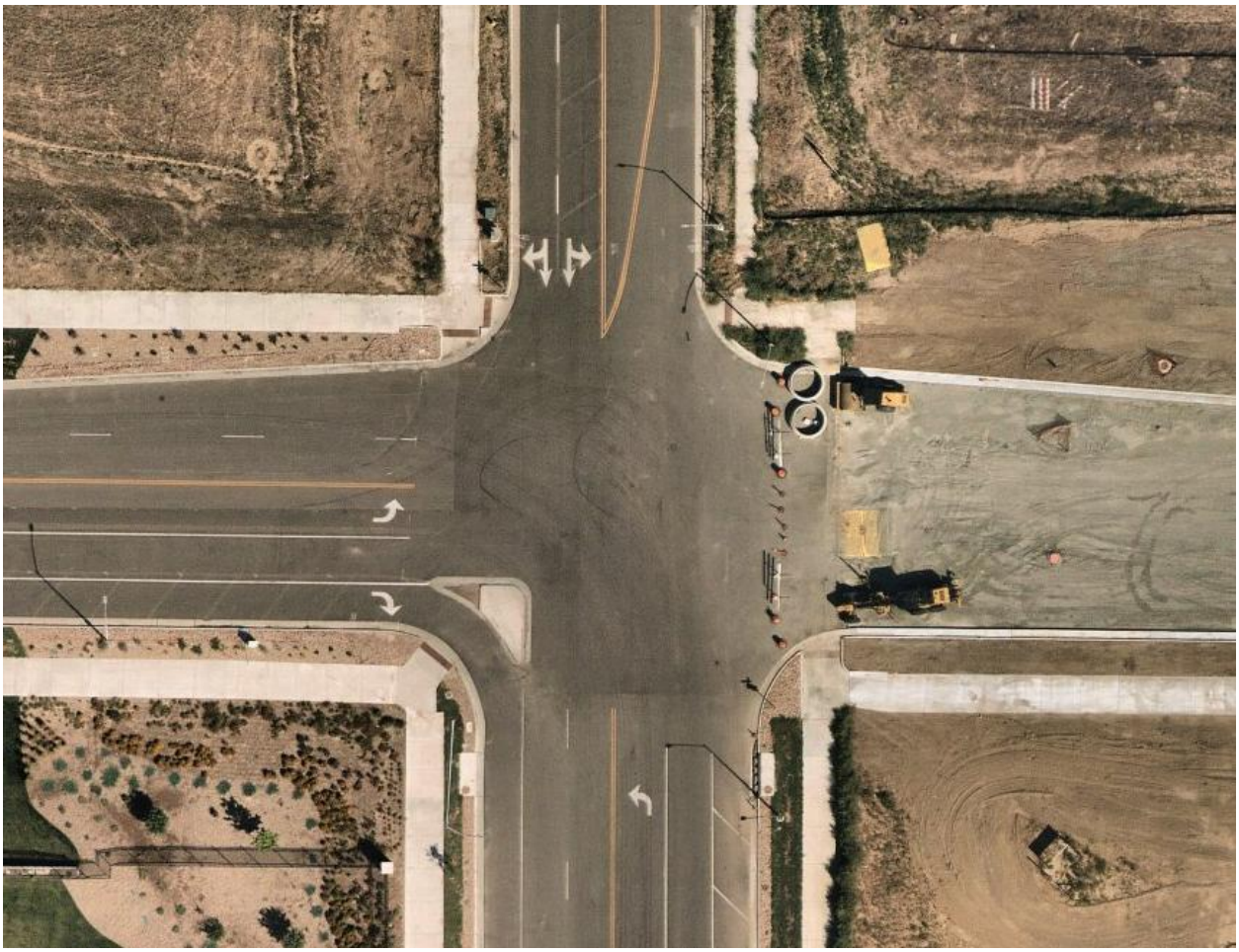
The ‘T’-intersection of 56th Avenue and Jackson Gap Way is unsignalized with stop control along the southbound Jackson Gap Way approach. The southbound approach provides separate left and right turn lanes. The eastbound approach provides a left turn lane and two through lanes. However, 56th Avenue, east of Jackson Gap Way is under construction and has not been widened from two-lanes to four-lanes yet. The aerial below is time stamped in September 2022, however, the westbound approach currently operates with a right turn lane and a through lane from the turning movement count videos in November 2022. An aerial photo of the existing intersection configuration is below.

56th Avenue & Jackson Gap Way

The unsignalized ‘T’-intersection of 56th Avenue and Powhaton Road operates with stop control on the northbound private access approach and southbound approach of Powhaton Road. The south leg is currently unpaved with a single lane northbound approach. The southbound approach provides a left turn lane and a shared through/right turn lane. The eastbound approach of 56th Avenue provides a left turn land and a through lane while the westbound approach provides a left turn lane, a through lane, and a right turn lane. An aerial photo of the existing intersection configuration is below.

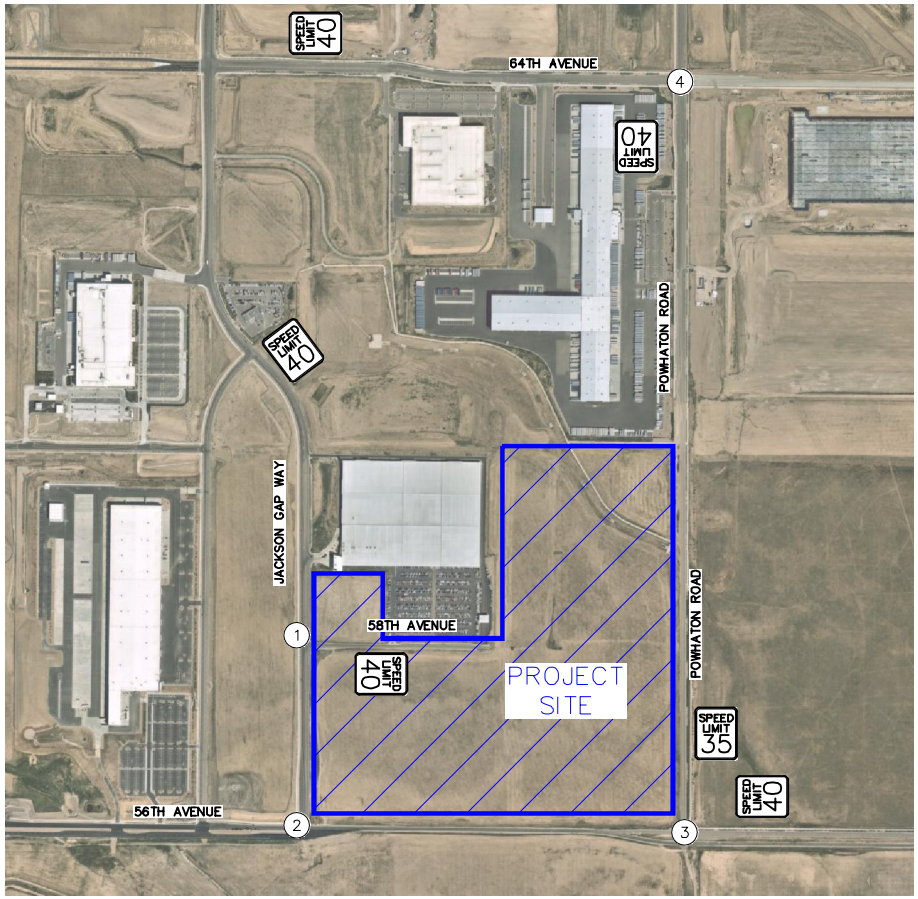
56th Avenue & Powhaton Road

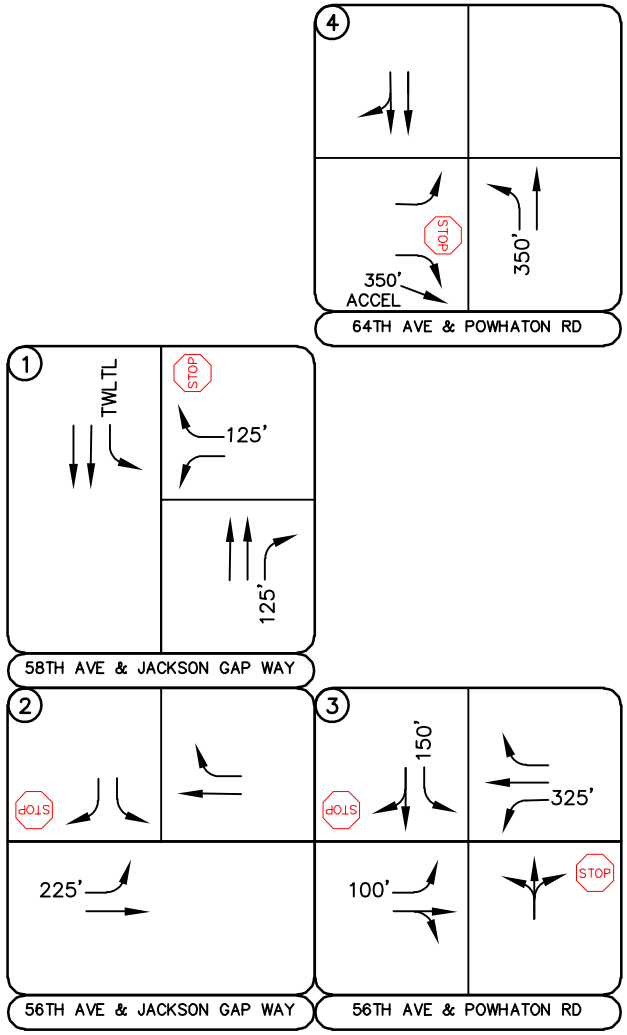
The intersection of 64th Avenue and Powhaton Road currently operates as T-intersection with stop control on the eastbound approach of 64th Avenue. The eastbound approach provides separate left and right turn lanes with the right turn movement operating under free conditions. The northbound approach of Powhaton Road provides a left turn lane and one through lane while the southbound approach provides a through lane and a shared through/right turn lane. The east leg of the intersection is currently under construction. Therefore, pavement is provided and currently striped out for the eastbound through lane, a northbound right turn lane, and a southbound left turn lane. An aerial photo of the existing intersection configuration is below.



64th Avenue & Powhaton Road

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





LEGEND

- Study Area Key Intersection
- Stop Controlled Approach
- Roadway Speed Limit
- 100' Turn Lane Length (feet)

FIGURE 2
FINE POINT BUSINESS PARK
AURORA, COLORADO
EXISTING GEOMETRY AND CONTROL

3.3 Existing Traffic Volumes

Existing turning movement counts were conducted at the 58th Avenue / Jackson Gap Way and 56th Avenue / Powhaton Road intersection on Wednesday, November 9, 2022, at the 56th Avenue / Jackson Gap Way intersection on Tuesday, November 15, 2022, and at the 64th Avenue / Powhaton Road intersection on Tuesday, September 27, 2022, 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 A**.

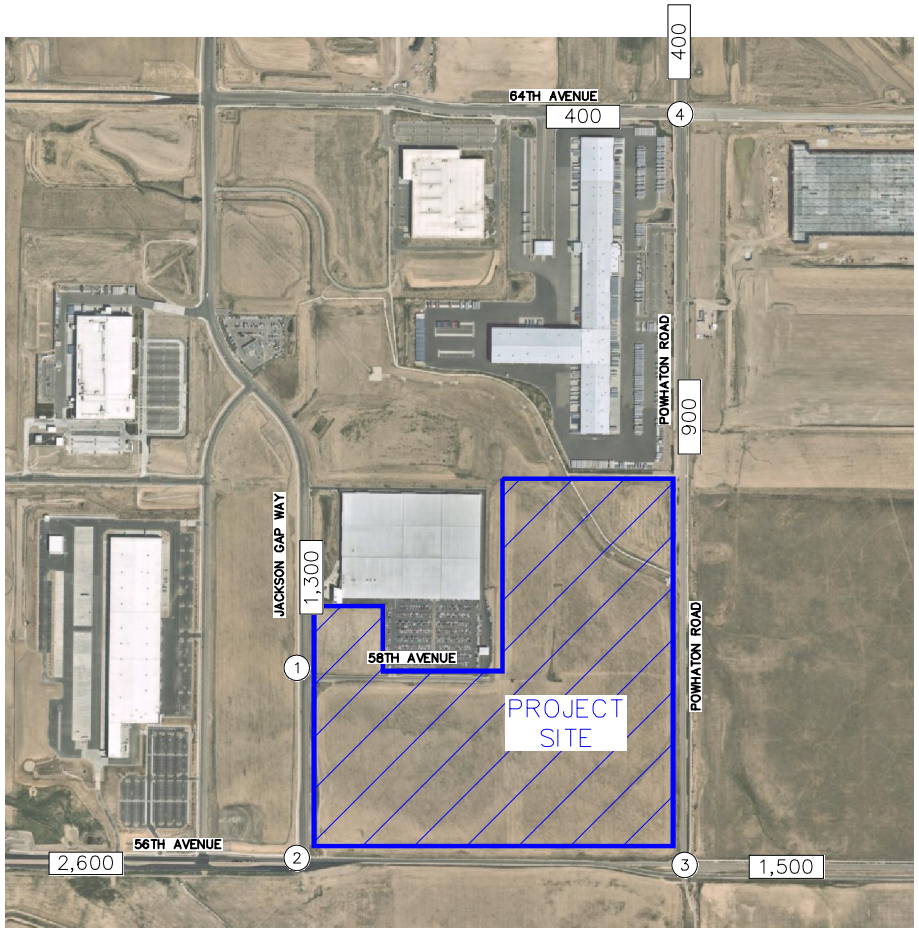
3.4 Unspecified Development Traffic Growth

To conform to City of Aurora Traffic Impact Study Guidelines, a two (2) percent annual growth rate was used to estimate future traffic volume conditions for the short-term horizon. In addition, the Porteos Industrial development and Porteos PA 5 JAG Logistics Center at DIA were directly added to the short-term 2025 background traffic volumes to provide a conservative analysis. Of note, the Porteos PA-5 JAG Logistics Center at DIA is located north of the project and the study intersections do not overlap. Therefore, an assumption of the Porteos PA-5 JAG Logistics Center at DIA traffic coming to and from the south will be split between Jackson Gap Way and Jackson Gap Street.

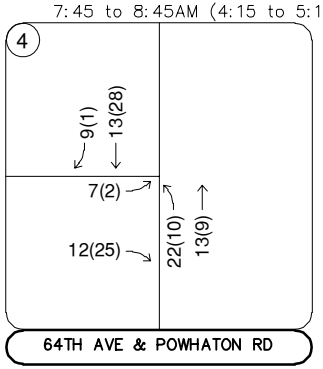
To estimate future twenty-year horizon traffic volumes, the 2040 total traffic volumes in the Porteos Industrial Traffic Impact Study were balanced to align with the Porteos Traffic Impact Study Update prepared in April 2017 and the NEATS Refresh traffic projections. These volumes were used as the 2040 background traffic volumes.

However, the 64th Avenue / Powhaton Road intersections used the total short-term and long-term traffic volumes from the Costco Maintenance Traffic Impact Study completed in October 2022 to determine 2025 and 2040 background traffic volumes.

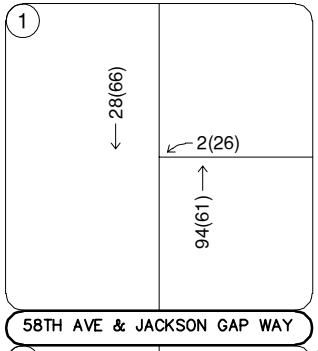
The background studies are included in **Appendix B.** Background traffic volumes for 2025 and 2040 are shown in **Figures 4** and **5**, respectively.



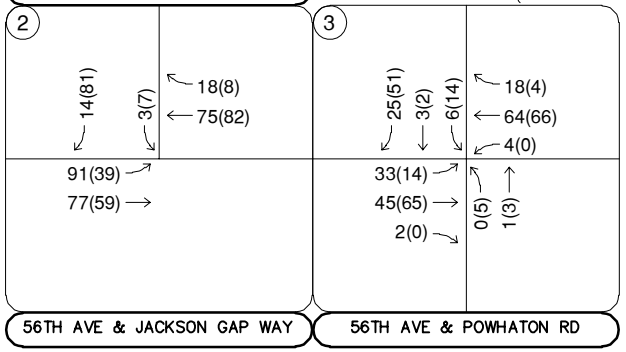
Tuesday, September 27, 2022
7:45 to 8:45AM (4:15 to 5:15PM)



Wednesday, November 9, 2022
7:30 to 8:30AM (4:30 to 5:30PM)



Wednesday, November 9, 2022
7:00 to 8:00AM (4:00 to 5:00PM)



Tuesday, November 15, 2022
7:00 to 8:00AM (4:00 to 5:00PM)

LEGEND

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

FIGURE 3
FINE POINT BUSINESS PARK
AURORA, COLORADO
2022 EXISTING TRAFFIC VOLUMES

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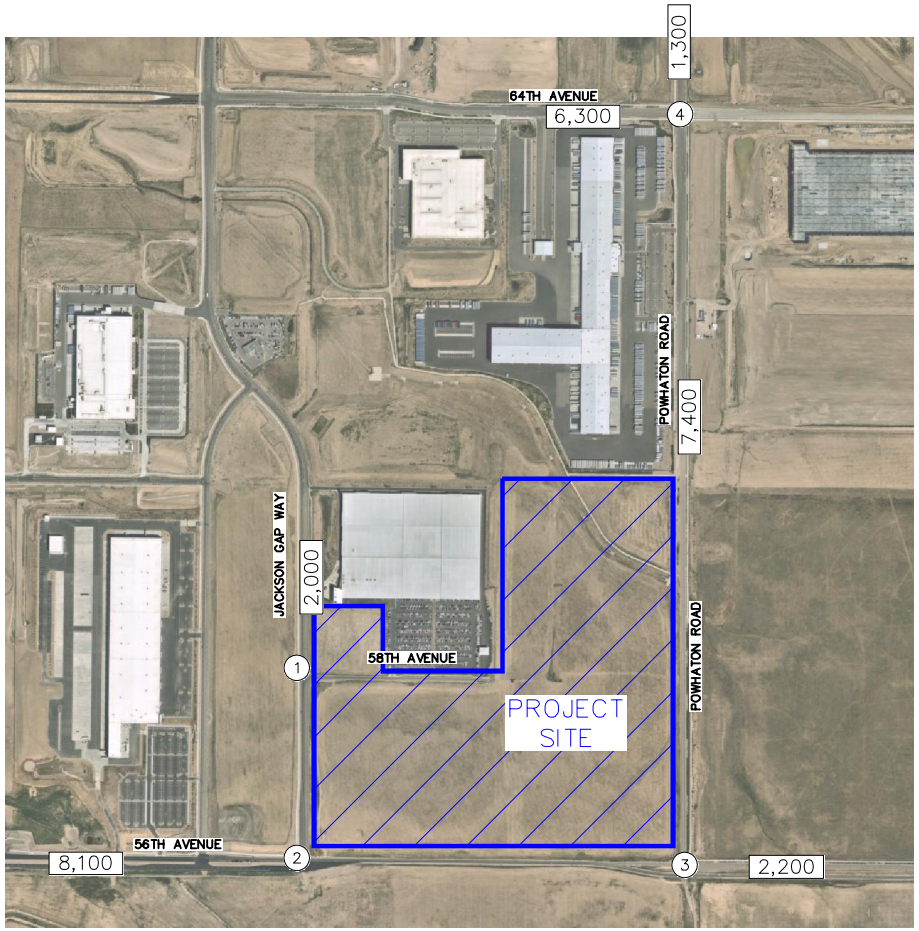
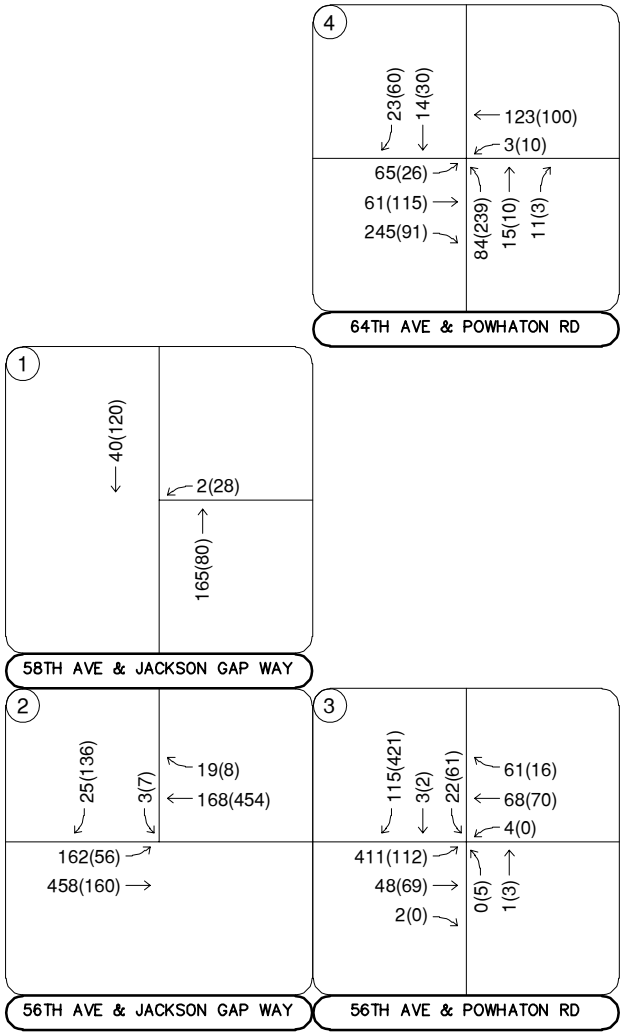


Note: By 2025, the future geometry will be what is shown in Figure 14.



LEGEND

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

FIGURE 4
FINE POINT BUSINESS PARK
AURORA, COLORADO
2025 BACKGROUND TRAFFIC VOLUMES

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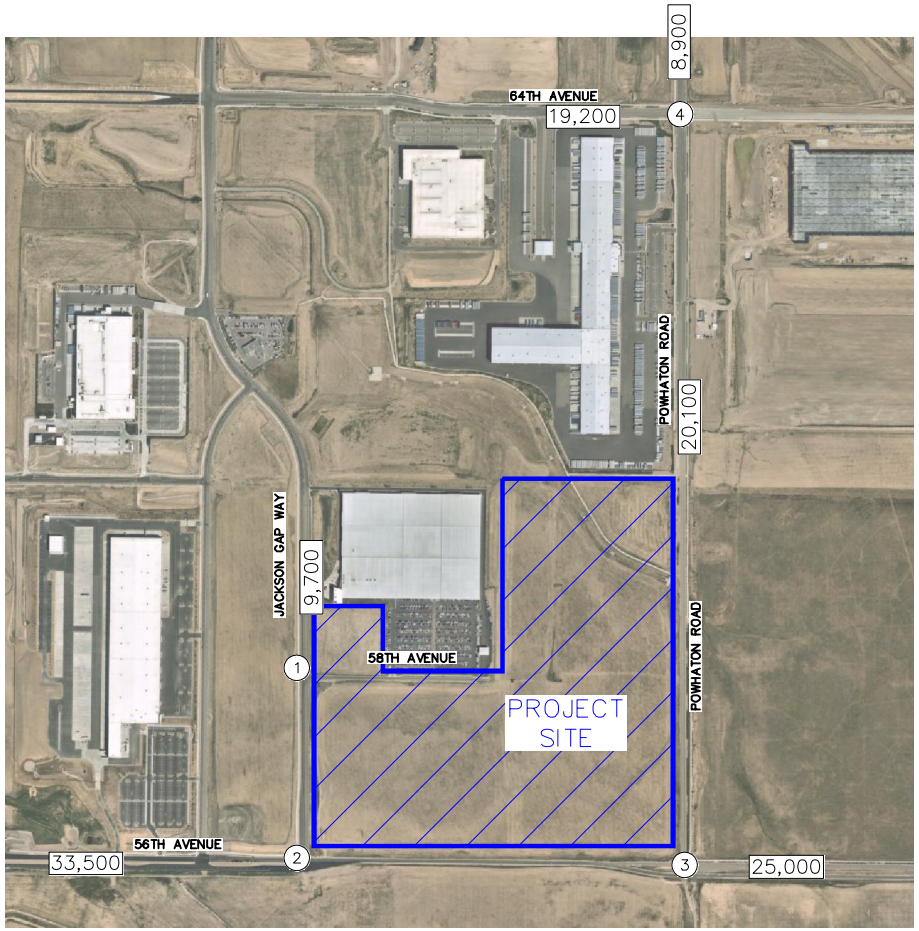
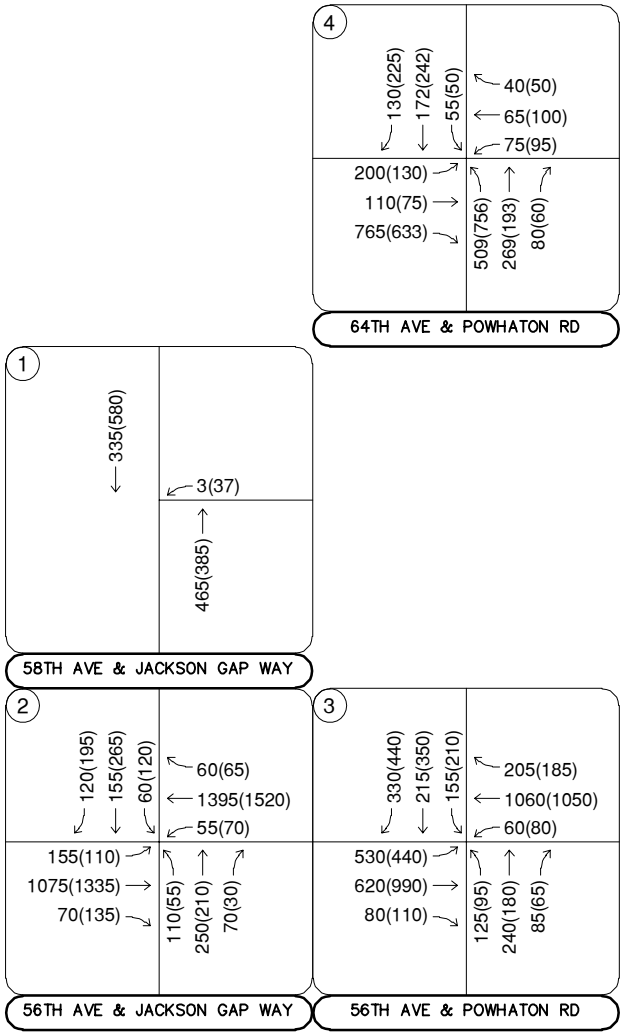




LEGEND

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

FIGURE 5
FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 BACKGROUND TRAFFIC VOLUMES

4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*[1] published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn used the ITE Trip Generation Report average rates that apply to Industrial Park (ITE Land Use Code 1) and Shopping Plaza (ITE 821) for traffic associated with the development. Since the retail uses are outparcels and separated between 58th Avenue on the north and south sides, the land uses are more closely related to the uses and layout of a shopping plaza.

Fine Point Business Park is expected to generate approximately 15,738 weekday daily trips, with 774 of these trips occurring during the morning peak hour and 1,328 of these trips occurring during the afternoon peak hour. Calculations were based on the procedure and information provided in the ITE *Trip Generation Manual, 11th Edition – Volume 1: User's Guide and Handbook*, 2021. **Table 1** summarizes the estimated trip generation for the Fine Point Business Park project for the short-term 2025 horizon.

Table 1 – 2025 Fine Point Business Park Traffic Generation

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Industrial Park (ITE 130) –							
426,200 SF (Buildings 3 & 4)	1,438	117	28	145	32	113	145
61,500 SF (Building 5)	208	17	4	21	5	16	21
973,620 SF (Buildings 6, 7, & 8)	3,282	268	63	331	73	258	331
Total Industrial Trips 1,461,320 Square Feet	***4,928***	***402***	***95***	***497***	***110***	***387***	***497***
Shopping Plaza (ITE 821) – 160,100 Square Feet	10,810	172	105	277	407	424	831
Total Project Trips	**15,738**	**574**	**200**	**774**	**517**	**811**	**1,328**

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

Since the project is a commercial development, pass-by trips are expected. The existing traffic volumes are too low to apply pass-by assignment to some of the intersections. Therefore, the pass-by trips for the retail portion will be applied to the 2040 long-term horizon. It should be noted that pass-by trips were only conservatively applied to the long-term horizon as traffic volumes are currently not high enough to attract pass-by volumes to the level documented in ITE. These pass-by trips are vehicles already on the street network that will be attracted to the gas station. The pass-by percentages were obtained from the ITE "Trip Generation Manual", Eleventh Edition which has a pass-by percentage of 40 percent during the afternoon peak hour for Shopping Plaza. Therefore, accounting for pass-by, expected net new (non-pass-by) trips to the surrounding street network results in the approximately 11,738 weekday daily trips, of which 663 trips and 996 trips are anticipated during the weekday morning and afternoon peak hours, respectively. The trip generation worksheets are included in **Appendix C**.

Table 2 – 2040 Fine Point Business Park Traffic Generation

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Industrial Park –							
426,200 SF (Buildings 3 & 4)	1,438	117	28	145	32	113	145
61,500 SF (Building 5)	208	17	4	21	5	16	21
973,620 SF (Buildings 6, 7, & 8)	3,282	268	63	331	73	258	331
Total Industrial Trips 1,461,320 Square Feet	***4,928***	***402***	***95***	***497***	***110***	***387***	***497***
Shopping Plaza Non-Pass-By 160,100 Square Feet	10,810	172	105	277	244	254	499
Shopping Plaza Pass-By	-	-	-	-	163	170	332
Total Non-Pass-By Trips	**15,738**	**574**	**200**	**774**	**354**	**641**	**996**
Total Pass-By Trips	**-**	**-**	**-**	**-**	**163**	**170**	**332**

4.2 Trip Distribution

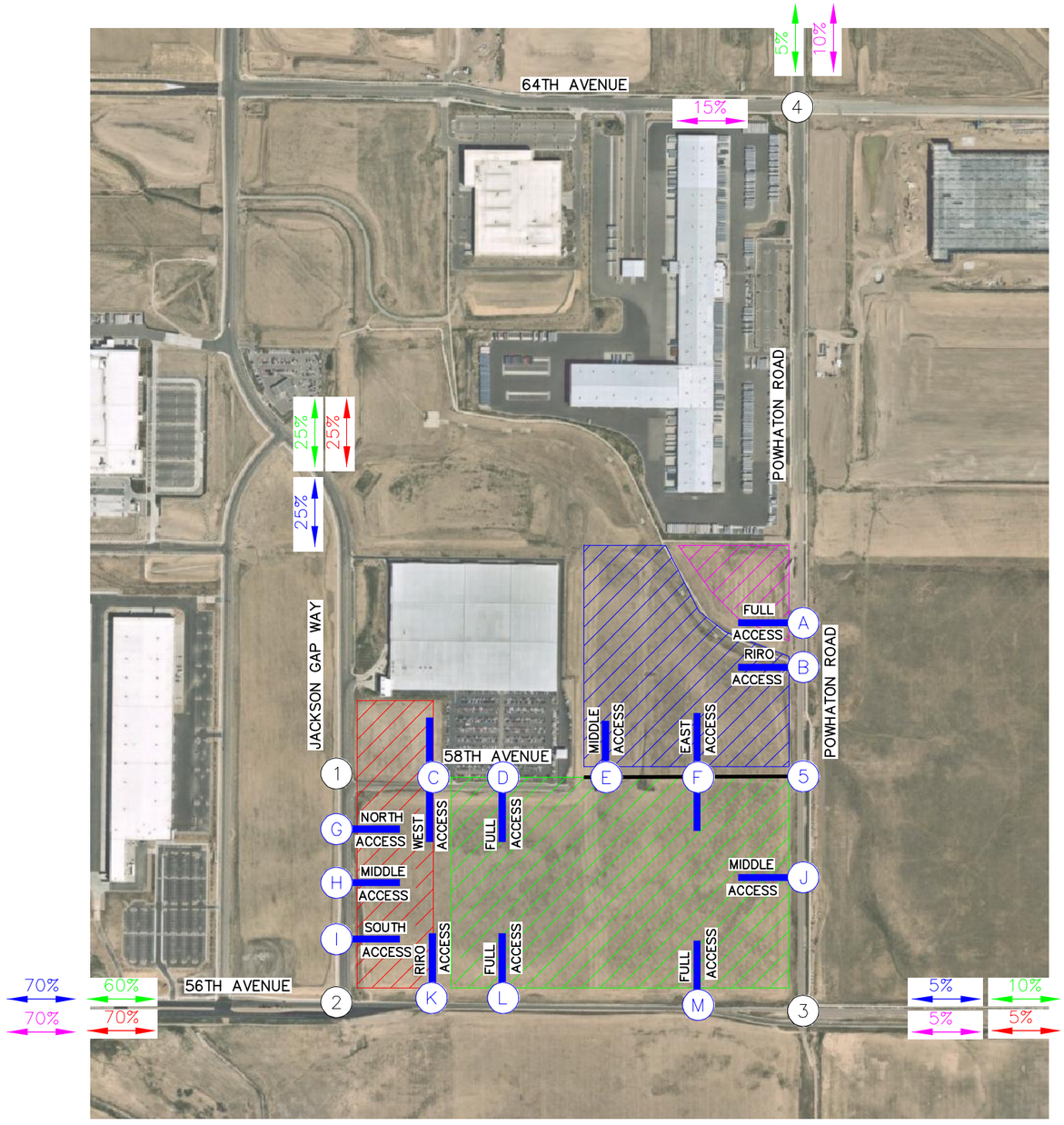
Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic information, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The trip distribution has been appropriately aligned to future roadway network and future traffic volume projections identified in NEATS. Therefore, because the surrounding roadway network is expected to change by 2040 per NEATS, two separate project trip distributions were developed for both horizon analysis years. The external project trip distribution for the proposed development is illustrated in **Figure 6** for the 2025 short-term horizon and **Figure 7** for the 2040 long-term horizon. The intersection trip distribution figures are attached in **Appendix D.**

4.3 Traffic Assignment

Fine Point Business Park traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. The non pass-by traffic assignment is shown in **Figure 8** for the 2025 horizon and **Figure 9** for the 2040 horizon**.** As mentioned, the retail portion of the development in the long-term horizon will have pass-by trips. Therefore, the pass-by assignment for the long-term horizon trip generation is illustrated in **Figure 10.**

4.4 Total (Background Plus Project) Traffic

Site traffic volumes were added to the background volumes to represent estimated traffic conditions for the short-term 2025 buildout horizon and long-term 2040 twenty-year planning horizon. These total traffic volumes for the study area are illustrated for the 2025 and 2040 horizon years in **Figures 11** and **12**, respectively.



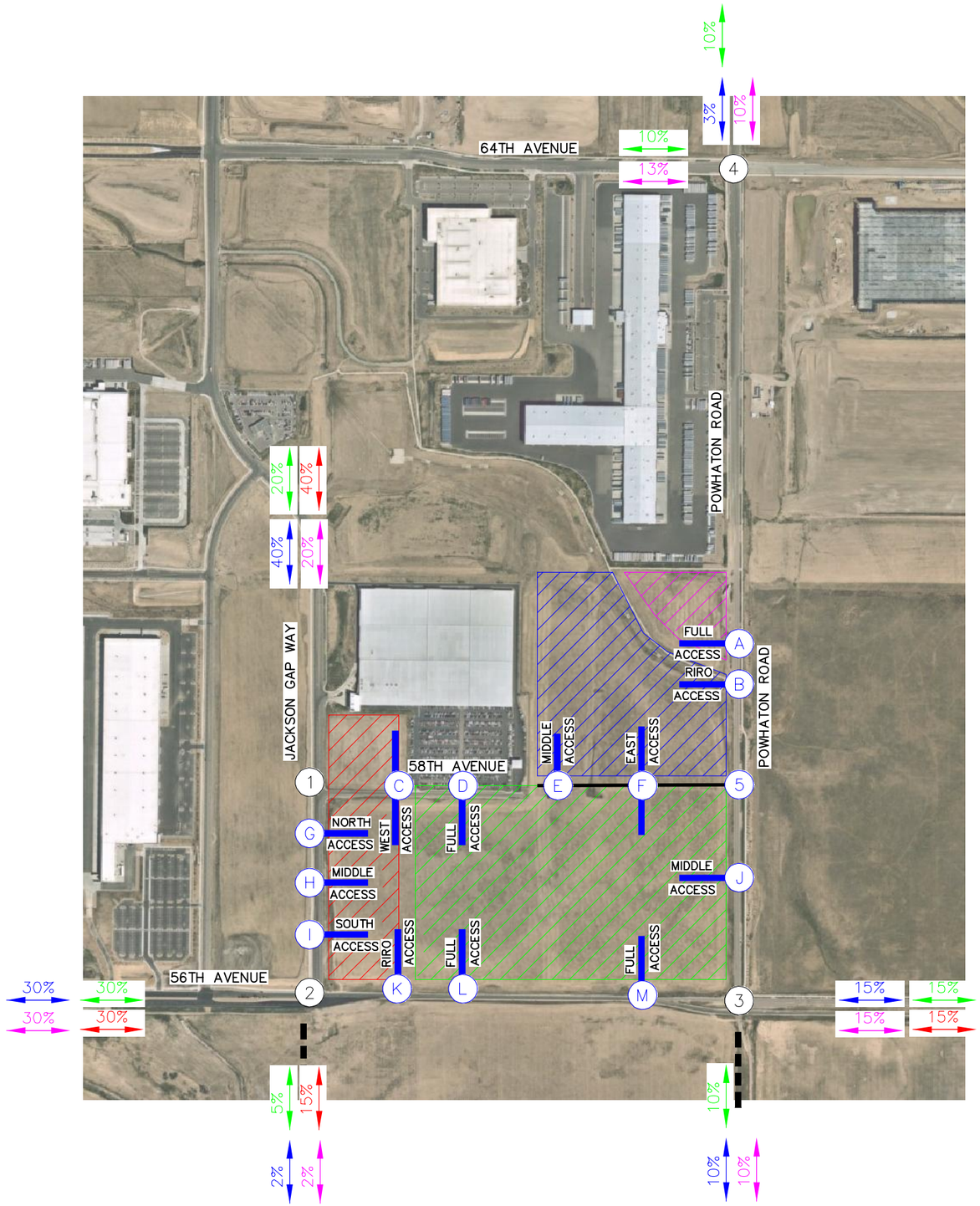
LEGEND

- X — Study Area Key Intersection
- X — Project Access Intersection
- XX% — External Trip Distribution Percentage
- Building 3,4
- Building 5
- Building 6,7,&8
- Building Retail

Kimley»Horn NORTH NTS 196617000

FIGURE 6
FINE POINT BUSINESS PARK
AURORA, COLORADO
2025 PROJECT TRIP DISTRIBUTION

Kimley»Horn



LEGEND

- X — Study Area Key Intersection
- X — Project Access Intersection
- XX% — External Trip Distribution Percentage
- Building 3,4
- Building 5
- Building 6,7,&8
- Building Retail

Kimley»Horn NORTH NTS 196617000

FIGURE 7

FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 PROJECT TRIP DISTRIBUTION

Kimley»Horn

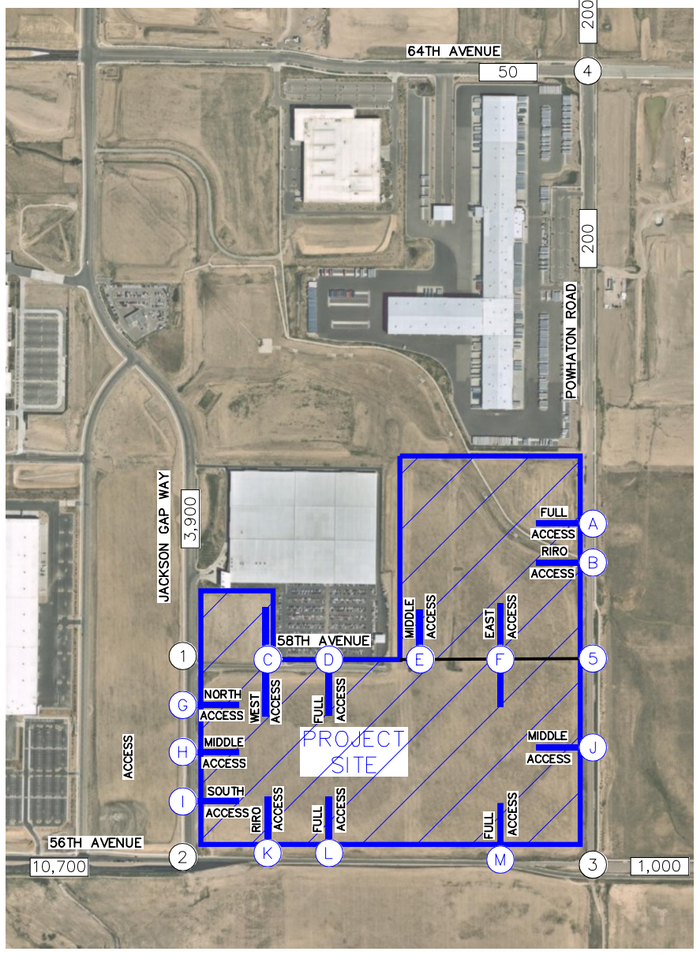
LEGEND

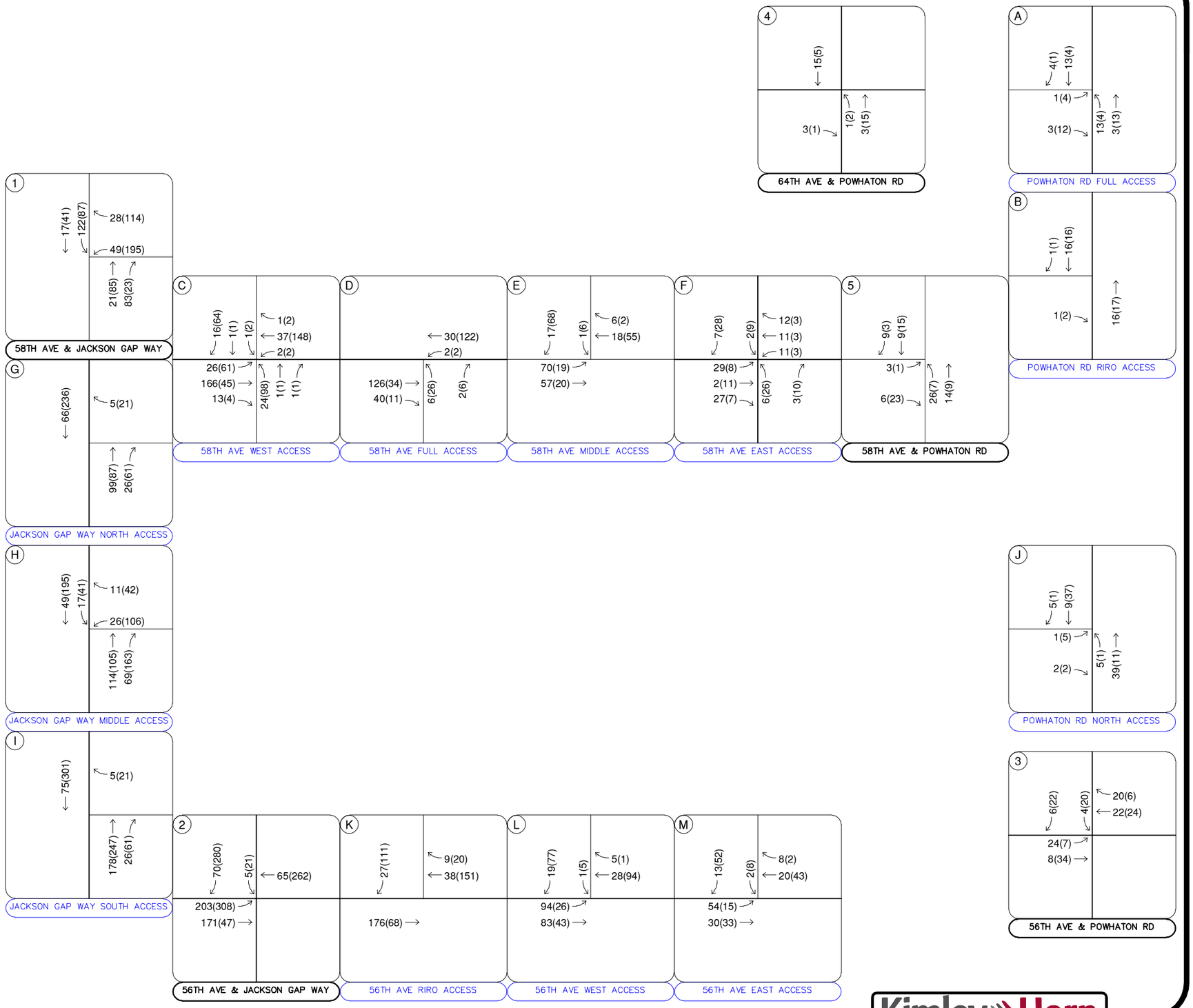
(X) Study Area Key Intersection

(X) Project Access Intersection

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

[XX,X00] Estimated Daily Traffic Volume





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NTS 196617000

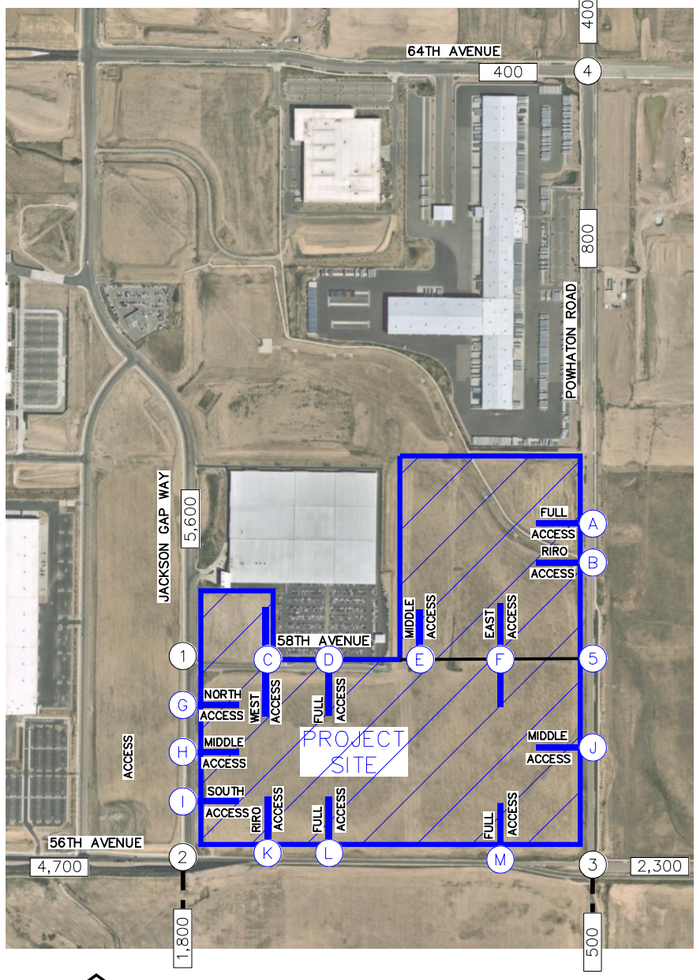
FIGURE 8

FINE POINT BUSINESS PARK
AURORA, COLORADO
2025 PROJECT TRAFFIC ASSIGNMENT

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



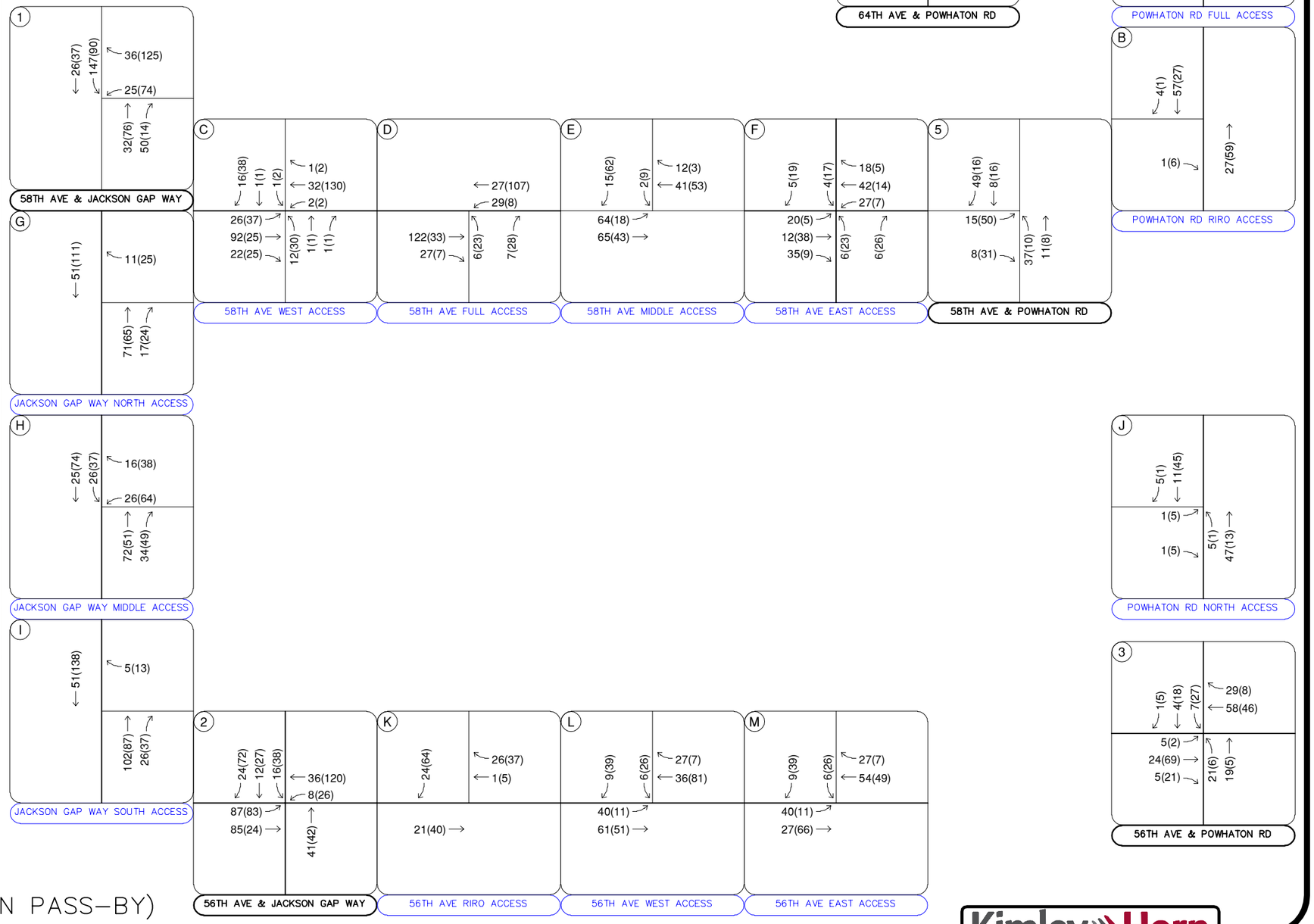


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FIGURE 9

FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 PROJECT TRAFFIC ASSIGNMENT (NON PASS-BY)

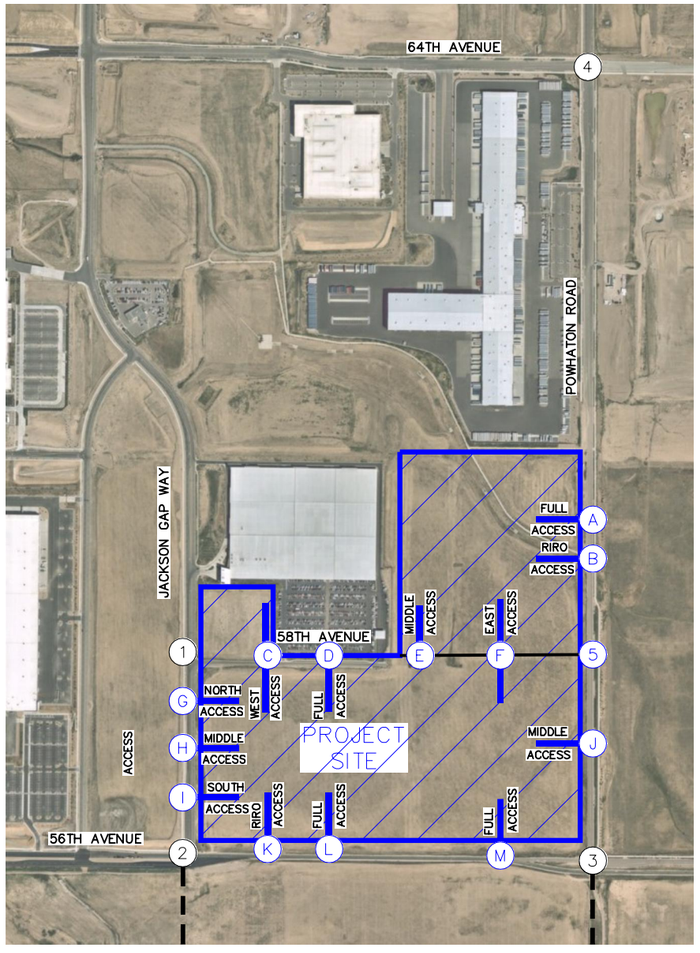
Kimley»Horn

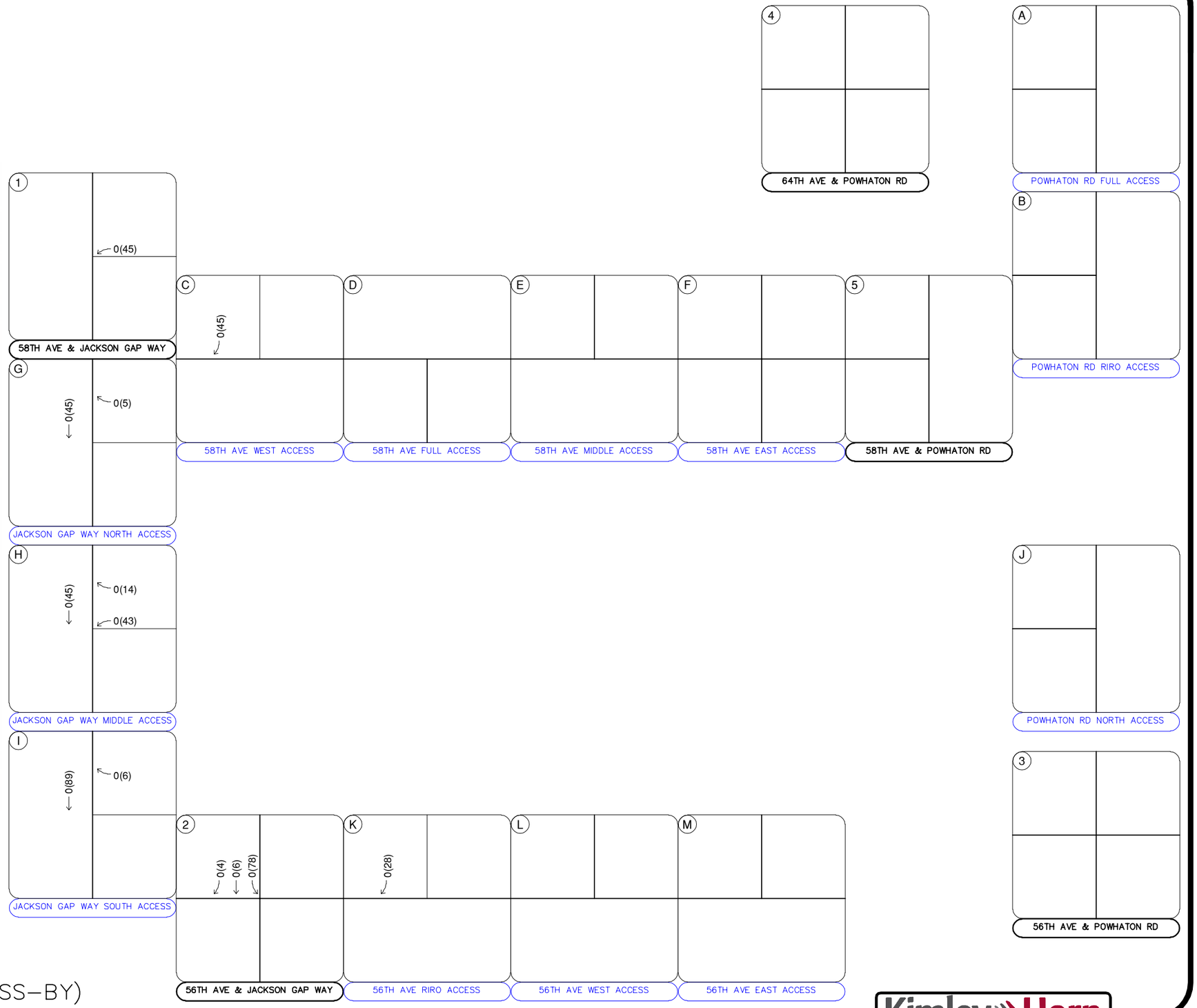
LEGEND

X — Study Area Key Intersection

X — Project Access Intersection

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





Kimley»Horn NORTH

NTS 196617000

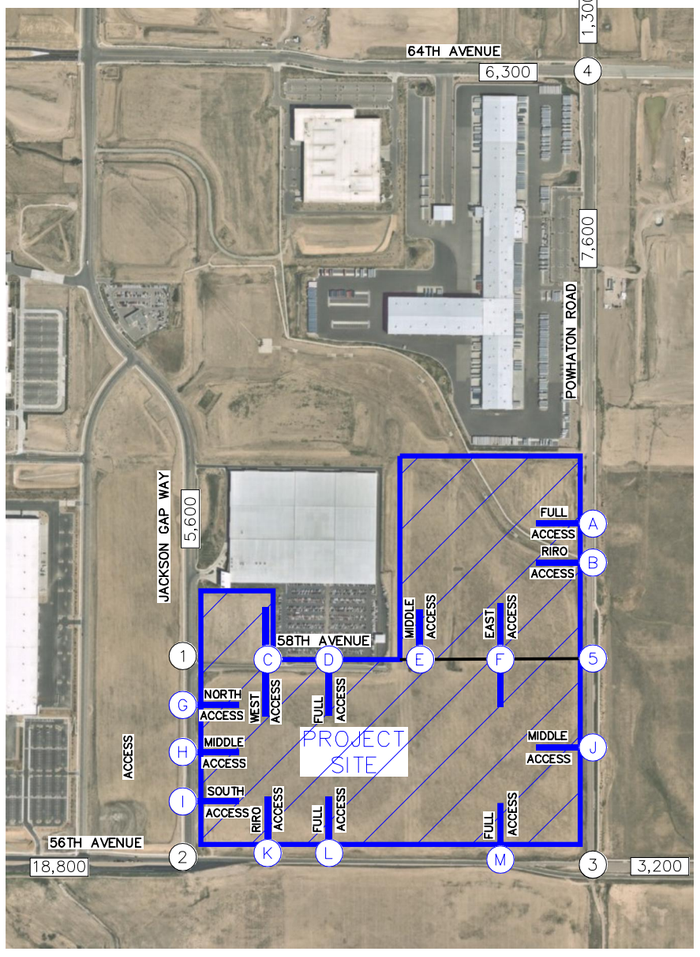
FIGURE 10

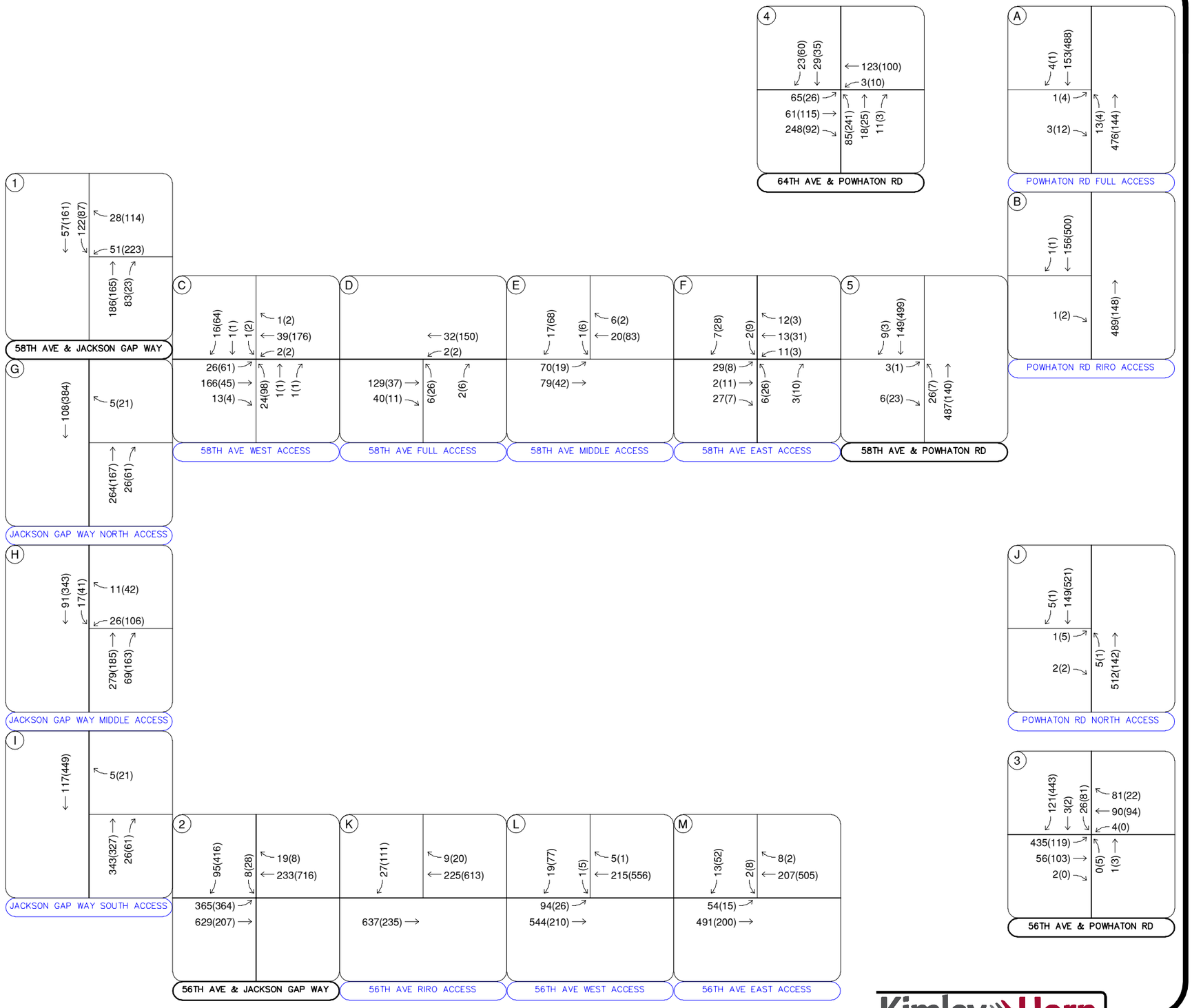
FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 PROJECT TRAFFIC ASSIGNMENT (PASS-BY)

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





Kimley»Horn NORTH
NTS 196617000

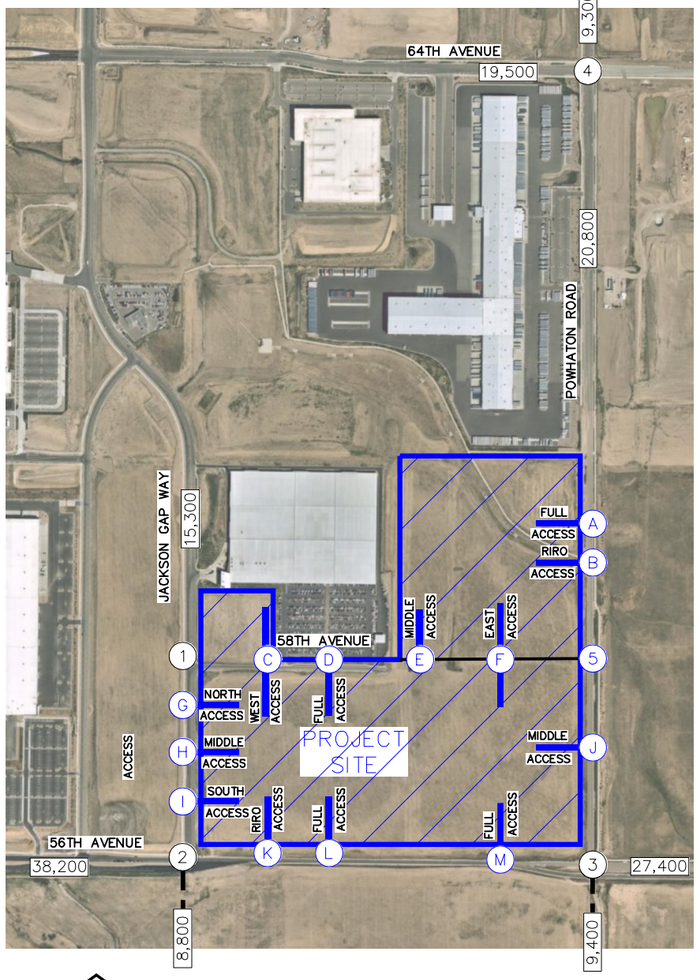
FIGURE 11

FINE POINT BUSINESS PARK
AURORA, COLORADO
2025 TOTAL TRAFFIC VOLUMES

Kimley»Horn

LEGEND

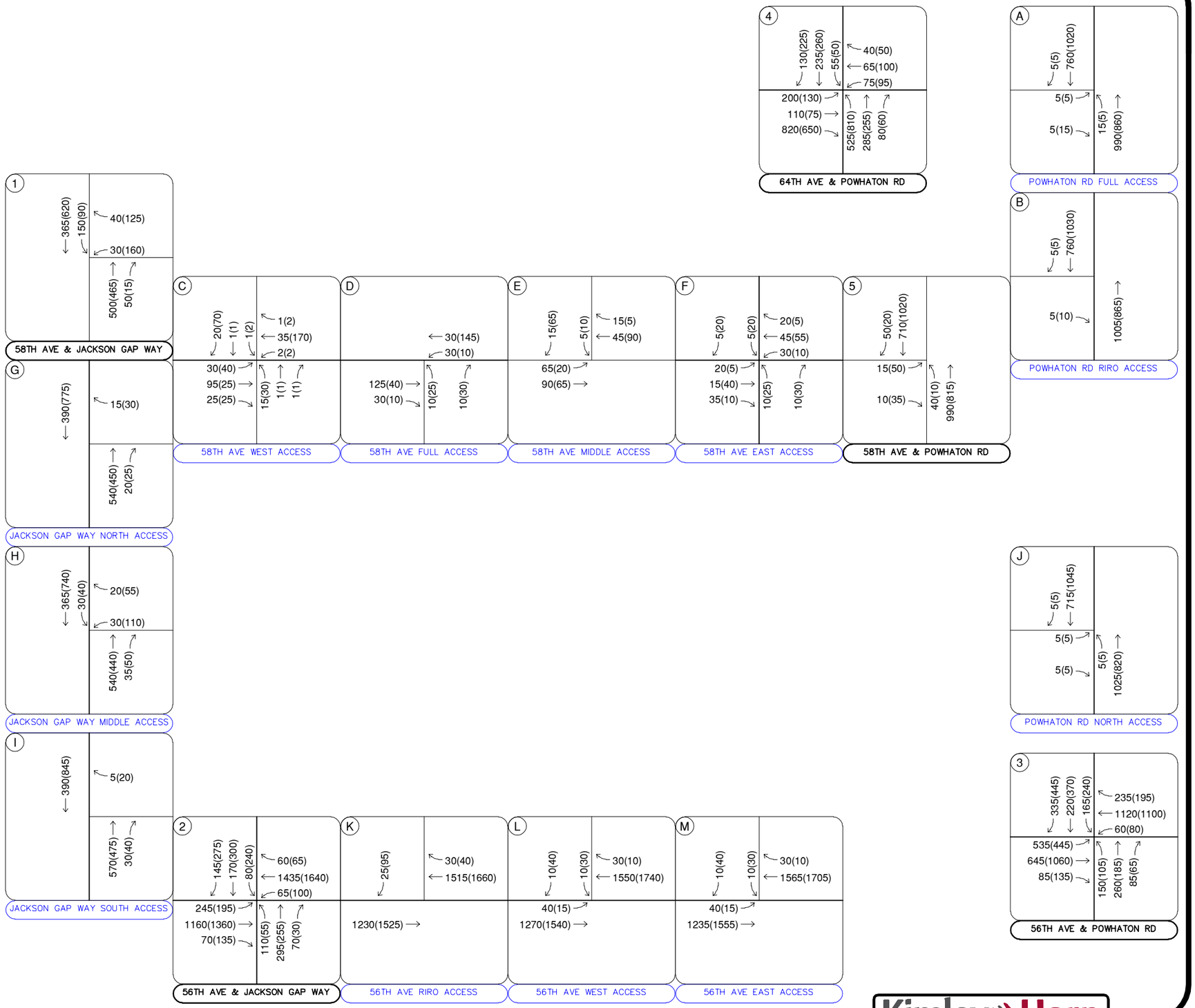
- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume



Kimley»Horn NORTH
NTS 196617000

FIGURE 12

FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 TOTAL TRAFFIC VOLUMES



Kimley»Horn

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2025 and 2040 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 3** shows the definition of level of service for signalized and unsignalized intersections.

Table 3 – Level of Service Definitions

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

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

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

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. LOS for signalized, roundabout, and 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 and the project accesses 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.** However, the geometry and control that will be used in the background analysis is shown in magenta coloring in **Figure 14** for the short-term and **Figure 15** for the long-term horizon. Existing peak hour factors were utilized in the existing and 2025 horizon analysis years while the HCM urban standard of 0.92 was used for the long-term 2040 horizon analysis. Synchro traffic analysis software was used to analyze the signalized, and unsignalized key intersections for HCM level of service.

58th Avenue and Jackson Gap Way

The unsignalized 'T'-intersection of 58th Avenue and Jackson Gap Way operates with stop control on the westbound approach of 58th Avenue. With this control and the existing lane configurations, all movements at this intersection currently operate acceptably with LOS A during morning and afternoon peak hours. With project traffic, the intersection is anticipated to operate acceptably through the long-term 2040 horizon. 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. **Table 4** provides the results of the LOS analysis conducted at this intersection.

Table 4 – 58th Avenue & Jackson Gap Way LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing				
Westbound Left	9.3	A	9.2	A
Southbound Left	0.0	A	0.0	A
2025 Background				
Westbound Left	9.7	A	9.4	A
Southbound Left	0.0	A	0.0	A

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2025 Background Plus Project				
Westbound Left	12.2	B	15.5	C
Westbound Right	9.1	A	9.5	A
Southbound Left	8.4	A	7.9	A
2040 Background				
Westbound Left	10.1	B	11.2	B
Westbound Right	0.0	A	0.0	A
Southbound Left	0.0	A	0.0	A
2040 Background Plus Project				
Westbound Left	14.2	B	17.9	C
Westbound Right	9.3	A	9.9	A
Southbound Left	8.5	A	8.0	A

56th Avenue and Jackson Gap Way

The 'T'-intersection of 56th Avenue and Jackson Gap Way is unsignalized with stop control along the southbound Jackson Gap Way approach. With this control and the existing lane configurations, all movements at this intersection currently operate and are expected to continue to operate acceptably with LOS B or better during morning and afternoon peak hours throughout the short-term horizon. With build out of this development, the existing two-lane section along 56th Avenue will be widened to a three-lane divided section with separate left turn lanes.

By the long-term 2040 horizon, an MUTCD Four Hour Signal Warrant Analysis was completed, and it is determined that all four hours are anticipated to be met for signalization based on background traffic volumes. The four-hour signal warrant is included in **Appendix G.** Signalization of this intersection is consistent with the background traffic studies in the surrounding area. The NEATS Refresh identifies Jackson Gap Way and 56th Avenue ultimately as six-lane roadways adjacent to the project. However, this intersection of 56th Avenue and Jackson Gap Way is expected to operate acceptably as four-lane roadways with 2040 traffic projections; therefore, were evaluated as such in this study. If both 56th Avenue and Jackson Gap Way are constructed as six-lane roadways by 2040, the intersections and accesses along these roadways within the study limits will operate with reduced vehicles delays than reported in this study for 2040. Further, it has been identified in NEATS Refresh that the intersection will include a south leg and two through lanes on the eastbound and westbound approaches. In addition, auxiliary turn lanes will be warranted with the projected 2040 volumes and signalization is anticipated to be needed, as recommended in adjacent development traffic studies. When this improvement occurs, this

intersection is expected to operate acceptably overall with LOS D or better during the morning and afternoon peak hours in the 2040 horizon. **Table 5** provides the results of the level of service at this intersection.

Table 5 – 56th Avenue & Jackson Gap Way LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing				
Eastbound Left	7.7	A	7.5	A
Southbound Left	10.3	B	9.6	A
Southbound Right	8.8	A	9.2	A
2025 Background				
Eastbound Left	8.1	A	8.7	A
Southbound Left	14.6	A	12.3	B
Southbound Right	9.4	A	13.5	B
2025 Background Plus Project #				
Eastbound Left	9.1	A	13.5	B
Southbound Left	24.8	C	28.1	D
Southbound Right	10.3	B	42.8	E
2040 Background #$	**28.1**	**C**	**30.3**	**C**
Eastbound Approach	19.8	B	21.4	C
Eastbound Left	35.9	D	33.8	C
Eastbound Through	18.0	B	21.4	C
Eastbound Right	11.5	B	12.1	B
Westbound Approach	25.2	C	25.9	C
Westbound Left	13.8	B	18.3	B
Westbound Through	26.2	C	26.9	C
Westbound Right	12.8	B	11.7	B
Northbound Approach	47.7	D	48.0	D
Northbound Left	38.9	D	40.5	D
Northbound Through	53.4	D	50.9	D
Northbound Right	41.2	D	41.6	D
Southbound Approach	48.8	D	58.1	E
Southbound Left	40.1	D	45.4	D
Southbound Through	50.4	D	62.2	E
Southbound Right	51.1	D	60.3	E

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2040 Background Plus Project #$	**39.4**	**D**	**53.9**	**D**
Eastbound Approach	28.1	C	40.3	D
Eastbound Left	77.4	E	163.5	F
Eastbound Through	18.7	B	25.3	C
Eastbound Right	11.4	B	13.7	B
Westbound Approach	38.1	D	50.3	D
Westbound Left	16.3	B	24.1	C
Westbound Through	40.0	D	53.4	F
Westbound Right	16.2	B	14.5	B
Northbound Approach	69.5	E	86.9	F
Northbound Left	40.0	D	42.6	D
Northbound Through	86.8	F	99.2	F
Northbound Right	43.0	D	43.9	D
Southbound Approach	50.7	D	80.0	E
Southbound Left	42.9	D	126.3	F
Southbound Through	51.3	D	60.4	E
Southbound Right	54.4	D	49.8	D

= Separate Left Turn Lanes
$ = Signalization with Addition of South Leg and Full Intersection Configuration

56th Avenue and Powhaton Road

The unsignalized 'T'-intersection of 56th Avenue and Powhaton Road operates with stop control on the northbound and southbound approaches of Powhaton Road. With this control and the existing lane configurations, all movements at this intersection currently operate acceptably with LOS B or better during morning and afternoon peak hours. As mentioned previously, 56th Avenue and Powhaton Road will be widened from two-lane sections to a three-lane section adjacent to the project's frontage. The three-lane section along Powhaton Road will include a center two-way left turn lane.

By the long-term 2040 horizon, an MUTCD Four Hour Signal Warrant Analysis was completed, and it is determined that all four hours are anticipated to be met for signalization based on background traffic volumes. The four-hour signal warrant is included in **Appendix G.** Signalization of this intersection is consistent with the background traffic studies in the surrounding area. The NEATS Refresh identifies that Powhaton Road will be constructed to the south. The existing second westbound through lane is currently striped out but can be striped once two receiving lanes are constructed. Further, the westbound right turn lane will need to be reconstructed due to currently being in the location of the future through lane. This right turn lane is currently being

dropped as a forced right turn lane. In addition, the southbound right turn lane will be continuous from the second southbound through lane. The auxiliary turn lanes will be warranted with the projected 2040 volumes and the Porteos Industrial Traffic Study identified the intersection to become signalized. When these improvements occur, this intersection is expected to operate acceptably with LOS E better during the morning and afternoon peak hours with project traffic in the long-term 2040 horizon

Of note, if 2040 volumes are realized, NEATS Refresh identifies 56th Avenue with ultimately a six-lane roadway adjacent to the project. With the third through lane, the right turn lanes can be absorbed along 56th Avenue. As shown as a six-lane roadway along 56th Avenue, the intersection will operate with LOS D during both peak hours. **Table 6** provides the results of the level of service at this intersection.

Table 6 – 56th Avenue & Powhaton Road LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing				
Northbound Approach	10.5	B	10.0	B
Eastbound Left	7.7	A	7.5	A
Westbound Left	7.5	A	0.0	A
Southbound Left	9.9	A	9.6	A
Southbound Through/Right	9.1	A	9.0	A
2025 Background				
Northbound Approach	27.0	D	18.3	C
Eastbound Left	9.2	A	7.7	A
Westbound Left	7.5	A	0.0	A
Southbound Left	33.3	D	12.1	B
Southbound Through/Right	10.1	B	12.2	B
2025 Background Plus Project				
Northbound Approach	28.5	D	21.6	C
Eastbound Left	9.1	A	7.8	A
Westbound Left	7.4	A	0.0	A
Southbound Left	32.9	D	13.1	B
Southbound Through/Right	10.0	B	13.1	B

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2040 Background #	**52.6**	**D**	**53.2**	**D**
Eastbound Approach	50.7	D	57.0	E
Eastbound Left	78.6	E	93.1	F
Eastbound Through	30.3	C	44.1	D
Eastbound Right	23.3	C	29.2	C
Westbound Approach	40.6	D	48.2	D
Westbound Left	19.3	B	25.2	C
Westbound Through	44.5	D	53.5	D
Westbound Right	26.9	C	28.4	C
Northbound Approach	75.3	E	50.2	D
Northbound Left	65.7	E	49.6	D
Northbound Through	89.5	F	52.9	D
Northbound Right	48.9	D	43.3	D
Southbound Approach	64.3	E	54.9	D
Southbound Left	116.5	F	46.1	D
Southbound Through	67.6	E	79.7	E
Southbound Right	37.8	D	34.7	C
2040 Background Plus Project #	**59.4**	**E**	**59.1**	**E**
Eastbound Approach	56.3	E	58.6	E
Eastbound Left	91.6	F	96.5	F
Eastbound Through	31.3	C	46.3	D
Eastbound Right	23.9	C	30.4	C
Westbound Approach	46.3	D	57.6	E
Westbound Left	19.4	B	26.8	C
Westbound Through	51.5	D	65.0	F
Westbound Right	28.0	C	29.0	C
Northbound Approach	86.9	F	60.8	E
Northbound Left	93.0	F	68.2	E
Northbound Through	96.1	F	61.7	E
Northbound Right	47.7	D	46.6	D
Southbound Approach	71.9	E	61.7	E
Southbound Left	149.2	F	53.8	D
Southbound Through	64.9	E	91.0	F
Southbound Right	38.4	D	31.4	C

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2040 Background Plus Project #$	**52.0**	**D**	**51.3**	**D**
Eastbound Approach	51.8	D	53.7	D
Eastbound Left	80.7	F	83.2	F
Eastbound Through	30.4	C	42.2	D
Eastbound Right	31.1	C	44.1	D
Westbound Approach	45.9	D	49.7	D
Westbound Left	21.6	C	25.6	C
Westbound Through	44.4	D	48.4	D
Westbound Right	52.1	D	56.8	E
Northbound Approach	67.0	E	51.5	D
Northbound Left	63.0	E	52.8	D
Northbound Through	76.4	E	53.6	D
Northbound Right	45.0	D	43.3	D
Southbound Approach	54.1	D	48.9	D
Southbound Left	89.8	F	43.9	D
Southbound Through	57.5	E	69.0	E
Southbound Right	34.3	C	27.7	C

= Signalization with Addition of South Leg and Full Intersection Configuration, Two EB and WB through Lanes
$ = Three EB and WB Through Lanes, Absorbed Right Turn Lanes along 56th Avenue

64th Avenue and Powhaton Road

The intersection of 64th Avenue and Powhaton Road currently operates as T-intersection with stop control on the eastbound approach of 64th Avenue. The intersection movements operate acceptably at LOS B or better during both peak hours under existing conditions.

The background development of Porteos Industrial will extend 64th Avenue to the east of Powhaton Road. Therefore, the east leg of the intersection will be constructed prior to the full buildout of this project. The westbound approach will operate under stop control with separate left, through, and right turn lanes. In addition, the southbound left, northbound right, and eastbound through lanes that were striped out for future use will be striped for use by 2025 background conditions. With project traffic, all movements are anticipated to continue operating at an acceptable level of service.

By the long-term 2040 horizon, an MUTCD Four Hour Signal Warrant Analysis was completed and was determined that all four hours met signalization based on background traffic volumes. The signal warrant worksheet is included in **Appendix F.** With signalization and 2040 volumes, dual northbound left turn lanes and converting the outside through lane to a right turn lane aligns

with the Porteos Industrial recommendations. The intersection is anticipated to operate with LOS B during both peak hours. **Table 7** provides the results of the LOS analysis conducted at this intersection.

Table 7 – 64th Avenue & Powhaton Road LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing				
Northbound Left	7.3	A	7.3	A
Eastbound Left	9.0	A	8.9	A
Eastbound Right	0.0	A	0.0	A
2025 Background #				
Northbound Left	7.4	A	7.9	A
Eastbound Left	13.3	B	19.6	C
Eastbound Through	11.6	B	18.9	C
Westbound Left	10.7	B	16.2	A
Westbound Through	12.5	B	18.9	C
Southbound Left	0.0	A	0.0	C
2025 Background Plus Project #				
Northbound Left	7.5	A	7.9	A
Eastbound Left	13.4	B	20.3	C
Eastbound Through	11.7	B	19.4	C
Westbound Left	10.8	B	16.5	A
Westbound Through	12.7	B	19.5	C
Southbound Left	0.0	A	0.0	C
2040 Background#$	**17.5**	**B**	**18.4**	**B**
Eastbound Approach	32.3	C	40.4	D
Eastbound Left	31.1	C	38.8	D
Eastbound Through	34.7	C	43.2	D
Westbound Approach	39.4	D	44.9	D
Westbound Left	35.2	D	39.0	D
Westbound Through	43.3	D	50.3	D
Westbound Right	41.1	D	45.5	D
Northbound Approach	9.3	A	8.9	A
Northbound Left	8.2	A	8.9	A
Northbound Through	11.2	B	9.0	A
Northbound Right	9.6	A	8.1	A
Southbound Approach	13.4	B	15.8	B
Southbound Left	10.5	B	11.5	B
Southbound Through	13.8	B	16.1	B
Southbound Right	14.0	B	16.4	B

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2040 Background Plus Project #$	**17.7**	**B**	**18.6**	**B**
Eastbound Approach	33.4	C	42.0	D
Eastbound Left	32.1	C	40.4	D
Eastbound Through	35.7	D	44.8	D
Westbound Approach	40.6	D	46.7	D
Westbound Left	36.2	D	40.5	D
Westbound Through	44.6	D	52.3	D
Westbound Right	42.3	D	47.2	D
Northbound Approach	9.4	A	9.3	A
Northbound Left	8.4	A	9.3	A
Northbound Through	11.3	B	9.4	A
Northbound Right	9.5	A	8.1	A
Southbound Approach	13.9	B	16.6	B
Southbound Left	10.6	B	12.0	B
Southbound Through	14.3	B	16.9	B
Southbound Right	14.5	B	17.2	B

= Addition of East Leg
$ = Signalized

Project Accesses

With completion of the Fine Point Business Park project, 58th Avenue will be extended from the mid-section line east of Jackson Gap Way (#1) to Powhaton Road (#5) and a total of 13 project accesses will be provided along Jackson Gap Way, 58th Avenue, Powhaton Road, and 56th Avenue. Three (3) accesses (#G, H, and I) are proposed along Jackson Gap Way, four (4) accesses (#C, D, E, & F) are proposed along 58th Avenue, three (3) accesses (#A, B, and J) are proposed along Powhaton Road, and three (3) accesses (#K, L, and M) are proposed along 56th Avenue. The access roadways along Jackson Gap Way, Powhaton Road, 58th Avenue, and 56th Avenue all will be private roadways.

Powhaton Road is a five-lane section with a center two-way left turn lane north of the project. Of note, 56th Avenue and Powhaton Road will be constructed with one through lane in each direction and left turn lanes in the interim. 56th Avenue was evaluated as a four-lane roadway with a center median and left turn lanes at intersections and accesses. The NEATS Refresh identifies Jackson Gap Way and 56th Avenue ultimately as six-lane roadways adjacent to the project. However, 56th Avenue and Jackson Gap Way are both expected to operate acceptably as four-lane roadways with 2040 traffic projections; therefore, were evaluated as such in this study. If both 56th Avenue and Jackson Gap Way are constructed as six-lane roadways by 2040, the intersections and

accesses along these roadways within the study limits will operate with reduced vehicles delays than reported in this study for 2040.

The future intersection of 58th Avenue and Powhaton Road (#5) is proposed to operate with stop control on the eastbound approach of 58th Avenue. Access B, G, I, and K are proposed to be restricted to right-in/right-out movements. All accesses are recommended to provide R1-1 "STOP" signs on the approaches exiting the development. In addition, at the right-in/right-out accesses, R3-2 "No Left Turn" signs are recommended to be placed below the R1-1 signs. Further, additional signage and physical restrictions could be considered to restrict left turn movements into the site and left turn movements out of the site if desired. **Table 8** provides the results of the level of service for the proposed project accesses and future intersection. As shown in the table, all proposed access intersections are anticipated to have all movements operating with acceptable LOS C or better during the peak hours in both the buildout year 2025 and the 2040 long term horizons.

Table 8 – Project Access Level of Service Results

Intersection	2025 Total				2040 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
58th Ave & Powhaton Rd (#5)								
Northbound Left	7.6	A	8.5	A	9.8	A	11.0	B
Eastbound Approach	10.2	B	12.0	B	14.0	B	21.3	C
Powhaton Rd Full Access (#A)								
Northbound Left	7.6	A	8.5	A	9.6	A	10.8	B
Eastbound Approach	10.4	B	12.4	B	23.0	C	21.5	C
Powhaton Rd RIRO Access (#B)								
Eastbound Right	9.1	A	11.7	B	11.2	B	12.8	B
58th Ave West Access (#C)								
Northbound Approach	10.9	B	14.5	B	10.3	B	12.4	B
Eastbound Left	7.3	A	7.7	A	7.3	A	7.7	A
Westbound Left	7.6	A	7.3	A	7.5	A	7.3	A
Southbound Approach	8.8	A	9.8	A	8.7	A	9.8	A
Powhaton Rd Full Access (#D)								
Northbound Approach	9.5	A	9.6	A	9.6	A	9.4	A
Westbound Left	7.6	A	7.3	A	7.6	A	7.3	A
58th Ave Middle Access (#E)								
Eastbound Left	7.4	A	7.4	A	7.5	A	7.5	A
Southbound Approach	8.6	A	9.1	A	9.1	A	9.3	A

Intersection	2025 Total				2040 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
58th Ave East Access (#F)								
Northbound Approach	9.1	A	9.1	A	9.3	A	9.3	A
Eastbound Left	7.3	A	7.3	A	7.4	A	7.4	A
Westbound Left	7.3	A	7.3	A	7.4	A	7.3	A
Southbound Approach	8.7	A	8.8	A	9.4	A	9.3	A
Jackson Gap North Access (#G)								
Westbound Approach	9.2	A	9.1	A	9.2	A	9.2	A
Jackson Gap Middle Access (#H)								
Westbound Approach	11.0	B	13.7	B	11.5	B	18.5	C
Southbound Left	8.1	A	8.2	A	7.9	A	7.9	A
Jackson Gap South Access (#I)								
Westbound Right	9.5	A	9.7	A	9.3	A	9.1	A
Powhaton Rd Access (#J)								
Northbound Left	7.6	A	8.6	A	9.4	A	11.0	B
Eastbound Approach	10.3	B	12.5	B	13.0	B	17.1	C
56th Ave RIRO Access (#K)								
Southbound right	9.7	A	15.8	C	13.5	B	18.4	C
56th Ave West Access (#L)								
Eastbound Left	7.9	A	8.8	A	11.1	B	12.2	B
Southbound Approach	9.9	A	13.8	B	16.4	C	22.4	C
56th Ave East Access (#M)								
Eastbound Left	7.9	A	8.8	A	16.4	B	12.2	B
Southbound Approach	9.9	A	13.8	B	32.0	d	22.4	C

5.3 Future Roadway Network

The ultimate roadway sections along the study roadways were identified in the NEATS Refresh document or recommended to match existing cross-sections of already constructed roadways. Therefore, the following future roadway network recommendations were identified to be needed based on operational needs.

Powhaton Road will be improved to a five-lane section from the limits of the improvements from the north to 56th Avenue.

NEATS Refresh identifies 56th Avenue with ultimately a six-lane roadway adjacent to the project; however, the interim cross-section will be a three-lane section from Jackson Gap Way to Powhaton Road. Three through lanes may be needed at the Powhaton Road (#3) intersections for the overall intersection to operate at LOS D.

58th Avenue is planned to be a collector roadway with bicycle lanes and on-street parking. 58th Avenue will be extended from the mid-section line east of Jackson Gap Way to Powhaton Road.

By project buildout in 2025, the west leg of 64th Avenue at Jackson Gap Way opening to through traffic from E-470.

5.4 Turn Bay Length Analysis

The City of Aurora defaults to the Colorado Department of Transportation (CDOT) State Highway Access Code (SHAC) guidelines to determine if turn lanes are warranted at studied intersections. CDOT classifies their state highways based on roadway types. It is believed that Jackson Gap Way, 56th Avenue, and Powhaton Road match the characteristics of a CDOT NR-B or NR-C roadway.

According to the State Highway Access Code for category NR-B and NR-C 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. If the posted speed is greater than 40 mph, a deceleration lane and taper is required for any access with a projected peak hour left ingress turning volume greater than 10 vehicles per hour.
- 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, 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.

Table 9 summarizes if auxiliary turn lanes are warranted and if so, the turn lane length requirements are based on CDOT State Highway Access Code guidelines.

Table 9 – Turn Lane Warrant and Length Summary

Intersection	2025 Buildout			2040 Horizon		
	Volume	Warrant Met	Turn Lane Length	Volume	Warrant Met	Turn Lane Length
56th Ave & Jackson Gap Way (#1)						
Northbound Right	83	Y	Existing (125')	50	Y	Existing (125')
Southbound Left	122	Y	TWLTL	130	Y	TWLTL
56th Ave & Jackson Gap Way (#2)						
Eastbound Left	365	Y	Existing (225')	245	Y	Existing (225')
Westbound Right	19	N	Existing (C)	65	Y	150'+140'T
Southbound Left	28	N	Existing (C)	240	Y	Existing (300')
Southbound Right	416	Y	Existing (C)	275	Y	Existing (300')
56th Ave & Powhaton Rd (#3)						
Eastbound Left	435	Y	Existing (100')	535	Y	325'+140'T DL
Westbound Right	81	Y	Existing (C)	235	Y	150'+140'T
Southbound Left	81	Y	Existing (150')	240	Y	TWLTL
Southbound Right	443	Y	C	445	Y	C
64th Ave & Powhaton Rd (#4)						
Eastbound Left	65	Y	Existing (200')	200	Y	Existing (200')
Eastbound Right	248	Y	Existing (C)	820	Y	Existing (C)
Westbound Left	10	X	150'+140'T	95	Y	150'+140'T
Westbound Right	0	X	C	50	X	C
Northbound Left	241	Y	Existing (350')	810	Y	350' DL
Northbound Right	11	Y	C	80	Y	C
Southbound Left	0	X	150'+140'T	55	Y	150'+140'T
58th Ave & Powhaton Rd (#5)						
Northbound Left	26	X	TWLTL	40	Y	TWLTL
Southbound Right	9	N	-	50	N	-
Powhaton Rd Full Access (#A)						
Northbound Left	13	X	TWLTL	15	X	TWLTL
Southbound Right	4	N	-	5	N	-
Powhaton Rd RIRO Access (#B)						
Southbound Right	1	N	-	5	N	-
58th Ave West Access (#C)						
Eastbound Left	61	X	-	40	X	-
Eastbound Right	13	N	-	25	N	-
Westbound Left	2	N	-	2	N	-
Westbound Right	1	N	-	1	N	-
58th Ave Full Access (#D)						
Eastbound Right	40	N	-	30	N	-
Westbound Left	2	N	-	30	N	-
58th Ave Middle Access (#E)						
Eastbound Left	70	X	-	65	X	-
Westbound Right	6	N	-	15	N	-
58th Ave East Access (#F)						
Eastbound Left	29	N	-	20	N	-
Eastbound Right	27	N		35	N	
Westbound Left	11	N		30	N	
Westbound Right	12	N		20	N	

Intersection	2025 Buildout			2040 Horizon		
	Volume	Warrant Met	Turn Lane Length	Volume	Warrant Met	Turn Lane Length
Jackson Gap North Access (#G)						
Northbound Right	61	X		25	N	
Jackson Gap Middle Access (#H)						
Northbound Right	163	Y	150'+140'T	50	Y	150'+140'T
Jackson Gap South Access (#I)						
Northbound Right	61	X		40	N	
Powhaton Rd Access (#J)						
Southbound Right	5	N	-	5	N	-
Northbound Left	5	X	TWLTL	5	X	TWLTL
56th Ave RIRO Access (#K)						
Westbound Right	20	N	-	45	N	-
56th Ave West Access (#L)						
Eastbound Left	94	Y	150'+140'T	40	Y	150'+140'T
Westbound Right	5	N	-	30	N	-
56th Ave Full Access (#M)						
Eastbound Left	54	Y	150'+140'T	40	Y	150'+140'T
Westbound Right	8	N	-	30	N	-

Y = Yes; N = No; X = Explanation Provided Below; C = Continuous Turn Lane, TWLTL = Two-Way Left Turn Lane; T = Taper Length, DL = Dual Left Turn Lanes

Short-Term 2025 Turn Lane Evaluation

The west leg of the 64th Avenue and Powhaton Road (#4) intersection is recommended to provide a southbound left turn lane within the existing unused center lane and a separate westbound left and right turn lane. The westbound turn lanes have been identified in other adjacent studies and have been included to be consistent.

Powhaton Road is planned to be widened from two-lanes to a three-lane section with a two-way left turn center lane. Therefore, the 58th Avenue, Full Access (#A), and Middle Access (#K) intersections along Powhaton Road will utilized the future two-way left-turn lane. Likewise, southbound left turn movement at the Middle Access (#H) will utilize the existing two-way left turn lane. Therefore, the double yellow striped center medians will need to be restriped to allow vehicles to enter the center lane to turn into the site.

58th Avenue is classified as a collector roadway and CDOT does not provide turn lane guidelines for collector roadways. Further, 58th Avenue extends from Jackson Gap Way to Powhaton Road and will not serve intercity or regional travel. Therefore, turn lanes are not recommended or proposed at the project accesses along 58th Avenue.

The north and south access along Jackson Gap Way at the North Access (#G) and the South Access (#I) are not anticipated to warrant turn lanes when the future roadway network is completed. Therefore, right turn lanes are not needed operationally at these two locations and project traffic volumes are planned to decrease when 64th Avenue allows through west of Jackson Gap Way. Therefore, turn lanes are not recommended or proposed at the two accesses along Jackson Gap Way. However, a northbound right turn lane is warranted at the Middle Access (#H) and a 150-foot storage with a 140-foot taper is recommend.

5.5 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 10** with calculations provided within the level of service operational sheets of **Appendix E** for unsignalized intersections and **Appendix F** for signalized intersections.

Table 10 – Turn Lane Queuing Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2025 Calculated Queue (feet)	2025 Recommended Length (feet)	2040 Calculated Queue (feet)	2040 Recommended Length (feet)
Jackson Gap & 58th Ave (#1)					
Westbound Right	125’	25’	125’	25’	125’
Southbound Left	DNE	25’	**TWLTL**	25’	**TWLTL**
56th Ave & Jackson Gap (#2)					
Eastbound Left	225’	50’	225’	347’	**350’+140’T**
Eastbound Right	DNE	-	-	34’	**150’+140’T**
Westbound Left	DNE	-	-	65’	**150’+140’T**
Westbound Right	DNE	-	**150’+140’T**	1’	**150’+140’T**
Northbound Left	DNE	-	-	126’	**150’+140’T**
Northbound Right	DNE	-	-	3’	**150’+140’T**
Southbound Left	C	25’	C	363’	**375’**
Southbound Right	C	100’	C	220’	**300’**
56th Ave & Powhaton (#3)					
Eastbound Left	100’	50’	100’	360’ DL	**375’+140’T DL**
Eastbound Right	DNE	-	-	57’	**150’+140’T**
Westbound Left	325’	25’	325’	52’	325’
Westbound Right	C	-	-	124’	**150’+140’T**
Northbound Left	DNE	-	-	232’	**250’+140’T**
Northbound Right	DNE	-	-	16’	**150’+140’T**
Southbound Left	150’	50’	150’	260’	**TWLTL**
Southbound Right	DNE	-	-	423’	**C**

Intersection Turn Lane	Existing Turn Lane Length (feet)	2025 Calculated Queue (feet)	2025 Recommended Length (feet)	2040 Calculated Queue (feet)	2040 Recommended Length (feet)
56th Ave & Powhaton (#3)					
Eastbound Left	100’	Not Analyzed		355’ DL	**350’+140’T DL**
Westbound Left	325’			55’	325’
Northbound Left	C			197’	**200’+140’T**
Northbound Right	DNE			15’	**150’+140’T**
Southbound Left	150’			273’	**TWLTL**
Southbound Right	DNE			397’	**C**
64th Ave & Powhaton (#4)					
Eastbound Left	200’	25’	200’	175’	200’
Eastbound Right	C	25’	C	0’	C
Westbound Left	DNE	25’	**150’+140’T**	105’	**150’+140’T**
Westbound Right	DNE	25’	**150’+140’T**	0’	**150’+140’T**
Northbound Left	350’	25’	350’	188’ DL	350’ **DL**
Northbound Right	C	25’	C	10’	C
Southbound Left	DNE	25’	**150’+140’T**	38’	**150’+140’T**
Jackson Gap & Middle Access (#H)					
Northbound Right	DNE	25	**150’+140’T**	25	**150’+140’T**
56th Ave West Access (#L)					
Eastbound Left	DNE	25’	**150’+140’T**	25’	**150’+140’T**
56th Ave East Access (#M)					
Eastbound Left	DNE	25’	**150’+140’T**	25’	**150’+140’T**

DNE = Does Not Exist; C = Continuous Lane; T = Taper; DL = Dual Left; TWTLT = Two-Way Left Turn Lane; **Blue** Text = Recommendation, Alternative Analysis w Three EB and WB Through Lanes

The vehicle queues all are anticipated to remain within the existing or recommended turn lane lengths through 2040. A minimum storage length of 150 feet was assumed for all auxiliary turn lanes that reported queues less than 150 feet. Of note, the southbound left and right turn lanes at the 56th Avenue and Jackson Gap Way (#2) intersection are already constructed. However, they are currently striped out and transition from the two southbound through lanes along Jackson Gap Way.

5.6 Pedestrian Safety and Traffic Calming

The surrounding area is half built and half vacant. The built-out areas provide sidewalks along the roadways fronting complete projects. In addition, sidewalk is provided on the north side of 56th Avenue between Jackson Gap Street and Jackson Gap Way and east of Powhaton Road. The site will provide sidewalk fronting the development along Jackson Gap Way, 58th Avenue, 56th Avenue, and Powhaton Road. In addition, the collector roadway cross-section along 58th Avenue will provide bicycle lanes and on-street parking. It is anticipated by 2040, the signalized

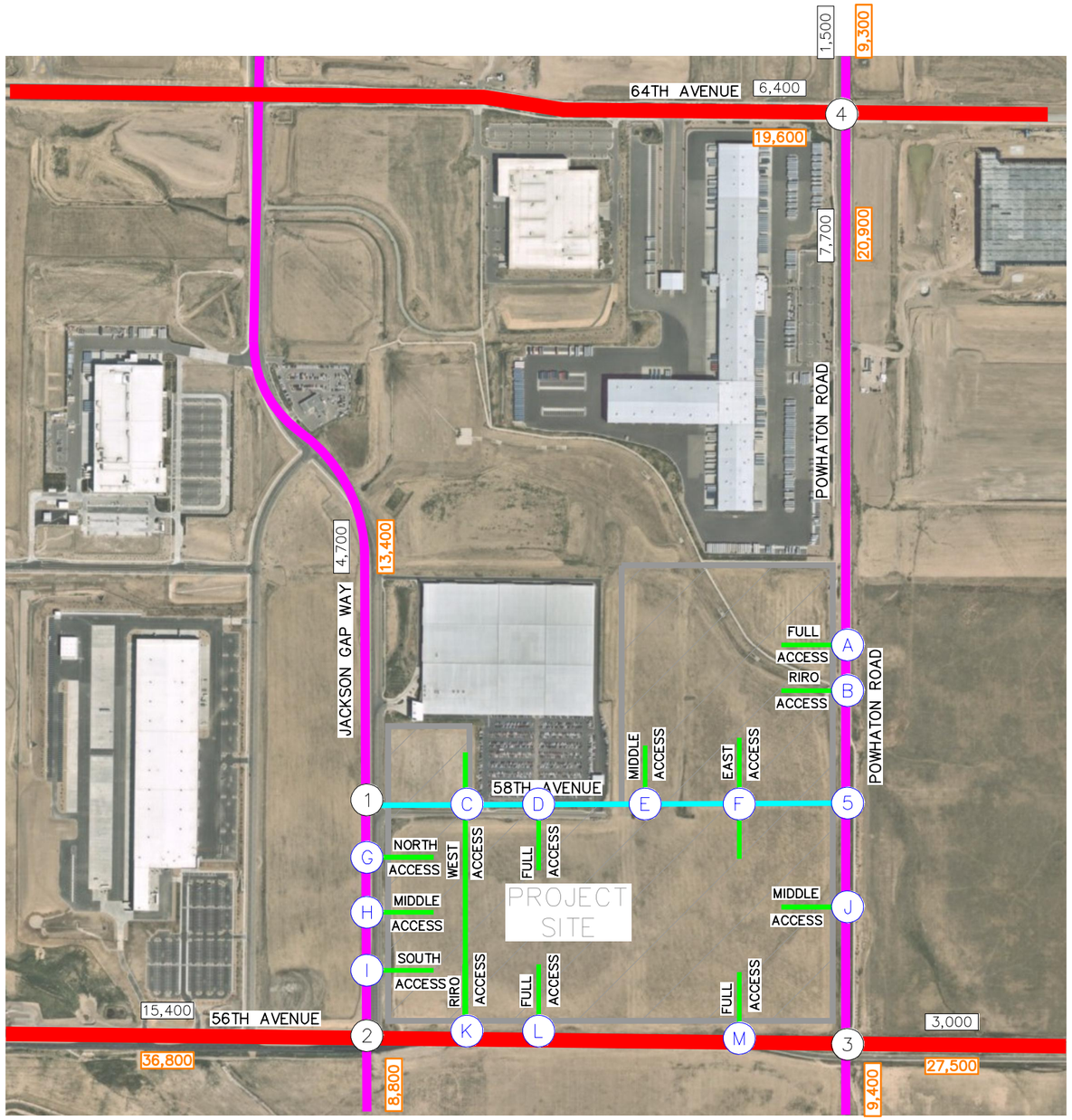
intersections in the surrounding area will provide crosswalks and pedestrian signals. Public transportation does not currently exist in the surrounding area or near the project site.

5.7 Roadway Classification

As noted in the Pre-App notes, the roadway classifications for the surrounding area roadway network are shown in **Figure 13**. Jackson Gap Way is now to be classified as a minor arterial roadway, along with Powhaton Road. 56th Avenue and 64th Avenue will continue to be classified as major arterials and 58th Avenue is classified as a collector roadway. Further, the access connections to Jackson Gap Way, 56th Avenue, Powhaton Road, and 58th Avenue are all planned to be private roadways and provide internal connections between development parcels.

5.8 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 14** for the short-term horizon and **Figure 15** for the long-term horizon.



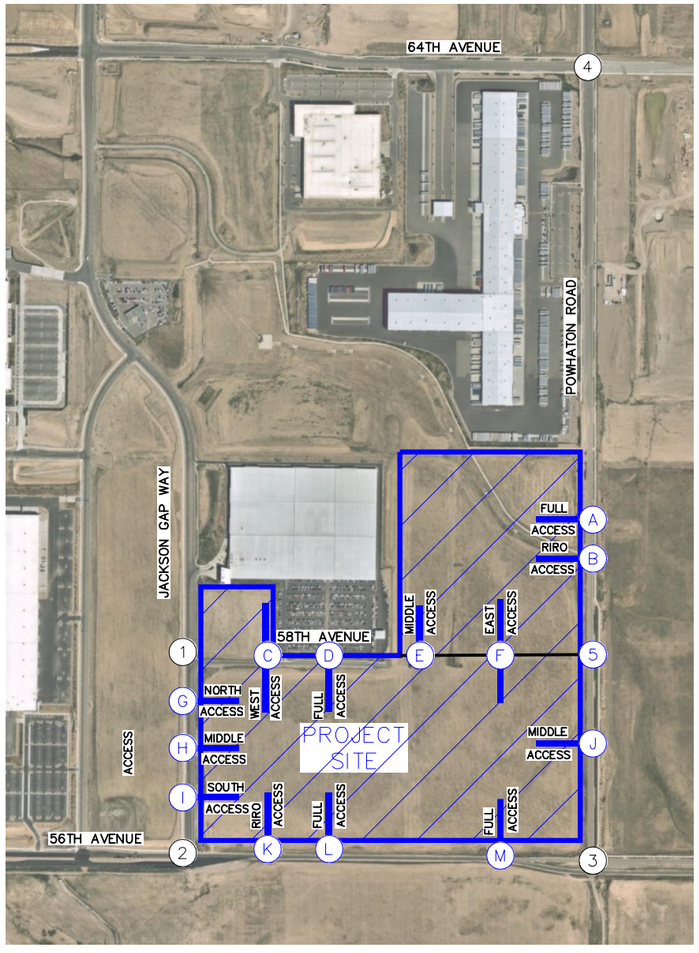
LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX,X00 2025 Estimated Daily Traffic
- XX,X00 2040 Estimated Daily Traffic
- Private Roadway
- Collector Roadway
- Minor Arterial Roadway
- Major Arterial Roadway

Kimley»Horn NORTH
NTS 196617000

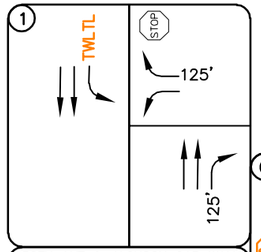
FIGURE 13
FINE POINT BUSINESS PARK
AURORA, COLORADO
ROADWAY CLASSIFICATION

Kimley»Horn

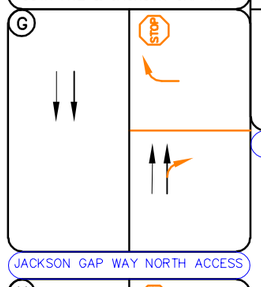


LEGEND

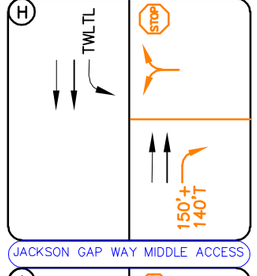
- X — Study Area Key Intersection
- X — Project Access Intersection
- Signalized Intersection
- STOP — Stop Controlled Approach
- Improvement
- Background Improvement
- TWLTL — Two-Way Left Turn Lane
- T — Taper Length (feet)
- 100' — Turn Lane Length (feet)



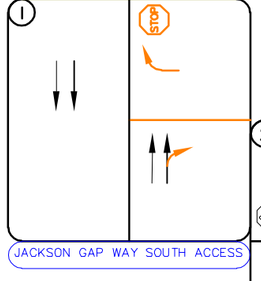
58TH AVE & JACKSON GAP WAY



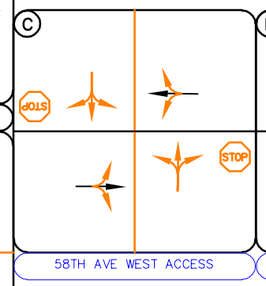
JACKSON GAP WAY NORTH ACCESS



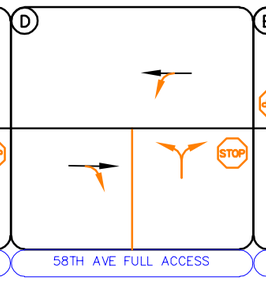
JACKSON GAP WAY MIDDLE ACCESS



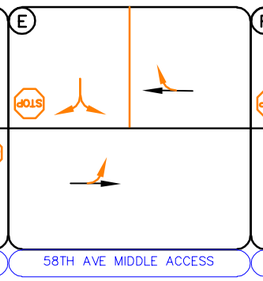
JACKSON GAP WAY SOUTH ACCESS



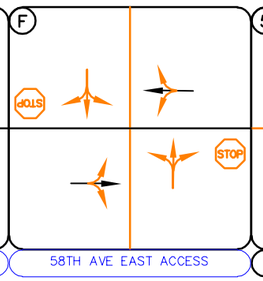
58TH AVE WEST ACCESS



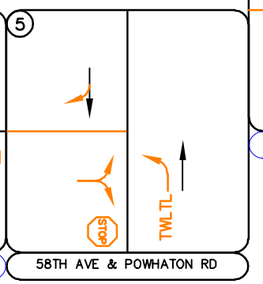
58TH AVE FULL ACCESS



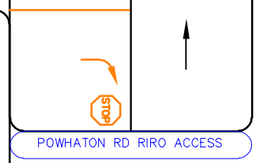
58TH AVE MIDDLE ACCESS



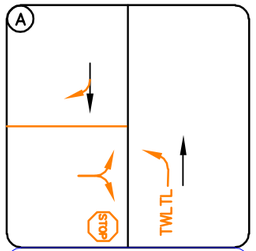
58TH AVE EAST ACCESS



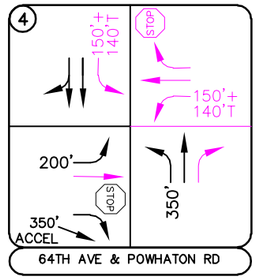
58TH AVE & POWHATON RD



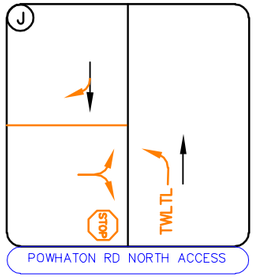
POWHATON RD RIRO ACCESS



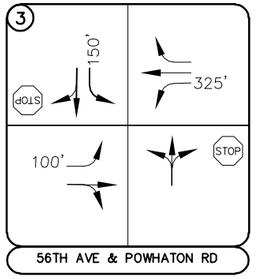
POWHATON RD FULL ACCESS



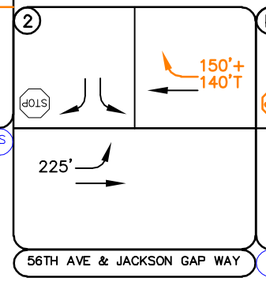
64TH AVE & POWHATON RD



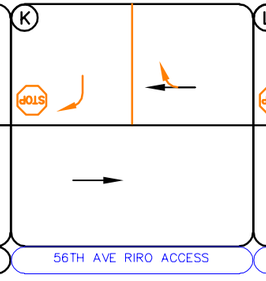
POWHATON RD NORTH ACCESS



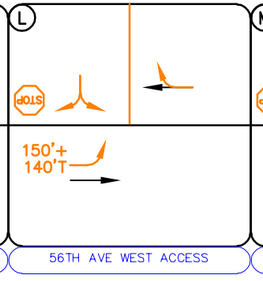
56TH AVE & POWHATON RD



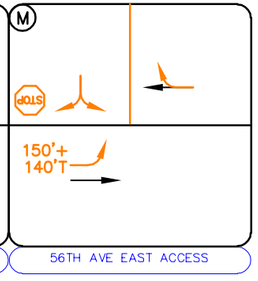
56TH AVE & JACKSON GAP WAY



56TH AVE RIRO ACCESS



56TH AVE WEST ACCESS

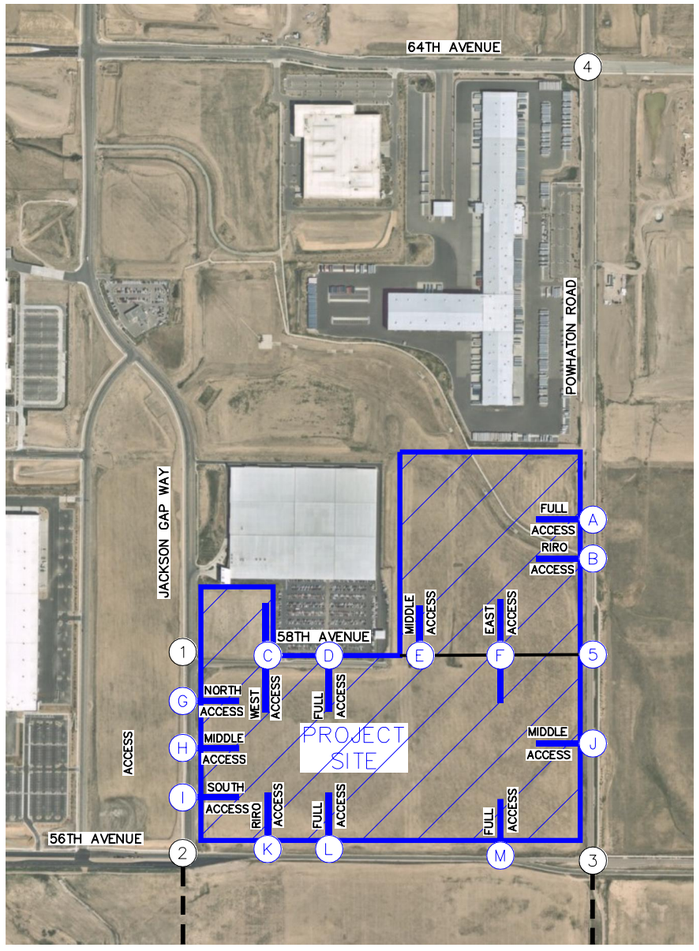


56TH AVE EAST ACCESS

Kimley»Horn NORTH
NTS 196617000

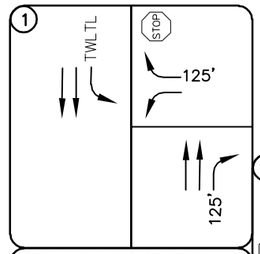
FIGURE 14
FINE POINT BUSINESS PARK
AURORA, COLORADO
2025 RECOMMENDED GEOMETRY AND CONTROL

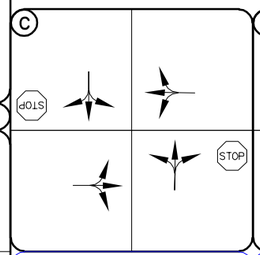
Kimley»Horn

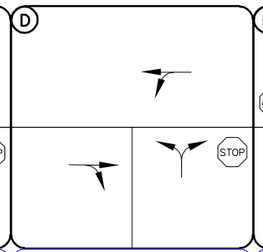


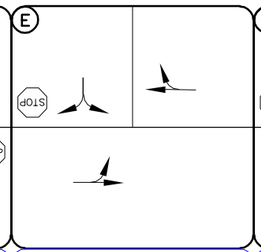
LEGEND

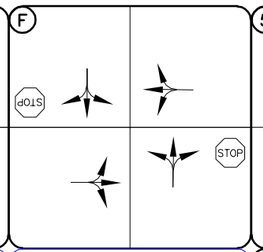
- X — Study Area Key Intersection
- X — Project Access Intersection
- Signalized Intersection
- STOP — Stop Controlled Approach
- Improvement
- Background Improvement
- TWLTL — Two-Way Left Turn Lane
- T — Taper Length (feet)
- 100' — Turn Lane Length (feet)

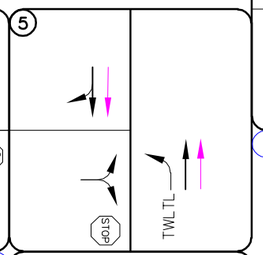


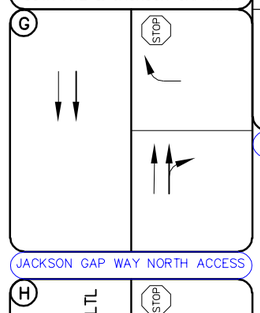


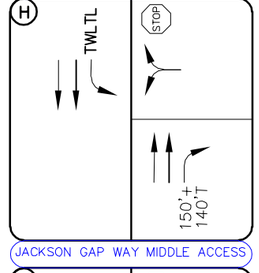


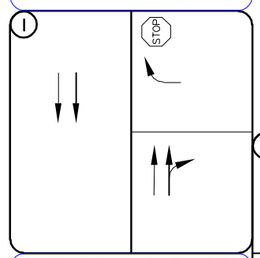


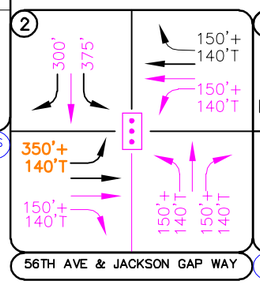


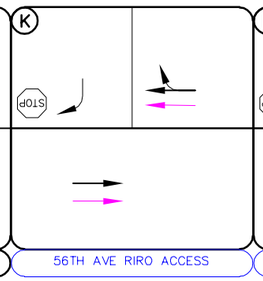


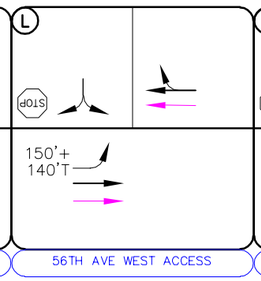


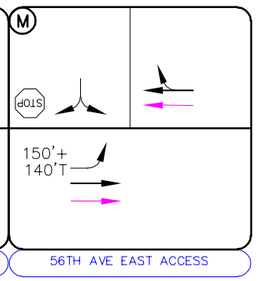


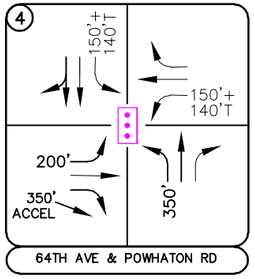


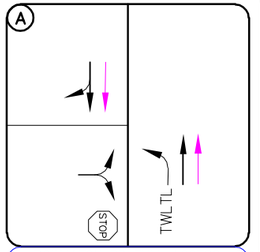


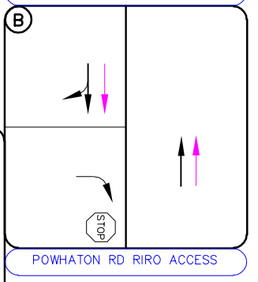


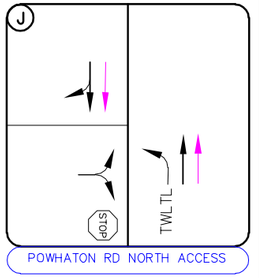


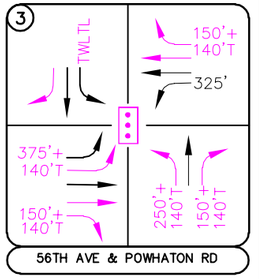












Kimley»Horn NORTH
NTS 196617000

FIGURE 15

FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 RECOMMENDED GEOMETRY AND CONTROL

Kimley»Horn

6.0 CONCLUSIONS AND RECOMMENDATIONS

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

2025 Improvement Recommendations

- Half street improvements will be provided along the property frontages of 56th Avenue and Powhaton Road which will include a three-lane roadway section in the short-term and the full six-lane section to be completed by others in the future. The short-term improvements include left turn lanes along 56th Avenue and a center two-way left turn lane center lane along Powhaton Road.

- With completion of the Fine Point Business Park project, 58th Avenue will be extended from the mid-section line east of Jackson Gap Way to Powhaton Road (#5) and a total of 13 project accesses will be provided along Jackson Gap Way, 58th Avenue, Powhaton Road, and 56th Avenue. Three (3) accesses (#G, H, and I) are proposed along Jackson Gap Way, four (4) accesses (#C, D, E, & F) are proposed along 58th Avenue, three (3) accesses (#A, B, and J) are proposed along Powhaton Road, and three (3) accesses (#K, L, and M) along 56th Avenue. The future intersection of 58th Avenue and Powhaton Road (#5) is proposed to operate with stop control on the eastbound approach of 58th Avenue. Access B, G, I, and K are proposed to be restricted to right-in/right-out movements. All accesses are recommended to provide R1-1 “STOP” signs on the approaches exiting the development. In addition, at the right-in/right-out accesses, R3-2 “No Left Turn” signs are recommended to be placed below the R1-1 signs.

- The northbound right turn lane at the Jackson Gap Way Middle Access, the westbound right turn lane at the 56th Avenue/Jackson Gap Way intersection, and the eastbound left turn lanes at the 56th Avenue West and East Access are recommended to provide a length of 150 feet with a 140-foot taper (12:1). The left turn movements into the full movement accesses along Jackson Gap Way and Powhaton Road will be accommodated within the existing or future two-way left turn center lane.

- The existing Framework Development Plan (FDP) has identified two public north/south roads from 56th Avenue to 58th Avenue. The project is proposing one private north/south street given the Northeast Area Transportation Study (NEATS) Refresh dated October 2018 indicated no plan for either of these streets to extend beyond the limits of the property. The local nature of these streets would not provide any regional benefit for traffic flow internal to this site.

2040 Improvement Recommendations

- The NEATS Refresh identifies Jackson Gap Way and 56th Avenue ultimately as six-lane roadways adjacent to the project. However, 56th Avenue and Jackson Gap Way are both expected to operate acceptably as four-lane roadways with 2040 traffic projections; therefore, were evaluated as such in this study. However, 56th Avenue at Powhaton Road may need to provide thee through lanes in each direction. Nonetheless, if both 56th Avenue and Jackson Gap Way are constructed as six-lane roadways by 2040, the intersections and accesses along these roadways within the study limits will operate with reduced vehicles delays than reported in this study for 2040.

- Jackson Gap Way alignment will be part of the future Aerotropolis Parkway alignment and coordination with Aerotropolis Regional Transportation Authority (ARTA) will occur in association with this future parkway. The south leg of Aerotropolis Parkway (Jackson Gap Way alignment) is not anticipated to be provided prior to buildout of this project.

- If 2040 volumes are realized, the intersections of 56th Avenue/Jackson Gap Way and 56th Avenue/Powhaton Road need to be signalized. This recommendation is consistent with adjacent development traffic studies. If, and when, the signals are warranted in the future, the developer will pay a portion of the total into the escrow for each of these intersections.

- The intersections of 56th Avenue/Jackson Gap Way and 56th Avenue/Powhaton Road are planned to have south legs which will allow for future north/south connectivity in the area.

- The eastbound left turn lane at the 56th Avenue/Jackson Gap Way intersection may need to be extended to a length of 350 feet and the westbound right turn lane will need to be reintroduced with a storage bay and taper when the full section of 56th Avenue is provided in the future. Dual left turn lanes may be needed on the eastbound approach of 56th

Avenue/Powhaton Road intersection. These improvements are contingent on the full build out of the surrounding adjacent properties and future growth projections and are not included with buildout of the project.

- The 2040 recommendations are for planning level purposes only and should be provided by others with the exception of escrow payments to be coordinated with the City of Aurora in association with future traffic signals.

General Recommendations

- 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) – 2009 Edition.

APPENDICES

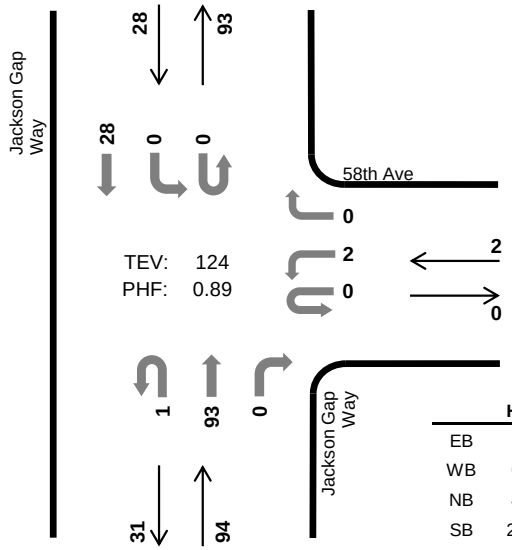
APPENDIX A

Intersection Count Sheets

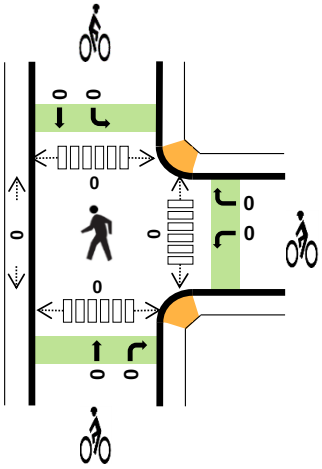
Jackson Gap Way
58th Ave

Date: 11/09/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

Peak Hour



	HV %:	PHF
EB	-	-
WB	0.0%	0.50
NB	4.3%	0.87
SB	25.0%	0.88
TOTAL	8.9%	0.89



Two-Hour Count Summaries

Interval Start	n/a Eastbound				58th Ave Westbound				Jackson Gap Way Northbound				Jackson Gap Way Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	21	0	0	0	7	0	28	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	14	0	0	0	4	0	18	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**27**	**0**	**0**	**0**	**8**	**0**	**35**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**24**	**0**	**0**	**0**	**8**	**0**	**33**	114
8:00 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**22**	**0**	**0**	**0**	**7**	**0**	**30**	116
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**20**	**0**	**0**	**0**	**5**	**0**	**26**	**124**
8:30 AM	0	0	0	0	0	0	0	0	0	0	21	0	0	0	7	0	28	117
8:45 AM	0	0	0	0	0	1	0	0	0	0	19	0	0	0	8	0	28	112
Count Total	0	0	0	0	0	3	0	0	1	0	168	0	0	0	54	0	226	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**93**	**0**	**0**	**0**	**28**	**0**	**124**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**7**	**0**	**11**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**-**	**0%**	**-**	**4%**	**-**	**-**	**-**	**25%**	**-**	**9%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	2	3	*5*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:30 AM	0	0	0	4	*4*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	2	3	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	9	18	*27*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**0**	**0**	**4**	**7**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	n/a				58th Ave				Jackson Gap Way				Jackson Gap Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	11
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**4**	10
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**11**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	13
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	16
Count Total	0	0	0	0	0	0	0	0	0	0	9	0	0	0	18	0	27	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**7**	**0**	**11**	**0**

Two-Hour Count Summaries - Bikes

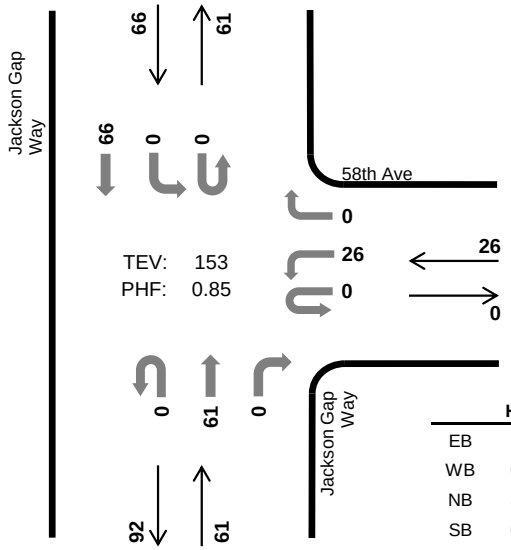
Interval Start	n/a			58th Ave			Jackson Gap Way			Jackson Gap Way			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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

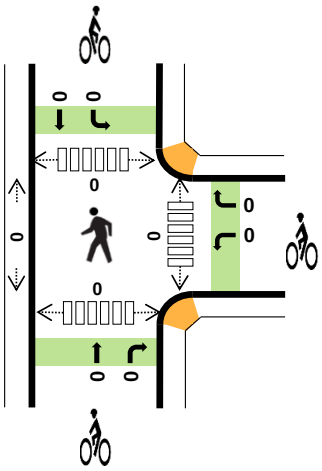
Jackson Gap Way
58th Ave

Date: 11/09/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM

Peak Hour



	HV %:	PHF
EB	-	-
WB	0.0%	0.50
NB	3.3%	0.85
SB	0.0%	0.87
TOTAL	1.3%	0.85



Two-Hour Count Summaries

Interval Start		n/a Eastbound				58th Ave Westbound				Jackson Gap Way Northbound				Jackson Gap Way Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	2	0	0	0	0	15	0	0	0	14	0	31	0
4:15 PM		0	0	0	0	0	6	0	0	0	0	11	0	0	0	16	0	33	0
4:30 PM		**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**19**	**0**	**35**	0
4:45 PM		**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**16**	**0**	**0**	**0**	**14**	**0**	**32**	131
5:00 PM		**0**	**0**	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**18**	**0**	**0**	**0**	**14**	**0**	**45**	145
5:15 PM		**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**16**	**0**	**0**	**0**	**19**	**0**	**41**	**153**
5:30 PM		0	0	0	0	0	2	0	1	0	0	8	0	0	0	10	0	21	139
5:45 PM		0	0	0	0	0	2	0	1	0	0	9	0	0	0	7	0	19	126
Count Total		0	0	0	0	0	38	0	2	0	0	104	0	0	0	113	0	257	0
Peak Hour	**All**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**0**	**0**	**0**	**61**	**0**	**0**	**0**	**66**	**0**	**153**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**
	HV%	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**-**	**-**	**-**	**3%**	**-**	**-**	**-**	**0%**	**-**	**1%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	1	*2*	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*
4:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**1**	**0**	***1***	**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***
5:30 PM	0	0	2	1	*3*	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*
Count Total	0	0	5	2	*7*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	n/a				58th Ave				Jackson Gap Way				Jackson Gap Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	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**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	3
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	2
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	0	0	0	0	0	0	0	0	0	5	0	0	0	2	0	7	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**

Two-Hour Count Summaries - Bikes

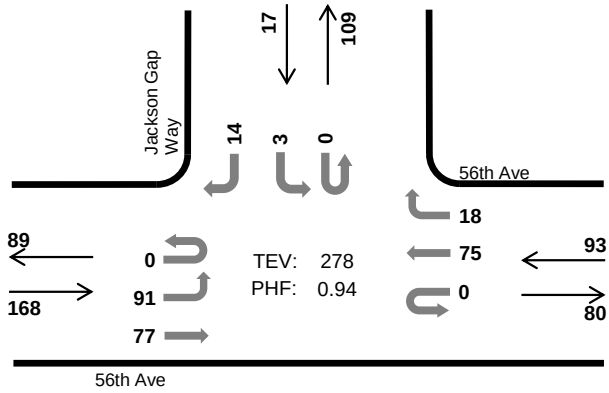
Interval Start	n/a			58th Ave			Jackson Gap Way			Jackson Gap Way			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

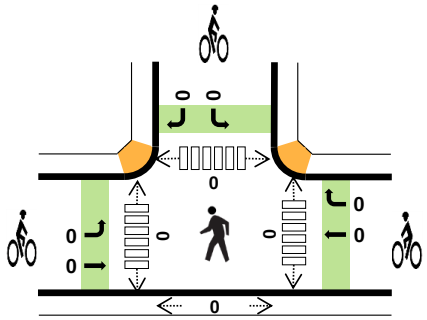
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Jackson Gap Way
56th Ave

Date: 11/15/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM

Peak Hour





	HV %:	PHF
EB	6.0%	0.88
WB	10.8%	0.78
NB	-	-
SB	29.4%	0.71
TOTAL	9.0%	0.94

Two-Hour Count Summaries

Interval Start		56th Ave Eastbound				56th Ave Westbound				n/a Northbound				Jackson Gap Way Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		**0**	**18**	**30**	**0**	**0**	**0**	**13**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**67**	0
7:15 AM		**0**	**23**	**14**	**0**	**0**	**0**	**20**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**5**	**65**	0
7:30 AM		**0**	**21**	**18**	**0**	**0**	**0**	**26**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**72**	0
7:45 AM		**0**	**29**	**15**	**0**	**0**	**0**	**16**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**74**	**278**
8:00 AM		0	23	13	0	0	0	16	4	0	0	0	0	0	0	0	4	60	271
8:15 AM		0	14	10	0	0	0	7	3	0	0	0	0	0	0	0	10	44	250
8:30 AM		0	21	17	0	0	0	9	5	0	0	0	0	0	0	0	4	56	234
8:45 AM		0	25	11	0	0	0	13	4	0	0	0	0	0	0	0	9	62	222
Count Total		0	174	128	0	0	0	120	34	0	0	0	0	0	3	0	41	500	0
Peak Hour	**All**	**0**	**91**	**77**	**0**	**0**	**0**	**75**	**18**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**14**	**278**	**0**
	HV	**0**	**3**	**7**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**25**	**0**
	HV%	**-**	**3%**	**9%**	**-**	**-**	**-**	**13%**	**0%**	**-**	**-**	**-**	**-**	**-**	**33%**	**-**	**29%**	**9%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**5**	**5**	**0**	**1**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**2**	**2**	**0**	**2**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**2**	**3**	**0**	**1**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**1**	**0**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	2	3	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	3	4	0	2	*9*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	4	2	0	2	*8*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	2	4	0	1	*7*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	21	23	0	10	*54*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**10**	**10**	**0**	**5**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	56th Ave Eastbound				56th Ave Westbound				n/a Northbound				Jackson Gap Way Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**2**	**3**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**11**	0
7:15 AM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**6**	0
7:30 AM	**0**	**1**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	0
7:45 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**25**
8:00 AM	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	5	19
8:15 AM	0	1	2	0	0	0	2	2	0	0	0	0	0	0	0	2	9	22
8:30 AM	0	3	1	0	0	0	2	0	0	0	0	0	0	0	0	2	8	24
8:45 AM	0	0	2	0	0	0	3	1	0	0	0	0	0	0	0	1	7	29
Count Total	0	9	12	0	0	0	20	3	0	0	0	0	0	1	0	9	54	0
Peak Hour	**0**	**3**	**7**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**25**	**0**

Two-Hour Count Summaries - Bikes

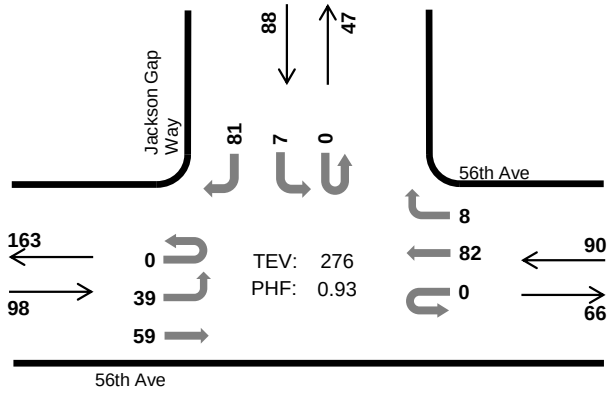
Interval Start	56th Ave Eastbound			56th Ave Westbound			n/a Northbound			Jackson Gap Way Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

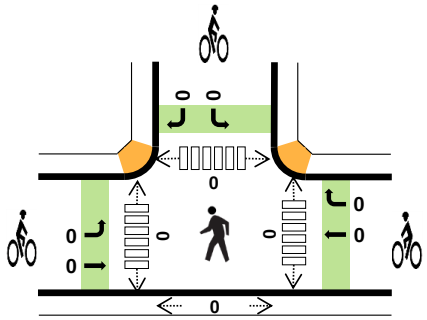
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Jackson Gap Way
56th Ave

Date: 11/15/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

Peak Hour





	HV %:	PHF
EB	15.3%	0.94
WB	6.7%	0.94
NB	-	-
SB	2.3%	0.79
TOTAL	8.3%	0.93

Two-Hour Count Summaries

Interval Start		56th Ave Eastbound				56th Ave Westbound				n/a Northbound				Jackson Gap Way Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		**0**	**10**	**13**	**0**	**0**	**0**	**19**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**25**	**71**	0
4:15 PM		**0**	**8**	**16**	**0**	**0**	**0**	**22**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**23**	**74**	0
4:30 PM		**0**	**12**	**14**	**0**	**0**	**0**	**22**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**18**	**69**	0
4:45 PM		**0**	**9**	**16**	**0**	**0**	**0**	**19**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**62**	**276**
5:00 PM		0	8	17	0	0	0	17	9	0	0	0	0	0	0	0	16	67	272
5:15 PM		0	11	11	0	0	0	18	2	0	0	0	0	0	5	0	19	66	264
5:30 PM		0	7	9	0	0	0	16	5	0	0	0	0	0	4	0	10	51	246
5:45 PM		0	6	6	0	0	0	7	1	0	0	0	0	0	1	0	9	30	214
Count Total		0	71	102	0	0	0	140	25	0	0	0	0	0	17	0	135	490	0
Peak Hour	**All**	**0**	**39**	**59**	**0**	**0**	**0**	**82**	**8**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**81**	**276**	**0**
	HV	**0**	**2**	**13**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**23**	**0**
	HV%	**-**	**5%**	**22%**	**-**	**-**	**-**	**7%**	**0%**	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**2%**	**8%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**4**	**0**	**0**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**4**	**2**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**6**	**1**	**0**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**1**	**3**	**0**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:00 PM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	2	2	0	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	3	0	1	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	5	0	0	3	*8*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	23	12	0	6	*41*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**15**	**6**	**0**	**2**	***23***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	56th Ave Eastbound				56th Ave Westbound				n/a Northbound				Jackson Gap Way Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	0
4:15 PM	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	0
4:30 PM	**0**	**2**	**4**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**23**
5:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	20
5:15 PM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4	18
5:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	4	15
5:45 PM	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	3	8	18
Count Total	0	4	19	0	0	0	12	0	0	0	0	0	0	0	0	6	41	0
Peak Hour	**0**	**2**	**13**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**23**	**0**

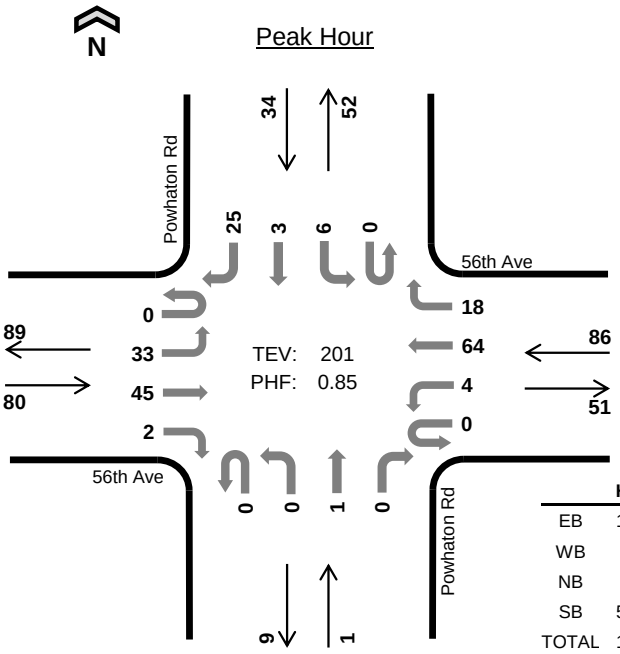
Two-Hour Count Summaries - Bikes

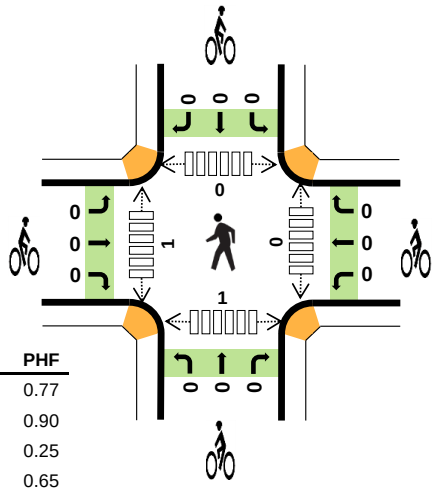
Interval Start	56th Ave Eastbound			56th Ave Westbound			n/a Northbound			Jackson Gap Way Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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

Powhaton Rd
56th Ave

Date: 11/09/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	17.5%	0.77
WB	8.1%	0.90
NB	0.0%	0.25
SB	50.0%	0.65
TOTAL	18.9%	0.85

Two-Hour Count Summaries

Interval Start		56th Ave Eastbound				56th Ave Westbound				Powhaton Rd Northbound				Powhaton Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		**0**	**19**	**7**	**0**	**0**	**0**	**14**	**6**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**9**	**59**	0
7:15 AM		**0**	**5**	**9**	**0**	**0**	**2**	**16**	**5**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**8**	**48**	0
7:30 AM		**0**	**3**	**13**	**1**	**0**	**0**	**17**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	**43**	0
7:45 AM		**0**	**6**	**16**	**1**	**0**	**2**	**17**	**5**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**51**	**201**
8:00 AM		0	4	10	0	0	2	15	3	0	1	3	2	0	2	3	6	51	193
8:15 AM		0	4	16	0	0	0	7	2	0	0	1	0	0	1	1	6	38	183
8:30 AM		0	1	16	0	0	0	12	2	0	0	0	0	0	0	0	3	34	174
8:45 AM		0	3	6	1	0	0	12	1	0	0	2	0	0	2	1	5	33	156
Count Total		0	45	93	3	0	6	110	26	0	1	7	2	0	11	8	45	357	0
Peak Hour	**All**	**0**	**33**	**45**	**2**	**0**	**4**	**64**	**18**	**0**	**0**	**1**	**0**	**0**	**6**	**3**	**25**	**201**	**0**
	HV	**0**	**6**	**8**	**0**	**0**	**1**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**14**	**38**	**0**
	HV%	**-**	**18%**	**18%**	**0%**	**-**	**25%**	**6%**	**11%**	**-**	**-**	**0%**	**-**	**-**	**50%**	**0%**	**56%**	**19%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**1**	**0**	**0**	**6**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**2**	**3**	**0**	**5**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	*2*
7:30 AM	**4**	**3**	**0**	**3**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**7**	**1**	**0**	**3**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	4	5	1	3	*13*	0	0	0	0	*0*	0	4	0	2	*6*
8:15 AM	3	0	0	2	*5*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	1	0	0	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	1	5	*6*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	22	12	2	29	*65*	0	0	0	0	*0*	0	5	0	3	*8*
Peak Hour	**14**	**7**	**0**	**17**	***38***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	***2***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	56th Ave Eastbound				56th Ave Westbound				Powhaton Rd Northbound				Powhaton Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**5**	**7**	0
7:15 AM	**0**	**1**	**1**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**10**	0
7:30 AM	**0**	**1**	**3**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**10**	0
7:45 AM	**0**	**3**	**4**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**11**	**38**
8:00 AM	0	3	1	0	0	2	2	1	0	0	0	1	0	1	0	2	13	44
8:15 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	2	5	39
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	3	32
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	4	6	27
Count Total	0	9	13	0	0	3	6	3	0	0	1	1	0	5	0	24	65	0
Peak Hour	**0**	**6**	**8**	**0**	**0**	**1**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**14**	**38**	**0**

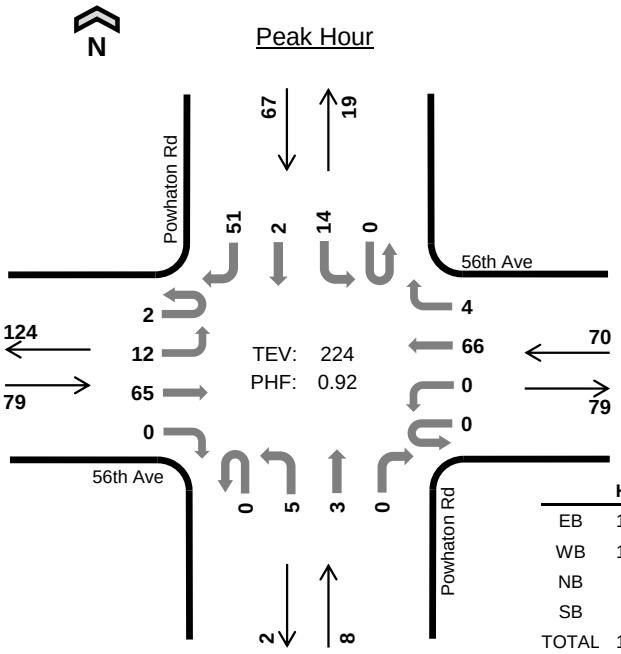
Two-Hour Count Summaries - Bikes

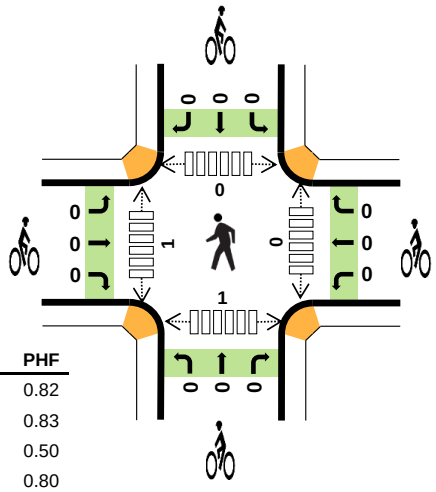
Interval Start	56th Ave Eastbound			56th Ave Westbound			Powhaton Rd Northbound			Powhaton Rd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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

Powhaton Rd
56th Ave

Date: 11/09/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	19.0%	0.82
WB	11.4%	0.83
NB	0.0%	0.50
SB	4.5%	0.80
TOTAL	11.6%	0.92

Two-Hour Count Summaries

Interval Start		56th Ave Eastbound				56th Ave Westbound				Powhaton Rd Northbound				Powhaton Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		**0**	**7**	**14**	**0**	**0**	**0**	**15**	**0**	**0**	**3**	**1**	**0**	**0**	**4**	**1**	**16**	**61**	0
4:15 PM		**2**	**4**	**18**	**0**	**0**	**0**	**14**	**1**	**0**	**2**	**2**	**0**	**0**	**5**	**1**	**10**	**59**	0
4:30 PM		**0**	**1**	**11**	**0**	**0**	**0**	**17**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**15**	**48**	0
4:45 PM		**0**	**0**	**22**	**0**	**0**	**0**	**20**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**10**	**56**	**224**
5:00 PM		0	2	21	0	0	0	19	1	0	0	0	0	0	4	0	6	53	216
5:15 PM		1	5	18	0	0	0	19	0	0	0	0	0	0	3	0	11	57	214
5:30 PM		0	4	14	0	0	0	11	0	0	0	0	0	0	0	0	7	36	202
5:45 PM		0	3	10	0	0	0	9	1	0	0	0	0	0	2	0	2	27	173
Count Total		3	26	128	0	0	0	124	6	0	5	3	0	0	23	2	77	397	0
Peak Hour	**All**	**2**	**12**	**65**	**0**	**0**	**0**	**66**	**4**	**0**	**5**	**3**	**0**	**0**	**14**	**2**	**51**	**224**	**0**
	HV	**0**	**8**	**7**	**0**	**0**	**0**	**6**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**26**	**0**
	HV%	**0%**	**67%**	**11%**	**-**	**-**	**-**	**9%**	**50%**	**-**	**0%**	**0%**	**-**	**-**	**0%**	**0%**	**6%**	**12%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**5**	**0**	**0**	**3**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	*2*
4:15 PM	**4**	**3**	**0**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**3**	**3**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**3**	**2**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:00 PM	3	0	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	3	0	0	4	*7*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	2	0	0	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	3	0	0	1	*4*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	26	8	0	9	*43*	0	0	0	0	*0*	0	1	0	1	*2*
Peak Hour	**15**	**8**	**0**	**3**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	***2***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	56th Ave Eastbound				56th Ave Westbound				Powhaton Rd Northbound				Powhaton Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**8**	0
4:15 PM	**0**	**2**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	0
4:30 PM	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	0
4:45 PM	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**26**
5:00 PM	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	21
5:15 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	21
5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	18
5:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	17
Count Total	0	18	8	0	0	0	6	2	0	0	0	0	0	0	0	9	43	0
Peak Hour	**0**	**8**	**7**	**0**	**0**	**0**	**6**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**26**	**0**

Two-Hour Count Summaries - Bikes

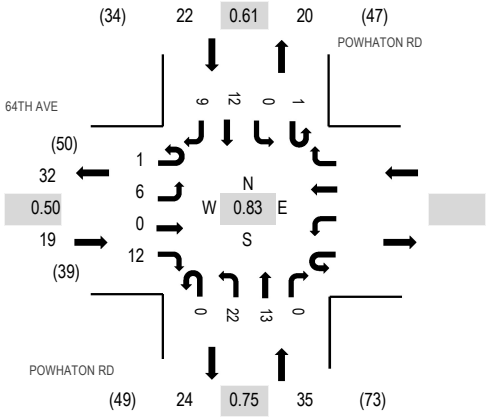
Interval Start	56th Ave Eastbound			56th Ave Westbound			Powhaton Rd Northbound			Powhaton Rd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

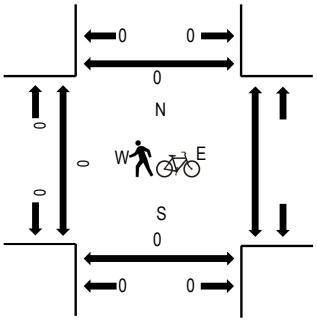
Location: 4 POWHATON RD & 64TH AVE AM
Date: Tuesday, September 27, 2022
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



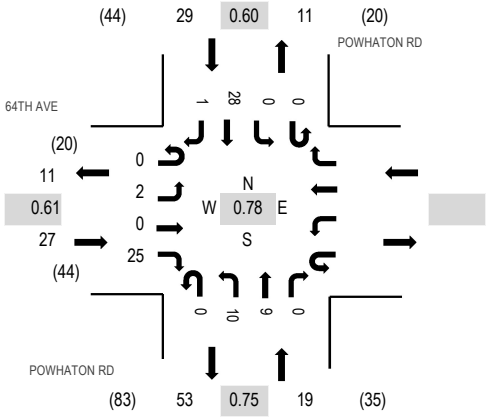
Traffic Counts

Interval Start Time	64TH AVE Eastbound				Westbound				POWHATON RD Northbound				POWHATON RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	3	0	7					0	4	7	0	0	0	3	0	24	73	0		0	0
7:15 AM	0	0	0	5					0	6	8	0	0	0	1	1	21	67	0		0	0
7:30 AM	1	0	0	2					0	2	3	0	0	0	3	1	12	65	0		0	0
7:45 AM	0	0	0	2					0	6	4	0	0	0	3	1	16	76	0		0	0
8:00 AM	0	1	0	2					0	6	7	0	0	0	1	1	18	73	0		0	0
8:15 AM	0	2	0	8					0	1	1	0	0	0	2	5	19		0		0	0
8:30 AM	1	3	0	0					0	9	1	0	1	0	6	2	23		0		0	0
8:45 AM	0	1	0	1					0	3	5	0	0	0	3	0	13		0		0	0
Count Total	2	10	0	27					0	37	36	0	1	0	22	11	146		0		0	0
Peak Hour	1	6	0	12					0	22	13	0	1	0	12	9	76		0		0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

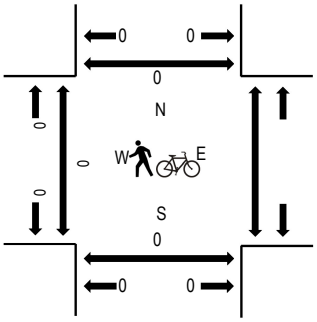
Location: 4 POWHATON RD & 64TH AVE PM
Date: Tuesday, September 27, 2022
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	64TH AVE Eastbound				Westbound				POWHATON RD Northbound				POWHATON RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	1	0	8					0	2	4	0	0	0	3	1	19	70	0		0	0
4:15 PM	0	1	0	5					0	2	4	0	0	0	6	0	18	75	0		0	0
4:30 PM	0	1	0	6					0	2	2	0	0	0	4	0	15	67	0		0	0
4:45 PM	0	0	0	3					0	5	3	0	0	0	7	0	18	59	0		0	0
5:00 PM	0	0	0	11					0	1	0	0	0	0	11	1	24	53	0		0	0
5:15 PM	0	0	0	2					0	2	3	0	0	0	3	0	10		0		0	0
5:30 PM	0	0	0	4					0	1	0	0	0	0	2	0	7		0		0	0
5:45 PM	0	0	0	2					0	3	1	0	0	0	6	0	12		0		0	0
Count Total	0	3	0	41					0	18	17	0	0	0	42	2	123		0		0	0
Peak Hour	0	2	0	25					0	10	9	0	0	0	28	1	75		0		0	0

APPENDIX B

Background Traffic Studies

Northeast Area Transportation Study Refresh

October 2018

Submitted to

City of Aurora
Planning & Development Services Department

15151 E. Alameda Parkway, 2nd Floor, Suite 2300
Aurora, CO 80012

Submitted by

David Evans and Associates, Inc.

1600 Broadway, Suite 800
Denver, CO 80202

Figure ES-3.
Recommended Roadway Network

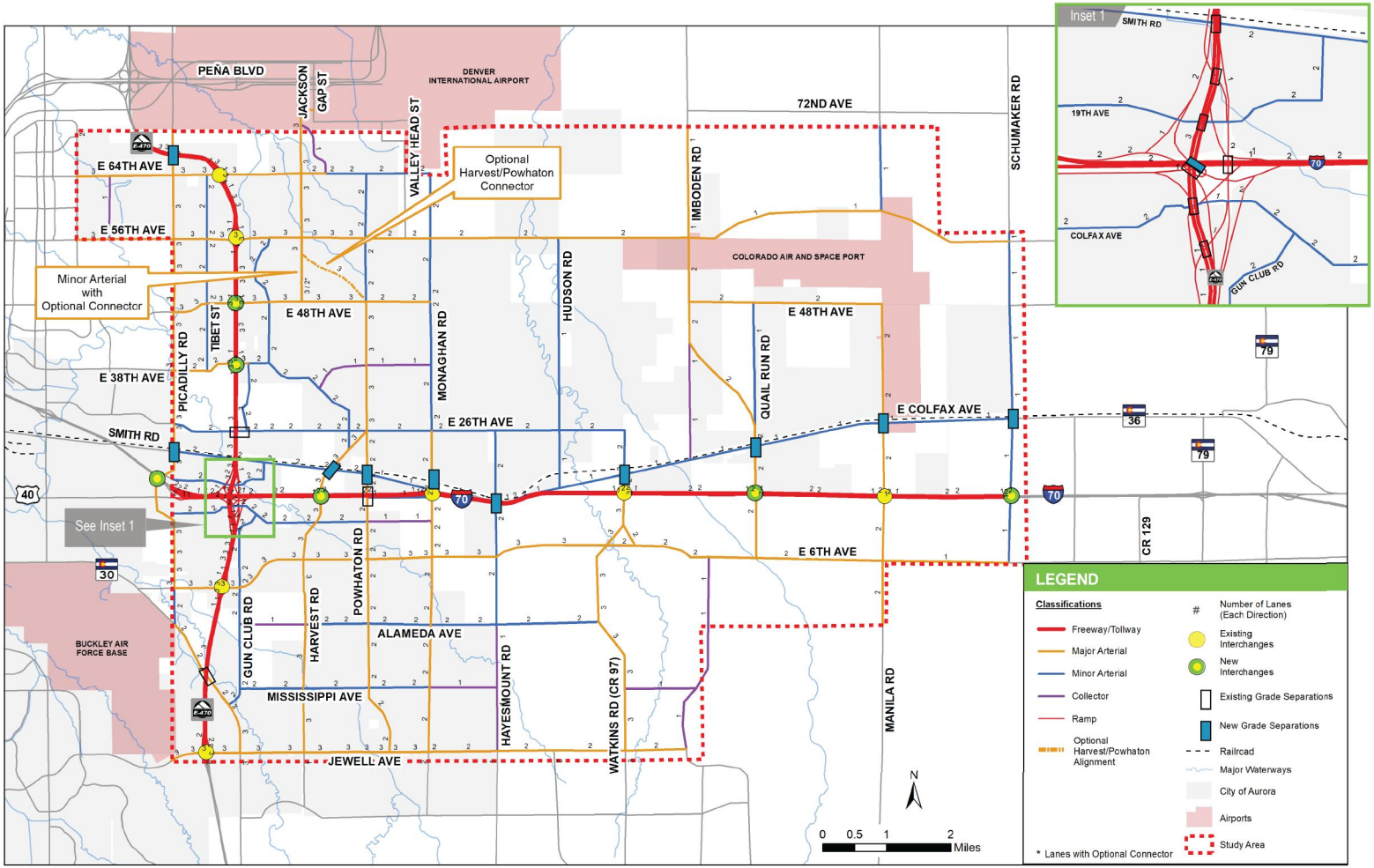
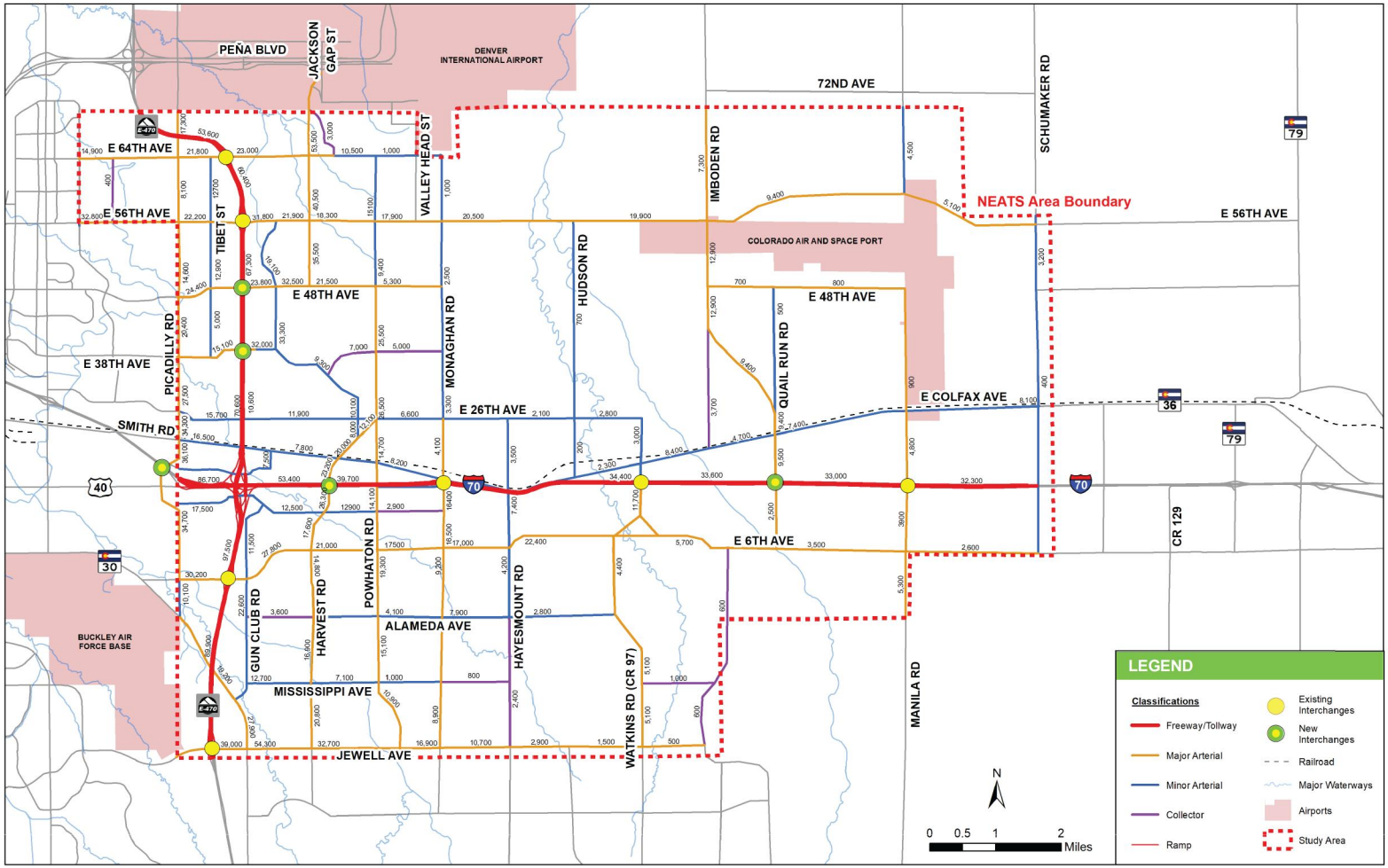


Figure 11.
2040 Daily Traffic Volumes



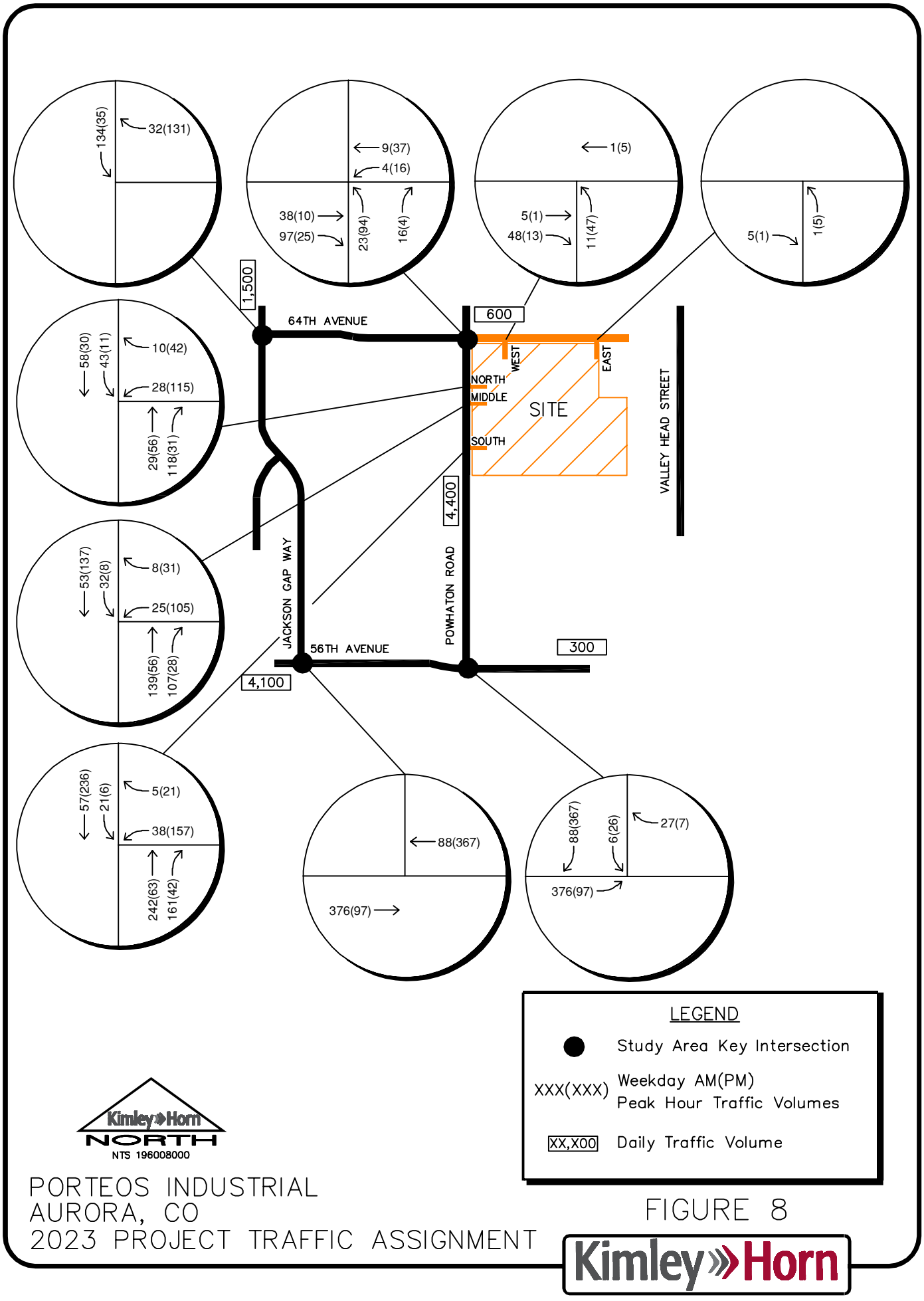
Traffic Impact Study

Porteos Industrial
Aurora, Colorado

Prepared for:

DIA Property Trust V, LLC

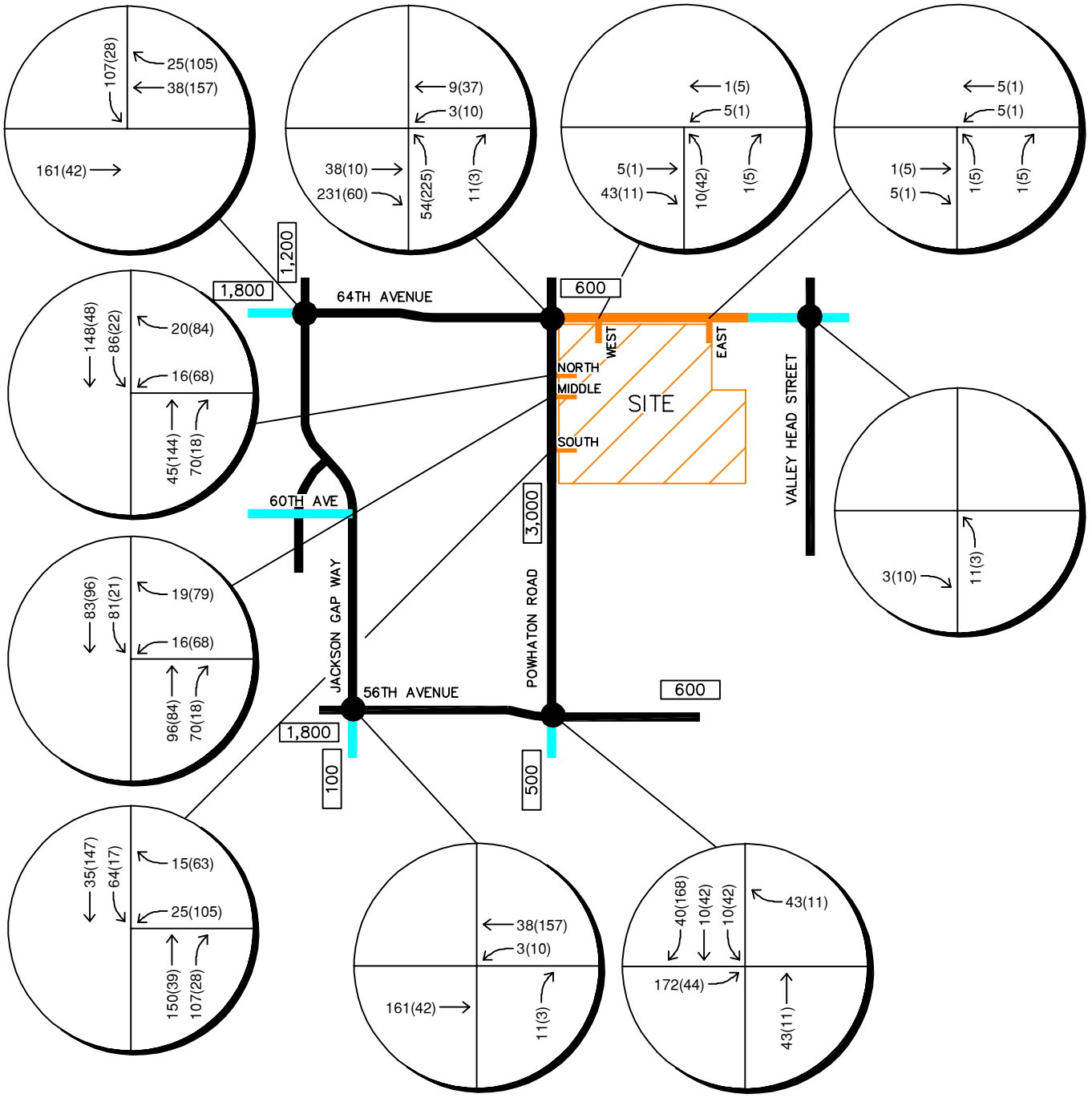
Kimley»Horn



PORTEOS INDUSTRIAL
AURORA, CO
2023 PROJECT TRAFFIC ASSIGNMENT

FIGURE 8

Kimley»Horn



LEGEND

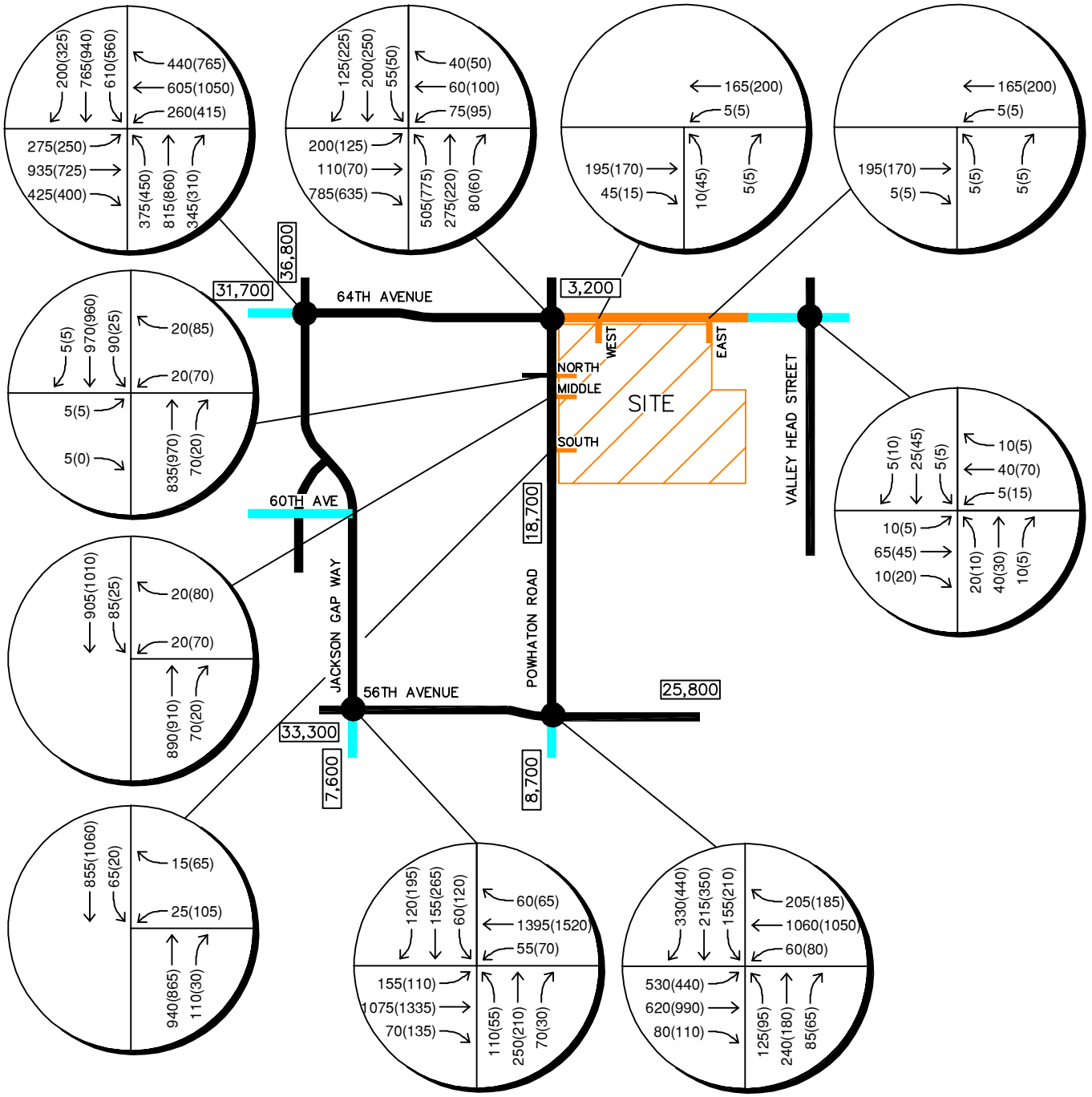
- ● Study Area Key Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- XX,X00 Daily Traffic Volume

Kimley»Horn NORTH
NTS 196008000

PORTEOS INDUSTRIAL
AURORA, CO
2040 PROJECT TRAFFIC ASSIGNMENT

FIGURE 9

Kimley»Horn



LEGEND

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

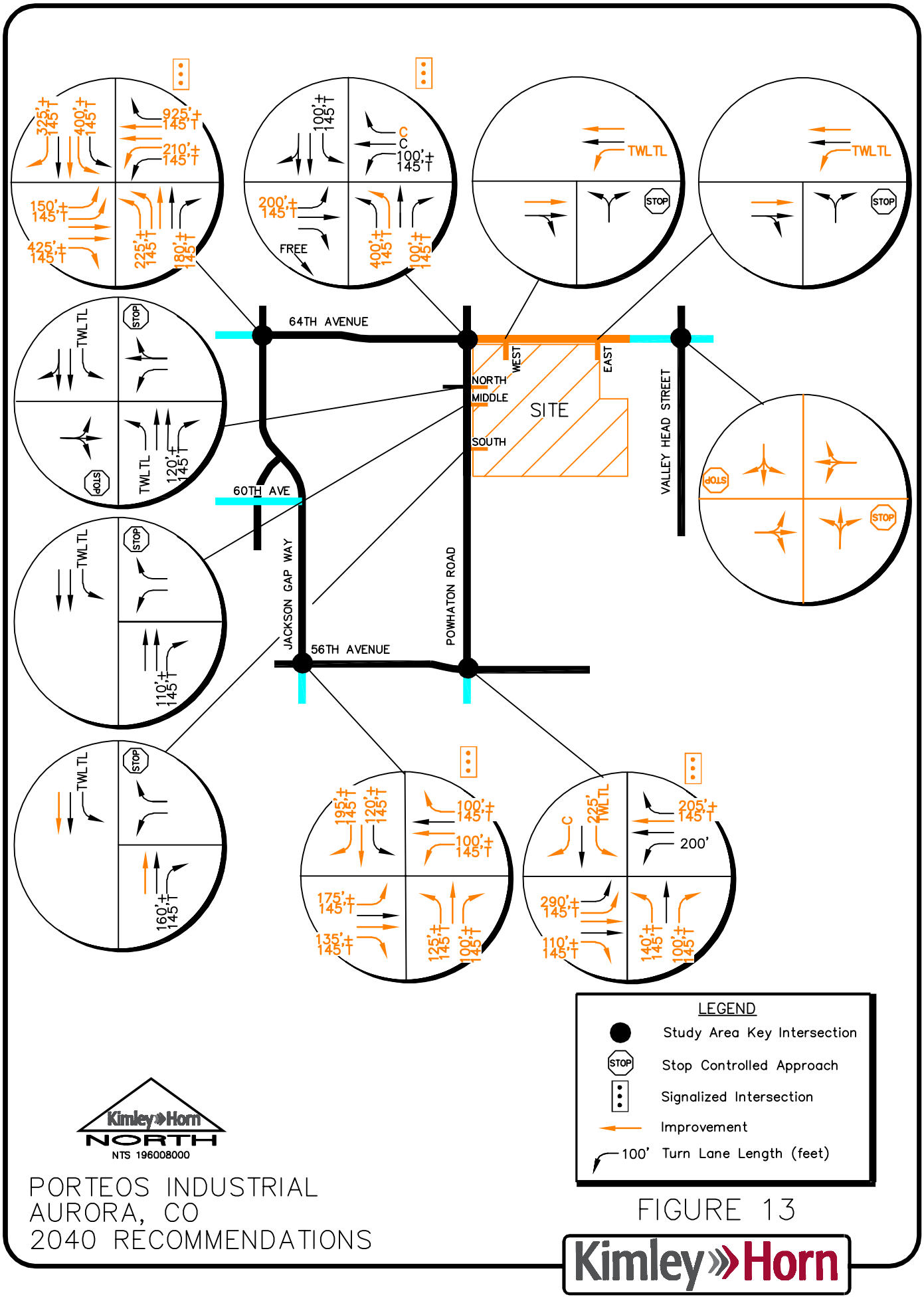
Kimley»Horn NORTH

NTS 196008000

PORTEOS INDUSTRIAL
AURORA, CO
2040 TOTAL TRAFFIC VOLUMES

FIGURE 11

Kimley»Horn



PORTEOS INDUSTRIAL
AURORA, CO
2040 RECOMMENDATIONS

FIGURE 13

Kimley»Horn

TRANSPORTATION IMPACT STUDY

Porteos PA 5 – JAG Logistics Center at DIA
68th Avenue and Powhaton Road in Aurora

Prepared for:

Green Industrial Development Group, LLC
10 Glenville Street
Greenwich, CT 06831

Prepared by:

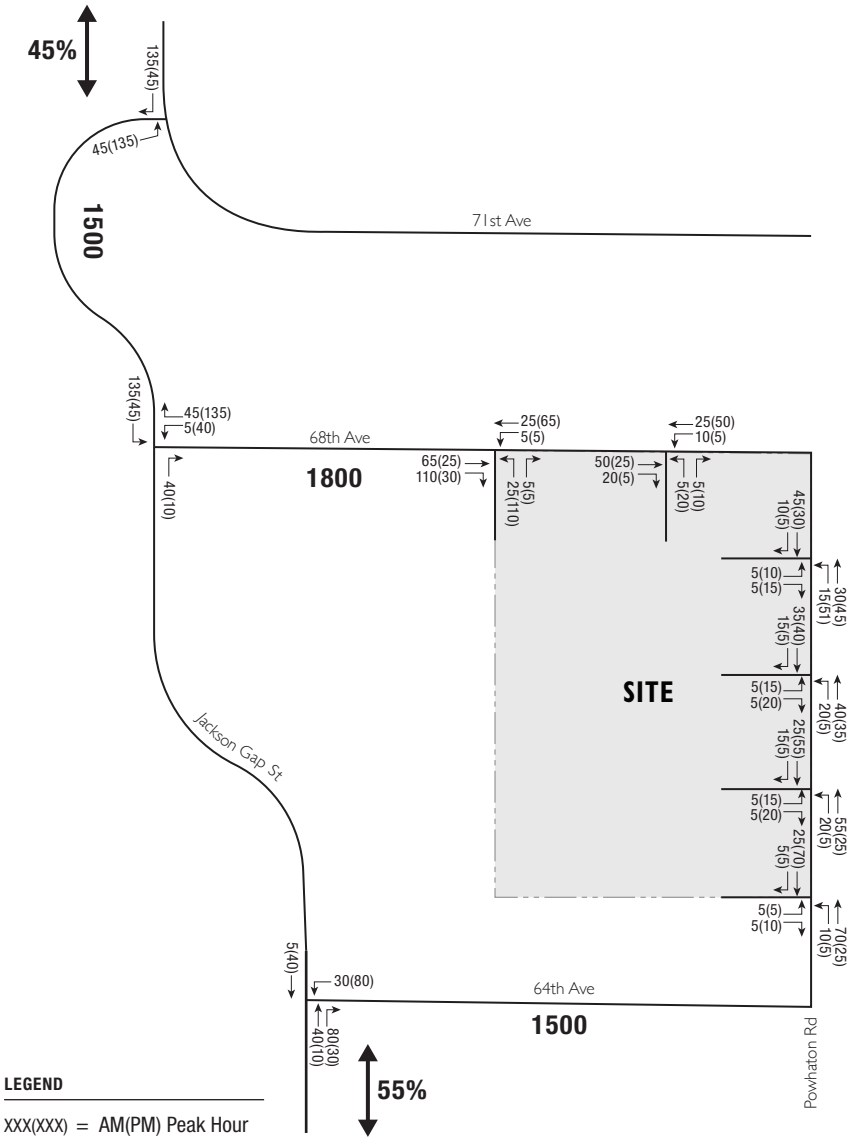
Felsburg Holt & Ullevig
6300 South Syracuse Way, Suite 600
Centennial, CO 80111
303.721.1440

Project Manager: Christopher J. Fasching, PE, PTOE
Project Manager: Philip Dunham, PE

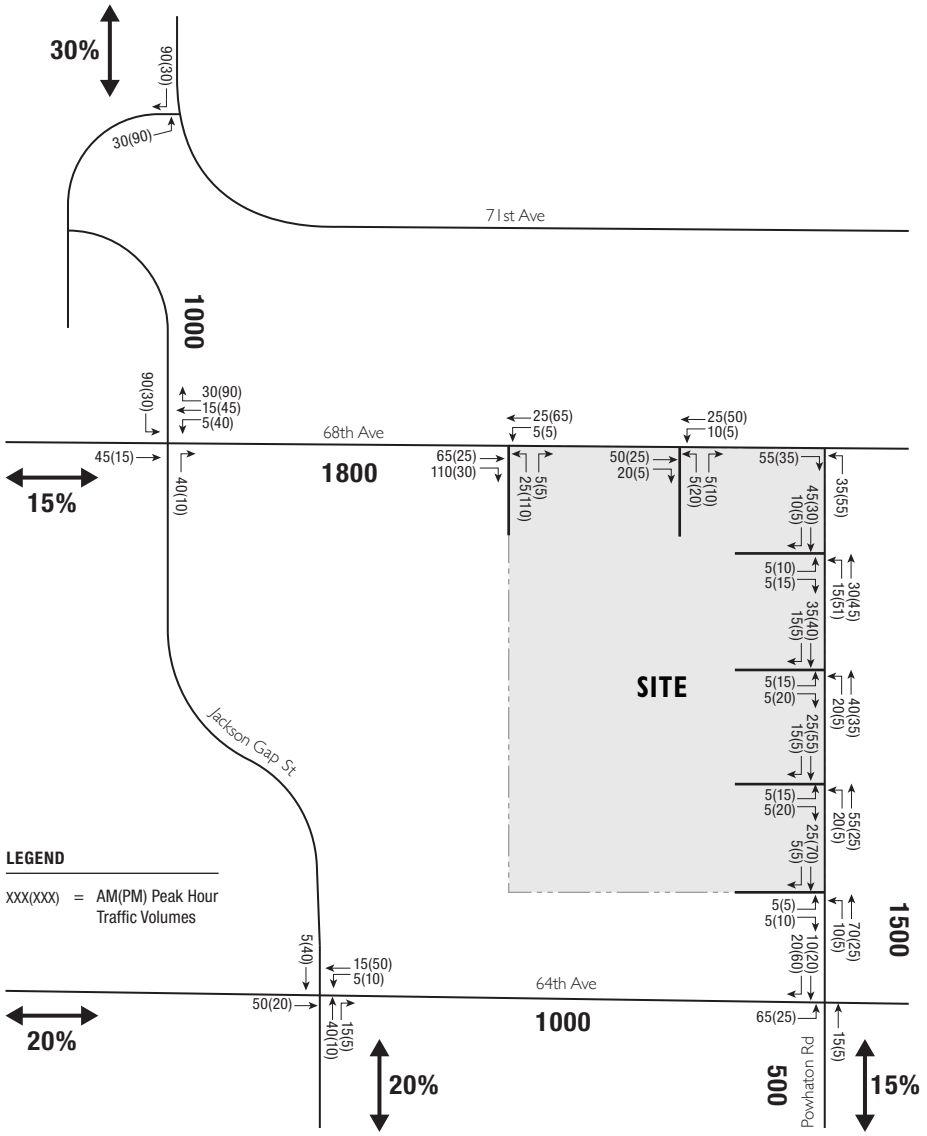
FELSBURG HOLT & ULLEVIG
connecting & enhancing communities

FHU Reference No. 118232-03

June 2019



Short Range Site Traffic Distribution



Long Range Site Traffic Distribution

NORTH

FELSBURG HOLT & ULLEVIG

Trip Distribution and Site Generated Traffic Assignment | FIGURE 4

Porteos PA-5 Distribustion Building 18232-03 8/23/18

PORTEOS TRAFFIC IMPACT STUDY UPDATE

AURORA, COLORADO

Prepared for:

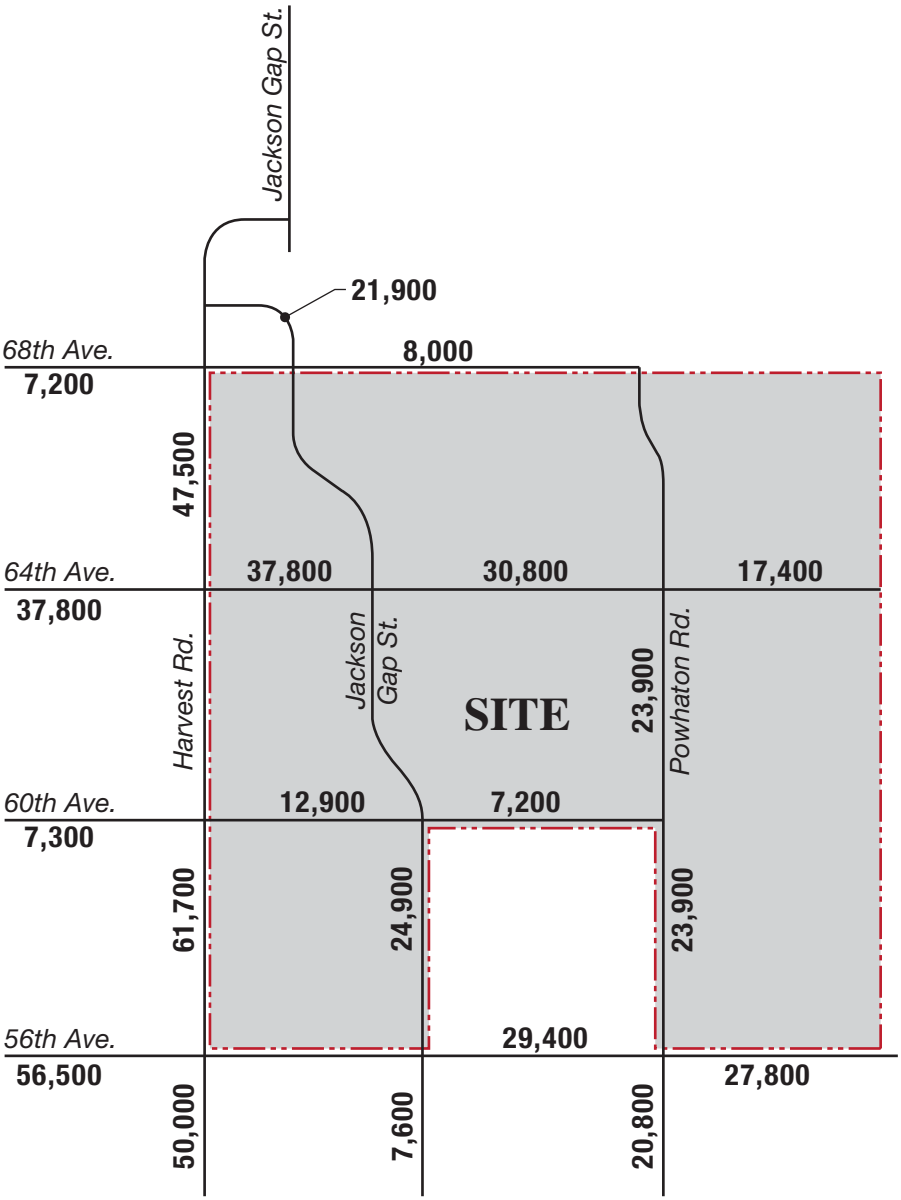
ACP DIA 1287 Investors, LLC
4530 E. Shea Boulevard, Suite 100
Phoenix, AZ 85028-1619

Prepared by:

Felsburg Holt & Ullevig
6300 South Syracuse Way, Suite 600
Centennial, CO 80111
303/721-1440

Project Manager: Christopher J. Fasching, PE
Project Planner: Shea Suski

FHU Reference No. 115-464
April 2017

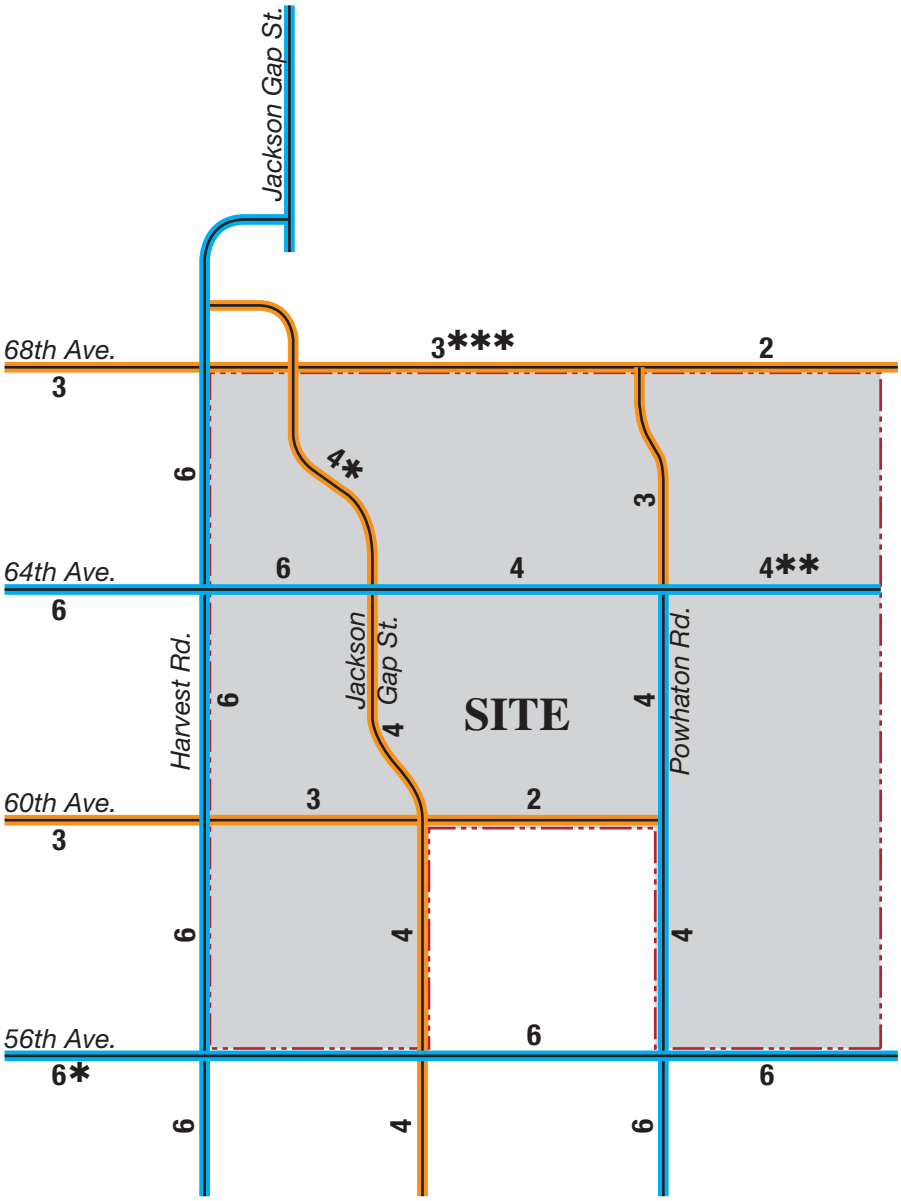


LEGEND

XXXX = Daily Traffic Volumes

NOTE:
This report includes 60th Avenue extending east to Powhaton Road. Construction of the segment between Jackson Gap Road and Powhaton Road is subject to future agreements. See text.

Figure 5
Long-Term Total Projected Traffic



NOTES:

* *Continuous auxiliary lanes should be provided*

** *See text*

*** *Built to 4-lane width, but striped as 3-lanes*

LEGEND

= Arterial

= Collector

NOTE:
This report includes 60th Avenue extending east to Powhaton Road. Construction of the segment between Jackson Gap Road and Powhaton Road is subject to future agreements. See text.

Figure 6
Long-Term Roadway Needs

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

Costco Maintenance Aurora

Aurora, Colorado

Prepared for
Costco Wholesale
999 Lake Drive
Issaquah, WA 98027

Prepared by
Kimley-Horn and Associates, Inc.
4582 South Ulster Street
Suite 1500
Denver, Colorado 80237
(303) 228-2300

October 2022

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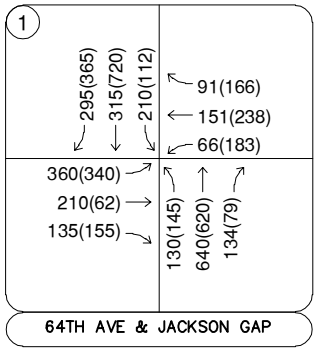
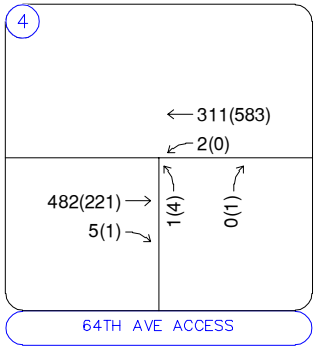
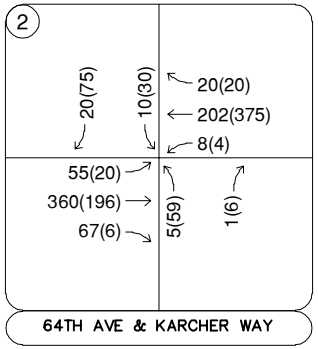
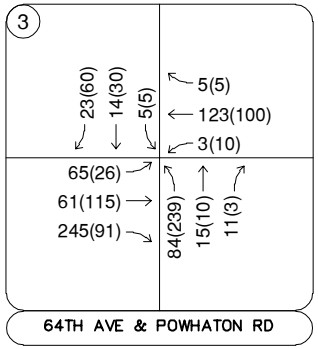








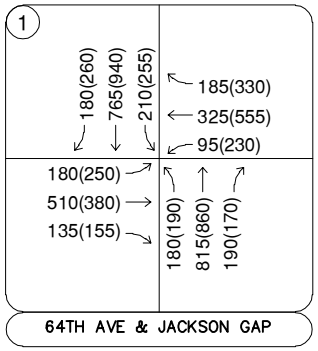
Kimley»Horn NORTH
NTS 196124002

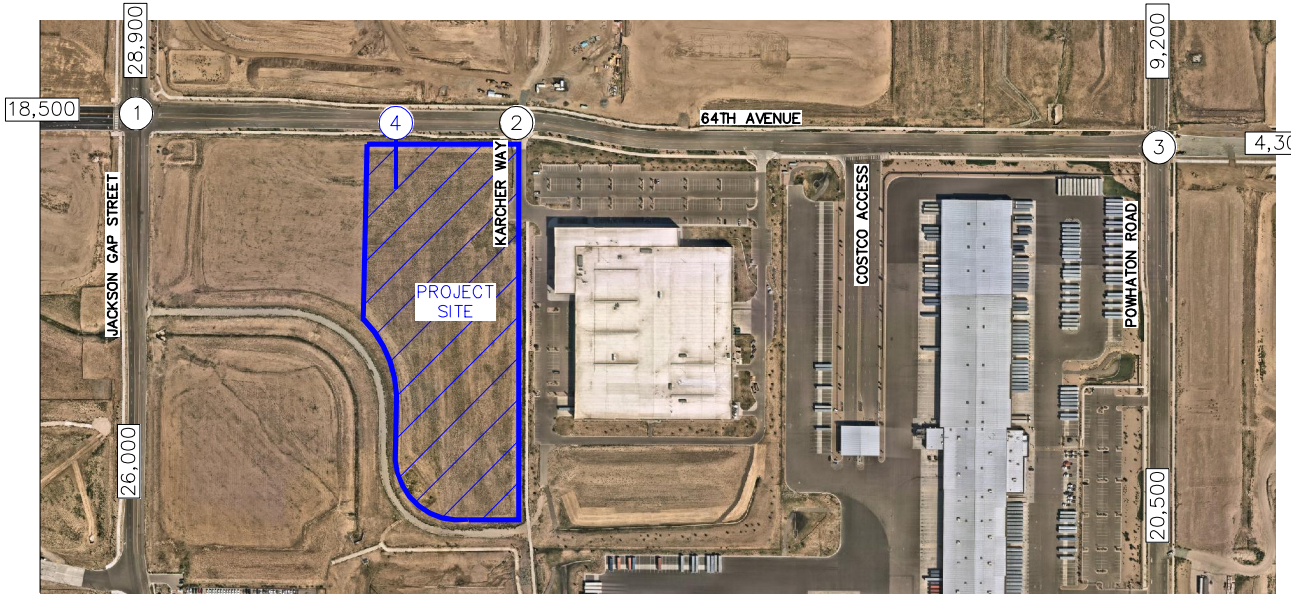
FIGURE 10
COSTCO MAINTENANCE AURORA
AURORA, COLORADO
2025 TOTAL TRAFFIC VOLUMES

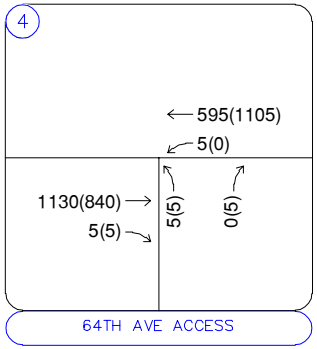
LEGEND

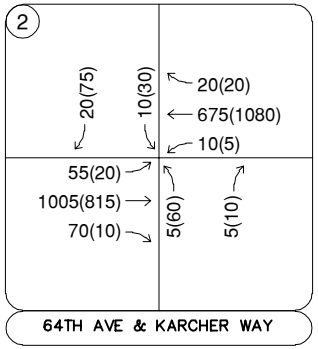
X	Study Area Key Intersection
X	Project Access Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume

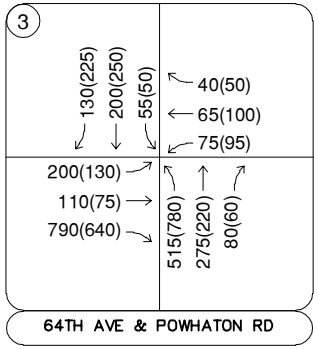
Kimley»Horn









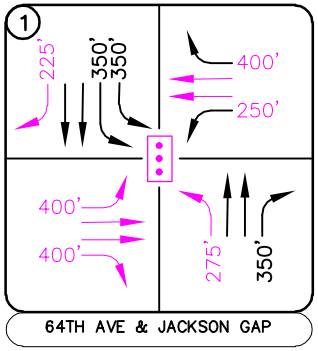


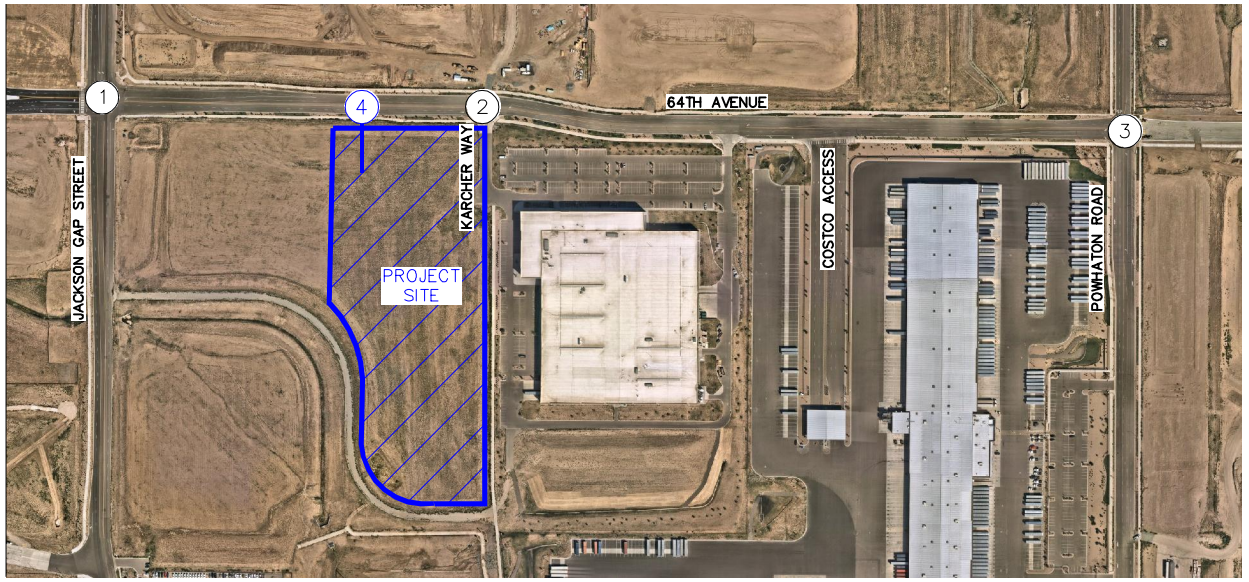
NTS 196124002

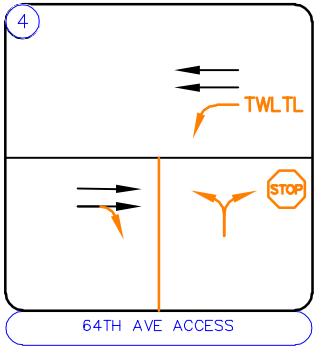
FIGURE 11
COSTCO MAINTENANCE AURORA
AURORA, COLORADO
2040 TOTAL TRAFFIC VOLUMES

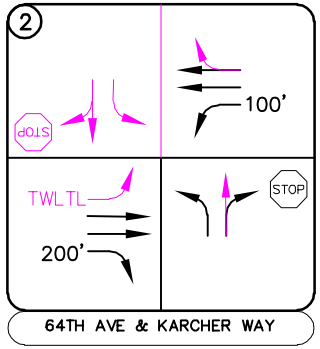
LEGEND

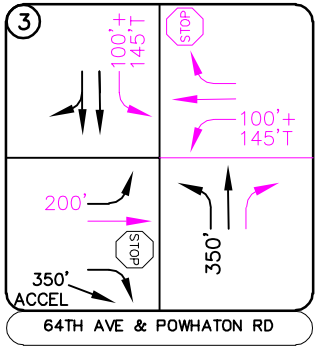
- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

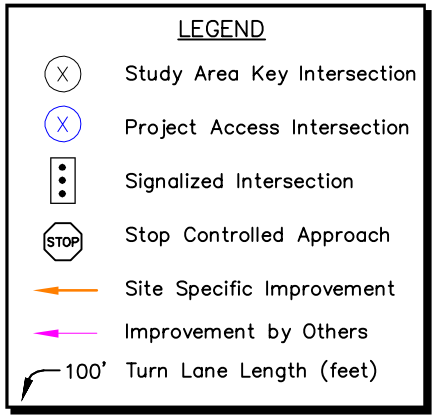








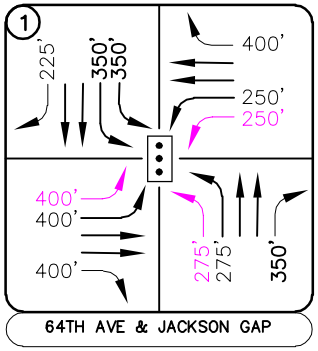


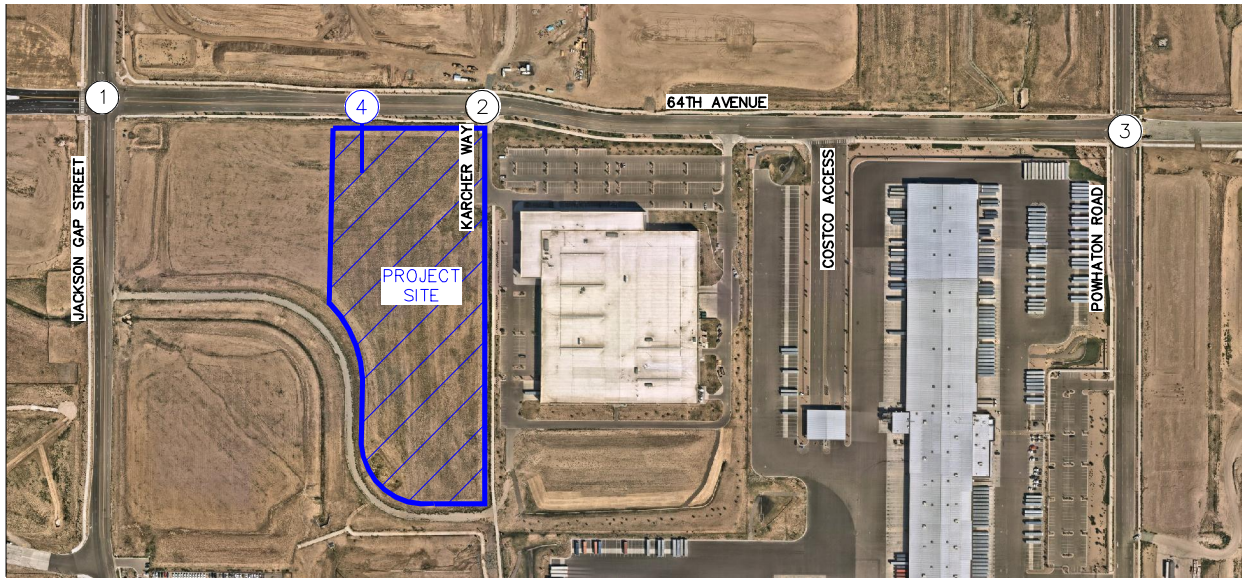


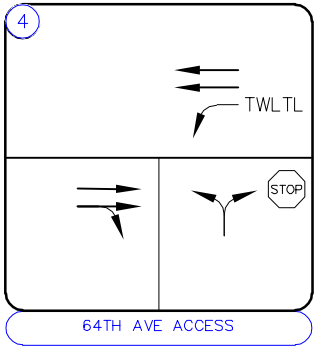
Kimley»Horn
NORTH
NTS 196124002

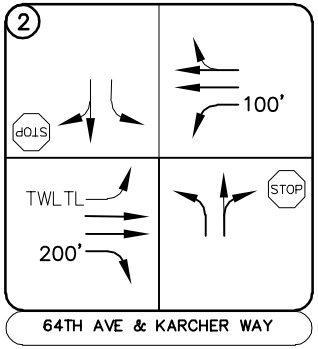
FIGURE 12
COSTCO MAINTENANCE AURORA
AURORA, COLORADO
2025 RECOMMENDED GEOMETRY AND CONTROL

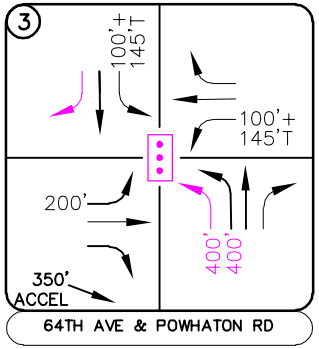
Kimley»Horn

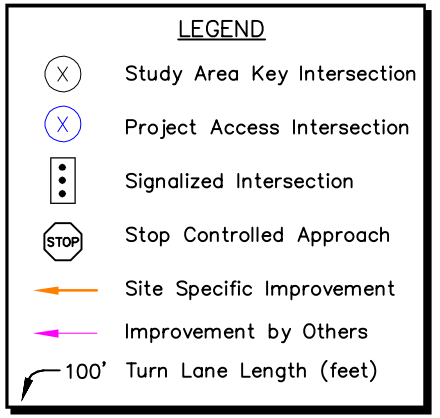












Kimley»Horn
NORTH
NTS 196124002

FIGURE 13
COSTCO MAINTENANCE AURORA
AURORA, COLORADO
2040 RECOMMENDED GEOMETRY AND CONTROL

Kimley»Horn

APPENDIX C

Trip Generation Worksheets

Kimley»Horn

Project	Fine Point Business Park Industrial (Bldg 5)				
Subject	Trip Generation for Industrial Park				
Designed by	MAG	*Date*	April 17, 2023	*Job No.*	196617000
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rates

Land Use Code - Industrial Park (130)

Independant Variable - 1000 Square Feet (X)
SF = 61,500
X = 61.500
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (100 Series Page 49)

Directional Distribution: 81% ent. 19% exit.
(T) = 0.34 (X) T = 21 Average Vehicle Trip Ends
(T) = 0.34 * (61.5) 17 entering 4 exiting

17 + 4 = 21

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (100 Series Page 50)

Directional Distribution: 22% ent. 78% exit.
(T) = 0.34 (X) T = 21 Average Vehicle Trip Ends
(T) = 0.34 * (61.5) 5 entering 16 exiting

5 + 16 = 21

Weekday (100 Series Page 48)

Average Weekday Directional Distribution: 50% ent. 50% exit.
(T) = 3.37 (X) T = 208 Average Vehicle Trip Ends
(T) = 3.37 * (61.5) 104 entering 104 exiting

104 + 104 = 208

Kimley»Horn

Project	Fine Point Business Park Industrial (Bldg 3 & 4)				
Subject	Trip Generation for Industrial Park				
Designed by	MAG	*Date*	April 17, 2023	*Job No.*	196617000
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rates

Land Use Code - Industrial Park (130)

Independant Variable - 1000 Square Feet (X)
SF = 426,200
X = 426.200
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (100 Series Page 49)

Directional Distribution: 81% ent. 19% exit.
(T) = 0.34 (X) T = 145 Average Vehicle Trip Ends
(T) = 0.34 * (426.2) 117 entering 28 exiting

117 + 28 = 145

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (100 Series Page 50)

Directional Distribution: 22% ent. 78% exit.
(T) = 0.34 (X) T = 145 Average Vehicle Trip Ends
(T) = 0.34 * (426.2) 32 entering 113 exiting

32 + 113 = 145

Weekday (100 Series Page 48)

Average Weekday Directional Distribution: 50% ent. 50% exit.
(T) = 3.37 (X) T = 1438 Average Vehicle Trip Ends
(T) = 3.37 * (426.2) 719 entering 719 exiting

719 + 719 = 1438

Kimley»Horn

Project	Fine Point Business Park Industrial (Bldg 6,7, & 8)				
Subject	Trip Generation for Industrial Park				
Designed by	MAG	*Date*	April 17, 2023	*Job No.*	196617000
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rates

Land Use Code - Industrial Park (130)

Independant Variable - 1000 Square Feet (X)
SF = 973,620
X = 973.620
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (100 Series Page 49)

Directional Distribution: 81% ent. 19% exit.
(T) = 0.34 (X) T = 331 Average Vehicle Trip Ends
(T) = 0.34 * (973.6) 268 entering 63 exiting

268 + 63 = 331

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (100 Series Page 50)

Directional Distribution: 22% ent. 78% exit.
(T) = 0.34 (X) T = 331 Average Vehicle Trip Ends
(T) = 0.34 * (973.6) 73 entering 258 exiting

73 + 258 = 331

Weekday (100 Series Page 48)

Average Weekday Directional Distribution: 50% ent. 50% exit.
(T) = 3.37 (X) T = 3282 Average Vehicle Trip Ends
(T) = 3.37 * (973.6) 1641 entering 1641 exiting

1641 + 1641 = 3282

Kimley»Horn

Project	Fine Point Business Park Industrial				
Subject	Trip Generation for Shopping Plaza (40-150k) - Supermarket-No				
Designed by	MAG	*Date*	April 17, 2023	*Job No.*	196617000
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Shopping Plaza (40-150k) - Supermarket-No (821)

Independent Variable - 1000 Square Feet Gross Leasable Area (X)

Gross Leasable Area = 160,100 Square Feet
X = 160.100
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 213)

Average Weekday — Directional Distribution: 62% ent. 38% exit.
T = 1.73 * (X) — T = 277 Average Vehicle Trip Ends
T = 1.73 * 160.1 — 172 entering 105 exiting

172 + 105 = 277

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series page 214)

Average Weekday — Directional Distribution: 49% ent. 51% exit.
T = 5.19 * (X) — T = 831 Average Vehicle Trip Ends
T = 5.19 * 160.1 — 407 entering 424 exiting

407 + 424 = 831

Weekday (800 Series page 212)

Average Weekday — Directional Distribution: 50% entering, 50% exiting
T = 67.52 * (X) — T = 10810 Average Vehicle Trip Ends
T = 67.52 * 160.1 — 5405 entering 5405 exiting

5405 + 5405 = 10810

Non Pass-By Trip Volumes (Between 40 and 150k) (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour = Non-Pass By — PM Peak Hour = 60% Non-Pass By

	IN	Out	Total	
AM Peak	0	0	0	PM Peak Hour Rate Applied to AM Peak Hour
PM Peak	244	254	499	
Daily	3243	3243	6486	PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Between 40 and 150k) (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour = Pass By — PM Peak Hour = 40% Pass By

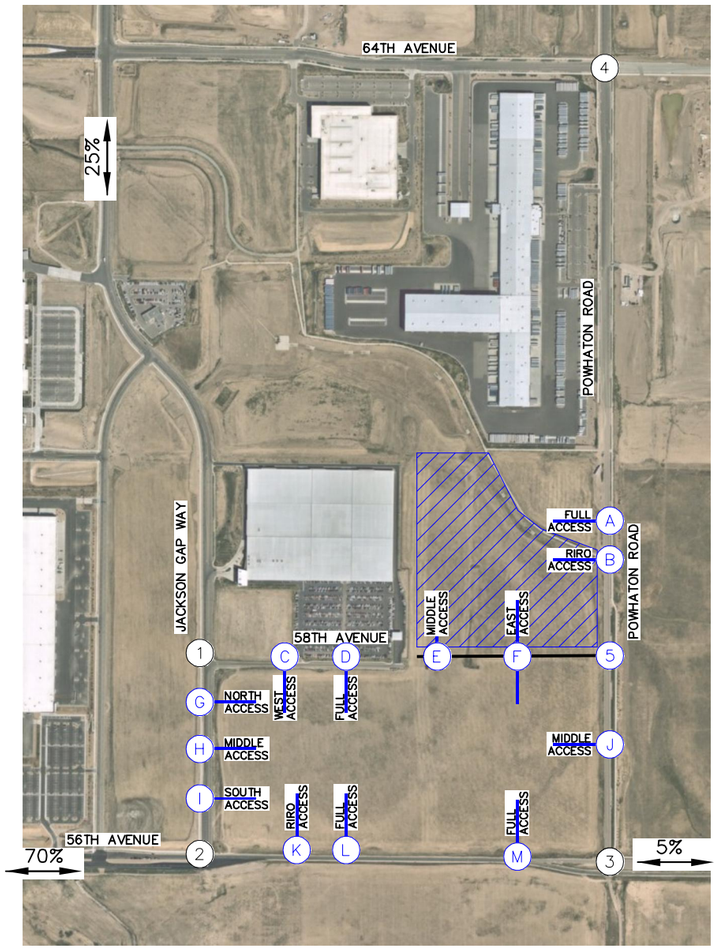
	IN	Out	Total	
AM Peak	172	105	277	PM Peak Hour Rate Applied to AM Peak Hour
PM Peak	163	170	332	
Daily	2162	2162	4324	PM Peak Hour Rate Applied to Daily

APPENDIX D

Intersection Distribution Figures

LEGEND

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



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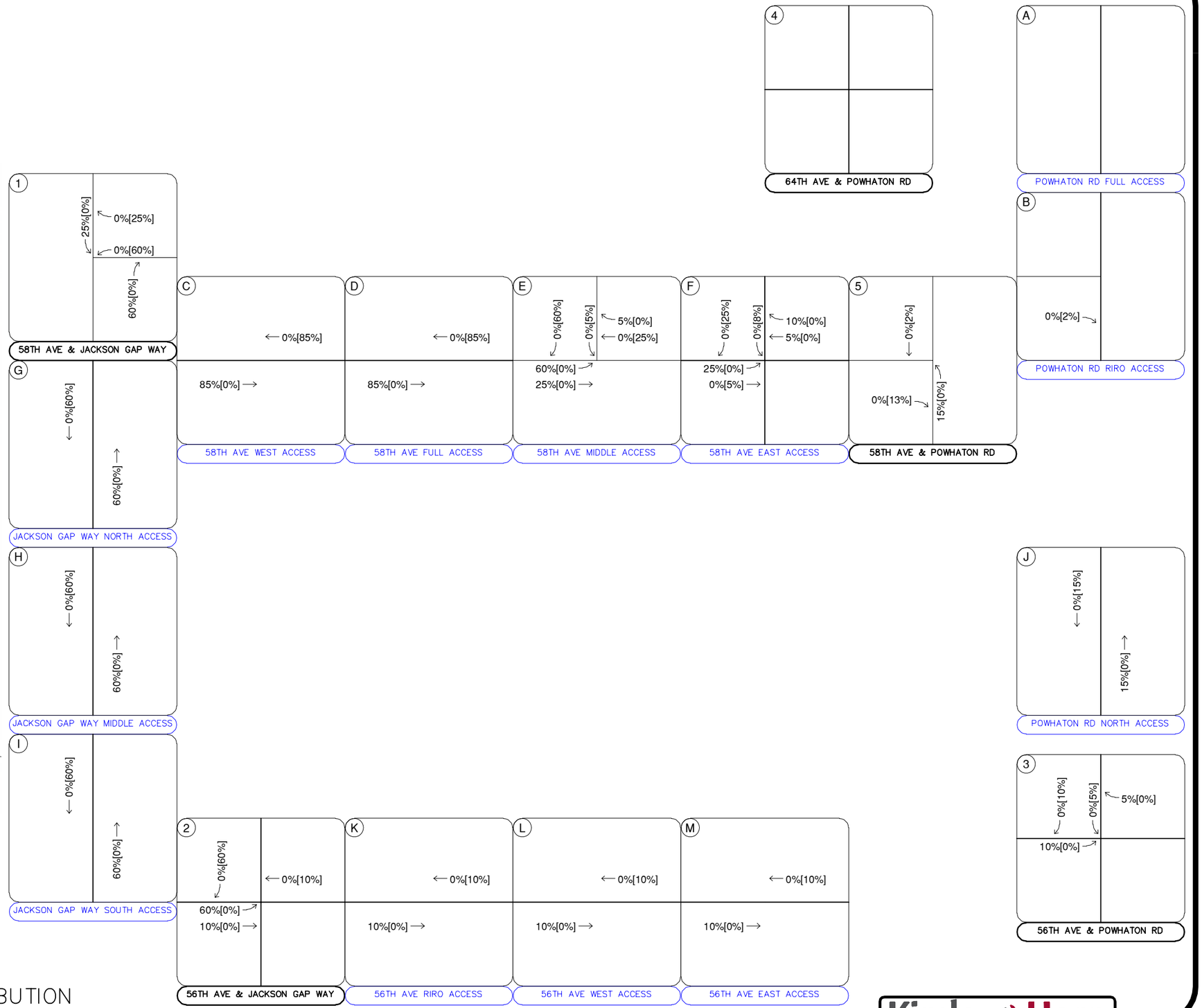
NTS 196617000

FINE POINT BUSINESS PARK
AURORA, COLORADO
2025 BUILDING 3,4 PROJECT TRIP DISTRIBUTION



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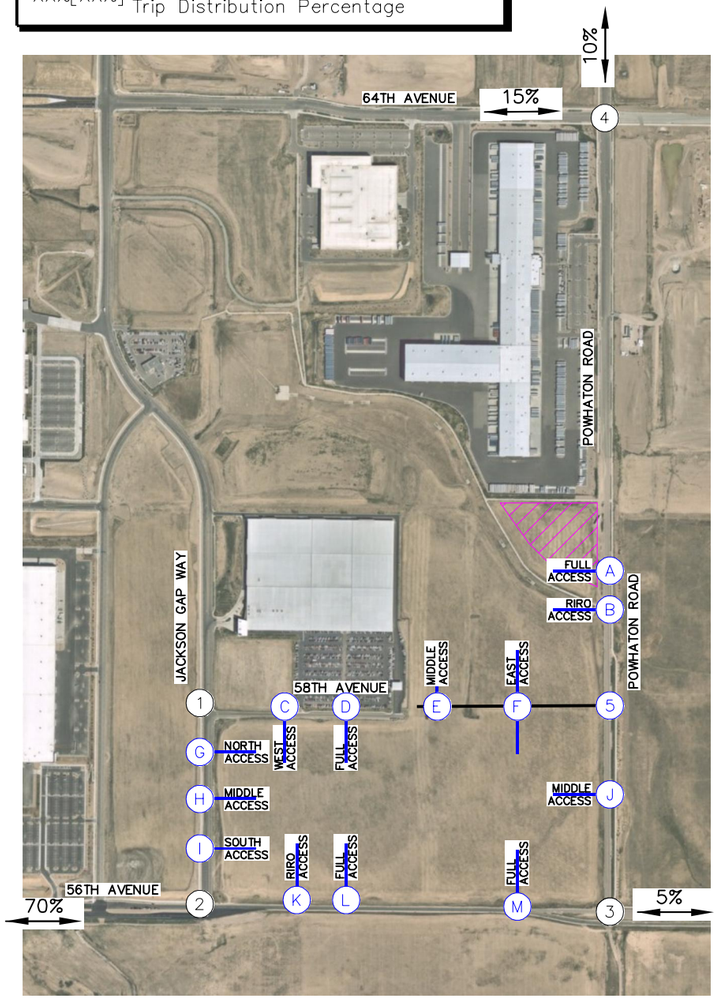
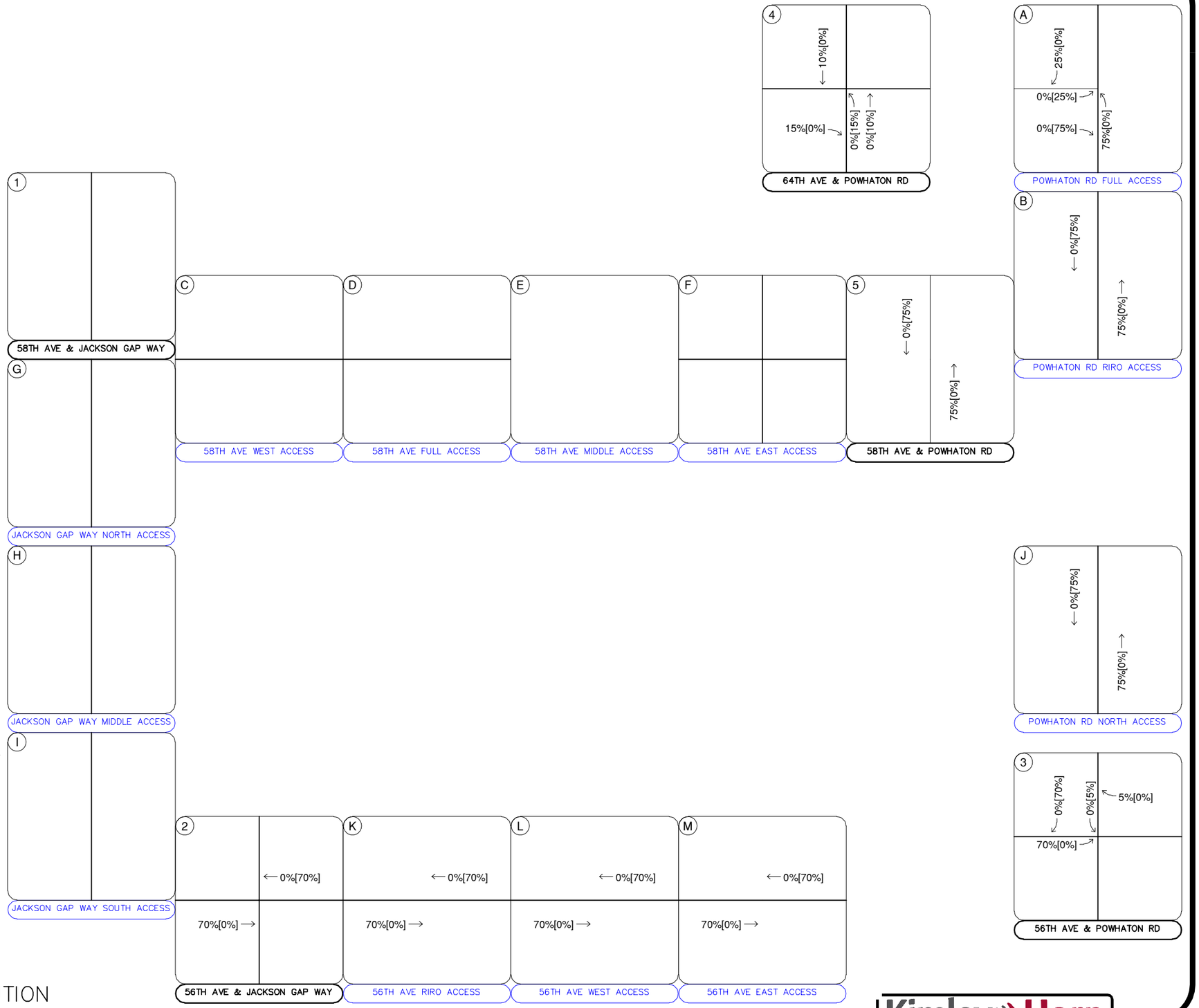
LEGEND

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





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FINE POINT BUSINESS PARK
AURORA, COLORADO
2025 BUILDING 5 PROJECT TRIP DISTRIBUTION

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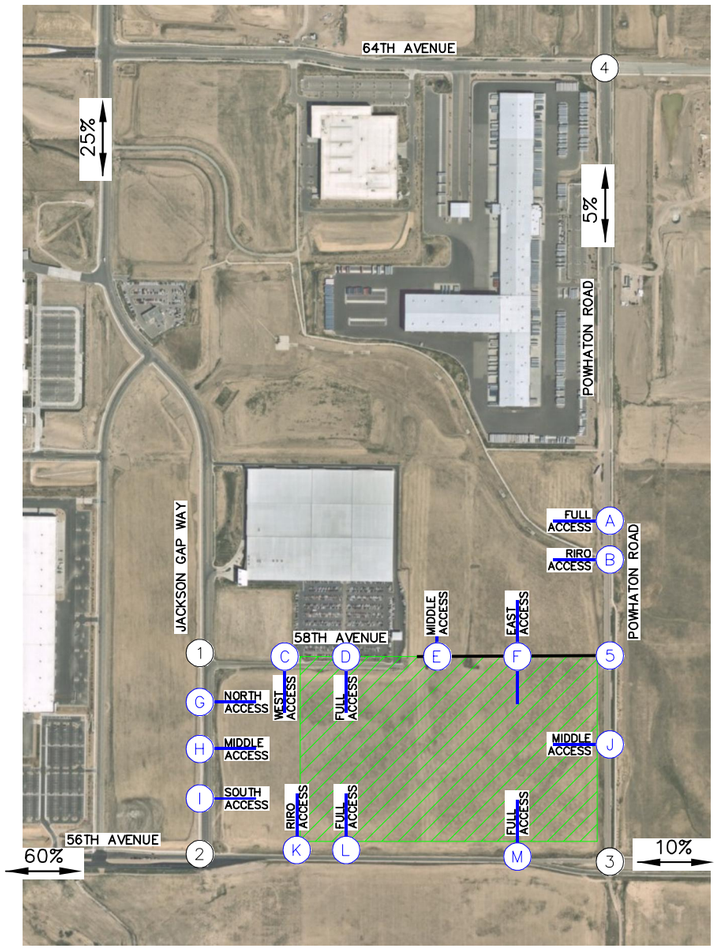
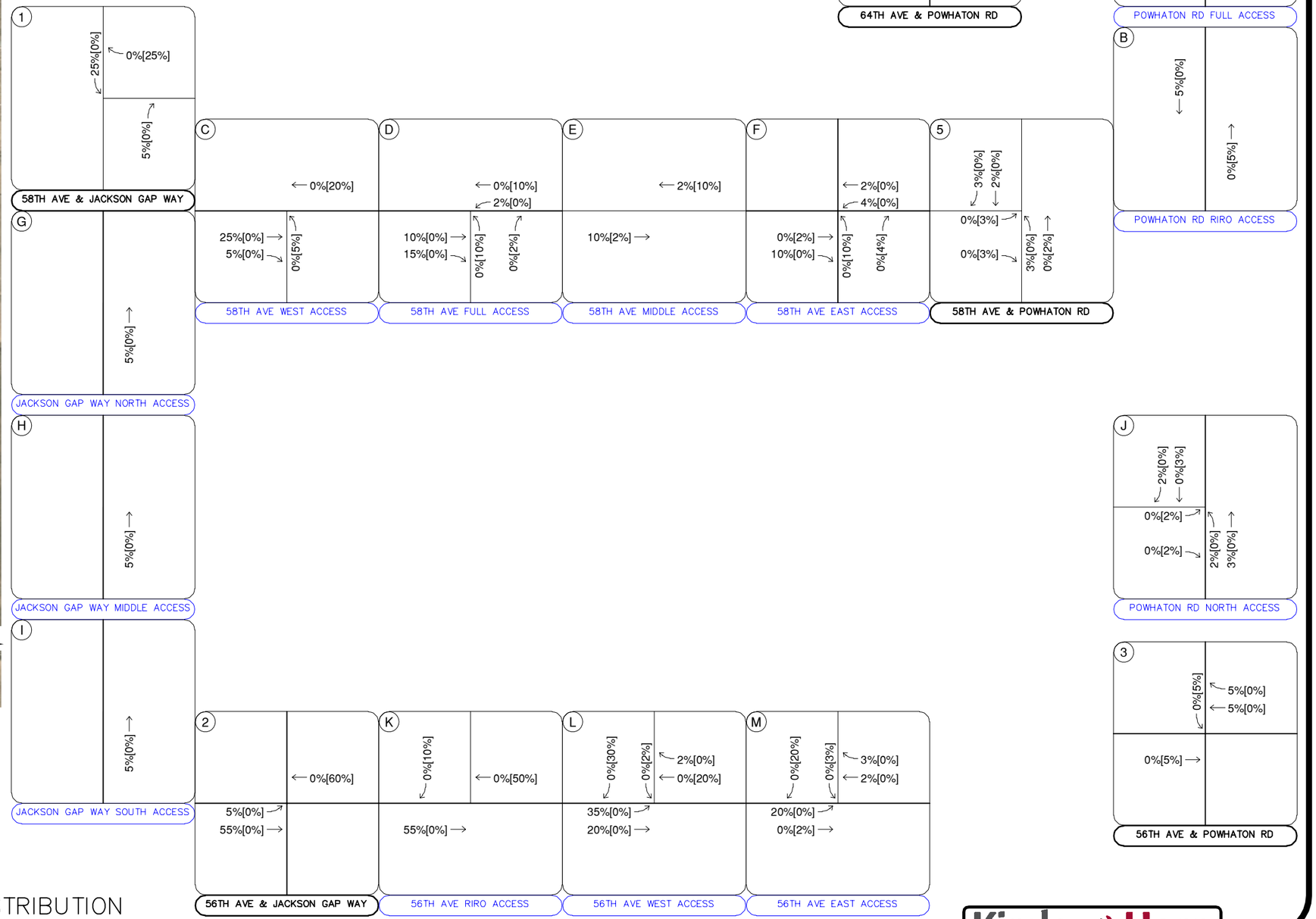
LEGEND

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





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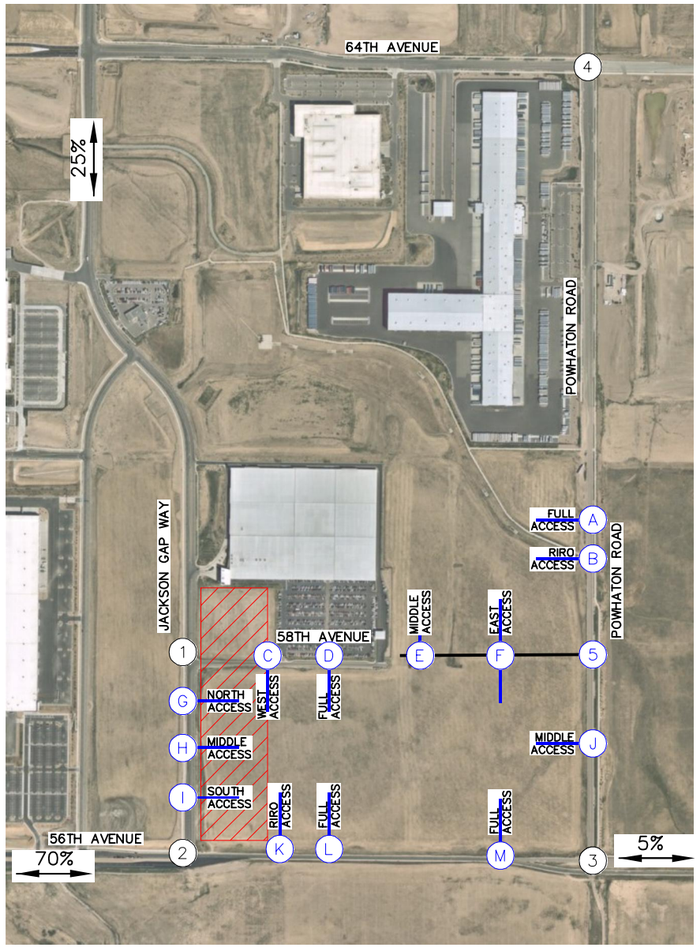
NTS 196617000

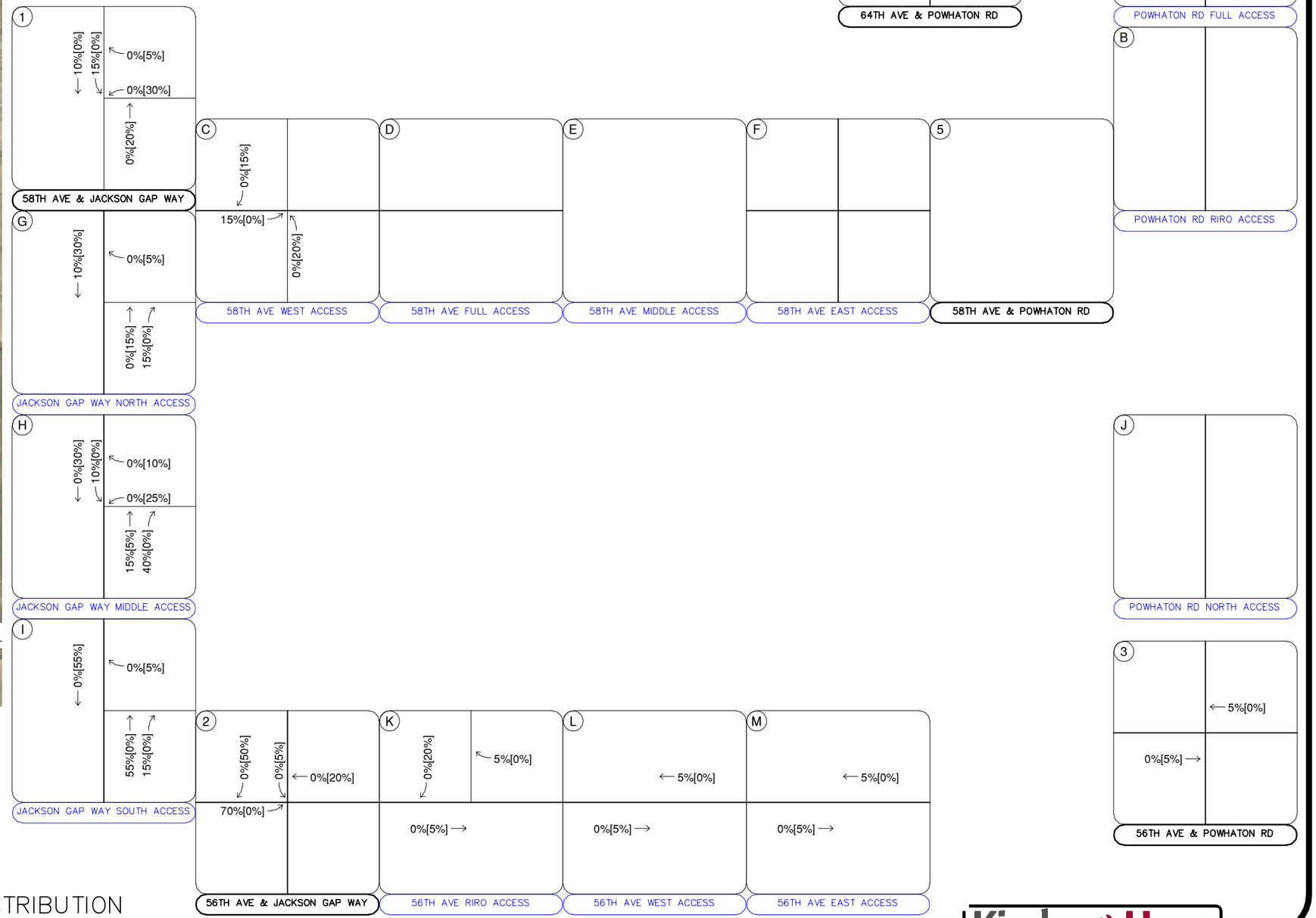
FINE POINT BUSINESS PARK
AURORA, COLORADO
2025 BUILDING 6,7,&8 PROJECT TRIP DISTRIBUTION

Kimley»Horn

LEGEND

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





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FINE POINT BUSINESS PARK
AURORA, COLORADO
2025 BUILDING RETAIL PROJECT TRIP DISTRIBUTION

Kimley»Horn

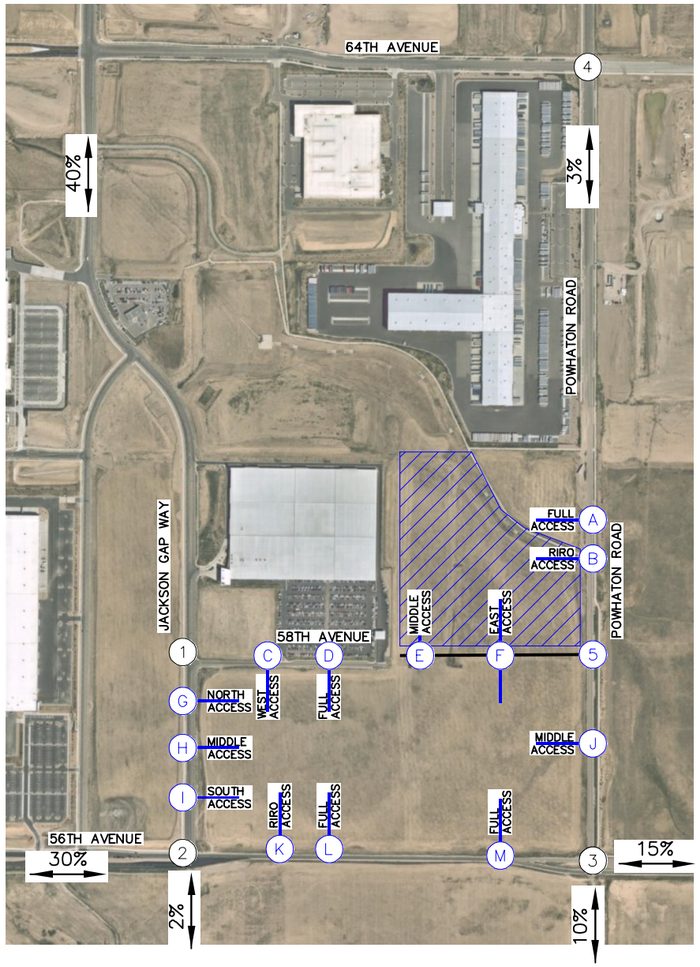
LEGEND

X — Study Area Key Intersection

X — Project Access Intersection

XX% — External Trip Distribution Percentage

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



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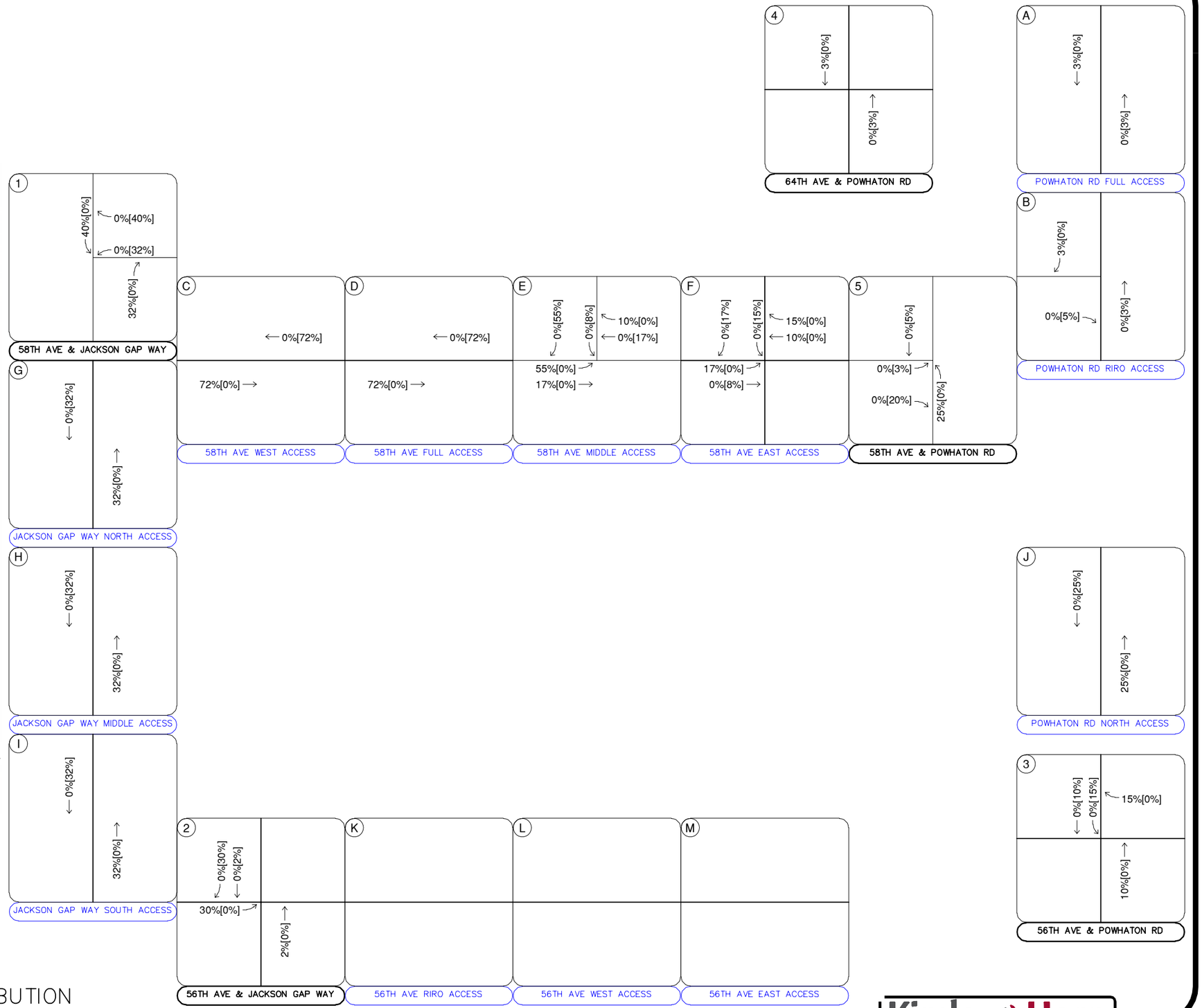

FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 BUILDING 3,4 PROJECT TRIP DISTRIBUTION

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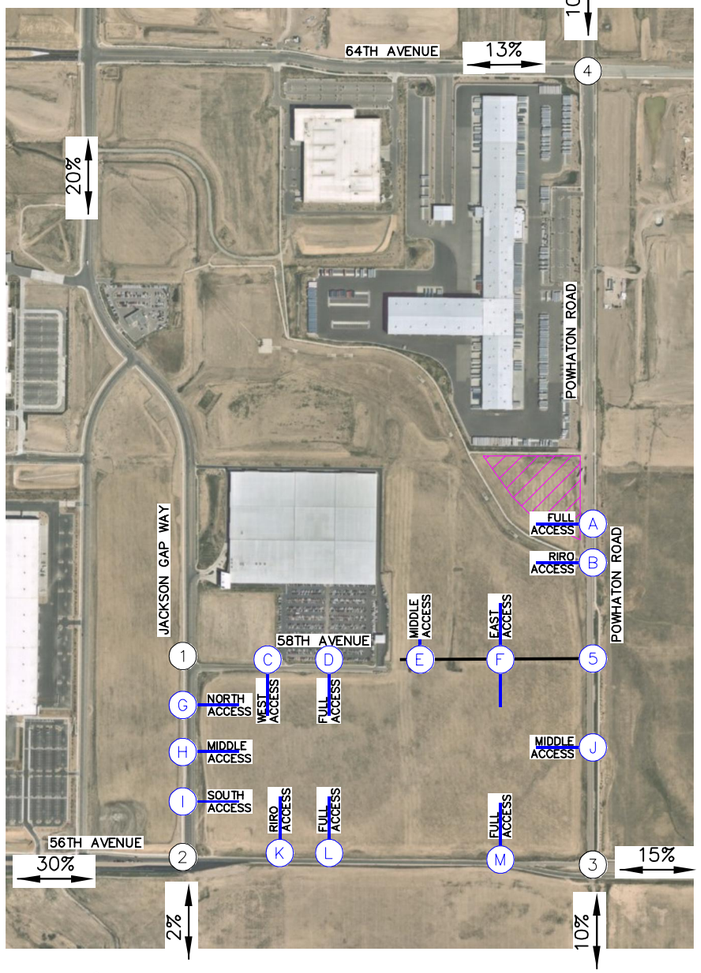
LEGEND

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



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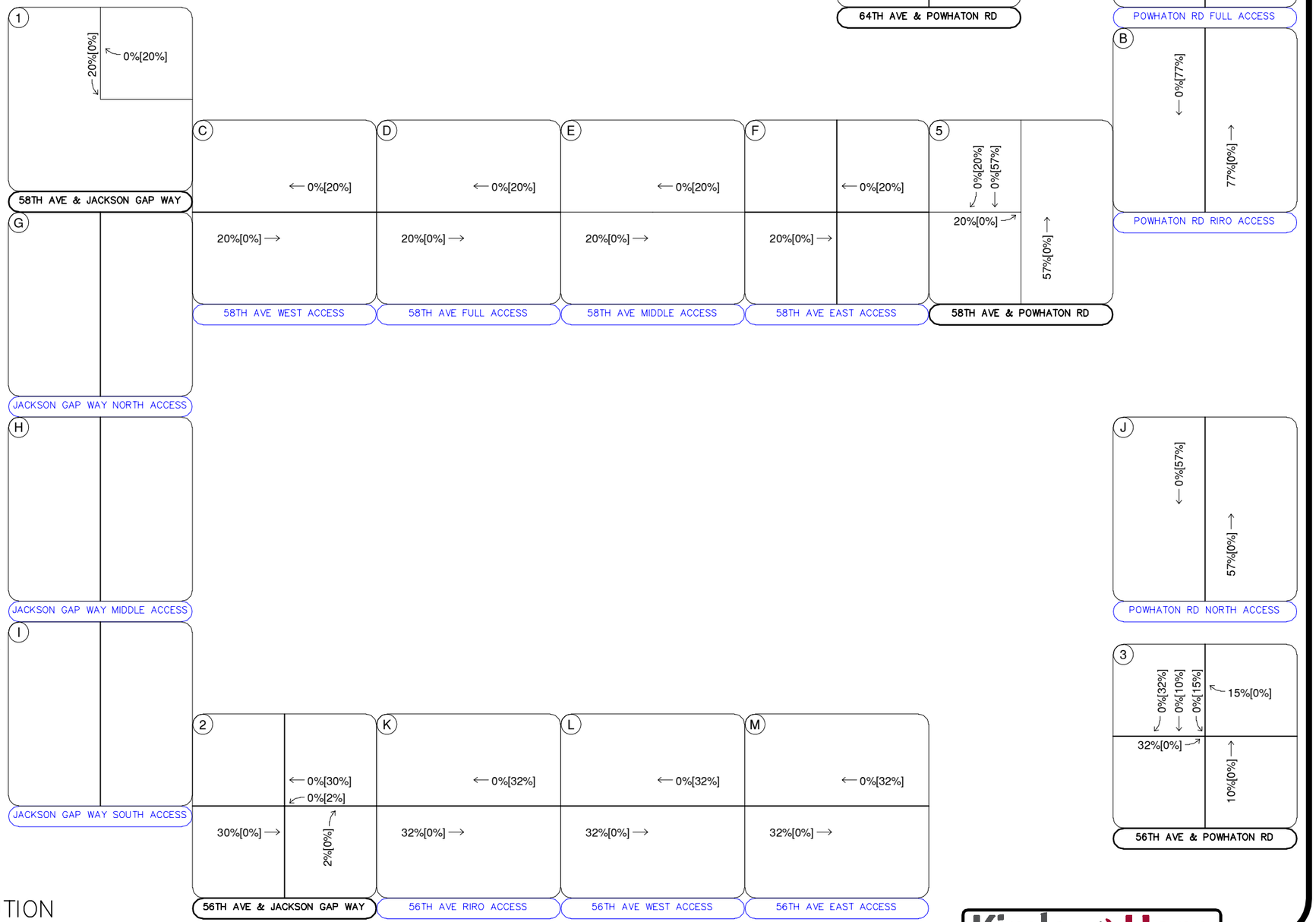
FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 BUILDING 5 PROJECT TRIP DISTRIBUTION



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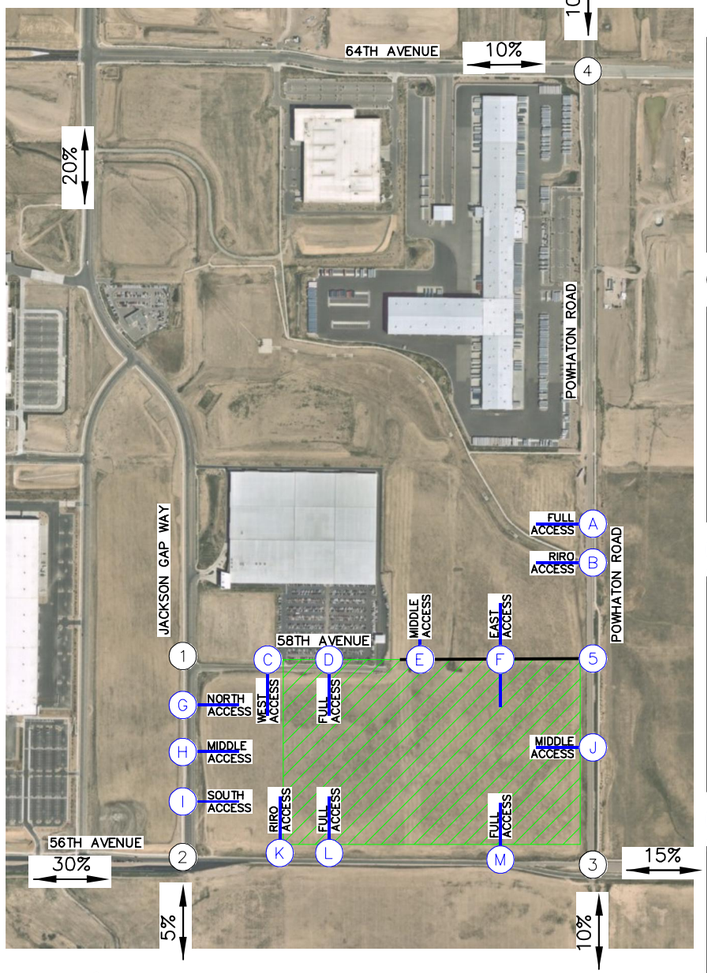
LEGEND

X — Study Area Key Intersection

X — Project Access Intersection

XX% — External Trip Distribution Percentage

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



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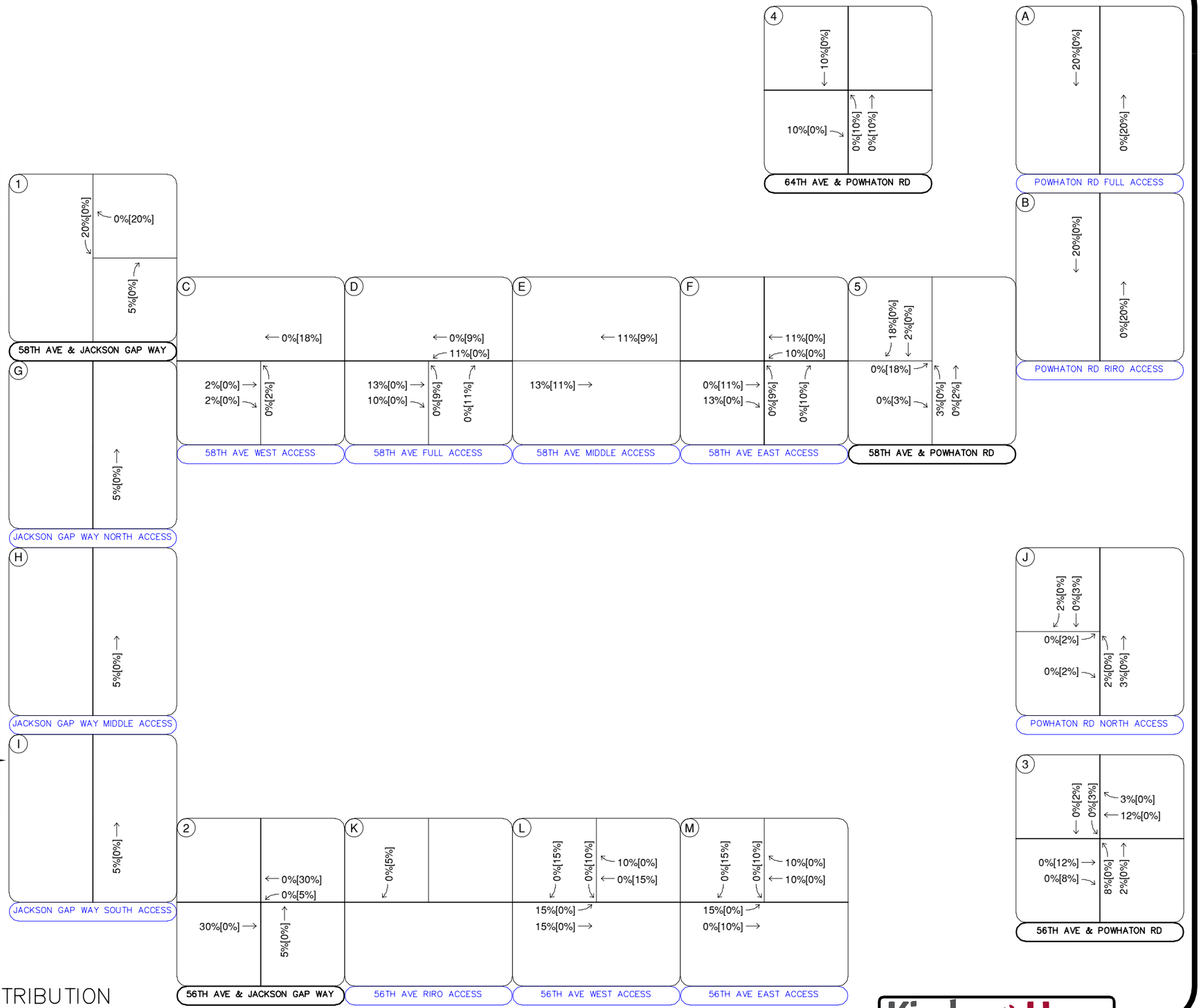

FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 BUILDING 6,7,&8 PROJECT TRIP DISTRIBUTION

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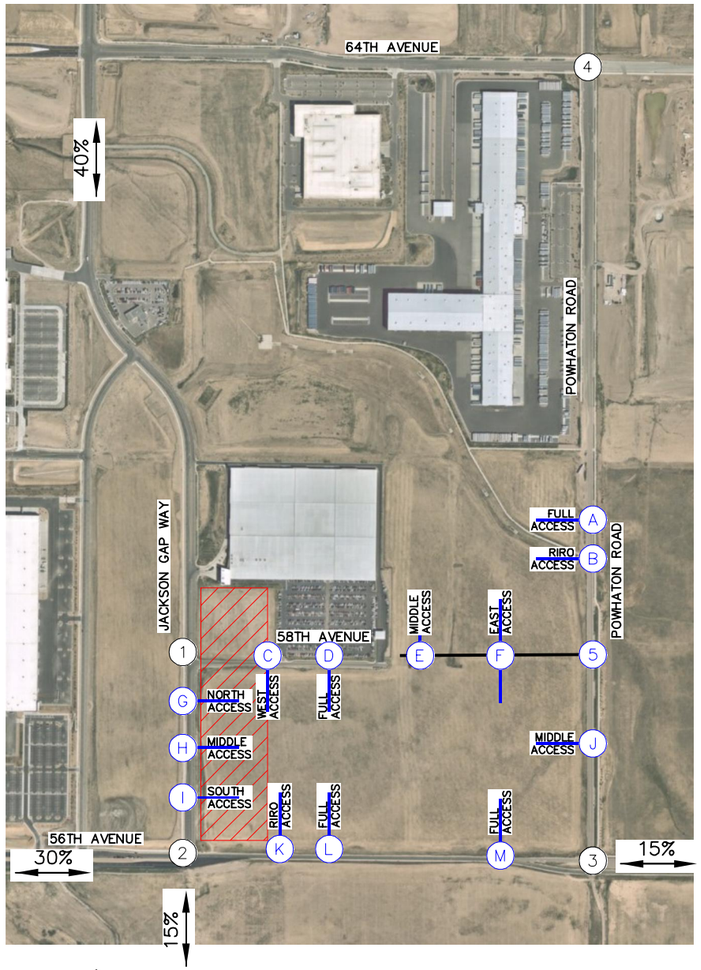
LEGEND

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



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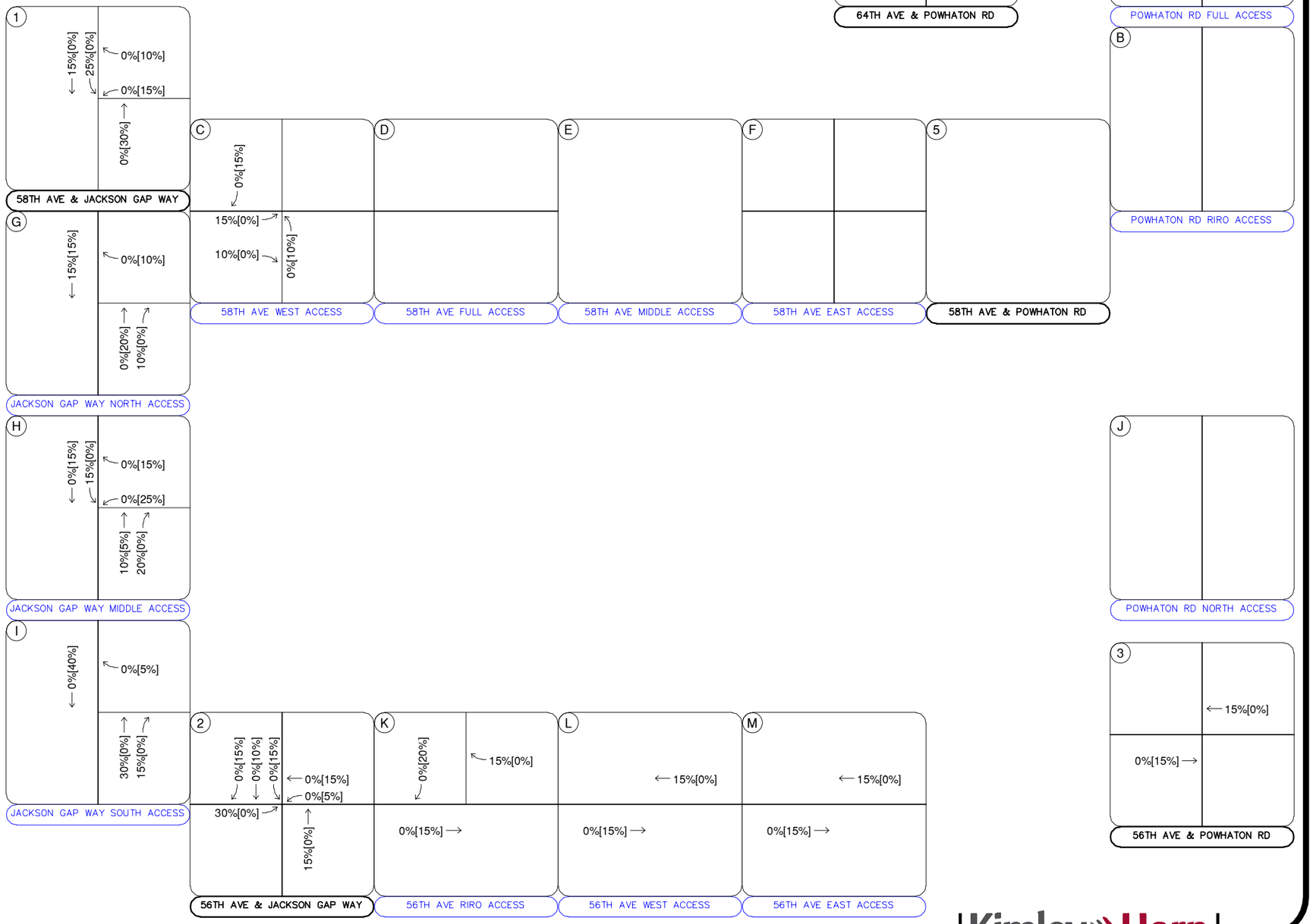
FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 BUILDING RETAIL PROJECT
NON PASS-BY TRIP DISTRIBUTION



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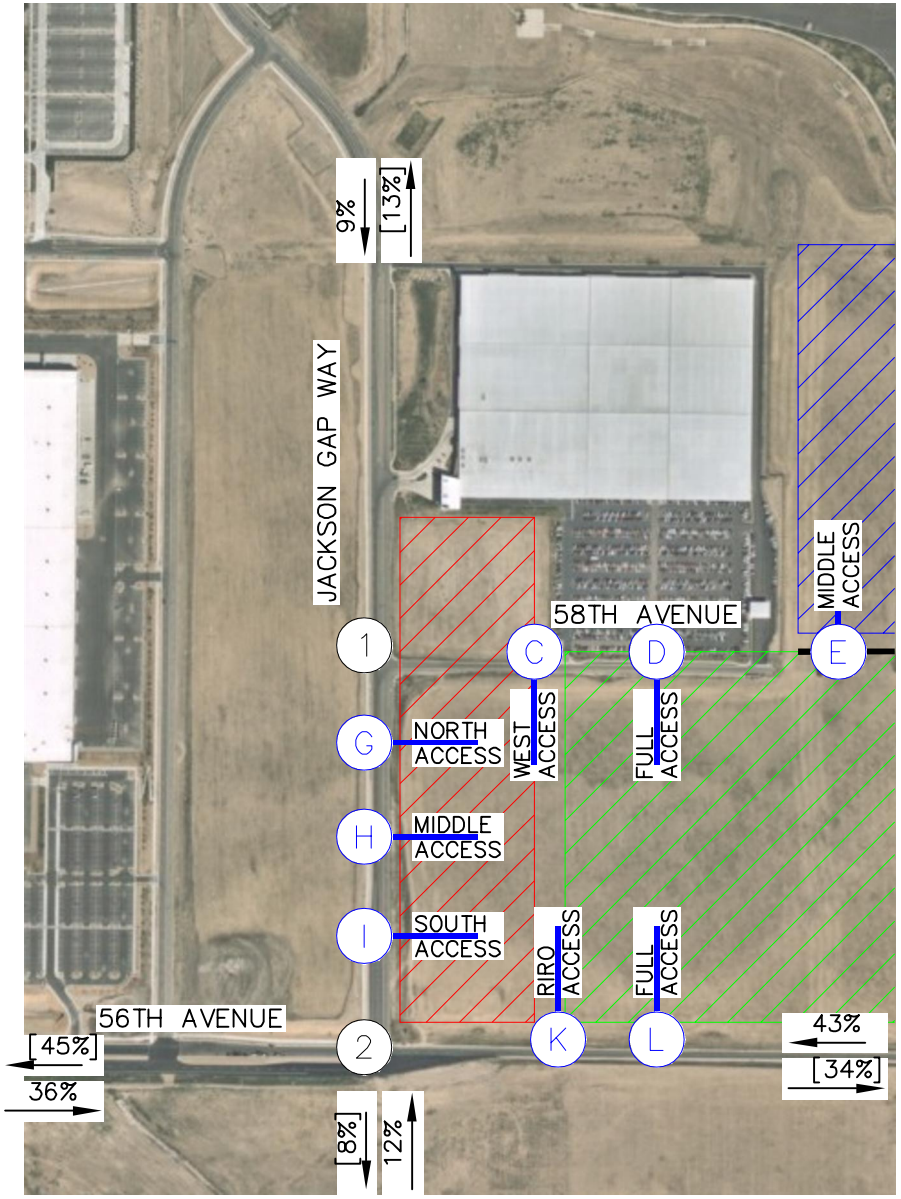

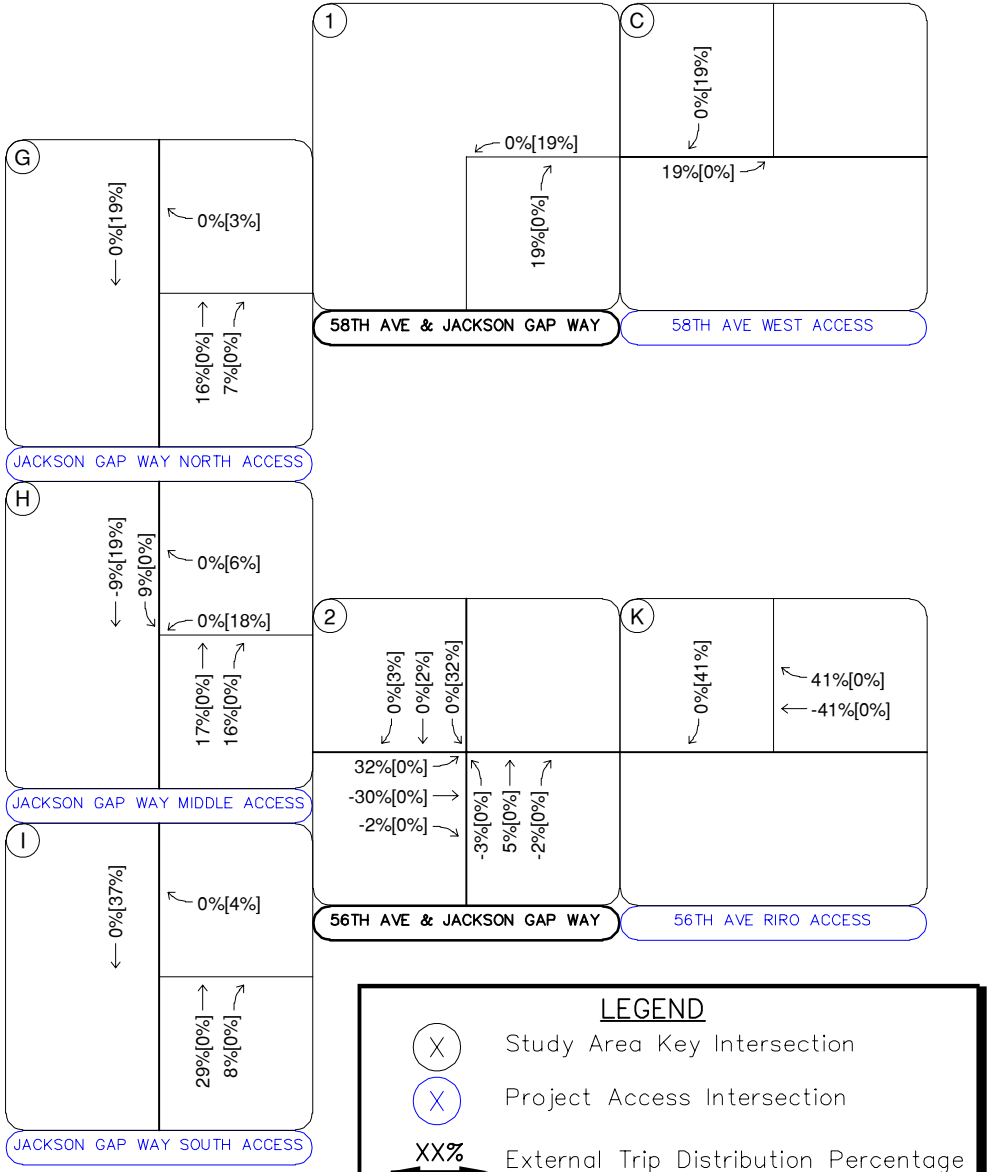

LEGEND

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

FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 BUILDING RETAIL PROJECT
AM PASS-BY TRIP DISTRIBUTION

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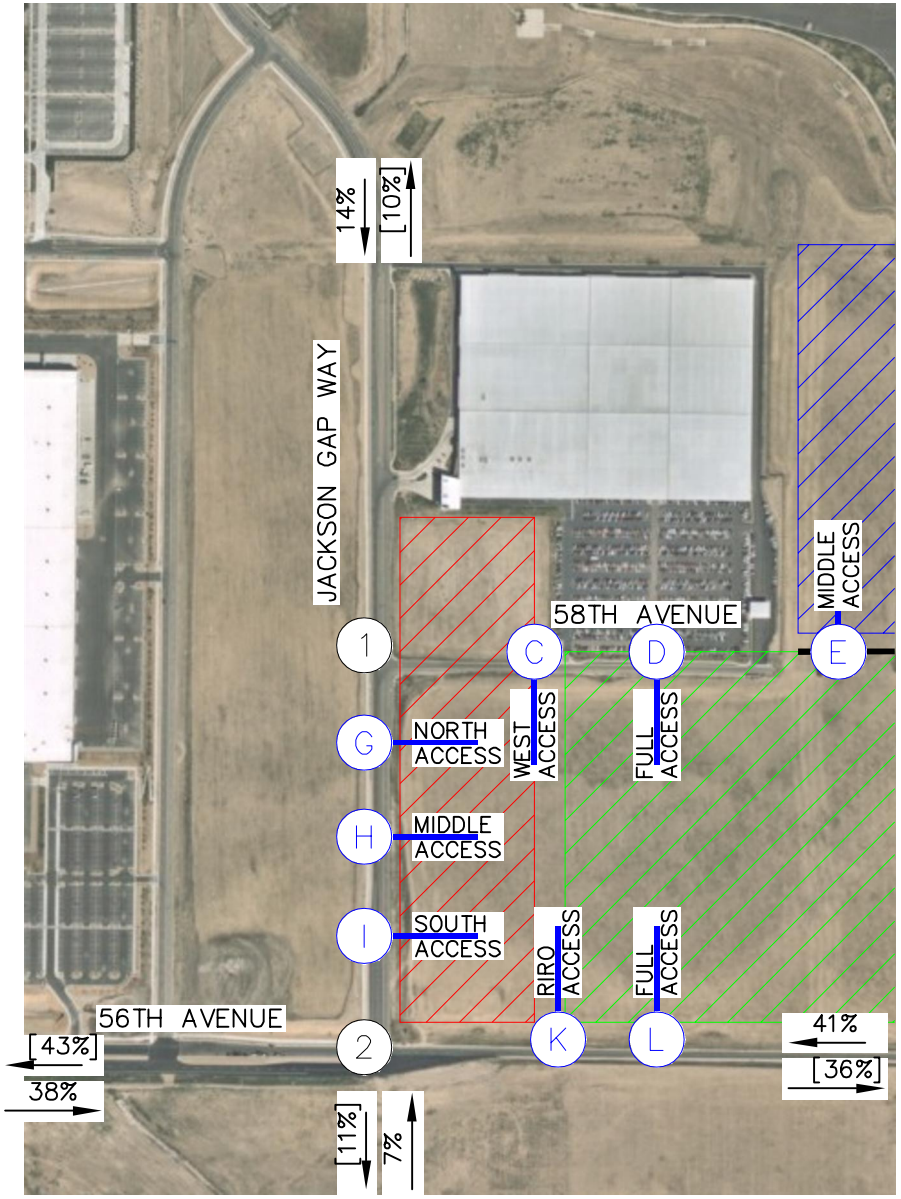

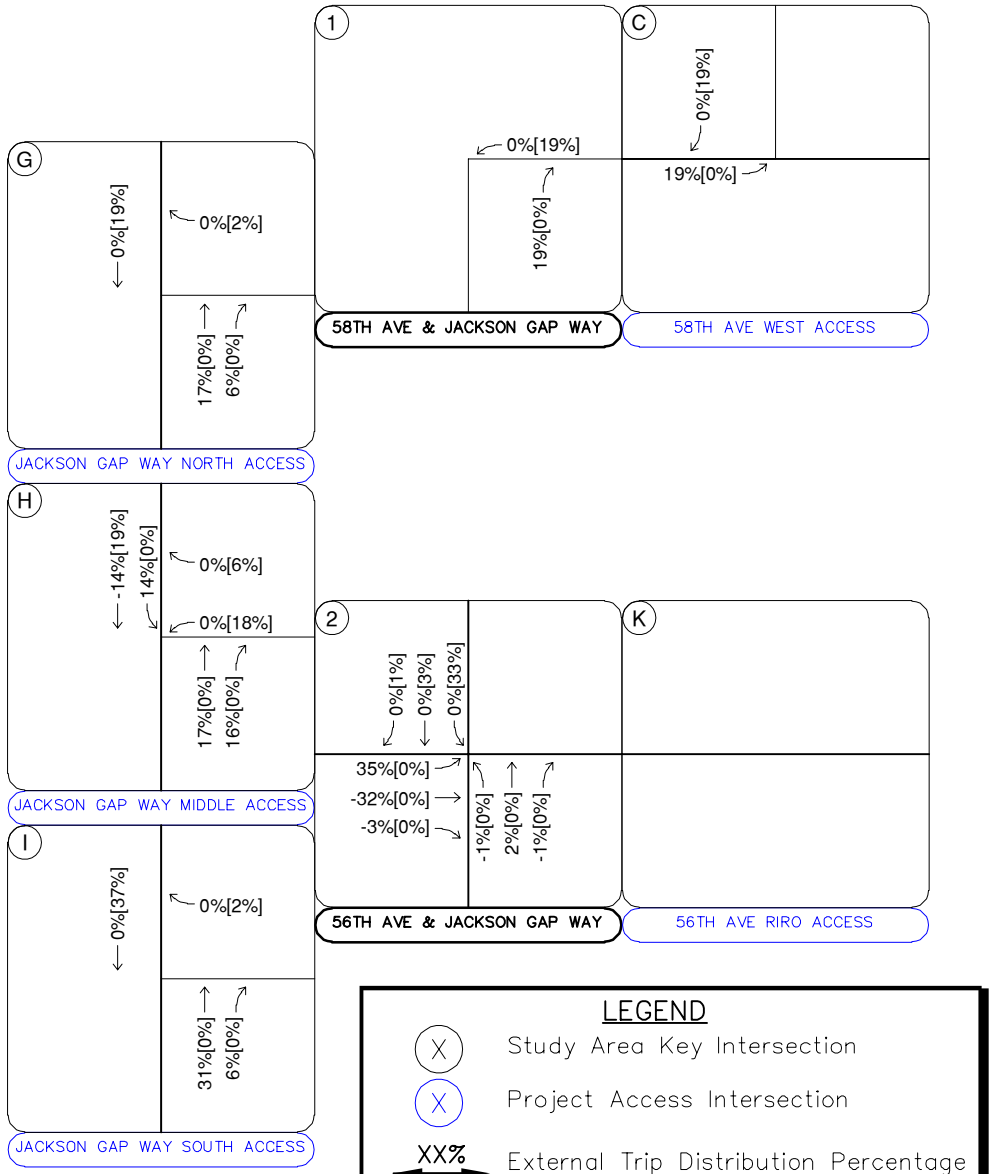

LEGEND

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

FINE POINT BUSINESS PARK
AURORA, COLORADO
2040 BUILDING RETAIL PROJECT
PM PASS-BY TRIP DISTRIBUTION

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APPENDIX E

Intersection Analysis Worksheets

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	94	0	0	28
Future Vol, veh/h	2	0	94	0	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	125	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	2	0	106	0	0	31

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	122	53	0	0	106	0
Stage 1	106	-	-	-	-	-
Stage 2	16	-	-	-	-	-
Critical Hdwy	6.98	7.08	-	-	4.28	-
Critical Hdwy Stg 1	5.98	-	-	-	-	-
Critical Hdwy Stg 2	5.98	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	-	-	2.29	-
Pot Cap-1 Maneuver	841	981	-	-	1433	-
Stage 1	886	-	-	-	-	-
Stage 2	984	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	841	981	-	-	1433	-
Mov Cap-2 Maneuver	838	-	-	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	984	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	838	-	1433	-
HCM Lane V/C Ratio	-	-	0.003	-	-	-
HCM Control Delay (s)	-	-	9.3	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	-	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	0	61	0	0	66
Future Vol, veh/h	26	0	61	0	0	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	125	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	0	72	0	0	78

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	111	36	0	0	72	0
Stage 1	72	-	-	-	-	-
Stage 2	39	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	874	1029	-	-	1526	-
Stage 1	942	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	874	1029	-	-	1526	-
Mov Cap-2 Maneuver	881	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	978	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	881	-	1526	-
HCM Lane V/C Ratio	-	-	0.035	-	-	-
HCM Control Delay (s)	-	-	9.2	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	165	0	0	40
Future Vol, veh/h	2	0	165	0	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	125	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	2	0	185	0	0	45

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	208	93	0	0	185	0
Stage 1	185	-	-	-	-	-
Stage 2	23	-	-	-	-	-
Critical Hdwy	6.98	7.08	-	-	4.28	-
Critical Hdwy Stg 1	5.98	-	-	-	-	-
Critical Hdwy Stg 2	5.98	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	-	-	2.29	-
Pot Cap-1 Maneuver	742	924	-	-	1337	-
Stage 1	808	-	-	-	-	-
Stage 2	976	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	742	924	-	-	1337	-
Mov Cap-2 Maneuver	763	-	-	-	-	-
Stage 1	808	-	-	-	-	-
Stage 2	976	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	763	-	1337	-
HCM Lane V/C Ratio	-	-	0.003	-	-	-
HCM Control Delay (s)	-	-	9.7	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	0	80	0	0	120
Future Vol, veh/h	28	0	80	0	0	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	125	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	0	94	0	0	141

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	165	47	0	0	94	0
Stage 1	94	-	-	-	-	-
Stage 2	71	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	809	1012	-	-	1498	-
Stage 1	919	-	-	-	-	-
Stage 2	943	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	809	1012	-	-	1498	-
Mov Cap-2 Maneuver	844	-	-	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	943	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	844	-	1498	-
HCM Lane V/C Ratio	-	-	0.039	-	-	-
HCM Control Delay (s)	-	-	9.4	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-	0	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	51	28	186	83	122	57
Future Vol, veh/h	51	28	186	83	122	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	125	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	57	31	209	93	137	64

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	515	105	0	0	302	0
Stage 1	209	-	-	-	-	-
Stage 2	306	-	-	-	-	-
Critical Hdwy	6.98	7.08	-	-	4.28	-
Critical Hdwy Stg 1	5.98	-	-	-	-	-
Critical Hdwy Stg 2	5.98	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	-	-	2.29	-
Pot Cap-1 Maneuver	472	907	-	-	1207	-
Stage 1	785	-	-	-	-	-
Stage 2	700	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	418	907	-	-	1207	-
Mov Cap-2 Maneuver	557	-	-	-	-	-
Stage 1	785	-	-	-	-	-
Stage 2	620	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	5.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	557	907	1207	-
HCM Lane V/C Ratio	-	-	0.103	0.035	0.114	-
HCM Control Delay (s)	-	-	12.2	9.1	8.4	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.4	-

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	223	114	165	23	87	161
Future Vol, veh/h	223	114	165	23	87	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	125	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	262	134	194	27	102	189

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	493	97	0	0	221	0
Stage 1	194	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	505	940	-	-	1345	-
Stage 1	820	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	467	940	-	-	1345	-
Mov Cap-2 Maneuver	603	-	-	-	-	-
Stage 1	820	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	2.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	603	940	1345	-
HCM Lane V/C Ratio	-	-	0.435	0.143	0.076	-
HCM Control Delay (s)	-	-	15.5	9.5	7.9	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	2.2	0.5	0.2	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	0	465	0	0	335
Future Vol, veh/h	3	0	465	0	0	335
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	125	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	3	0	505	0	0	364

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	687	253	0	0	505	0
Stage 1	505	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Critical Hdwy	6.98	7.08	-	-	4.28	-
Critical Hdwy Stg 1	5.98	-	-	-	-	-
Critical Hdwy Stg 2	5.98	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	-	-	2.29	-
Pot Cap-1 Maneuver	*623	*874	-	-	*1296	-
Stage 1	*826	-	-	-	-	-
Stage 2	*810	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*623	*874	-	-	*1296	-
Mov Cap-2 Maneuver	*714	-	-	-	-	-
Stage 1	*826	-	-	-	-	-
Stage 2	*810	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	714	-	* 1296	-
HCM Lane V/C Ratio	-	-	0.005	-	-	-
HCM Control Delay (s)	-	-	10.1	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0	-	0	-

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

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	0	385	0	0	580
Future Vol, veh/h	37	0	385	0	0	580
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	125	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	40	0	418	0	0	630

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	733	209	0	0	418	0
Stage 1	418	-	-	-	-	-
Stage 2	315	-	-	-	-	-
Critical Hdwy	6.98	7.08	-	-	4.28	-
Critical Hdwy Stg 1	5.98	-	-	-	-	-
Critical Hdwy Stg 2	5.98	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	-	-	2.29	-
Pot Cap-1 Maneuver	487	*925	-	-	1323	-
Stage 1	834	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	487	*925	-	-	1323	-
Mov Cap-2 Maneuver	622	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	692	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	622	-	1323	-
HCM Lane V/C Ratio	-	-	0.065	-	-	-
HCM Control Delay (s)	-	-	11.2	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	-	0	-

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

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	40	500	50	150	365
Future Vol, veh/h	30	40	500	50	150	365
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	125	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	33	43	543	54	163	397

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1068	272	0	0	597	0
Stage 1	543	-	-	-	-	-
Stage 2	525	-	-	-	-	-
Critical Hdwy	6.98	7.08	-	-	4.28	-
Critical Hdwy Stg 1	5.98	-	-	-	-	-
Critical Hdwy Stg 2	5.98	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	-	-	2.29	-
Pot Cap-1 Maneuver	315	*874	-	-	1202	-
Stage 1	807	-	-	-	-	-
Stage 2	539	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	272	*874	-	-	1202	-
Mov Cap-2 Maneuver	426	-	-	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	466	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	426	874	1202	-
HCM Lane V/C Ratio	-	-	0.077	0.05	0.136	-
HCM Control Delay (s)	-	-	14.2	9.3	8.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	0.5	-

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

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	160	125	465	15	90	620
Future Vol, veh/h	160	125	465	15	90	620
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	125	-	125	0	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	174	136	505	16	98	674

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1038	253	0	0	521	0
Stage 1	505	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Critical Hdwy	6.98	7.08	-	-	4.28	-
Critical Hdwy Stg 1	5.98	-	-	-	-	-
Critical Hdwy Stg 2	5.98	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	-	-	2.29	-
Pot Cap-1 Maneuver	*333	*874	-	-	*1296	-
Stage 1	*826	-	-	-	-	-
Stage 2	*533	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*308	*874	-	-	*1296	-
Mov Cap-2 Maneuver	*452	-	-	-	-	-
Stage 1	*826	-	-	-	-	-
Stage 2	*492	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	452	874	* 1296	-
HCM Lane V/C Ratio	-	-	0.385	0.155	0.075	-
HCM Control Delay (s)	-	-	17.9	9.9	8	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0.5	0.2	-

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

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	91	77	75	18	3	14
Future Vol, veh/h	91	77	75	18	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	97	82	80	19	3	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	99	0	-	0	356	80
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	276	-
Critical Hdwy	4.19	-	-	-	6.49	6.29
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.281	-	-	-	3.581	3.381
Pot Cap-1 Maneuver	1451	-	-	-	628	961
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1451	-	-	-	586	961
Mov Cap-2 Maneuver	-	-	-	-	687	-
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1451	-	-	-	687	961
HCM Lane V/C Ratio	0.067	-	-	-	0.005	0.015
HCM Control Delay (s)	7.7	-	-	-	10.3	8.8
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0	0

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	59	82	8	7	81
Future Vol, veh/h	39	59	82	8	7	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	42	63	88	9	8	87

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	97	0	-	0	235	88
Stage 1	-	-	-	-	88	-
Stage 2	-	-	-	-	147	-
Critical Hdwy	4.18	-	-	-	6.48	6.28
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.272	-	-	-	3.572	3.372
Pot Cap-1 Maneuver	1460	-	-	-	740	954
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	866	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1460	-	-	-	719	954
Mov Cap-2 Maneuver	-	-	-	-	783	-
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	866	-

Approach	EB	WB	SB
HCM Control Delay, s	3	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1460	-	-	-	783	954
HCM Lane V/C Ratio	0.029	-	-	-	0.01	0.091
HCM Control Delay (s)	7.5	-	-	-	9.6	9.2
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.3

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	162	458	168	19	3	25
Future Vol, veh/h	162	458	168	19	3	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	172	487	179	20	3	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	199	0	-	0	1010	179
Stage 1	-	-	-	-	179	-
Stage 2	-	-	-	-	831	-
Critical Hdwy	4.19	-	-	-	6.49	6.29
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.281	-	-	-	3.581	3.381
Pot Cap-1 Maneuver	1333	-	-	-	258	846
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	416	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1333	-	-	-	225	846
Mov Cap-2 Maneuver	-	-	-	-	378	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	416	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1333	-	-	-	378	846
HCM Lane V/C Ratio	0.129	-	-	-	0.008	0.031
HCM Control Delay (s)	8.1	-	-	-	14.6	9.4
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.4	-	-	-	0	0.1

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	160	454	8	7	136
Future Vol, veh/h	56	160	454	8	7	136
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	60	172	488	9	8	146

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	497	0	-	0	780	488
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	292	-
Critical Hdwy	4.18	-	-	-	6.48	6.28
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.272	-	-	-	3.572	3.372
Pot Cap-1 Maneuver	1037	-	-	-	356	568
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	744	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1037	-	-	-	335	568
Mov Cap-2 Maneuver	-	-	-	-	502	-
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	744	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1037	-	-	-	502	568
HCM Lane V/C Ratio	0.058	-	-	-	0.015	0.257
HCM Control Delay (s)	8.7	-	-	-	12.3	13.5
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0	1

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	365	629	233	19	8	95
Future Vol, veh/h	365	629	233	19	8	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	150	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	9	9	9	9	9	9
Mvmt Flow	388	669	248	20	9	101

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	268	0	-	0	1693	248
Stage 1	-	-	-	-	248	-
Stage 2	-	-	-	-	1445	-
Critical Hdwy	4.19	-	-	-	6.49	6.29
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.281	-	-	-	3.581	3.381
Pot Cap-1 Maneuver	1256	-	-	-	98	774
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	209	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1256	-	-	-	68	774
Mov Cap-2 Maneuver	-	-	-	-	190	-
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	209	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1256	-	-	-	190	774
HCM Lane V/C Ratio	0.309	-	-	-	0.045	0.131
HCM Control Delay (s)	9.1	-	-	-	24.8	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	1.3	-	-	-	0.1	0.4

Intersection	
Int Delay, s/veh	13.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	364	207	716	8	28	416
Future Vol, veh/h	364	207	716	8	28	416
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	150	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	391	223	770	9	30	447

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	779	0	-	0	1775	770
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	1005	-
Critical Hdwy	4.18	-	-	-	6.48	5
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.272	-	-	-	3.572	3.372
Pot Cap-1 Maneuver	812	-	-	-	88	514
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	345	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	812	-	-	-	46	514
Mov Cap-2 Maneuver	-	-	-	-	186	-
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	345	-

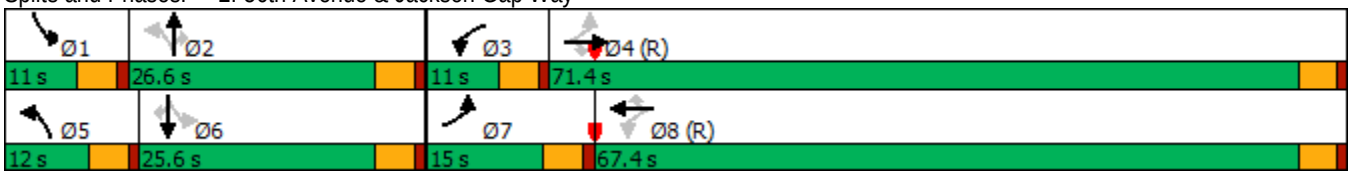
Approach	EB	WB	SB
HCM Control Delay, s	8.6	0	41.9
HCM LOS			E

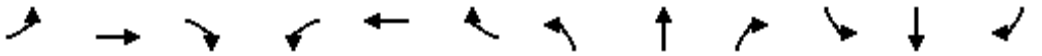
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	812	-	-	-	186	514
HCM Lane V/C Ratio	0.482	-	-	-	0.162	0.87
HCM Control Delay (s)	13.5	-	-	-	28.1	42.8
HCM Lane LOS	B	-	-	-	D	E
HCM 95th %tile Q(veh)	2.7	-	-	-	0.6	9.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	1075	70	55	1395	60	110	250	70	60	155	120
Future Volume (vph)	155	1075	70	55	1395	60	110	250	70	60	155	120
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5
Total Split (s)	15.0	71.4	71.4	11.0	67.4	67.4	12.0	26.6	26.6	11.0	25.6	25.6
Total Split (%)	12.5%	59.5%	59.5%	9.2%	56.2%	56.2%	10.0%	22.2%	22.2%	9.2%	21.3%	21.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	Max	Max
Act Effct Green (s)	77.5	69.1	69.1	69.5	63.2	63.2	30.3	24.3	24.3	27.5	21.1	21.1
Actuated g/C Ratio	0.65	0.58	0.58	0.58	0.53	0.53	0.25	0.20	0.20	0.23	0.18	0.18
v/c Ratio	0.84	0.61	0.08	0.23	0.87	0.08	0.45	0.72	0.19	0.35	0.51	0.35
Control Delay	61.0	18.9	1.7	10.2	31.6	1.3	40.4	57.8	6.2	38.7	51.1	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	18.9	1.7	10.2	31.6	1.3	40.4	57.8	6.2	38.7	51.1	10.1
LOS	E	B	A	B	C	A	D	E	A	D	D	B
Approach Delay		23.0			29.7			44.9			34.2	
Approach LOS		C			C			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 29.5	Intersection LOS: C
Intersection Capacity Utilization 79.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: 56th Avenue & Jackson Gap Way





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	1075	70	55	1395	60	110	250	70	60	155	120
Future Volume (veh/h)	155	1075	70	55	1395	60	110	250	70	60	155	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1767	1870	1870	1767	1767	1870	1870	1870	1767	1870	1767
Adj Flow Rate, veh/h	168	1168	76	60	1516	65	120	272	76	65	168	130
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, %	9	9	2	2	9	9	2	2	2	9	2	9
Cap, veh/h	217	1932	912	280	1851	826	274	366	310	189	329	263
Arrive On Green	0.06	0.58	0.58	0.04	0.55	0.55	0.06	0.20	0.20	0.04	0.18	0.18
Sat Flow, veh/h	1682	3357	1585	1781	3357	1497	1781	1870	1585	1682	1870	1497
Grp Volume(v), veh/h	168	1168	76	60	1516	65	120	272	76	65	168	130
Grp Sat Flow(s),veh/h/ln	1682	1678	1585	1781	1678	1497	1781	1870	1585	1682	1870	1497
Q Serve(g_s), s	5.1	27.2	2.6	1.7	44.3	2.4	6.6	16.4	4.9	3.8	9.8	9.4
Cycle Q Clear(g_c), s	5.1	27.2	2.6	1.7	44.3	2.4	6.6	16.4	4.9	3.8	9.8	9.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	1932	912	280	1851	826	274	366	310	189	329	263
V/C Ratio(X)	0.77	0.60	0.08	0.21	0.82	0.08	0.44	0.74	0.24	0.34	0.51	0.49
Avail Cap(c_a), veh/h	263	1932	912	313	1851	826	274	366	310	209	329	263
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	16.6	11.3	13.4	22.0	12.6	37.8	45.4	40.8	39.0	44.8	44.6
Incr Delay (d2), s/veh	11.1	1.4	0.2	0.4	4.2	0.2	1.1	7.9	0.4	1.1	5.6	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	10.5	0.9	0.7	17.8	0.9	3.0	8.4	1.9	1.6	5.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.9	18.0	11.5	13.8	26.2	12.8	38.9	53.4	41.2	40.1	50.4	51.1
LnGrp LOS	D	B	B	B	C	B	D	D	D	D	D	D
Approach Vol, veh/h		1412			1641			468			363	
Approach Delay, s/veh		19.8			25.2			47.7			48.8	
Approach LOS		B			C			D			D	

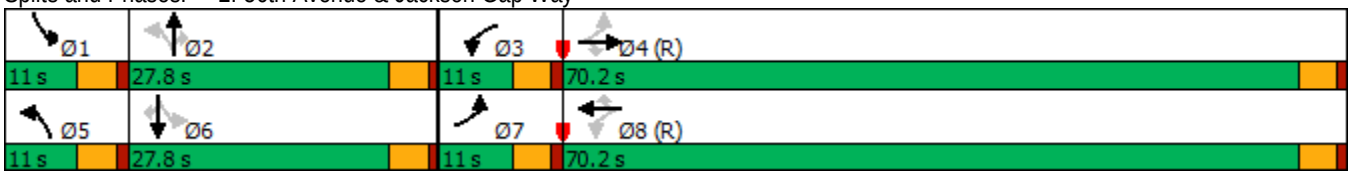
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	28.0	8.8	73.6	12.0	25.6	11.7	70.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	22.1	6.5	66.9	7.5	21.1	10.5	62.9
Max Q Clear Time (g_c+I1), s	5.8	18.4	3.7	29.2	8.6	11.8	7.1	46.3
Green Ext Time (p_c), s	0.0	0.6	0.0	11.8	0.0	0.9	0.1	10.6

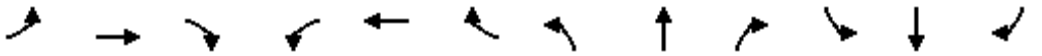
Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	1335	135	70	1520	65	55	210	30	120	265	195
Future Volume (vph)	110	1335	135	70	1520	65	55	210	30	120	265	195
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5
Total Split (s)	11.0	70.2	70.2	11.0	70.2	70.2	11.0	27.8	27.8	11.0	27.8	27.8
Total Split (%)	9.2%	58.5%	58.5%	9.2%	58.5%	58.5%	9.2%	23.2%	23.2%	9.2%	23.2%	23.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	Max	Max
Act Effct Green (s)	73.1	67.9	67.9	72.1	65.7	65.7	29.7	23.3	23.3	30.7	25.5	25.5
Actuated g/C Ratio	0.61	0.57	0.57	0.60	0.55	0.55	0.25	0.19	0.19	0.26	0.21	0.21
v/c Ratio	0.81	0.77	0.16	0.42	0.91	0.08	0.30	0.63	0.09	0.60	0.73	0.49
Control Delay	60.0	24.4	5.6	15.5	33.5	1.4	36.1	53.2	0.4	48.1	56.9	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	24.4	5.6	15.5	33.5	1.4	36.1	53.2	0.4	48.1	56.9	17.9
LOS	E	C	A	B	C	A	D	D	A	D	E	B
Approach Delay		25.3			31.5			44.6			42.0	
Approach LOS		C			C			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 31.5	Intersection LOS: C
Intersection Capacity Utilization 81.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: 56th Avenue & Jackson Gap Way





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	1335	135	70	1520	65	55	210	30	120	265	195
Future Volume (veh/h)	110	1335	135	70	1520	65	55	210	30	120	265	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1767	1870	1870	1767	1767	1870	1870	1870	1767	1870	1767
Adj Flow Rate, veh/h	120	1451	147	76	1652	71	60	228	33	130	288	212
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, %	9	9	2	2	9	9	2	2	2	9	2	9
Cap, veh/h	178	1945	918	211	1921	857	171	333	282	219	363	291
Arrive On Green	0.05	0.58	0.58	0.04	0.57	0.57	0.04	0.18	0.18	0.05	0.19	0.19
Sat Flow, veh/h	1682	3357	1585	1781	3357	1497	1781	1870	1585	1682	1870	1497
Grp Volume(v), veh/h	120	1451	147	76	1652	71	60	228	33	130	288	212
Grp Sat Flow(s),veh/h/ln	1682	1678	1585	1781	1678	1497	1781	1870	1585	1682	1870	1497
Q Serve(g_s), s	3.5	38.4	5.2	2.1	49.7	2.6	3.3	13.7	2.1	6.5	17.6	16.0
Cycle Q Clear(g_c), s	3.5	38.4	5.2	2.1	49.7	2.6	3.3	13.7	2.1	6.5	17.6	16.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1945	918	211	1921	857	171	333	282	219	363	291
V/C Ratio(X)	0.67	0.75	0.16	0.36	0.86	0.08	0.35	0.68	0.12	0.59	0.79	0.73
Avail Cap(c_a), veh/h	193	1945	918	239	1921	857	199	363	308	219	363	291
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	18.7	11.7	17.2	21.6	11.5	39.2	46.2	41.4	41.2	46.1	45.4
Incr Delay (d2), s/veh	8.0	2.7	0.4	1.0	5.3	0.2	1.2	4.7	0.2	4.3	16.2	14.9
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	2.3	14.9	1.9	0.9	19.9	0.9	1.5	6.8	0.8	1.0	9.8	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	21.4	12.1	18.3	26.9	11.7	40.5	50.9	41.6	45.4	62.2	60.3
LnGrp LOS	C	C	B	B	C	B	D	D	D	D	E	E
Approach Vol, veh/h		1718			1799			321			630	
Approach Delay, s/veh		21.4			25.9			48.0			58.1	
Approach LOS		C			C			D			E	

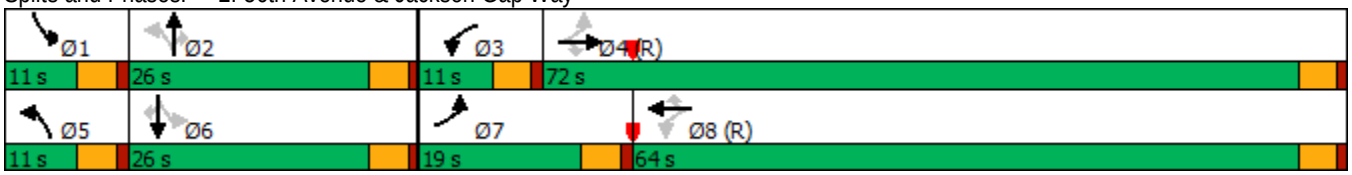
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	25.9	9.1	74.0	9.1	27.8	9.9	73.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	23.3	6.5	65.7	6.5	23.3	6.5	65.7
Max Q Clear Time (g_c+I1), s	8.5	15.7	4.1	40.4	5.3	19.6	5.5	51.7
Green Ext Time (p_c), s	0.0	0.8	0.0	13.6	0.0	0.9	0.0	10.1

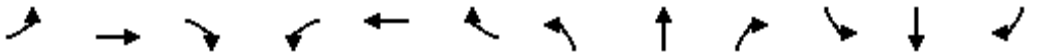
Intersection Summary	
HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	1160	70	65	1435	60	110	295	70	80	170	145
Future Volume (vph)	245	1160	70	65	1435	60	110	295	70	80	170	145
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5
Total Split (s)	19.0	72.0	72.0	11.0	64.0	64.0	11.0	26.0	26.0	11.0	26.0	26.0
Total Split (%)	15.8%	60.0%	60.0%	9.2%	53.3%	53.3%	9.2%	21.7%	21.7%	9.2%	21.7%	21.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	Max	Max
Act Effct Green (s)	78.5	69.7	69.7	65.8	59.5	59.5	28.0	21.5	21.5	28.0	21.5	21.5
Actuated g/C Ratio	0.65	0.58	0.58	0.55	0.50	0.50	0.23	0.18	0.18	0.23	0.18	0.18
v/c Ratio	1.04	0.66	0.08	0.29	0.95	0.08	0.50	0.96	0.19	0.59	0.56	0.40
Control Delay	100.2	19.6	1.6	15.2	55.3	3.5	43.1	90.3	1.2	51.8	52.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.2	19.6	1.6	15.2	55.3	3.5	43.1	90.3	1.2	51.8	52.1	9.7
LOS	F	B	A	B	E	A	D	F	A	D	D	A
Approach Delay		32.2			51.7			66.3			36.5	
Approach LOS		C			D			E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 44.5	Intersection LOS: D
Intersection Capacity Utilization 88.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: 56th Avenue & Jackson Gap Way





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	1160	70	65	1435	60	110	295	70	80	170	145
Future Volume (veh/h)	245	1160	70	65	1435	60	110	295	70	80	170	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1767	1870	1870	1767	1767	1870	1870	1870	1767	1870	1767
Adj Flow Rate, veh/h	266	1261	76	71	1560	65	120	321	76	87	185	158
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, %	9	9	2	2	9	9	2	2	2	9	2	9
Cap, veh/h	280	1943	918	260	1664	742	249	335	284	160	335	268
Arrive On Green	0.12	0.58	0.58	0.04	0.50	0.50	0.05	0.18	0.18	0.05	0.18	0.18
Sat Flow, veh/h	1682	3357	1585	1781	3357	1497	1781	1870	1585	1682	1870	1497
Grp Volume(v), veh/h	266	1261	76	71	1560	65	120	321	76	87	185	158
Grp Sat Flow(s),veh/h/ln	1682	1678	1585	1781	1678	1497	1781	1870	1585	1682	1870	1497
Q Serve(g_s), s	13.3	30.4	2.5	2.3	52.5	2.7	6.5	20.4	5.0	5.0	10.8	11.6
Cycle Q Clear(g_c), s	13.3	30.4	2.5	2.3	52.5	2.7	6.5	20.4	5.0	5.0	10.8	11.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	280	1943	918	260	1664	742	249	335	284	160	335	268
V/C Ratio(X)	0.95	0.65	0.08	0.27	0.94	0.09	0.48	0.96	0.27	0.55	0.55	0.59
Avail Cap(c_a), veh/h	280	1943	918	290	1664	742	249	335	284	160	335	268
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.3	17.0	11.2	15.7	28.5	15.9	38.6	48.8	42.5	39.1	44.9	45.2
Incr Delay (d2), s/veh	40.0	1.7	0.2	0.6	11.5	0.2	1.4	38.0	0.5	3.8	6.4	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	11.7	0.9	1.0	22.9	1.0	3.0	13.0	2.0	2.2	5.6	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.4	18.7	11.4	16.3	40.0	16.2	40.0	86.8	43.0	42.9	51.3	54.4
LnGrp LOS	E	B	B	B	D	B	D	F	D	D	D	D
Approach Vol, veh/h		1603			1696			517			430	
Approach Delay, s/veh		28.1			38.1			69.5			50.7	
Approach LOS		C			D			E			D	

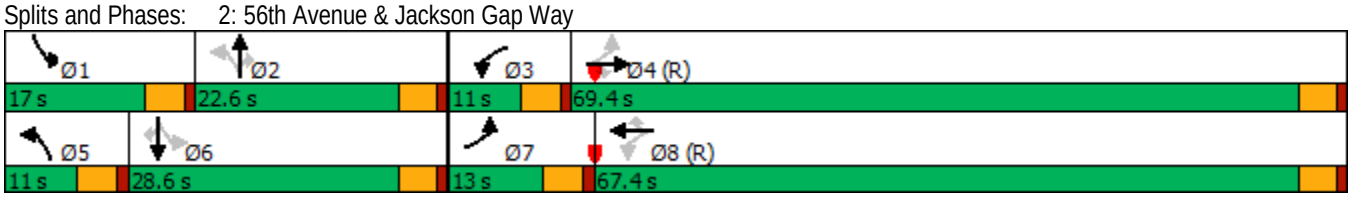
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	26.0	9.0	74.0	11.0	26.0	19.0	64.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	21.5	6.5	67.5	6.5	21.5	14.5	59.5
Max Q Clear Time (g_c+I1), s	7.0	22.4	4.3	32.4	8.5	13.6	15.3	54.5
Green Ext Time (p_c), s	0.0	0.0	0.0	12.8	0.0	1.0	0.0	4.0

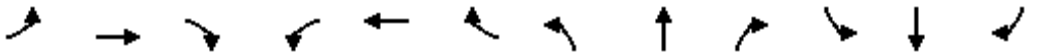
Intersection Summary	
HCM 6th Ctrl Delay	39.4
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	1360	135	100	1640	65	55	255	30	240	300	275
Future Volume (vph)	195	1360	135	100	1640	65	55	255	30	240	300	275
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5
Total Split (s)	13.0	69.4	69.4	11.0	67.4	67.4	11.0	22.6	22.6	17.0	28.6	28.6
Total Split (%)	10.8%	57.8%	57.8%	9.2%	56.2%	56.2%	9.2%	18.8%	18.8%	14.2%	23.8%	23.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	Max	Max
Act Effct Green (s)	73.4	64.9	64.9	69.4	62.9	62.9	24.4	18.1	18.1	35.1	26.3	26.3
Actuated g/C Ratio	0.61	0.54	0.54	0.58	0.52	0.52	0.20	0.15	0.15	0.29	0.22	0.22
v/c Ratio	1.21	0.83	0.16	0.65	1.03	0.08	0.34	0.99	0.09	1.14	0.80	0.68
Control Delay	164.7	27.9	3.1	28.9	66.4	3.3	37.2	101.4	0.5	139.0	61.0	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	164.7	27.9	3.1	28.9	66.4	3.3	37.2	101.4	0.5	139.0	61.0	31.4
LOS	F	C	A	C	E	A	D	F	A	F	E	C
Approach Delay		41.7			62.0			82.0			74.0	
Approach LOS		D			E			F			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.21	
Intersection Signal Delay: 58.2	Intersection LOS: E
Intersection Capacity Utilization 97.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: 56th Avenue & Jackson Gap Way





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	1360	135	100	1640	65	55	255	30	240	300	275
Future Volume (veh/h)	195	1360	135	100	1640	65	55	255	30	240	300	275
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1767	1870	1870	1767	1767	1870	1870	1870	1767	1870	1767
Adj Flow Rate, veh/h	212	1478	147	109	1783	71	60	277	17	261	326	190
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, %	9	9	2	2	9	9	2	2	2	9	2	9
Cap, veh/h	179	1850	874	200	1759	785	174	282	239	239	404	324
Arrive On Green	0.07	0.55	0.55	0.04	0.52	0.52	0.04	0.15	0.15	0.10	0.22	0.22
Sat Flow, veh/h	1682	3357	1585	1781	3357	1497	1781	1870	1585	1682	1870	1497
Grp Volume(v), veh/h	212	1478	147	109	1783	71	60	277	17	261	326	190
Grp Sat Flow(s),veh/h/ln	1682	1678	1585	1781	1678	1497	1781	1870	1585	1682	1870	1497
Q Serve(g_s), s	8.5	42.4	5.5	3.4	62.9	2.8	3.4	17.7	1.1	12.5	19.9	13.7
Cycle Q Clear(g_c), s	8.5	42.4	5.5	3.4	62.9	2.8	3.4	17.7	1.1	12.5	19.9	13.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	179	1850	874	200	1759	785	174	282	239	239	404	324
V/C Ratio(X)	1.18	0.80	0.17	0.55	1.01	0.09	0.34	0.98	0.07	1.09	0.81	0.59
Avail Cap(c_a), veh/h	179	1850	874	218	1759	785	201	282	239	239	404	324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	21.6	13.3	21.8	28.5	14.3	41.4	50.8	43.7	40.6	44.7	42.2
Incr Delay (d2), s/veh	125.2	3.7	0.4	2.3	24.8	0.2	1.2	48.4	0.1	85.7	15.7	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	16.9	2.1	1.5	30.0	1.0	1.6	12.1	0.4	7.1	10.9	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	163.5	25.3	13.7	24.1	53.4	14.5	42.6	99.2	43.9	126.3	60.4	49.8
LnGrp LOS	F	C	B	C	F	B	D	F	D	F	E	D
Approach Vol, veh/h		1837			1963			354			777	
Approach Delay, s/veh		40.3			50.3			86.9			80.0	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	22.6	9.8	70.6	9.2	30.4	13.0	67.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	18.1	6.5	64.9	6.5	24.1	8.5	62.9
Max Q Clear Time (g_c+I1), s	14.5	19.7	5.4	44.4	5.4	21.9	10.5	64.9
Green Ext Time (p_c), s	0.0	0.0	0.0	12.3	0.0	0.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	45	2	4	64	18	0	1	0	6	3	25
Future Vol, veh/h	33	45	2	4	64	18	0	1	0	6	3	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	325	-	0	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	19	19	19	19	19	19	19	19	19	19	19	19
Mvmt Flow	39	53	2	5	75	21	0	1	0	7	4	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	96	0	0	55	0	0	244	238	54	218	218	75
Stage 1	-	-	-	-	-	-	132	132	-	85	85	-
Stage 2	-	-	-	-	-	-	112	106	-	133	133	-
Critical Hdwy	4.29	-	-	4.29	-	-	7.29	6.69	6.39	7.29	6.69	6.39
Critical Hdwy Stg 1	-	-	-	-	-	-	6.29	5.69	-	6.29	5.69	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.29	5.69	-	6.29	5.69	-
Follow-up Hdwy	2.371	-	-	2.371	-	-	3.671	4.171	3.471	3.671	4.171	3.471
Pot Cap-1 Maneuver	1397	-	-	1448	-	-	676	635	967	703	651	941
Stage 1	-	-	-	-	-	-	832	756	-	882	792	-
Stage 2	-	-	-	-	-	-	853	776	-	831	755	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1397	-	-	1448	-	-	637	615	967	685	631	941
Mov Cap-2 Maneuver	-	-	-	-	-	-	704	660	-	737	674	-
Stage 1	-	-	-	-	-	-	809	735	-	857	790	-
Stage 2	-	-	-	-	-	-	820	774	-	807	734	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0.3	10.5	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	660	1397	-	-	1448	-	-	737	903
HCM Lane V/C Ratio	0.002	0.028	-	-	0.003	-	-	0.01	0.036
HCM Control Delay (s)	10.5	7.7	-	-	7.5	-	-	9.9	9.1
HCM Lane LOS	B	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0	0.1

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	65	0	0	66	4	5	3	0	14	2	51
Future Vol, veh/h	14	65	0	0	66	4	5	3	0	14	2	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	325	-	0	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12
Mvmt Flow	15	71	0	0	72	4	5	3	0	15	2	55

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	76	0	0	71	0	0	204	177	71	175	173	72
Stage 1	-	-	-	-	-	-	101	101	-	72	72	-
Stage 2	-	-	-	-	-	-	103	76	-	103	101	-
Critical Hdwy	4.22	-	-	4.22	-	-	7.22	6.62	6.32	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.22	5.62	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.22	5.62	-	6.22	5.62	-
Follow-up Hdwy	2.308	-	-	2.308	-	-	3.608	4.108	3.408	3.608	4.108	3.408
Pot Cap-1 Maneuver	1462	-	-	1468	-	-	733	699	964	766	703	963
Stage 1	-	-	-	-	-	-	881	792	-	913	816	-
Stage 2	-	-	-	-	-	-	879	813	-	879	792	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1462	-	-	1468	-	-	684	692	964	758	696	963
Mov Cap-2 Maneuver	-	-	-	-	-	-	744	719	-	797	724	-
Stage 1	-	-	-	-	-	-	872	784	-	904	816	-
Stage 2	-	-	-	-	-	-	826	813	-	866	784	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	10	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	734	1462	-	-	1468	-	-	797	951
HCM Lane V/C Ratio	0.012	0.01	-	-	-	-	-	0.019	0.061
HCM Control Delay (s)	10	7.5	-	-	0	-	-	9.6	9
HCM Lane LOS	B	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1	0.2

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	411	48	2	4	68	61	0	1	0	22	3	115
Future Vol, veh/h	411	48	2	4	68	61	0	1	0	22	3	115
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	325	-	0	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	19	19	19	19	19	19	19	19	19	19	19	19
Mvmt Flow	484	56	2	5	80	72	0	1	0	26	4	135

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	152	0	0	58	0	0	1221	1187	57	1116	1116	80
Stage 1	-	-	-	-	-	-	1025	1025	-	90	90	-
Stage 2	-	-	-	-	-	-	196	162	-	1026	1026	-
Critical Hdwy	4.29	-	-	4.29	-	-	7.29	6.69	6.39	7.29	6.69	6.39
Critical Hdwy Stg 1	-	-	-	-	-	-	6.29	5.69	-	6.29	5.69	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.29	5.69	-	6.29	5.69	-
Follow-up Hdwy	2.371	-	-	2.371	-	-	3.671	4.171	3.471	3.671	4.171	3.471
Pot Cap-1 Maneuver	1331	-	-	1444	-	-	145	175	963	171	193	935
Stage 1	-	-	-	-	-	-	264	292	-	877	788	-
Stage 2	-	-	-	-	-	-	768	733	-	263	292	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1331	-	-	1444	-	-	87	111	963	122	122	935
Mov Cap-2 Maneuver	-	-	-	-	-	-	134	165	-	153	171	-
Stage 1	-	-	-	-	-	-	168	186	-	558	786	-
Stage 2	-	-	-	-	-	-	652	731	-	166	186	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.2	0.2	27	13.7
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	165	1331	-	-	1444	-	-	153	840
HCM Lane V/C Ratio	0.007	0.363	-	-	0.003	-	-	0.169	0.165
HCM Control Delay (s)	27	9.2	-	-	7.5	-	-	33.3	10.1
HCM Lane LOS	D	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0	1.7	-	-	0	-	-	0.6	0.6

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	112	69	0	0	70	16	5	3	0	61	2	421
Future Vol, veh/h	112	69	0	0	70	16	5	3	0	61	2	421
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	325	-	0	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12
Mvmt Flow	122	75	0	0	76	17	5	3	0	66	2	458

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	93	0	0	75	0	0	634	412	75	397	395	76
Stage 1	-	-	-	-	-	-	319	319	-	76	76	-
Stage 2	-	-	-	-	-	-	315	93	-	321	319	-
Critical Hdwy	4.22	-	-	4.22	-	-	7.22	6.62	6.32	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.22	5.62	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.22	5.62	-	6.22	5.62	-
Follow-up Hdwy	2.308	-	-	2.308	-	-	3.608	4.108	3.408	3.608	4.108	3.408
Pot Cap-1 Maneuver	1441	-	-	1463	-	-	378	515	959	545	527	958
Stage 1	-	-	-	-	-	-	672	635	-	909	813	-
Stage 2	-	-	-	-	-	-	675	799	-	670	635	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1441	-	-	1463	-	-	184	471	959	507	482	958
Mov Cap-2 Maneuver	-	-	-	-	-	-	218	535	-	572	545	-
Stage 1	-	-	-	-	-	-	615	581	-	832	813	-
Stage 2	-	-	-	-	-	-	352	799	-	610	581	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.8	0	18.3	12.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	280	1441	-	-	1463	-	-	572	955
HCM Lane V/C Ratio	0.031	0.084	-	-	-	-	-	0.116	0.481
HCM Control Delay (s)	18.3	7.7	-	-	0	-	-	12.1	12.2
HCM Lane LOS	C	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-	0.4	2.7

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	435	56	2	4	90	81	0	1	0	26	3	121
Future Vol, veh/h	435	56	2	4	90	81	0	1	0	26	3	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	325	-	0	-	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	9	9	9	9	9	9	9	9	9	9	9	9
Mvmt Flow	473	61	2	4	98	88	0	1	0	28	3	132

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	186	0	0	63	0	0	1226	1202	62	1115	1115	98
Stage 1	-	-	-	-	-	-	1008	1008	-	106	106	-
Stage 2	-	-	-	-	-	-	218	194	-	1009	1009	-
Critical Hdwy	4.19	-	-	4.19	-	-	7.19	6.59	6.29	7.19	6.59	6.29
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.59	-	6.19	5.59	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.59	-	6.19	5.59	-
Follow-up Hdwy	2.281	-	-	2.281	-	-	3.581	4.081	3.381	3.581	4.081	3.381
Pot Cap-1 Maneuver	1347	-	-	1496	-	-	150	179	984	179	202	939
Stage 1	-	-	-	-	-	-	281	309	-	883	794	-
Stage 2	-	-	-	-	-	-	769	727	-	281	309	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1347	-	-	1496	-	-	92	116	984	129	131	939
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	154	-	157	174	-
Stage 1	-	-	-	-	-	-	182	201	-	573	792	-
Stage 2	-	-	-	-	-	-	657	725	-	181	201	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8	0.2	28.5	14
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	154	1347	-	-	1496	-	-	157	849
HCM Lane V/C Ratio	0.007	0.351	-	-	0.003	-	-	0.18	0.159
HCM Control Delay (s)	28.5	9.1	-	-	7.4	-	-	32.9	10
HCM Lane LOS	D	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0	1.6	-	-	0	-	-	0.6	0.6

Intersection	
Int Delay, s/veh	9.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	119	103	0	0	94	22	5	3	0	81	2	443
Future Vol, veh/h	119	103	0	0	94	22	5	3	0	81	2	443
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	325	-	0	-	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	12	12	12	12	12	12	12	12	12	12	12	12
Mvmt Flow	129	112	0	0	102	24	5	3	0	88	2	482

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	126	0	0	112	0	0	726	496	112	474	472	102
Stage 1	-	-	-	-	-	-	370	370	-	102	102	-
Stage 2	-	-	-	-	-	-	356	126	-	372	370	-
Critical Hdwy	4.22	-	-	4.22	-	-	7.22	6.62	6.32	7.22	6.62	6.32
Critical Hdwy Stg 1	-	-	-	-	-	-	6.22	5.62	-	6.22	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.22	5.62	-	6.22	5.62	-
Follow-up Hdwy	2.308	-	-	2.308	-	-	3.608	4.108	3.408	3.608	4.108	3.408
Pot Cap-1 Maneuver	1401	-	-	1418	-	-	327	461	915	484	476	926
Stage 1	-	-	-	-	-	-	630	603	-	880	792	-
Stage 2	-	-	-	-	-	-	641	773	-	629	603	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1401	-	-	1418	-	-	146	419	915	448	432	926
Mov Cap-2 Maneuver	-	-	-	-	-	-	169	499	-	530	512	-
Stage 1	-	-	-	-	-	-	572	548	-	799	792	-
Stage 2	-	-	-	-	-	-	307	773	-	568	548	-

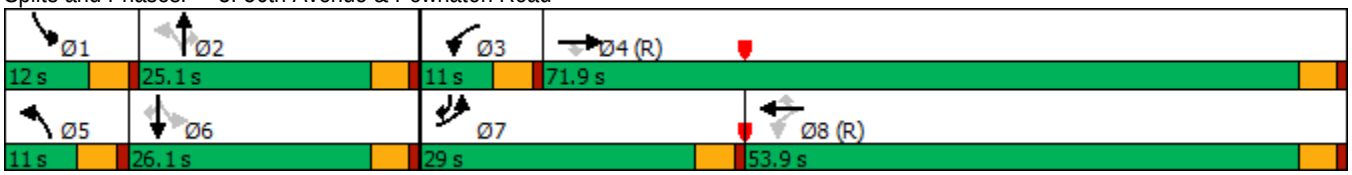
Approach	EB	WB	NB	SB
HCM Control Delay, s	4.2	0	21.6	13.1
HCM LOS			C	B

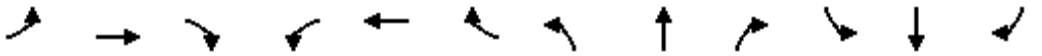
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	225	1401	-	-	1418	-	-	530	923
HCM Lane V/C Ratio	0.039	0.092	-	-	-	-	-	0.166	0.524
HCM Control Delay (s)	21.6	7.8	-	-	0	-	-	13.1	13.1
HCM Lane LOS	C	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-	0.6	3.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	530	620	80	60	1060	205	125	240	85	155	215	330
Future Volume (vph)	530	620	80	60	1060	205	125	240	85	155	215	330
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	11.0
Total Split (s)	29.0	71.9	71.9	11.0	53.9	53.9	11.0	25.1	25.1	12.0	26.1	29.0
Total Split (%)	24.2%	59.9%	59.9%	9.2%	44.9%	44.9%	9.2%	20.9%	20.9%	10.0%	21.8%	24.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None
Act Effct Green (s)	24.5	69.6	69.6	55.7	49.4	49.4	27.1	20.6	20.6	29.1	21.6	50.6
Actuated g/C Ratio	0.20	0.58	0.58	0.46	0.41	0.41	0.23	0.17	0.17	0.24	0.18	0.42
v/c Ratio	0.96	0.38	0.11	0.19	0.92	0.35	0.78	0.95	0.27	1.05	0.82	0.59
Control Delay	75.7	14.9	2.4	11.4	46.7	11.0	67.5	93.2	4.0	124.5	70.0	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.7	14.9	2.4	11.4	46.7	11.0	67.5	93.2	4.0	124.5	70.0	27.2
LOS	E	B	A	B	D	B	E	F	A	F	E	C
Approach Delay		40.3			39.6			69.3			61.8	
Approach LOS		D			D			E			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 47.6	Intersection LOS: D
Intersection Capacity Utilization 80.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: 56th Avenue & Powhaton Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	530	620	80	60	1060	205	125	240	85	155	215	330
Future Volume (veh/h)	530	620	80	60	1060	205	125	240	85	155	215	330
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618
Adj Flow Rate, veh/h	576	674	87	65	1152	223	136	261	92	168	234	359
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, %	19	19	19	19	19	19	19	19	19	19	19	19
Cap, veh/h	611	1780	794	353	1266	565	173	278	235	167	291	527
Arrive On Green	0.07	0.19	0.19	0.04	0.41	0.41	0.05	0.17	0.17	0.06	0.18	0.18
Sat Flow, veh/h	2990	3075	1372	1541	3075	1372	1541	1618	1372	1541	1618	1372
Grp Volume(v), veh/h	576	674	87	65	1152	223	136	261	92	168	234	359
Grp Sat Flow(s),veh/h/ln	1495	1537	1372	1541	1537	1372	1541	1618	1372	1541	1618	1372
Q Serve(g_s), s	23.0	22.9	6.3	2.9	42.3	13.7	6.5	19.1	7.1	7.5	16.6	21.6
Cycle Q Clear(g_c), s	23.0	22.9	6.3	2.9	42.3	13.7	6.5	19.1	7.1	7.5	16.6	21.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	611	1780	794	353	1266	565	173	278	235	167	291	527
V/C Ratio(X)	0.94	0.38	0.11	0.18	0.91	0.39	0.79	0.94	0.39	1.00	0.80	0.68
Avail Cap(c_a), veh/h	611	1780	794	380	1266	565	173	278	235	167	291	527
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	29.7	23.0	19.1	33.2	24.8	44.8	49.1	44.1	45.9	47.2	30.8
Incr Delay (d2), s/veh	23.4	0.6	0.3	0.2	11.3	2.1	20.9	40.5	4.8	70.6	20.5	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	9.6	2.2	1.1	17.4	4.8	2.4	10.8	2.8	5.2	8.3	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.6	30.3	23.3	19.3	44.5	26.9	65.7	89.5	48.9	116.5	67.6	37.8
LnGrp LOS	E	C	C	B	D	C	E	F	D	F	E	D
Approach Vol, veh/h		1337			1440			489			761	
Approach Delay, s/veh		50.7			40.6			75.3			64.3	
Approach LOS		D			D			E			E	

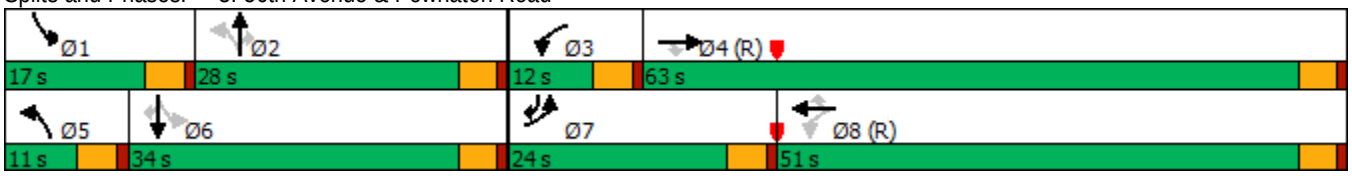
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	25.1	8.9	74.0	11.0	26.1	29.0	53.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	20.6	6.5	67.4	6.5	21.6	24.5	49.4
Max Q Clear Time (g_c+I1), s	9.5	21.1	4.9	24.9	8.5	23.6	25.0	44.3
Green Ext Time (p_c), s	0.0	0.0	0.0	5.9	0.0	0.0	0.0	3.6

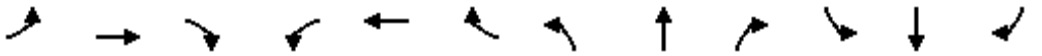
Intersection Summary	
HCM 6th Ctrl Delay	52.6
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	440	990	110	80	1050	185	95	180	65	210	350	440
Future Volume (vph)	440	990	110	80	1050	185	95	180	65	210	350	440
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	11.0
Total Split (s)	24.0	63.0	63.0	12.0	51.0	51.0	11.0	28.0	28.0	17.0	34.0	24.0
Total Split (%)	20.0%	52.5%	52.5%	10.0%	42.5%	42.5%	9.2%	23.3%	23.3%	14.2%	28.3%	20.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None
Act Effct Green (s)	19.5	58.8	58.8	53.7	46.5	46.5	30.0	23.5	23.5	40.5	29.5	53.5
Actuated g/C Ratio	0.16	0.49	0.49	0.45	0.39	0.39	0.25	0.20	0.20	0.34	0.25	0.45
v/c Ratio	1.00	0.72	0.16	0.40	0.97	0.32	0.68	0.63	0.17	0.78	0.97	0.75
Control Delay	91.6	27.8	2.6	18.3	56.7	6.5	54.5	54.3	0.9	51.2	83.8	33.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.6	27.8	2.6	18.3	56.7	6.5	54.5	54.3	0.9	51.2	83.8	33.3
LOS	F	C	A	B	E	A	D	D	A	D	F	C
Approach Delay		44.2			47.3			44.1			54.7	
Approach LOS		D			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 47.7	Intersection LOS: D
Intersection Capacity Utilization 80.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: 56th Avenue & Powhaton Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	440	990	110	80	1050	185	95	180	65	210	350	440
Future Volume (veh/h)	440	990	110	80	1050	185	95	180	65	210	350	440
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618
Adj Flow Rate, veh/h	478	1076	120	87	1141	201	103	196	71	228	380	369
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, %	19	19	19	19	19	19	19	19	19	19	19	19
Cap, veh/h	486	1544	689	203	1192	531	152	317	269	302	398	560
Arrive On Green	0.05	0.17	0.17	0.05	0.39	0.39	0.05	0.20	0.20	0.10	0.25	0.25
Sat Flow, veh/h	2990	3075	1372	1541	3075	1372	1541	1618	1372	1541	1618	1372
Grp Volume(v), veh/h	478	1076	120	87	1141	201	103	196	71	228	380	369
Grp Sat Flow(s),veh/h/ln	1495	1537	1372	1541	1537	1372	1541	1618	1372	1541	1618	1372
Q Serve(g_s), s	19.2	39.6	9.0	4.1	43.4	12.6	6.4	13.3	5.3	12.5	27.8	26.1
Cycle Q Clear(g_c), s	19.2	39.6	9.0	4.1	43.4	12.6	6.4	13.3	5.3	12.5	27.8	26.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	486	1544	689	203	1192	531	152	317	269	302	398	560
V/C Ratio(X)	0.98	0.70	0.17	0.43	0.96	0.38	0.68	0.62	0.26	0.75	0.96	0.66
Avail Cap(c_a), veh/h	486	1544	689	226	1192	531	152	317	269	302	398	560
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	41.4	28.7	23.8	35.8	26.4	38.4	44.1	40.9	35.9	44.6	28.7
Incr Delay (d2), s/veh	36.5	2.6	0.6	1.4	17.7	2.0	11.2	8.8	2.4	10.3	35.1	6.0
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	10.2	16.9	3.3	1.5	18.8	4.4	2.9	6.1	2.0	6.2	14.9	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.1	44.1	29.2	25.2	53.5	28.4	49.6	52.9	43.3	46.1	79.7	34.7
LnGrp LOS	F	D	C	C	D	C	D	D	D	D	E	C
Approach Vol, veh/h		1674			1429			370			977	
Approach Delay, s/veh		57.0			48.2			50.2			54.9	
Approach LOS		E			D			D			D	

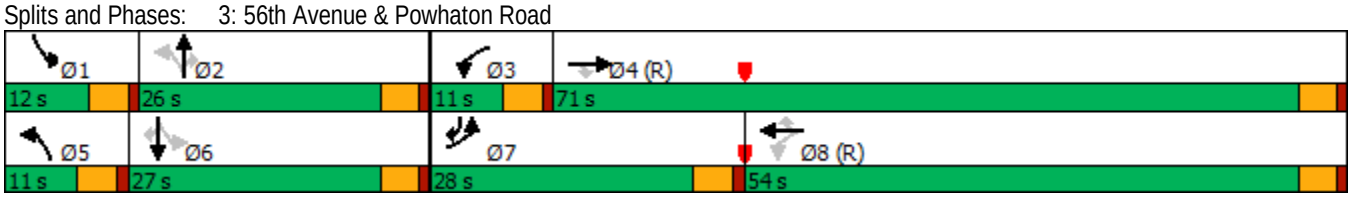
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	28.0	10.2	64.8	11.0	34.0	24.0	51.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	23.5	7.5	58.5	6.5	29.5	19.5	46.5
Max Q Clear Time (g_c+I1), s	14.5	15.3	6.1	41.6	8.4	29.8	21.2	45.4
Green Ext Time (p_c), s	0.0	0.8	0.0	7.8	0.0	0.0	0.0	0.9

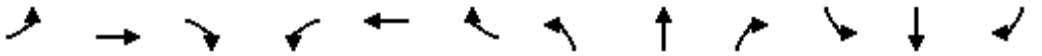
Intersection Summary	
HCM 6th Ctrl Delay	53.2
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	535	645	85	60	1120	235	150	260	85	165	220	335
Future Volume (vph)	535	645	85	60	1120	235	150	260	85	165	220	335
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	11.0
Total Split (s)	28.0	71.0	71.0	11.0	54.0	54.0	11.0	26.0	26.0	12.0	27.0	28.0
Total Split (%)	23.3%	59.2%	59.2%	9.2%	45.0%	45.0%	9.2%	21.7%	21.7%	10.0%	22.5%	23.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None
Act Effct Green (s)	23.5	68.7	68.7	55.8	49.5	49.5	28.0	21.5	21.5	30.0	22.5	50.5
Actuated g/C Ratio	0.20	0.57	0.57	0.46	0.41	0.41	0.23	0.18	0.18	0.25	0.19	0.42
v/c Ratio	1.01	0.40	0.11	0.20	0.97	0.40	0.91	0.99	0.26	1.16	0.80	0.60
Control Delay	74.1	30.5	12.6	11.6	54.7	12.5	86.8	100.3	3.8	158.9	67.1	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.1	30.5	12.6	11.6	54.7	12.5	86.8	100.3	3.8	158.9	67.1	27.7
LOS	E	C	B	B	D	B	F	F	A	F	E	C
Approach Delay		47.8			45.9			79.7			69.7	
Approach LOS		D			D			E			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 55.2	Intersection LOS: E
Intersection Capacity Utilization 84.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: 56th Avenue & Powhaton Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	535	645	85	60	1120	235	150	260	85	165	220	335
Future Volume (veh/h)	535	645	85	60	1120	235	150	260	85	165	220	335
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618
Adj Flow Rate, veh/h	582	701	92	65	1217	255	163	283	92	179	239	364
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, %	19	19	19	19	19	19	19	19	19	19	19	19
Cap, veh/h	586	1757	784	337	1268	566	177	290	246	161	303	526
Arrive On Green	0.06	0.19	0.19	0.04	0.41	0.41	0.05	0.18	0.18	0.06	0.19	0.19
Sat Flow, veh/h	2990	3075	1372	1541	3075	1372	1541	1618	1372	1541	1618	1372
Grp Volume(v), veh/h	582	701	92	65	1217	255	163	283	92	179	239	364
Grp Sat Flow(s),veh/h/ln	1495	1537	1372	1541	1537	1372	1541	1618	1372	1541	1618	1372
Q Serve(g_s), s	23.3	24.0	6.7	2.9	46.2	16.1	6.5	20.9	7.1	7.5	16.9	22.5
Cycle Q Clear(g_c), s	23.3	24.0	6.7	2.9	46.2	16.1	6.5	20.9	7.1	7.5	16.9	22.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	586	1757	784	337	1268	566	177	290	246	161	303	526
V/C Ratio(X)	0.99	0.40	0.12	0.19	0.96	0.45	0.92	0.98	0.37	1.11	0.79	0.69
Avail Cap(c_a), veh/h	586	1757	784	363	1268	566	177	290	246	161	303	526
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	30.6	23.6	19.1	34.3	25.4	46.8	49.0	43.3	44.9	46.5	31.1
Incr Delay (d2), s/veh	35.5	0.7	0.3	0.3	17.3	2.6	46.2	47.1	4.3	104.4	18.4	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	10.1	2.3	1.1	19.8	5.6	4.4	12.2	2.7	6.4	8.3	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.6	31.3	23.9	19.4	51.5	28.0	93.0	96.1	47.7	149.2	64.9	38.4
LnGrp LOS	F	C	C	B	D	C	F	F	D	F	E	D
Approach Vol, veh/h		1375			1537			538			782	
Approach Delay, s/veh		56.3			46.3			86.9			71.9	
Approach LOS		E			D			F			E	

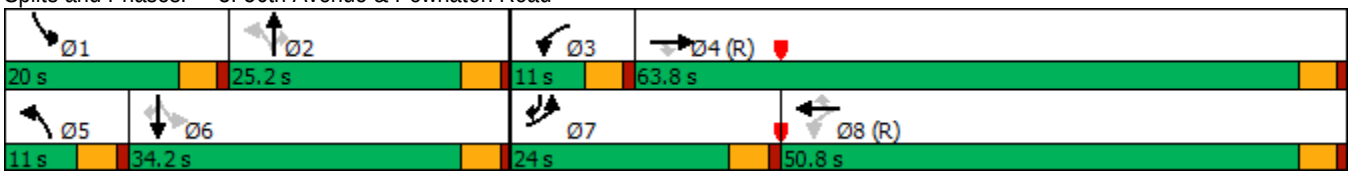
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	26.0	8.9	73.1	11.0	27.0	28.0	54.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	21.5	6.5	66.5	6.5	22.5	23.5	49.5
Max Q Clear Time (g_c+I1), s	9.5	22.9	4.9	26.0	8.5	24.5	25.3	48.2
Green Ext Time (p_c), s	0.0	0.0	0.0	6.2	0.0	0.0	0.0	1.1

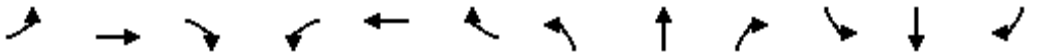
Intersection Summary	
HCM 6th Ctrl Delay	59.4
HCM 6th LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	445	1060	135	80	1100	195	105	185	65	240	370	445
Future Volume (vph)	445	1060	135	80	1100	195	105	185	65	240	370	445
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5	11.0
Total Split (s)	24.0	63.8	63.8	11.0	50.8	50.8	11.0	25.2	25.2	20.0	34.2	24.0
Total Split (%)	20.0%	53.2%	53.2%	9.2%	42.3%	42.3%	9.2%	21.0%	21.0%	16.7%	28.5%	20.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	None
Act Effct Green (s)	19.5	59.4	59.4	52.7	46.3	46.3	27.2	20.7	20.7	40.7	29.7	53.7
Actuated g/C Ratio	0.16	0.50	0.50	0.44	0.39	0.39	0.23	0.17	0.17	0.34	0.25	0.45
v/c Ratio	1.01	0.77	0.20	0.46	1.02	0.34	0.82	0.73	0.19	0.86	1.02	0.76
Control Delay	74.2	36.7	9.5	21.1	68.8	7.3	73.9	63.6	1.1	60.5	94.9	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.2	36.7	9.5	21.1	68.8	7.3	73.9	63.6	1.1	60.5	94.9	33.6
LOS	E	D	A	C	E	A	E	E	A	E	F	C
Approach Delay		44.7			57.3			55.1			61.2	
Approach LOS		D			E			E			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 53.4	Intersection LOS: D
Intersection Capacity Utilization 83.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: 56th Avenue & Powhaton Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	445	1060	135	80	1100	195	105	185	65	240	370	445
Future Volume (veh/h)	445	1060	135	80	1100	195	105	185	65	240	370	445
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618
Adj Flow Rate, veh/h	484	1152	147	87	1196	212	114	201	71	261	402	321
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, %	19	19	19	19	19	19	19	19	19	19	19	19
Cap, veh/h	486	1539	686	186	1186	529	143	279	237	312	401	562
Arrive On Green	0.05	0.17	0.17	0.05	0.39	0.39	0.05	0.17	0.17	0.13	0.25	0.25
Sat Flow, veh/h	2990	3075	1372	1541	3075	1372	1541	1618	1372	1541	1618	1372
Grp Volume(v), veh/h	484	1152	147	87	1196	212	114	201	71	261	402	321
Grp Sat Flow(s),veh/h/ln	1495	1537	1372	1541	1537	1372	1541	1618	1372	1541	1618	1372
Q Serve(g_s), s	19.4	42.8	11.1	4.1	46.3	13.5	6.5	14.1	5.4	15.5	29.7	21.6
Cycle Q Clear(g_c), s	19.4	42.8	11.1	4.1	46.3	13.5	6.5	14.1	5.4	15.5	29.7	21.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	486	1539	686	186	1186	529	143	279	237	312	401	562
V/C Ratio(X)	1.00	0.75	0.21	0.47	1.01	0.40	0.79	0.72	0.30	0.84	1.00	0.57
Avail Cap(c_a), veh/h	486	1539	686	196	1186	529	143	279	237	312	401	562
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.7	42.9	29.7	25.0	36.8	26.8	42.5	46.9	43.3	36.1	45.2	27.3
Incr Delay (d2), s/veh	39.7	3.4	0.7	1.8	28.1	2.3	25.7	14.8	3.2	17.7	45.9	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	18.4	4.2	1.6	21.6	4.7	1.7	6.8	2.1	7.7	16.9	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.5	46.3	30.4	26.8	65.0	29.0	68.2	61.7	46.6	53.8	91.0	31.4
LnGrp LOS	F	D	C	C	F	C	E	E	D	D	F	C
Approach Vol, veh/h		1783			1495			386			984	
Approach Delay, s/veh		58.6			57.6			60.8			61.7	
Approach LOS		E			E			E			E	

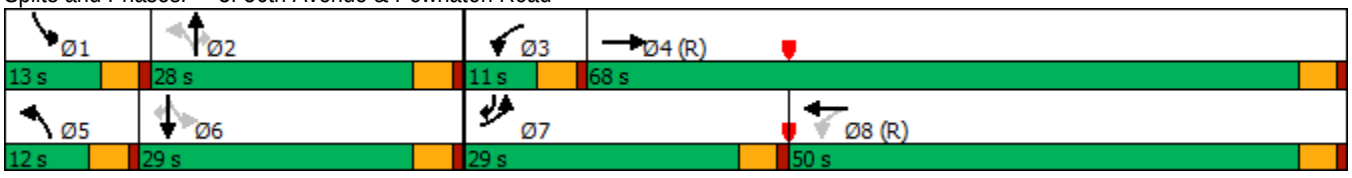
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	25.2	10.2	64.6	11.0	34.2	24.0	50.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	20.7	6.5	59.3	6.5	29.7	19.5	46.3
Max Q Clear Time (g_c+I1), s	17.5	16.1	6.1	44.8	8.5	31.7	21.4	48.3
Green Ext Time (p_c), s	0.0	0.5	0.0	7.7	0.0	0.0	0.0	0.0

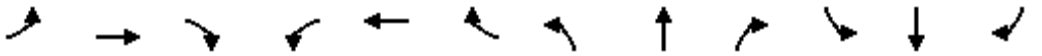
Intersection Summary	
HCM 6th Ctrl Delay	59.1
HCM 6th LOS	E

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	535	645	60	1120	150	260	85	165	220	335
Future Volume (vph)	535	645	60	1120	150	260	85	165	220	335
Turn Type	Prot	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	7	4	3	8	5	2		1	6	7
Permitted Phases			8		2		2	6		6
Detector Phase	7	4	3	8	5	2	2	1	6	7
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5	11.0	22.5	11.0	22.5	22.5	11.0	22.5	11.0
Total Split (s)	29.0	68.0	11.0	50.0	12.0	28.0	28.0	13.0	29.0	29.0
Total Split (%)	24.2%	56.7%	9.2%	41.7%	10.0%	23.3%	23.3%	10.8%	24.2%	24.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	Max	None	Max	None
Act Effct Green (s)	24.5	65.7	51.8	45.5	31.0	23.5	23.5	33.0	24.5	53.5
Actuated g/C Ratio	0.20	0.55	0.43	0.38	0.26	0.20	0.20	0.28	0.20	0.45
v/c Ratio	0.97	0.34	0.23	0.90	0.77	0.91	0.25	0.97	0.73	0.57
Control Delay	67.8	33.9	13.5	42.7	60.5	79.8	3.5	96.2	59.2	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	33.9	13.5	42.7	60.5	79.8	3.5	96.2	59.2	25.0
LOS	E	C	B	D	E	E	A	F	E	C
Approach Delay		48.2		41.5		60.9			51.7	
Approach LOS		D		D		E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 48.0	Intersection LOS: D
Intersection Capacity Utilization 80.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: 56th Avenue & Powhaton Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	535	645	85	60	1120	235	150	260	85	165	220	335
Future Volume (veh/h)	535	645	85	60	1120	235	150	260	85	165	220	335
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618
Adj Flow Rate, veh/h	582	701	92	65	1217	255	163	283	92	179	239	364
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, %	19	19	19	19	19	19	19	19	19	19	19	19
Cap, veh/h	611	2159	281	342	1387	291	203	317	269	191	330	560
Arrive On Green	0.07	0.18	0.18	0.04	0.38	0.38	0.06	0.20	0.20	0.07	0.20	0.20
Sat Flow, veh/h	2990	3957	515	1541	3659	767	1541	1618	1372	1541	1618	1372
Grp Volume(v), veh/h	582	520	273	65	980	492	163	283	92	179	239	364
Grp Sat Flow(s),veh/h/ln	1495	1473	1526	1541	1473	1480	1541	1618	1372	1541	1618	1372
Q Serve(g_s), s	23.3	18.5	18.7	3.1	37.1	37.1	7.5	20.5	6.9	8.5	16.5	24.5
Cycle Q Clear(g_c), s	23.3	18.5	18.7	3.1	37.1	37.1	7.5	20.5	6.9	8.5	16.5	24.5
Prop In Lane	1.00		0.34	1.00		0.52	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	611	1607	833	342	1117	561	203	317	269	191	330	560
V/C Ratio(X)	0.95	0.32	0.33	0.19	0.88	0.88	0.80	0.89	0.34	0.94	0.72	0.65
Avail Cap(c_a), veh/h	611	1607	833	368	1117	561	203	317	269	191	330	560
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	29.9	30.0	21.3	34.7	34.7	42.8	47.0	41.6	42.9	44.6	28.6
Incr Delay (d2), s/veh	25.3	0.5	1.0	0.3	9.8	17.4	20.2	29.4	3.5	46.9	12.9	5.8
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	11.5	7.4	7.9	1.1	14.6	15.8	2.9	10.8	2.6	4.3	7.8	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.7	30.4	31.1	21.6	44.4	52.1	63.0	76.4	45.0	89.8	57.5	34.3
LnGrp LOS	F	C	C	C	D	D	E	E	D	F	E	C
Approach Vol, veh/h		1375			1537			538			782	
Approach Delay, s/veh		51.8			45.9			67.0			54.1	
Approach LOS		D			D			E			D	

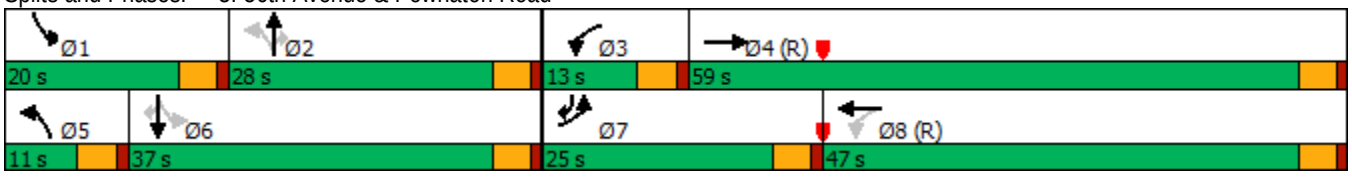
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	28.0	9.0	70.0	12.0	29.0	29.0	50.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	23.5	6.5	63.5	7.5	24.5	24.5	45.5
Max Q Clear Time (g_c+I1), s	10.5	22.5	5.1	20.7	9.5	26.5	25.3	39.1
Green Ext Time (p_c), s	0.0	0.2	0.0	6.4	0.0	0.0	0.0	4.6

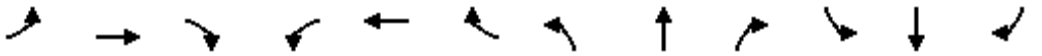
Intersection Summary	
HCM 6th Ctrl Delay	52.0
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	445	1060	80	1100	105	185	65	240	370	445
Future Volume (vph)	445	1060	80	1100	105	185	65	240	370	445
Turn Type	Prot	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	7	4	3	8	5	2		1	6	7
Permitted Phases			8		2		2	6		6
Detector Phase	7	4	3	8	5	2	2	1	6	7
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5	11.0	22.5	11.0	22.5	22.5	11.0	22.5	11.0
Total Split (s)	25.0	59.0	13.0	47.0	11.0	28.0	28.0	20.0	37.0	25.0
Total Split (%)	20.8%	49.2%	10.8%	39.2%	9.2%	23.3%	23.3%	16.7%	30.8%	20.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	Max	None	Max	None
Act Effct Green (s)	20.5	55.1	50.4	42.5	30.2	23.7	23.7	43.5	32.5	57.5
Actuated g/C Ratio	0.17	0.46	0.42	0.35	0.25	0.20	0.20	0.36	0.27	0.48
v/c Ratio	0.96	0.66	0.44	0.92	0.69	0.64	0.17	0.79	0.93	0.71
Control Delay	65.8	38.4	21.6	47.2	52.8	54.8	0.9	49.2	72.3	28.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	38.4	21.6	47.2	52.8	54.8	0.9	49.2	72.3	28.8
LOS	E	D	C	D	D	D	A	D	E	C
Approach Delay		45.8		45.7		44.3			48.7	
Approach LOS		D		D		D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 46.3	Intersection LOS: D
Intersection Capacity Utilization 78.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: 56th Avenue & Powhaton Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	445	1060	135	80	1100	195	105	185	65	240	370	445
Future Volume (veh/h)	445	1060	135	80	1100	195	105	185	65	240	370	445
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618	1618
Adj Flow Rate, veh/h	484	1152	147	87	1196	212	114	201	71	261	402	321
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, %	19	19	19	19	19	19	19	19	19	19	19	19
Cap, veh/h	511	1885	240	212	1337	237	162	317	269	337	438	606
Arrive On Green	0.06	0.16	0.16	0.05	0.35	0.35	0.05	0.20	0.20	0.13	0.27	0.27
Sat Flow, veh/h	2990	3967	506	1541	3775	669	1541	1618	1372	1541	1618	1372
Grp Volume(v), veh/h	484	855	444	87	933	475	114	201	71	261	402	321
Grp Sat Flow(s),veh/h/ln	1495	1473	1527	1541	1473	1498	1541	1618	1372	1541	1618	1372
Q Serve(g_s), s	19.4	32.5	32.5	4.3	35.9	36.0	6.5	13.7	5.3	15.5	28.9	20.5
Cycle Q Clear(g_c), s	19.4	32.5	32.5	4.3	35.9	36.0	6.5	13.7	5.3	15.5	28.9	20.5
Prop In Lane	1.00		0.33	1.00		0.45	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	511	1400	726	212	1043	531	162	317	269	337	438	606
V/C Ratio(X)	0.95	0.61	0.61	0.41	0.89	0.89	0.70	0.63	0.26	0.77	0.92	0.53
Avail Cap(c_a), veh/h	511	1400	726	244	1043	531	162	317	269	337	438	606
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	40.2	40.3	24.4	36.6	36.6	40.1	44.3	40.9	33.3	42.4	24.4
Incr Delay (d2), s/veh	27.1	2.0	3.8	1.3	11.7	20.2	12.7	9.3	2.4	10.6	26.5	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	13.2	14.1	1.6	14.4	15.9	3.3	6.3	2.0	7.0	14.7	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.2	42.2	44.1	25.6	48.4	56.8	52.8	53.6	43.3	43.9	69.0	27.7
LnGrp LOS	F	D	D	C	D	E	D	D	D	D	E	C
Approach Vol, veh/h		1783			1495			386			984	
Approach Delay, s/veh		53.8			49.7			51.5			48.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	28.0	10.5	61.5	11.0	37.0	25.0	47.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	23.5	8.5	54.5	6.5	32.5	20.5	42.5
Max Q Clear Time (g_c+I1), s	17.5	15.7	6.3	34.5	8.5	30.9	21.4	38.0
Green Ext Time (p_c), s	0.0	0.8	0.0	9.4	0.0	0.7	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	51.3
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	12	22	13	13	9
Future Vol, veh/h	7	12	22	13	13	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	13	24	14	14	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	81	-	24	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	62	-	-	-	-	-
Critical Hdwy	6.63	-	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	-	2.219	-	-	-
Pot Cap-1 Maneuver	917	0	1590	-	-	-
Stage 1	1001	0	-	-	-	-
Stage 2	960	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	903	-	1590	-	-	-
Mov Cap-2 Maneuver	903	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	4.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1590	-	903	-	-	-
HCM Lane V/C Ratio	0.015	-	0.008	-	-	-
HCM Control Delay (s)	7.3	-	9	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	25	10	9	28	1
Future Vol, veh/h	2	25	10	9	28	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	27	11	10	30	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	63	-	31	0	-	0
Stage 1	31	-	-	-	-	-
Stage 2	32	-	-	-	-	-
Critical Hdwy	6.63	-	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	-	2.219	-	-	-
Pot Cap-1 Maneuver	939	0	1581	-	-	-
Stage 1	988	0	-	-	-	-
Stage 2	990	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	932	-	1581	-	-	-
Mov Cap-2 Maneuver	932	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	990	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	3.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1581	-	932	-	-	-
HCM Lane V/C Ratio	0.007	-	0.002	-	-	-
HCM Control Delay (s)	7.3	-	8.9	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-	-

Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	61	245	3	123	0	84	15	11	0	14	23
Future Vol, veh/h	65	61	245	3	123	0	84	15	11	0	14	23
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	0	-	0	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	66	266	3	134	0	91	16	12	0	15	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	299	238	-	239	238	16	40	0	0	28	0	0
Stage 1	28	28	-	198	198	-	-	-	-	-	-	-
Stage 2	271	210	-	41	40	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	-	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	-	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	642	662	0	705	662	1063	1569	-	-	1585	-	-
Stage 1	986	872	0	803	737	-	-	-	-	-	-	-
Stage 2	734	728	0	969	861	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	512	624	-	619	624	1063	1569	-	-	1585	-	-
Mov Cap-2 Maneuver	505	615	-	637	613	-	-	-	-	-	-	-
Stage 1	929	872	-	756	694	-	-	-	-	-	-	-
Stage 2	558	686	-	895	861	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	12.5	5.7	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1569	-	-	505	615	-	637	613	-	1585	-	-
HCM Lane V/C Ratio	0.058	-	-	0.14	0.108	-	0.005	0.218	-	-	-	-
HCM Control Delay (s)	7.4	-	-	13.3	11.6	0	10.7	12.5	0	0	-	-
HCM Lane LOS	A	-	-	B	B	A	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.4	-	0	0.8	-	0	-	-

Intersection	
Int Delay, s/veh	11.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	115	91	10	100	0	239	10	3	0	30	60
Future Vol, veh/h	26	115	91	10	100	0	239	10	3	0	30	60
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	0	-	0	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	125	99	11	109	0	260	11	3	0	33	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	653	600	-	610	629	11	98	0	0	14	0	0
Stage 1	66	66	-	531	531	-	-	-	-	-	-	-
Stage 2	587	534	-	79	98	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	-	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	-	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	366	414	0	392	398	1070	1494	-	-	1603	-	-
Stage 1	937	840	0	531	525	-	-	-	-	-	-	-
Stage 2	495	524	0	921	813	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	246	342	-	256	329	1070	1494	-	-	1603	-	-
Mov Cap-2 Maneuver	274	382	-	333	366	-	-	-	-	-	-	-
Stage 1	774	840	-	439	434	-	-	-	-	-	-	-
Stage 2	306	433	-	784	813	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	18.7	7.5	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1494	-	-	274	382	-	333	366	-	1603	-	-
HCM Lane V/C Ratio	0.174	-	-	0.103	0.327	-	0.033	0.297	-	-	-	-
HCM Control Delay (s)	7.9	-	-	19.6	18.9	0	16.2	18.9	0	0	-	-
HCM Lane LOS	A	-	-	C	C	A	C	C	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	0.3	1.4	-	0.1	1.2	-	0	-	-

Intersection	
Int Delay, s/veh	9.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	61	248	3	123	0	85	18	11	0	29	23
Future Vol, veh/h	65	61	248	3	123	0	85	18	11	0	29	23
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	0	-	0	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	66	270	3	134	0	92	20	12	0	32	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	322	261	-	253	261	20	57	0	0	32	0	0
Stage 1	45	45	-	204	204	-	-	-	-	-	-	-
Stage 2	277	216	-	49	57	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	-	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	-	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	619	643	0	690	643	1057	1547	-	-	1579	-	-
Stage 1	964	857	0	797	732	-	-	-	-	-	-	-
Stage 2	729	723	0	959	847	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	490	605	-	604	605	1057	1547	-	-	1579	-	-
Mov Cap-2 Maneuver	497	605	-	627	601	-	-	-	-	-	-	-
Stage 1	907	857	-	750	689	-	-	-	-	-	-	-
Stage 2	553	680	-	885	847	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	12.7	5.6	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1547	-	-	497	605	-	627	601	-	1579	-	-
HCM Lane V/C Ratio	0.06	-	-	0.142	0.11	-	0.005	0.222	-	-	-	-
HCM Control Delay (s)	7.5	-	-	13.4	11.7	0	10.8	12.7	0	0	-	-
HCM Lane LOS	A	-	-	B	B	A	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.4	-	0	0.8	-	0	-	-

Intersection	
Int Delay, s/veh	11

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	115	92	10	100	0	241	25	3	0	35	60
Future Vol, veh/h	26	115	92	10	100	0	241	25	3	0	35	60
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	0	-	0	0	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	125	100	11	109	0	262	27	3	0	38	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	678	625	-	633	654	27	103	0	0	30	0	0
Stage 1	71	71	-	551	551	-	-	-	-	-	-	-
Stage 2	607	554	-	82	103	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	-	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	-	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	352	400	0	378	385	1048	1488	-	-	1582	-	-
Stage 1	931	835	0	518	514	-	-	-	-	-	-	-
Stage 2	482	513	0	917	809	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	234	330	-	244	317	1048	1488	-	-	1582	-	-
Mov Cap-2 Maneuver	264	373	-	323	356	-	-	-	-	-	-	-
Stage 1	767	835	-	427	424	-	-	-	-	-	-	-
Stage 2	295	423	-	780	809	-	-	-	-	-	-	-

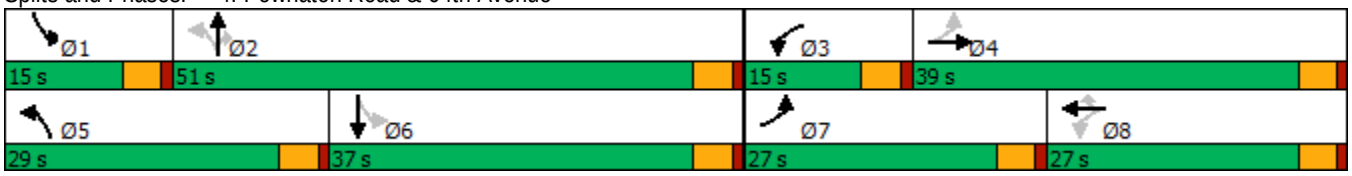
Approach	EB	WB	NB	SB
HCM Control Delay, s	19.6	19.2	7.1	0
HCM LOS	C	C		

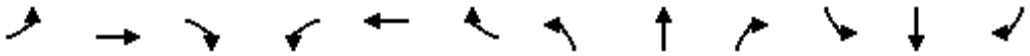
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1488	-	-	264	373	-	323	356	-	1582	-	-
HCM Lane V/C Ratio	0.176	-	-	0.107	0.335	-	0.034	0.305	-	-	-	-
HCM Control Delay (s)	7.9	-	-	20.3	19.4	0	16.5	19.5	0	0	-	-
HCM Lane LOS	A	-	-	C	C	A	C	C	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	0.4	1.4	-	0.1	1.3	-	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	200	110	765	75	65	40	509	269	80	55	172
Future Volume (vph)	200	110	765	75	65	40	509	269	80	55	172
Turn Type	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases	4		Free	8		8	2		2	6	
Detector Phase	7	4		3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5		11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5
Total Split (s)	27.0	39.0		15.0	27.0	27.0	29.0	51.0	51.0	15.0	37.0
Total Split (%)	22.5%	32.5%		12.5%	22.5%	22.5%	24.2%	42.5%	42.5%	12.5%	30.8%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	26.3	16.1	92.3	15.9	9.0	9.0	56.8	48.0	48.0	46.1	39.1
Actuated g/C Ratio	0.28	0.17	1.00	0.17	0.10	0.10	0.62	0.52	0.52	0.50	0.42
v/c Ratio	0.55	0.37	0.53	0.31	0.39	0.14	0.42	0.30	0.10	0.10	0.22
Control Delay	31.9	38.8	1.3	28.2	49.1	0.9	10.7	17.3	1.1	10.8	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	38.8	1.3	28.2	49.1	0.9	10.7	17.3	1.1	10.8	12.0
LOS	C	D	A	C	D	A	B	B	A	B	B
Approach Delay		10.8			29.8			11.9			11.8
Approach LOS		B			C			B			B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 92.3	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 12.7	Intersection LOS: B
Intersection Capacity Utilization 52.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Powhaton Road & 64th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	110	765	75	65	40	509	269	80	55	172	130
Future Volume (veh/h)	200	110	765	75	65	40	509	269	80	55	172	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	217	120	0	82	71	43	553	292	87	60	187	141
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	363	268		268	121	103	1419	1018	863	664	930	663
Arrive On Green	0.14	0.14	0.00	0.06	0.06	0.06	0.12	0.54	0.54	0.04	0.47	0.47
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3456	1870	1585	1781	1980	1413
Grp Volume(v), veh/h	217	120	0	82	71	43	553	292	87	60	167	161
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1870	1585	1781	1777	1616
Q Serve(g_s), s	9.2	5.0	0.0	3.6	3.2	2.2	6.3	7.2	2.3	1.4	4.7	5.0
Cycle Q Clear(g_c), s	9.2	5.0	0.0	3.6	3.2	2.2	6.3	7.2	2.3	1.4	4.7	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.87
Lane Grp Cap(c), veh/h	363	268		268	121	103	1419	1018	863	664	834	759
V/C Ratio(X)	0.60	0.45		0.31	0.59	0.42	0.39	0.29	0.10	0.09	0.20	0.21
Avail Cap(c_a), veh/h	591	755		386	493	418	1998	1018	863	804	834	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	33.5	0.0	34.5	38.8	38.4	8.0	10.5	9.4	10.4	13.3	13.4
Incr Delay (d2), s/veh	1.6	1.2	0.0	0.6	4.4	2.7	0.2	0.7	0.2	0.1	0.5	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	4.0	2.3	0.0	1.6	1.6	0.9	2.1	2.9	0.8	0.5	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	34.7	0.0	35.2	43.3	41.1	8.2	11.2	9.6	10.5	13.8	14.0
LnGrp LOS	C	C		D	D	D	A	B	A	B	B	B
Approach Vol, veh/h		337			196			932			388	
Approach Delay, s/veh		32.3			39.4			9.3			13.4	
Approach LOS		C			D			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	51.0	9.4	16.7	14.7	44.6	16.1	10.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	46.5	10.5	34.5	24.5	32.5	22.5	22.5
Max Q Clear Time (g_c+I1), s	3.4	9.2	5.6	7.0	8.3	7.0	11.2	5.2
Green Ext Time (p_c), s	0.1	2.2	0.1	0.6	1.9	2.0	0.5	0.4

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

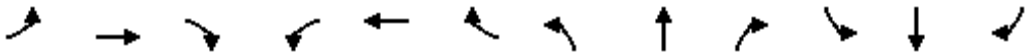
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	130	75	633	95	100	50	756	193	60	50	242
Future Volume (vph)	130	75	633	95	100	50	756	193	60	50	242
Turn Type	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases	4		Free	8		8	2		2	6	
Detector Phase	7	4		3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5		11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5
Total Split (s)	16.0	29.0		13.0	26.0	26.0	41.0	65.0	65.0	13.0	37.0
Total Split (%)	13.3%	24.2%		10.8%	21.7%	21.7%	34.2%	54.2%	54.2%	10.8%	30.8%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	25.4	16.7	105.6	19.6	11.5	11.5	69.8	60.9	60.9	53.8	47.1
Actuated g/C Ratio	0.24	0.16	1.00	0.19	0.11	0.11	0.66	0.58	0.58	0.51	0.45
v/c Ratio	0.48	0.28	0.43	0.37	0.54	0.18	0.66	0.20	0.07	0.09	0.32
Control Delay	38.2	44.6	0.9	36.2	55.6	1.4	11.1	12.8	1.3	9.1	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	44.6	0.9	36.2	55.6	1.4	11.1	12.8	1.3	9.1	13.1
LOS	D	D	A	D	E	A	B	B	A	A	B
Approach Delay		10.6			37.1			10.9			12.7
Approach LOS		B			D			B			B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 105.6	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 13.6	Intersection LOS: B
Intersection Capacity Utilization 60.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 4: Powhaton Road & 64th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	75	633	95	100	50	756	193	60	50	242	225
Future Volume (veh/h)	130	75	633	95	100	50	756	193	60	50	242	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	82	0	103	109	54	822	210	65	54	263	245
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	266	195		277	154	131	1373	1137	963	715	870	776
Arrive On Green	0.09	0.10	0.00	0.07	0.08	0.08	0.16	0.61	0.61	0.04	0.49	0.49
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3456	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	141	82	0	103	109	54	822	210	65	54	263	245
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1870	1585	1781	1777	1585
Q Serve(g_s), s	7.1	4.1	0.0	5.2	5.7	3.2	10.4	4.9	1.7	1.5	8.8	9.3
Cycle Q Clear(g_c), s	7.1	4.1	0.0	5.2	5.7	3.2	10.4	4.9	1.7	1.5	8.8	9.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	266	195		277	154	131	1373	1137	963	715	870	776
V/C Ratio(X)	0.53	0.42		0.37	0.71	0.41	0.60	0.18	0.07	0.08	0.30	0.32
Avail Cap(c_a), veh/h	311	460		308	404	342	2097	1137	963	798	870	776
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	41.8	0.0	38.1	44.5	43.4	8.5	8.6	8.0	11.4	15.2	15.4
Incr Delay (d2), s/veh	1.6	1.4	0.0	0.8	5.8	2.1	0.4	0.4	0.1	0.0	0.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	2.0	0.0	2.3	2.9	1.3	3.5	2.0	0.6	0.6	3.7	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	43.2	0.0	39.0	50.3	45.5	8.9	9.0	8.1	11.5	16.1	16.4
LnGrp LOS	D	D		D	D	D	A	A	A	B	B	B
Approach Vol, veh/h		223			266			1097			562	
Approach Delay, s/veh		40.4			44.9			8.9			15.8	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	65.0	11.3	14.9	20.2	53.2	13.5	12.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	60.5	8.5	24.5	36.5	32.5	11.5	21.5
Max Q Clear Time (g_c+I1), s	3.5	6.9	7.2	6.1	12.4	11.3	9.1	7.7
Green Ext Time (p_c), s	0.0	1.5	0.0	0.3	3.3	3.2	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

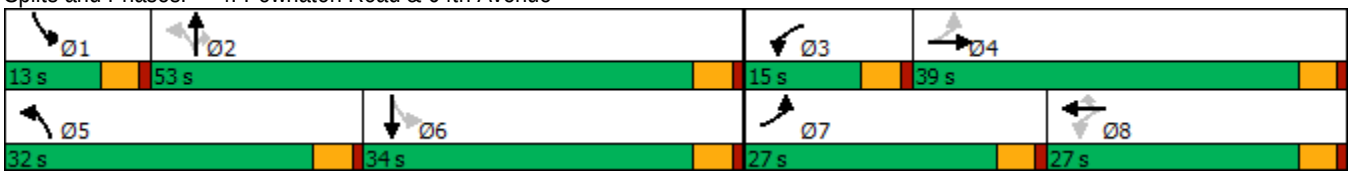
Notes

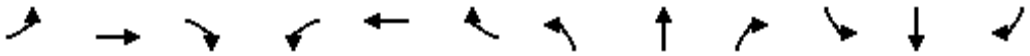
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	200	110	820	75	65	40	525	285	80	55	235
Future Volume (vph)	200	110	820	75	65	40	525	285	80	55	235
Turn Type	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases	4		Free	8		8	2		2	6	
Detector Phase	7	4		3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5		11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5
Total Split (s)	27.0	39.0		15.0	27.0	27.0	32.0	53.0	53.0	13.0	34.0
Total Split (%)	22.5%	32.5%		12.5%	22.5%	22.5%	26.7%	44.2%	44.2%	10.8%	28.3%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	26.5	16.2	94.5	16.0	9.1	9.1	58.7	50.0	50.0	47.9	40.9
Actuated g/C Ratio	0.28	0.17	1.00	0.17	0.10	0.10	0.62	0.53	0.53	0.51	0.43
v/c Ratio	0.56	0.38	0.56	0.32	0.40	0.14	0.46	0.31	0.10	0.10	0.26
Control Delay	33.1	39.9	1.5	29.1	50.5	0.9	10.9	17.2	1.0	10.7	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	39.9	1.5	29.1	50.5	0.9	10.9	17.2	1.0	10.7	16.3
LOS	C	D	A	C	D	A	B	B	A	B	B
Approach Delay		10.8			30.7			12.0			15.6
Approach LOS		B			C			B			B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 94.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 54.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Powhaton Road & 64th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	110	820	75	65	40	525	285	80	55	235	130
Future Volume (veh/h)	200	110	820	75	65	40	525	285	80	55	235	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	217	120	0	82	71	43	571	310	87	60	255	141
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	266		265	120	102	1359	1033	875	655	1061	568
Arrive On Green	0.14	0.14	0.00	0.06	0.06	0.06	0.12	0.55	0.55	0.04	0.47	0.47
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3456	1870	1585	1781	2236	1196
Grp Volume(v), veh/h	217	120	0	82	71	43	571	310	87	60	201	195
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1870	1585	1781	1777	1655
Q Serve(g_s), s	9.5	5.2	0.0	3.7	3.2	2.3	6.6	7.8	2.3	1.5	5.9	6.2
Cycle Q Clear(g_c), s	9.5	5.2	0.0	3.7	3.2	2.3	6.6	7.8	2.3	1.5	5.9	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	359	266		265	120	102	1359	1033	875	655	843	785
V/C Ratio(X)	0.60	0.45		0.31	0.59	0.42	0.42	0.30	0.10	0.09	0.24	0.25
Avail Cap(c_a), veh/h	574	735		376	479	406	2021	1033	875	750	843	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	34.5	0.0	35.6	40.0	39.5	8.2	10.6	9.3	10.6	13.7	13.8
Incr Delay (d2), s/veh	1.6	1.2	0.0	0.7	4.6	2.8	0.2	0.7	0.2	0.1	0.7	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	4.1	2.4	0.0	1.6	1.6	1.0	2.2	3.2	0.8	0.6	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	35.7	0.0	36.2	44.6	42.3	8.4	11.3	9.5	10.6	14.3	14.5
LnGrp LOS	C	D		D	D	D	A	B	A	B	B	B
Approach Vol, veh/h		337			196			968			456	
Approach Delay, s/veh		33.4			40.6			9.4			13.9	
Approach LOS		C			D			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	53.0	9.5	17.0	15.2	46.2	16.4	10.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	48.5	10.5	34.5	27.5	29.5	22.5	22.5
Max Q Clear Time (g_c+I1), s	3.5	9.8	5.7	7.2	8.6	8.2	11.5	5.2
Green Ext Time (p_c), s	0.0	2.3	0.1	0.6	2.0	2.4	0.4	0.4

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

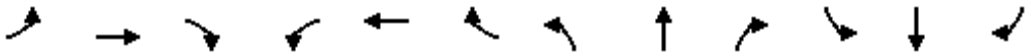
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	130	75	650	95	100	50	810	255	60	50	260
Future Volume (vph)	130	75	650	95	100	50	810	255	60	50	260
Turn Type	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases	4		Free	8		8	2		2	6	
Detector Phase	7	4		3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.5		11.0	22.5	22.5	11.0	22.5	22.5	11.0	22.5
Total Split (s)	16.0	29.0		12.0	25.0	25.0	43.0	68.0	68.0	11.0	36.0
Total Split (%)	13.3%	24.2%		10.0%	20.8%	20.8%	35.8%	56.7%	56.7%	9.2%	30.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	26.5	17.7	108.3	19.0	11.7	11.7	72.3	63.9	63.9	54.0	47.8
Actuated g/C Ratio	0.24	0.16	1.00	0.18	0.11	0.11	0.67	0.59	0.59	0.50	0.44
v/c Ratio	0.48	0.27	0.45	0.39	0.55	0.19	0.70	0.25	0.07	0.09	0.34
Control Delay	39.4	44.6	0.9	38.3	57.1	1.4	11.7	12.8	1.2	9.8	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	44.6	0.9	38.3	57.1	1.4	11.7	12.8	1.2	9.8	14.9
LOS	D	D	A	D	E	A	B	B	A	A	B
Approach Delay		10.6			38.5			11.4			14.5
Approach LOS		B			D			B			B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108.3	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 14.2	Intersection LOS: B
Intersection Capacity Utilization 62.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 4: Powhaton Road & 64th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	75	650	95	100	50	810	255	60	50	260	225
Future Volume (veh/h)	130	75	650	95	100	50	810	255	60	50	260	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	82	0	103	109	54	880	277	65	54	283	245
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	193		273	152	129	1378	1152	977	645	895	751
Arrive On Green	0.09	0.10	0.00	0.07	0.08	0.08	0.17	0.62	0.62	0.04	0.49	0.49
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3456	1870	1585	1781	1832	1538
Grp Volume(v), veh/h	141	82	0	103	109	54	880	277	65	54	274	254
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1870	1585	1781	1777	1593
Q Serve(g_s), s	7.3	4.2	0.0	5.4	5.9	3.3	11.5	6.9	1.7	1.5	9.6	10.0
Cycle Q Clear(g_c), s	7.3	4.2	0.0	5.4	5.9	3.3	11.5	6.9	1.7	1.5	9.6	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
Lane Grp Cap(c), veh/h	260	193		273	152	129	1378	1152	977	645	868	778
V/C Ratio(X)	0.54	0.42		0.38	0.72	0.42	0.64	0.24	0.07	0.08	0.32	0.33
Avail Cap(c_a), veh/h	299	445		281	372	315	2095	1152	977	689	868	778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	43.3	0.0	39.6	46.2	45.0	8.8	8.9	7.9	11.9	16.0	16.0
Incr Delay (d2), s/veh	1.8	1.5	0.0	0.9	6.1	2.2	0.5	0.5	0.1	0.1	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	2.0	0.0	2.4	3.0	1.4	3.9	2.8	0.6	0.6	4.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	44.8	0.0	40.5	52.3	47.2	9.3	9.4	8.1	12.0	16.9	17.2
LnGrp LOS	D	D		D	D	D	A	A	A	B	B	B
Approach Vol, veh/h		223			266			1222			582	
Approach Delay, s/veh		42.0			46.7			9.3			16.6	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	68.0	11.5	15.1	21.6	54.8	13.7	12.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	63.5	7.5	24.5	38.5	31.5	11.5	20.5
Max Q Clear Time (g_c+I1), s	3.5	8.9	7.4	6.2	13.5	12.0	9.3	7.9
Green Ext Time (p_c), s	0.0	2.0	0.0	0.3	3.6	3.2	0.1	0.5

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Notes

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

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	6	26	487	149	9
Future Vol, veh/h	3	6	26	487	149	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	7	28	529	162	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	752	167	172	0	-	0
Stage 1	167	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	378	877	1405	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	370	877	1405	-	-	-
Mov Cap-2 Maneuver	511	-	-	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	557	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1405	-	708	-	-
HCM Lane V/C Ratio	0.02	-	0.014	-	-
HCM Control Delay (s)	7.6	-	10.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	23	7	140	499	3
Future Vol, veh/h	1	23	7	140	499	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	2	-	-	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	1	25	8	152	542	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	712	544	545	0	-	0
Stage 1	544	-	-	-	-	-
Stage 2	168	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	399	539	1024	-	-	-
Stage 1	582	-	-	-	-	-
Stage 2	862	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	396	539	1024	-	-	-
Mov Cap-2 Maneuver	531	-	-	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	862	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1024	-	539	-	-
HCM Lane V/C Ratio	0.007	-	0.048	-	-
HCM Control Delay (s)	8.5	-	12	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	10	40	990	710	50
Future Vol, veh/h	15	10	40	990	710	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	2	-	-	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	16	11	43	1076	772	54

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1423	413	826	0	-	0
Stage 1	799	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*348	588	800	-	-	-
Stage 1	*403	-	-	-	-	-
Stage 2	*622	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	*329	588	800	-	-	-
Mov Cap-2 Maneuver	*360	-	-	-	-	-
Stage 1	*381	-	-	-	-	-
Stage 2	*622	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	800	-	426	-	-
HCM Lane V/C Ratio	0.054	-	0.064	-	-
HCM Control Delay (s)	9.8	-	14	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.2	-	-

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

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	35	10	815	1020	20
Future Vol, veh/h	50	35	10	815	1020	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	2	-	-	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	54	38	11	886	1109	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1585	566	1131	0	-	0
Stage 1	1120	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*184	467	613	-	-	-
Stage 1	*274	-	-	-	-	-
Stage 2	*695	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	*180	467	613	-	-	-
Mov Cap-2 Maneuver	*253	-	-	-	-	-
Stage 1	*269	-	-	-	-	-
Stage 2	*695	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.3	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	613	-	312	-	-
HCM Lane V/C Ratio	0.018	-	0.296	-	-
HCM Control Delay (s)	11	-	21.3	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

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

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	3	13	476	153	4
Future Vol, veh/h	1	3	13	476	153	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
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	1	3	14	517	166	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	713	168	170	0	-	0
Stage 1	168	-	-	-	-	-
Stage 2	545	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	398	876	1407	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	581	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	394	876	1407	-	-	-
Mov Cap-2 Maneuver	394	-	-	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	581	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1407	-	671	-	-
HCM Lane V/C Ratio	0.01	-	0.006	-	-
HCM Control Delay (s)	7.6	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	12	4	144	488	1
Future Vol, veh/h	4	12	4	144	488	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	13	4	157	530	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	696	531	531	0	-	0
Stage 1	531	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	408	548	1036	-	-	-
Stage 1	590	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	406	548	1036	-	-	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1036	-	504	-	-
HCM Lane V/C Ratio	0.004	-	0.035	-	-
HCM Control Delay (s)	8.5	-	12.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	15	990	760	5
Future Vol, veh/h	5	5	15	990	760	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	16	1076	826	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1399	416	831	0	-	0
Stage 1	829	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	132	585	797	-	-	-
Stage 1	389	-	-	-	-	-
Stage 2	529	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	129	585	797	-	-	-
Mov Cap-2 Maneuver	129	-	-	-	-	-
Stage 1	381	-	-	-	-	-
Stage 2	529	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	797	-	211	-	-
HCM Lane V/C Ratio	0.02	-	0.052	-	-
HCM Control Delay (s)	9.6	-	23	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	15	5	860	1020	5
Future Vol, veh/h	5	15	5	860	1020	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	16	5	935	1109	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1590	557	1114	0	-	0
Stage 1	1112	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	98	474	623	-	-	-
Stage 1	276	-	-	-	-	-
Stage 2	590	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	97	474	623	-	-	-
Mov Cap-2 Maneuver	97	-	-	-	-	-
Stage 1	274	-	-	-	-	-
Stage 2	590	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.5	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	623	-	240	-	-
HCM Lane V/C Ratio	0.009	-	0.091	-	-
HCM Control Delay (s)	10.8	-	21.5	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	489	156	1
Future Vol, veh/h	0	1	0	489	156	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	0	532	170	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	171	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	873	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	873	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	873	-	-
HCM Lane V/C Ratio	-	0.001	-	-
HCM Control Delay (s)	-	9.1	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	0	148	500	1
Future Vol, veh/h	0	2	0	148	500	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	0	161	543	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	544	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	539	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	539	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	539	-	-
HCM Lane V/C Ratio	-	0.004	-	-
HCM Control Delay (s)	-	11.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	0	1005	760	5
Future Vol, veh/h	0	5	0	1005	760	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	0	1092	826	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	416	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	585	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	585	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	585	-	-
HCM Lane V/C Ratio	-	0.009	-	-
HCM Control Delay (s)	-	11.2	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	0	865	1030	5
Future Vol, veh/h	0	10	0	865	1030	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	0	940	1120	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	563	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	470	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	470	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	470	-	-
HCM Lane V/C Ratio	-	0.023	-	-
HCM Control Delay (s)	-	12.8	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	26	166	13	2	39	1	24	1	1	1	1	16
Future Vol, veh/h	26	166	13	2	39	1	24	1	1	1	1	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	180	14	2	42	1	26	1	1	1	1	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	43	0	0	194	0	0	299	290	187	291	297	43
Stage 1	-	-	-	-	-	-	243	243	-	47	47	-
Stage 2	-	-	-	-	-	-	56	47	-	244	250	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1566	-	-	1379	-	-	653	620	855	661	615	1027
Stage 1	-	-	-	-	-	-	761	705	-	967	856	-
Stage 2	-	-	-	-	-	-	956	856	-	760	700	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1566	-	-	1379	-	-	631	607	855	648	602	1027
Mov Cap-2 Maneuver	-	-	-	-	-	-	631	607	-	648	602	-
Stage 1	-	-	-	-	-	-	746	691	-	948	855	-
Stage 2	-	-	-	-	-	-	938	855	-	743	686	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.4	10.9	8.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	636	1566	-	-	1379	-	-	958
HCM Lane V/C Ratio	0.044	0.018	-	-	0.002	-	-	0.02
HCM Control Delay (s)	10.9	7.3	0	-	7.6	0	-	8.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	61	45	4	2	176	2	98	1	1	2	1	64
Future Vol, veh/h	61	45	4	2	176	2	98	1	1	2	1	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	66	49	4	2	191	2	107	1	1	2	1	70

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	193	0	0	53	0	0	415	380	51	380	381	192
Stage 1	-	-	-	-	-	-	183	183	-	196	196	-
Stage 2	-	-	-	-	-	-	232	197	-	184	185	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1380	-	-	1553	-	-	548	552	1017	578	552	850
Stage 1	-	-	-	-	-	-	819	748	-	806	739	-
Stage 2	-	-	-	-	-	-	771	738	-	818	747	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1380	-	-	1553	-	-	483	524	1017	554	524	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	483	524	-	554	524	-
Stage 1	-	-	-	-	-	-	779	711	-	767	738	-
Stage 2	-	-	-	-	-	-	706	737	-	776	710	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.3	0.1	14.5	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	486	1380	-	-	1553	-	-	829
HCM Lane V/C Ratio	0.224	0.048	-	-	0.001	-	-	0.088
HCM Control Delay (s)	14.5	7.7	0	-	7.3	0	-	9.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.8	0.2	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	30	95	25	2	35	1	15	1	1	1	1	20
Future Vol, veh/h	30	95	25	2	35	1	15	1	1	1	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	103	27	2	38	1	16	1	1	1	1	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	39	0	0	130	0	0	237	226	117	227	239	39
Stage 1	-	-	-	-	-	-	183	183	-	43	43	-
Stage 2	-	-	-	-	-	-	54	43	-	184	196	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1571	-	-	1455	-	-	717	673	935	728	662	1033
Stage 1	-	-	-	-	-	-	819	748	-	971	859	-
Stage 2	-	-	-	-	-	-	958	859	-	818	739	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1571	-	-	1455	-	-	688	657	935	713	646	1033
Mov Cap-2 Maneuver	-	-	-	-	-	-	688	657	-	713	646	-
Stage 1	-	-	-	-	-	-	800	731	-	949	858	-
Stage 2	-	-	-	-	-	-	936	858	-	797	722	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.4	10.3	8.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	697	1571	-	-	1455	-	-	986
HCM Lane V/C Ratio	0.027	0.021	-	-	0.001	-	-	0.024
HCM Control Delay (s)	10.3	7.3	0	-	7.5	0	-	8.7
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	40	25	25	2	170	2	30	1	1	2	1	85
Future Vol, veh/h	40	25	25	2	170	2	30	1	1	2	1	85
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	27	27	2	185	2	33	1	1	2	1	92

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	187	0	0	54	0	0	364	318	41	318	330	186
Stage 1	-	-	-	-	-	-	127	127	-	190	190	-
Stage 2	-	-	-	-	-	-	237	191	-	128	140	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1387	-	-	1551	-	-	592	598	1030	635	589	856
Stage 1	-	-	-	-	-	-	877	791	-	812	743	-
Stage 2	-	-	-	-	-	-	766	742	-	876	781	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1387	-	-	1551	-	-	514	578	1030	617	570	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	514	578	-	617	570	-
Stage 1	-	-	-	-	-	-	849	766	-	786	742	-
Stage 2	-	-	-	-	-	-	682	741	-	846	756	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	0.1	12.4	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	524	1387	-	-	1551	-	-	844
HCM Lane V/C Ratio	0.066	0.031	-	-	0.001	-	-	0.113
HCM Control Delay (s)	12.4	7.7	0	-	7.3	0	-	9.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	129	40	2	32	6	2
Future Vol, veh/h	129	40	2	32	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	43	2	35	7	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	183	0	201	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	39	-
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	-	788	883
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	983	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1392	-	787	883
Mov Cap-2 Maneuver	-	-	-	-	787	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	982	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	809	-	-	1392	-
HCM Lane V/C Ratio	0.011	-	-	0.002	-
HCM Control Delay (s)	9.5	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	11	2	150	26	6
Future Vol, veh/h	37	11	2	150	26	6
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	40	12	2	163	28	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	213	46
Stage 1	-	-	-	-	46	-
Stage 2	-	-	-	-	167	-
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	-	-	1554	-	775	1023
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1554	-	774	1023
Mov Cap-2 Maneuver	-	-	-	-	774	-
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	862	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	811	-	-	1554	-
HCM Lane V/C Ratio	0.043	-	-	0.001	-
HCM Control Delay (s)	9.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	125	30	30	30	10	10
Future Vol, veh/h	125	30	30	30	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	33	33	33	11	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	169	0	252	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	99	-
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	-	-	1409	-	737	893
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	925	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1409	-	719	893
Mov Cap-2 Maneuver	-	-	-	-	719	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	903	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.8	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	797	-	-	1409	-
HCM Lane V/C Ratio	0.027	-	-	0.023	-
HCM Control Delay (s)	9.6	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	40	10	10	145	25	30
Future Vol, veh/h	40	10	10	145	25	30
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	43	11	11	158	27	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	54	0	229	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	180	-
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	-	-	1551	-	759	1020
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1551	-	753	1020
Mov Cap-2 Maneuver	-	-	-	-	753	-
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	844	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	878	-	-	1551	-
HCM Lane V/C Ratio	0.068	-	-	0.007	-
HCM Control Delay (s)	9.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	79	20	6	1	17
Future Vol, veh/h	70	79	20	6	1	17
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	76	86	22	7	1	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	264	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	238	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1584	-	-	-	725	1050
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	689	1050
Mov Cap-2 Maneuver	-	-	-	-	689	-
Stage 1	-	-	-	-	947	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	1020
HCM Lane V/C Ratio	0.048	-	-	-	0.019
HCM Control Delay (s)	7.4	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	42	83	2	6	68
Future Vol, veh/h	19	42	83	2	6	68
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	21	46	90	2	7	74

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	92	0	-	0	179	91
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	88	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1503	-	-	-	811	967
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	935	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1503	-	-	-	800	967
Mov Cap-2 Maneuver	-	-	-	-	800	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	935	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1503	-	-	-	951
HCM Lane V/C Ratio	0.014	-	-	-	0.085
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	65	90	45	15	5	15
Future Vol, veh/h	65	90	45	15	5	15
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	71	98	49	16	5	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	65	0	-	0	297	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	240	-
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	1537	-	-	-	694	1009
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	800	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1537	-	-	-	660	1009
Mov Cap-2 Maneuver	-	-	-	-	660	-
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	800	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1537	-	-	-	891
HCM Lane V/C Ratio	0.046	-	-	-	0.024
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	65	90	5	10	65
Future Vol, veh/h	20	65	90	5	10	65
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	22	71	98	5	11	71

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	103	0	-	0	216	101
Stage 1	-	-	-	-	101	-
Stage 2	-	-	-	-	115	-
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	1489	-	-	-	772	954
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	910	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1489	-	-	-	760	954
Mov Cap-2 Maneuver	-	-	-	-	760	-
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	910	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1489	-	-	-	923
HCM Lane V/C Ratio	0.015	-	-	-	0.088
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	29	2	27	11	13	12	6	0	3	2	0	7
Future Vol, veh/h	29	2	27	11	13	12	6	0	3	2	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	2	29	12	14	13	7	0	3	2	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	31	0	0	130	132	17	127	140	21
Stage 1	-	-	-	-	-	-	81	81	-	45	45	-
Stage 2	-	-	-	-	-	-	49	51	-	82	95	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1582	-	-	843	759	1062	846	751	1056
Stage 1	-	-	-	-	-	-	927	828	-	969	857	-
Stage 2	-	-	-	-	-	-	964	852	-	926	816	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1587	-	-	1582	-	-	819	737	1062	825	729	1056
Mov Cap-2 Maneuver	-	-	-	-	-	-	819	737	-	825	729	-
Stage 1	-	-	-	-	-	-	908	811	-	949	850	-
Stage 2	-	-	-	-	-	-	949	845	-	904	799	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.7	2.2	9.1	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	887	1587	-	-	1582	-	-	994
HCM Lane V/C Ratio	0.011	0.02	-	-	0.008	-	-	0.01
HCM Control Delay (s)	9.1	7.3	0	-	7.3	0	-	8.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	8	11	7	3	31	3	26	0	10	9	0	28
Future Vol, veh/h	8	11	7	3	31	3	26	0	10	9	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	12	8	3	34	3	28	0	11	10	0	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	37	0	0	20	0	0	91	77	16	82	80	36
Stage 1	-	-	-	-	-	-	34	34	-	42	42	-
Stage 2	-	-	-	-	-	-	57	43	-	40	38	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1574	-	-	1596	-	-	893	813	1063	905	810	1037
Stage 1	-	-	-	-	-	-	982	867	-	972	860	-
Stage 2	-	-	-	-	-	-	955	859	-	975	863	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1574	-	-	1596	-	-	862	806	1063	891	804	1037
Mov Cap-2 Maneuver	-	-	-	-	-	-	862	806	-	891	804	-
Stage 1	-	-	-	-	-	-	976	862	-	966	858	-
Stage 2	-	-	-	-	-	-	925	857	-	959	858	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.6	9.1	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	910	1574	-	-	1596	-	-	997
HCM Lane V/C Ratio	0.043	0.006	-	-	0.002	-	-	0.04
HCM Control Delay (s)	9.1	7.3	0	-	7.3	0	-	8.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	20	15	35	30	45	20	10	0	10	5	0	5
Future Vol, veh/h	20	15	35	30	45	20	10	0	10	5	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	16	38	33	49	22	11	0	11	5	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	71	0	0	54	0	0	208	216	35	211	224	60
Stage 1	-	-	-	-	-	-	79	79	-	126	126	-
Stage 2	-	-	-	-	-	-	129	137	-	85	98	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1529	-	-	1551	-	-	749	682	1038	746	675	1005
Stage 1	-	-	-	-	-	-	930	829	-	878	792	-
Stage 2	-	-	-	-	-	-	875	783	-	923	814	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1529	-	-	1551	-	-	724	657	1038	718	650	1005
Mov Cap-2 Maneuver	-	-	-	-	-	-	724	657	-	718	650	-
Stage 1	-	-	-	-	-	-	916	817	-	865	775	-
Stage 2	-	-	-	-	-	-	851	766	-	900	802	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	2.3	9.3	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	853	1529	-	-	1551	-	-	838
HCM Lane V/C Ratio	0.025	0.014	-	-	0.021	-	-	0.013
HCM Control Delay (s)	9.3	7.4	0	-	7.4	0	-	9.4
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	40	10	10	55	5	25	0	30	20	0	20
Future Vol, veh/h	5	40	10	10	55	5	25	0	30	20	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	43	11	11	60	5	27	0	33	22	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	65	0	0	54	0	0	155	146	49	160	149	63
Stage 1	-	-	-	-	-	-	59	59	-	85	85	-
Stage 2	-	-	-	-	-	-	96	87	-	75	64	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1537	-	-	1551	-	-	812	745	1020	806	743	1002
Stage 1	-	-	-	-	-	-	953	846	-	923	824	-
Stage 2	-	-	-	-	-	-	911	823	-	934	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1537	-	-	1551	-	-	788	738	1020	775	736	1002
Mov Cap-2 Maneuver	-	-	-	-	-	-	788	738	-	775	736	-
Stage 1	-	-	-	-	-	-	950	843	-	920	818	-
Stage 2	-	-	-	-	-	-	885	817	-	901	839	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1	9.3	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	900	1537	-	-	1551	-	-	874
HCM Lane V/C Ratio	0.066	0.004	-	-	0.007	-	-	0.05
HCM Control Delay (s)	9.3	7.4	0	-	7.3	0	-	9.3
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	264	26	0	108
Future Vol, veh/h	0	5	264	26	0	108
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	287	28	0	117

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	158	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	859	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	859	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	859	-
HCM Lane V/C Ratio	-	-	0.006	-
HCM Control Delay (s)	-	-	9.2	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	21	167	61	0	384
Future Vol, veh/h	0	21	167	61	0	384
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	182	66	0	417

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	124	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	904	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	904	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	904	-
HCM Lane V/C Ratio	-	-	0.025	-
HCM Control Delay (s)	-	-	9.1	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	15	540	20	0	390
Future Vol, veh/h	0	15	540	20	0	390
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	587	22	0	424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	305	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	*867	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-		-
Mov Cap-1 Maneuver	-	*867	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	867	-
HCM Lane V/C Ratio	-	-	0.019	-
HCM Control Delay (s)	-	-	9.2	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

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

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	30	450	25	0	775
Future Vol, veh/h	0	30	450	25	0	775
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	33	489	27	0	842

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	258	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	*893	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-		-
Mov Cap-1 Maneuver	-	*893	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	893	-
HCM Lane V/C Ratio	-	-	0.037	-
HCM Control Delay (s)	-	-	9.2	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

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

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	11	279	69	17	91
Future Vol, veh/h	26	11	279	69	17	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
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	28	12	303	75	18	99

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	389	152	0	0	378	0
Stage 1	303	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	587	867	-	-	1177	-
Stage 1	723	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	578	867	-	-	1177	-
Mov Cap-2 Maneuver	578	-	-	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	913	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	642	1177	-
HCM Lane V/C Ratio	-	-	0.063	0.016	-
HCM Control Delay (s)	-	-	11	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	42	185	163	41	343
Future Vol, veh/h	106	42	185	163	41	343
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
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	115	46	201	177	45	373

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	478	101	0	0	378	0
Stage 1	201	-	-	-	-	-
Stage 2	277	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	516	935	-	-	1177	-
Stage 1	813	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	496	935	-	-	1177	-
Mov Cap-2 Maneuver	496	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	717	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	572	1177	-
HCM Lane V/C Ratio	-	-	0.281	0.038	-
HCM Control Delay (s)	-	-	13.7	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	20	540	35	30	365
Future Vol, veh/h	30	20	540	35	30	365
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	22	587	38	33	397

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	852	294	0	0	625	0
Stage 1	587	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*521	*867	-	-	1262	-
Stage 1	*818	-	-	-	-	-
Stage 2	*755	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*508	*867	-	-	1262	-
Mov Cap-2 Maneuver	*508	-	-	-	-	-
Stage 1	*818	-	-	-	-	-
Stage 2	*735	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	609	1262	-
HCM Lane V/C Ratio	-	-	0.089	0.026	-
HCM Control Delay (s)	-	-	11.5	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Notes

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

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	110	55	440	50	40	740
Future Vol, veh/h	110	55	440	50	40	740
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
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	120	60	478	54	43	804

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	966	239	0	0	532	0
Stage 1	478	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	365	*919	-	-	1273	-
Stage 1	840	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	353	*919	-	-	1273	-
Mov Cap-2 Maneuver	353	-	-	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	563	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.5	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	444	1273	-
HCM Lane V/C Ratio	-	-	0.404	0.034	-
HCM Control Delay (s)	-	-	18.5	7.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.9	0.1	-

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

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	343	26	0	117
Future Vol, veh/h	0	5	343	26	0	117
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	373	28	0	127

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	201	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	806	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	806	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	806	-
HCM Lane V/C Ratio	-	-	0.007	-
HCM Control Delay (s)	-	-	9.5	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	21	327	61	0	449
Future Vol, veh/h	0	21	327	61	0	449
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	355	66	0	488

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	211	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	794	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	794	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	794	-
HCM Lane V/C Ratio	-	-	0.029	-
HCM Control Delay (s)	-	-	9.7	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	570	30	0	390
Future Vol, veh/h	0	5	570	30	0	390
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	620	33	0	424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	327	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	*841	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-		-
Mov Cap-1 Maneuver	-	*841	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	841	-
HCM Lane V/C Ratio	-	-	0.006	-
HCM Control Delay (s)	-	-	9.3	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0	-

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

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	20	475	40	0	845
Future Vol, veh/h	0	20	475	40	0	845
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	22	516	43	0	918

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	280	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	*893	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		1	-	-		-
Mov Cap-1 Maneuver	-	*893	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	893	-
HCM Lane V/C Ratio	-	-	0.024	-
HCM Control Delay (s)	-	-	9.1	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	5	512	149	5
Future Vol, veh/h	1	2	5	512	149	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
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	1	2	5	557	162	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	732	165	167	0	-	0
Stage 1	165	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	388	879	1411	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	386	879	1411	-	-	-
Mov Cap-2 Maneuver	472	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	568	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1411	-	683	-	-
HCM Lane V/C Ratio	0.004	-	0.005	-	-
HCM Control Delay (s)	7.6	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	2	1	142	521	1
Future Vol, veh/h	5	2	1	142	521	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	2	1	154	566	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	723	567	567	0	-	0
Stage 1	567	-	-	-	-	-
Stage 2	156	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	393	523	1005	-	-	-
Stage 1	568	-	-	-	-	-
Stage 2	872	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	393	523	1005	-	-	-
Mov Cap-2 Maneuver	475	-	-	-	-	-
Stage 1	567	-	-	-	-	-
Stage 2	872	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1005	-	488	-	-
HCM Lane V/C Ratio	0.001	-	0.016	-	-
HCM Control Delay (s)	8.6	-	12.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	1025	715	5
Future Vol, veh/h	5	5	5	1025	715	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	5	1114	777	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1347	391	782	0	-	0
Stage 1	780	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*417	608	832	-	-	-
Stage 1	*412	-	-	-	-	-
Stage 2	*622	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	*414	608	832	-	-	-
Mov Cap-2 Maneuver	*374	-	-	-	-	-
Stage 1	*410	-	-	-	-	-
Stage 2	*622	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	832	-	463	-	-
HCM Lane V/C Ratio	0.007	-	0.023	-	-
HCM Control Delay (s)	9.4	-	13	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	5	820	1045	5
Future Vol, veh/h	5	5	5	820	1045	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	5	891	1136	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1595	571	1141	0	-	0
Stage 1	1139	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*180	464	608	-	-	-
Stage 1	*267	-	-	-	-	-
Stage 2	*695	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	*178	464	608	-	-	-
Mov Cap-2 Maneuver	*230	-	-	-	-	-
Stage 1	*265	-	-	-	-	-
Stage 2	*695	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	608	-	308	-	-
HCM Lane V/C Ratio	0.009	-	0.035	-	-
HCM Control Delay (s)	11	-	17.1	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

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

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	637	225	9	0	27
Future Vol, veh/h	0	637	225	9	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	692	245	10	0	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	250
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	789
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	789
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	789
HCM Lane V/C Ratio	-	-	-	0.037
HCM Control Delay (s)	-	-	-	9.7
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	235	613	20	0	111
Future Vol, veh/h	0	235	613	20	0	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	255	666	22	0	121

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	677
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	-	0	453
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	453
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	453
HCM Lane V/C Ratio	-	-	-	0.266
HCM Control Delay (s)	-	-	-	15.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1230	1515	30	0	25
Future Vol, veh/h	0	1230	1515	30	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1337	1647	33	0	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	840
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	*450
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*450
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	450
HCM Lane V/C Ratio	-	-	-	0.06
HCM Control Delay (s)	-	-	-	13.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1525	1660	40	0	95
Future Vol, veh/h	0	1525	1660	40	0	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1658	1804	43	0	103

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	924
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	*372
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*372
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	372
HCM Lane V/C Ratio	-	-	-	0.278
HCM Control Delay (s)	-	-	-	18.4
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.1

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	94	544	215	5	1	19
Future Vol, veh/h	94	544	215	5	1	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	102	591	234	5	1	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	239	0	-	0	1032	237
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	795	-
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	1328	-	-	-	258	802
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	445	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1328	-	-	-	238	802
Mov Cap-2 Maneuver	-	-	-	-	401	-
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	445	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1328	-	-	-	764
HCM Lane V/C Ratio	0.077	-	-	-	0.028
HCM Control Delay (s)	7.9	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	210	556	1	5	77
Future Vol, veh/h	26	210	556	1	5	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	228	604	1	5	84

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	605	0	-	0	889	605
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	284	-
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	973	-	-	-	314	498
Stage 1	-	-	-	-	545	-
Stage 2	-	-	-	-	764	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	973	-	-	-	305	498
Mov Cap-2 Maneuver	-	-	-	-	473	-
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	764	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	973	-	-	-	496
HCM Lane V/C Ratio	0.029	-	-	-	0.18
HCM Control Delay (s)	8.8	-	-	-	13.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	1270	1550	30	10	10
Future Vol, veh/h	40	1270	1550	30	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	1380	1685	33	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1718	0	-	0	2478	859
Stage 1	-	-	-	-	1702	-
Stage 2	-	-	-	-	776	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	*634	-	-	-	*29	*424
Stage 1	-	-	-	-	*400	-
Stage 2	-	-	-	-	*523	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	*634	-	-	-	*27	*424
Mov Cap-2 Maneuver	-	-	-	-	*281	-
Stage 1	-	-	-	-	*373	-
Stage 2	-	-	-	-	*523	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	16.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	* 634	-	-	-	338
HCM Lane V/C Ratio	0.069	-	-	-	0.064
HCM Control Delay (s)	11.1	-	-	-	16.4
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	1540	1740	10	30	40
Future Vol, veh/h	15	1540	1740	10	30	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	1674	1891	11	33	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1902	0	-	0	2766	951
Stage 1	-	-	-	-	1897	-
Stage 2	-	-	-	-	869	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	*518	-	-	-	*~ 11	*346
Stage 1	-	-	-	-	*327	-
Stage 2	-	-	-	-	*400	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	*518	-	-	-	*~ 11	*346
Mov Cap-2 Maneuver	-	-	-	-	*226	-
Stage 1	-	-	-	-	*316	-
Stage 2	-	-	-	-	*400	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	22.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	* 518	-	-	-	282
HCM Lane V/C Ratio	0.031	-	-	-	0.27
HCM Control Delay (s)	12.2	-	-	-	22.4
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	54	491	207	8	2	13
Future Vol, veh/h	54	491	207	8	2	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	534	225	9	2	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	234	0	-	0	882	230
Stage 1	-	-	-	-	230	-
Stage 2	-	-	-	-	652	-
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	1333	-	-	-	317	809
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	518	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1333	-	-	-	303	809
Mov Cap-2 Maneuver	-	-	-	-	466	-
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	518	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1333	-	-	-	737
HCM Lane V/C Ratio	0.044	-	-	-	0.022
HCM Control Delay (s)	7.8	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	200	505	2	8	52
Future Vol, veh/h	15	200	505	2	8	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	217	549	2	9	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	551	0	-	0	799	550
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	249	-
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	1019	-	-	-	355	535
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	792	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1019	-	-	-	349	535
Mov Cap-2 Maneuver	-	-	-	-	510	-
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	792	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1019	-	-	-	532
HCM Lane V/C Ratio	0.016	-	-	-	0.123
HCM Control Delay (s)	8.6	-	-	-	12.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	1235	1565	30	10	10
Future Vol, veh/h	40	1235	1565	30	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	1342	1701	33	11	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1734	0	-	0	2475	867
Stage 1	-	-	-	-	1718	-
Stage 2	-	-	-	-	757	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	359	-	-	-	25	296
Stage 1	-	-	-	-	130	-
Stage 2	-	-	-	-	424	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	359	-	-	-	22	296
Mov Cap-2 Maneuver	-	-	-	-	105	-
Stage 1	-	-	-	-	114	-
Stage 2	-	-	-	-	424	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	32
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	359	-	-	-	155
HCM Lane V/C Ratio	0.121	-	-	-	0.14
HCM Control Delay (s)	16.4	-	-	-	32
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	0.5

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	1555	1705	10	30	40
Future Vol, veh/h	15	1555	1705	10	30	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	1690	1853	11	33	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1864	0	-	0	2736	932
Stage 1	-	-	-	-	1859	-
Stage 2	-	-	-	-	877	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	320	-	-	-	~ 16	268
Stage 1	-	-	-	-	109	-
Stage 2	-	-	-	-	367	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	320	-	-	-	~ 15	268
Mov Cap-2 Maneuver	-	-	-	-	95	-
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	367	-

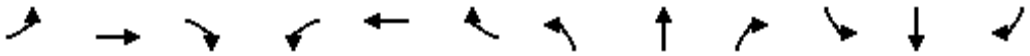
Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	50.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	320	-	-	-	151
HCM Lane V/C Ratio	0.051	-	-	-	0.504
HCM Control Delay (s)	16.9	-	-	-	50.9
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	2.4

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

APPENDIX F

Queue Analysis Worksheets



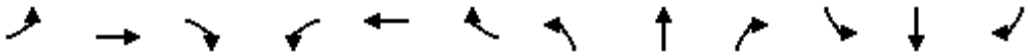
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	266	1261	76	71	1560	65	120	321	76	87	185	158
v/c Ratio	1.04	0.66	0.08	0.29	0.95	0.08	0.50	0.96	0.19	0.59	0.56	0.40
Control Delay	100.2	19.6	1.6	15.2	55.3	3.5	43.1	90.3	1.2	51.8	52.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.2	19.6	1.6	15.2	55.3	3.5	43.1	90.3	1.2	51.8	52.1	9.7
Queue Length 50th (ft)	~173	346	0	32	674	0	73	249	0	52	132	0
Queue Length 95th (ft)	#347	424	15	m37	m#722	m0	126	#431	3	#102	209	59
Internal Link Dist (ft)		381			501			233			172	
Turn Bay Length (ft)	225		135			150	100		100	100		200
Base Capacity (vph)	257	1924	959	244	1642	803	242	333	395	147	333	395
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.66	0.08	0.29	0.95	0.08	0.50	0.96	0.19	0.59	0.56	0.40

Intersection Summary

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

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

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



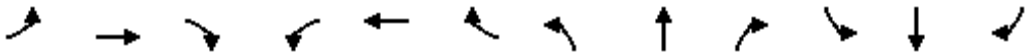
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	212	1478	147	109	1783	71	60	277	33	261	326	299
v/c Ratio	1.21	0.83	0.16	0.65	1.03	0.08	0.34	0.99	0.09	1.14	0.80	0.68
Control Delay	164.7	27.9	3.1	28.9	66.4	3.3	37.2	101.4	0.5	139.0	61.0	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	164.7	27.9	3.1	28.9	66.4	3.3	37.2	101.4	0.5	139.0	61.0	31.4
Queue Length 50th (ft)	~152	479	4	53	~778	0	34	217	0	~190	247	113
Queue Length 95th (ft)	#311	584	34	m65	m#823	m1	69	#392	0	#363	#408	220
Internal Link Dist (ft)		381			501			233			172	
Turn Bay Length (ft)	225		135			150	100		100	100		200
Base Capacity (vph)	175	1791	918	168	1736	841	179	281	354	228	408	438
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.21	0.83	0.16	0.65	1.03	0.08	0.34	0.99	0.09	1.14	0.80	0.68

Intersection Summary

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

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

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



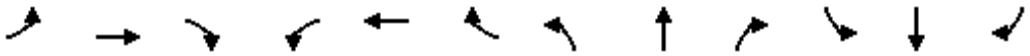
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	582	701	92	65	1217	255	163	283	92	179	239	364
v/c Ratio	1.01	0.40	0.11	0.20	0.97	0.40	0.91	0.99	0.26	1.16	0.80	0.60
Control Delay	74.1	30.5	12.6	11.6	54.7	12.5	86.8	100.3	3.8	158.9	67.1	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.1	30.5	12.6	11.6	54.7	12.5	86.8	100.3	3.8	158.9	67.1	27.7
Queue Length 50th (ft)	~239	273	22	17	479	55	102	221	0	~115	179	183
Queue Length 95th (ft)	#360	337	m57	34	#637	124	#232	#401	16	#260	#307	289
Internal Link Dist (ft)		414			1176			149			550	
Turn Bay Length (ft)	100		150	325		150	150		150	150		
Base Capacity (vph)	576	1737	817	335	1251	643	180	286	354	154	299	602
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.40	0.11	0.19	0.97	0.40	0.91	0.99	0.26	1.16	0.80	0.60

Intersection Summary

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

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

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



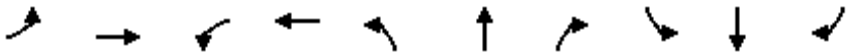
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	484	1152	147	87	1196	212	114	201	71	261	402	484
v/c Ratio	1.01	0.77	0.20	0.46	1.02	0.34	0.82	0.73	0.19	0.86	1.02	0.76
Control Delay	74.2	36.7	9.5	21.1	68.8	7.3	73.9	63.6	1.1	60.5	94.9	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.2	36.7	9.5	21.1	68.8	7.3	73.9	63.6	1.1	60.5	94.9	33.6
Queue Length 50th (ft)	~201	482	38	28	~517	17	63	149	0	161	~322	276
Queue Length 95th (ft)	m#270	m538	m45	52	#654	71	#144	#255	0	#257	#528	423
Internal Link Dist (ft)		414			1176			149			550	
Turn Bay Length (ft)	100		150	325		150	150		150	150		
Base Capacity (vph)	478	1500	740	190	1170	632	139	275	380	302	395	637
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.77	0.20	0.46	1.02	0.34	0.82	0.73	0.19	0.86	1.02	0.76

Intersection Summary

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

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

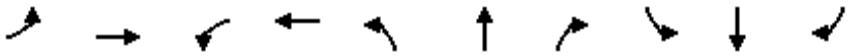
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	582	793	65	1472	163	283	92	179	239	364
v/c Ratio	0.97	0.34	0.23	0.90	0.77	0.91	0.25	0.97	0.73	0.57
Control Delay	67.8	33.9	13.5	42.7	60.5	79.8	3.5	96.2	59.2	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	33.9	13.5	42.7	60.5	79.8	3.5	96.2	59.2	25.0
Queue Length 50th (ft)	241	213	19	379	98	216	0	109	175	174
Queue Length 95th (ft)	#355	260	37	450	#197	#380	15	#221	#285	275
Internal Link Dist (ft)		414		1176		149			550	
Turn Bay Length (ft)	100		325		150		150	150		
Base Capacity (vph)	600	2359	288	1636	211	312	375	185	326	635
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.34	0.23	0.90	0.77	0.91	0.25	0.97	0.73	0.57

Intersection Summary

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



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	484	1299	87	1408	114	201	71	261	402	484
v/c Ratio	0.96	0.66	0.44	0.92	0.69	0.64	0.17	0.79	0.93	0.71
Control Delay	65.8	38.4	21.6	47.2	52.8	54.8	0.9	49.2	72.3	28.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	38.4	21.6	47.2	52.8	54.8	0.9	49.2	72.3	28.8
Queue Length 50th (ft)	197	371	30	373	60	145	0	155	304	258
Queue Length 95th (ft)	m#292	m417	55	#470	#127	229	0	#273	#498	397
Internal Link Dist (ft)		414		1176		149			550	
Turn Bay Length (ft)	100		325		150		150	150		
Base Capacity (vph)	502	1982	204	1529	165	314	409	330	432	678
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.66	0.43	0.92	0.69	0.64	0.17	0.79	0.93	0.71

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	217	120	891	82	71	43	571	310	87	60	396
v/c Ratio	0.56	0.38	0.56	0.32	0.40	0.14	0.46	0.31	0.10	0.10	0.26
Control Delay	33.1	39.9	1.5	29.1	50.5	0.9	10.9	17.2	1.0	10.7	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	39.9	1.5	29.1	50.5	0.9	10.9	17.2	1.0	10.7	16.3
Queue Length 50th (ft)	108	68	0	38	43	0	79	113	0	14	63
Queue Length 95th (ft)	175	124	0	74	92	0	138	215	9	38	125
Internal Link Dist (ft)		401			593			2970			507
Turn Bay Length (ft)											
Base Capacity (vph)	494	700	1583	302	457	522	1540	985	901	625	1499
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.17	0.56	0.27	0.16	0.08	0.37	0.31	0.10	0.10	0.26

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	141	82	707	103	109	54	880	277	65	54	528
v/c Ratio	0.48	0.27	0.45	0.39	0.55	0.19	0.70	0.25	0.07	0.09	0.34
Control Delay	39.4	44.6	0.9	38.3	57.1	1.4	11.7	12.8	1.2	9.8	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	44.6	0.9	38.3	57.1	1.4	11.7	12.8	1.2	9.8	14.9
Queue Length 50th (ft)	83	53	0	59	75	0	130	95	0	12	78
Queue Length 95th (ft)	139	101	0	105	133	0	188	158	10	29	151
Internal Link Dist (ft)		401			593			2970			507
Turn Bay Length (ft)											
Base Capacity (vph)	301	424	1583	264	354	411	1631	1098	972	591	1551
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.19	0.45	0.39	0.31	0.13	0.54	0.25	0.07	0.09	0.34

Intersection Summary

APPENDIX G

Signal Warrant Analysis Worksheets

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2040 TOTAL CONDITIONS)

Manual on Uniform Traffic Control Devices (2009 Edition)

INTERSECTION NAME: 56th Avenue & Jackson Gap Way COUNT DATE: 4/18/2023

MAJOR STREET: 56th Avenue # OF APPROACH LANE 2

MINOR STREET: Jackson Gap Way # OF APPROACH LANE 1

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): N

	MAJOR ST	MINOR ST	Warrant 1 - Condition A			Warrant 1 - Condition B			WARRANT 2	WARRANT 3
	BOTH APPROACHES	HIGHEST APPROACH	MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET		
THRESHOLD VALUES →			600	150		900	75			
06:00 AM TO 07:00 AM	0	0								
07:00 AM TO 08:00 AM	3,035	328	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
08:00 AM TO 09:00 AM	2,732	295	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
09:00 AM TO 10:00 AM										
10:00 AM TO 11:00 AM										
11:00 AM TO 12:00 PM										
12:00 PM TO 01:00 PM										
01:00 PM TO 02:00 PM										
02:00 PM TO 03:00 PM										
03:00 PM TO 04:00 PM										
04:00 PM TO 05:00 PM	3,495	678	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:00 PM TO 06:00 PM	3,146	610	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
06:00 PM TO 07:00 PM										
07:00 PM TO 08:00 PM										
08:00 PM TO 09:00 PM										
09:00 PM TO 10:00 PM	0	0								
	12,407	1,910			**4**			**4**	**4**	**4**
			8 HOURS NEEDED **NOT SATISFIED**			8 HOURS NEEDED **NOT SATISFIED**			4 HRS NEEDED **SATISFIED**	1 HR NEEDED **SATISFIED**

WARRANT 1 - Condition A -- Minimum Vehicular Volume Warrant (8 hours)

WARRANT 1 - Condition B -- Interruption of Continuous Traffic Warrant (8 hours)

WARRANT 2 -- Four Hour Volume Warrant - Figure 4C-1

WARRANT 3 -- Peak Hour Volume Warrant - Figure 4C-3

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2040 TOTAL CONDITIONS)

Manual on Uniform Traffic Control Devices (2009 Edition)

INTERSECTION NAME: 56th Avenue & Powhaton Road COUNT DATE: 4/18/2023

MAJOR STREET: 56th Avenue # OF APPROACH LANE 2

MINOR STREET: Powhaton Road # OF APPROACH LANE 1

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): N

	MAJOR ST	MINOR ST	Warrant 1 - Condition A			Warrant 1 - Condition B			WARRANT 2	WARRANT 3
	BOTH APPROACHES	HIGHEST APPROACH	MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET		
THRESHOLD VALUES →			600	150		900	75			
06:00 AM TO 07:00 AM	0	0								
07:00 AM TO 08:00 AM	2,680	553	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
08:00 AM TO 09:00 AM	2,412	497	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
09:00 AM TO 10:00 AM										
10:00 AM TO 11:00 AM										
11:00 AM TO 12:00 PM										
12:00 PM TO 01:00 PM										
01:00 PM TO 02:00 PM										
02:00 PM TO 03:00 PM										
03:00 PM TO 04:00 PM										
04:00 PM TO 05:00 PM	3,015	833	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:00 PM TO 06:00 PM	2,714	749	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
06:00 PM TO 07:00 PM										
07:00 PM TO 08:00 PM										
08:00 PM TO 09:00 PM										
09:00 PM TO 10:00 PM	0	0								
	10,821	2,632			**4**			**4**	**4**	**4**
			8 HOURS NEEDED **NOT SATISFIED**			8 HOURS NEEDED **NOT SATISFIED**			4 HRS NEEDED **SATISFIED**	1 HR NEEDED **SATISFIED**

WARRANT 1 - Condition A -- Minimum Vehicular Volume Warrant (8 hours)

WARRANT 1 - Condition B -- Interruption of Continuous Traffic Warrant (8 hours)

WARRANT 2 -- Four Hour Volume Warrant - Figure 4C-1

WARRANT 3 -- Peak Hour Volume Warrant - Figure 4C-3

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2040 TOTAL CONDITIONS)

Manual on Uniform Traffic Control Devices (2009 Edition)

INTERSECTION NAME: 64th Avenue & Powhaton Road COUNT DATE: 4/18/2023

MAJOR STREET: 64th Avenue # OF APPROACH LANE 2

MINOR STREET: Powhaton Road # OF APPROACH LANE 1

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): N

	MAJOR ST	MINOR ST	Warrant 1 - Condition A			Warrant 1 - Condition B			WARRANT 2	WARRANT 3
	BOTH APPROACHES	HIGHEST APPROACH	MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET		
THRESHOLD VALUES →			600	150		900	75			
06:00 AM TO 07:00 AM	0	0								
07:00 AM TO 08:00 AM	1,310	720	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
08:00 AM TO 09:00 AM	1,179	648	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
09:00 AM TO 10:00 AM										
10:00 AM TO 11:00 AM										
11:00 AM TO 12:00 PM										
12:00 PM TO 01:00 PM										
01:00 PM TO 02:00 PM										
02:00 PM TO 03:00 PM										
03:00 PM TO 04:00 PM										
04:00 PM TO 05:00 PM	1,660	530	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:00 PM TO 06:00 PM	1,494	477	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
06:00 PM TO 07:00 PM										
07:00 PM TO 08:00 PM										
08:00 PM TO 09:00 PM										
09:00 PM TO 10:00 PM	0	0								
	5,643	2,375			**4**			**4**	**4**	**4**
			8 HOURS NEEDED **NOT SATISFIED**			8 HOURS NEEDED **NOT SATISFIED**			4 HRS NEEDED **SATISFIED**	1 HR NEEDED **SATISFIED**

WARRANT 1 - Condition A -- Minimum Vehicular Volume Warrant (8 hours)

WARRANT 1 - Condition B -- Interruption of Continuous Traffic Warrant (8 hours)

WARRANT 2 -- Four Hour Volume Warrant - Figure 4C-1

WARRANT 3 -- Peak Hour Volume Warrant - Figure 4C-3

APPENDIX H

Conceptual Site Plan

NORTH

WATER QUALITY AREA

RETAINING WALL #6

BUILDING V
FOOTPRINT 61,500 SF
CLR.HGT: 32'
119 PARKING SPACES
1.93/1000 SF

RETAINING WALL #5

OFFICE
OFFICE
OFFICE

RETAINING WALL #4

TRAILER PARKING

BUILDING III
FOOTPRINT 356,000 SF +/-
CLR.HGT: 36'
FFE: 5461.50 -5457.82
220 PARKING SPACES
0.62/1000 SF

TRAILER PARKING

OFFICE
OFFICE
BUILDING IV
FOOTPRINT 70,200 SF +/-
CLR.HGT: 32'
125 PARKING SPACES
1.78/1000 SF
OFFICE

COMMERCIAL OUTPARCEL
±5.9 ACRES

N JACKSON GAP WAY

POWHATON ROAD

EAST 58th AVENUE (EXISTING SECTION)

EAST 58th AVENUE (PROPOSED EXTENSION)

RETAINING WALL #3

COMMERCIAL OUTPARCEL
+/- 2.64 ACRES

COMMERCIAL OUTPARCEL
+/- 3.16 ACRES

COMMERCIAL OUTPARCEL
+/- 3.00 ACRES

PRIVATE DRIVE (PROPOSED)

BUILDING VIII
38' DOCK HIGH
2 GRADE LEVEL
FOOTPRINT +/-212,500 SF
CLR.HGT: 32'
FFE: 5480.12 - 5475.76
260 PARKING SPACES
1.22/1000 SF

TRAILER PARKING

BUILDING VII
FOOTPRINT 566,120 SF +/-
CLR.HGT: 32'
FFE: 5481.50 - 5477.14
38' DOCK HIGH
2 GRADE LEVEL
369 PARKING SPACES WITH CORNER LOTS 0.65/1000 SF
277 PARKING SPACES WITHOUT 0.48/1000 SF

TRAILER PARKING

APPROXIMATE LOCATION OF WY WATER HARVARD WELL #218 (OKOWA-1 (SUMMIT CN, CO)) PER COGCC GIS DATABASE

BUILDING VI
FOOTPRINT 195,000 SF +/-
CLR.HGT: 32'
FFE: 5482.00 - 5477.64
38' DOCK HIGH
2 GRADE LEVEL
237 PARKING SPACES
1.22/1000 SF

RETAINING WALL #2

RETAINING WALL #1

EAST 56th AVENUE (EXISTING SECTION)

FINE POINT BUSINESS PARK
OVERALL SITE LAYOUT

GRAPHIC SCALE IN FEET
0 50 100 200

3/21/2023

Kimley»Horn
4582 SOUTH ULSTER STREET
SUITE 1500
DENVER, COLORADO, 80237
303.228.2300

NOTE: THIS PLAN IS CONCEPTUAL IN NATURE

DWG NAME K:\DEN_CIVIL\196617000_FINE PARKING\CADD\EXHIBITS\2023-0320_SURF VOLUME EXHIBITS\OVERALL SITE LAYOUT.DWG
LAST SAVED 3/21/2023 9:38 AM