



July 12, 2023

Mr. David Ataian
General Manager
XODen LLC
6130 North Jackson Gap Way
Aurora, Colorado 80019

Re: Ace-Rent-A-Car Parcel B Expansion
Traffic Study Letter
Aurora, Colorado

Dear Mr. Ataian,

This letter documents the results of a traffic study including trip generation, trip distribution, traffic assignment, and access intersection analysis in association with Parcel B of the proposed vehicle parking/storage area expansion lot to the existing Ace-Rent-A-Car at 6130 Jackson Gap Way in Aurora, Colorado. A vicinity map is attached in **Figure 1**. A special use conceptual site plan for the project is attached.

It is expected that the project will be completed in the next few years. Therefore, analysis was conducted for the 2024 opening year horizon as well as a long-term 2040 horizon total conditions. The 2040 horizon includes an alternative traffic analysis with the proposed Aerotropolis Parkway along the Jackson Gap Way alignment, which would result in a higher north-south through traffic volume along Jackson Gap Way adjacent to the project access location.

Regional access to the existing Ace-Rent-A-Car is provided by Peña Boulevard and E-470 while primary and direct access to the site is provided along Jackson Gap Street. Direct access to the existing site is provided by two existing accesses with the north access designated for exiting vehicles and the south access designated for entering vehicles. With the Parcel A expansion, access will also be provided from a new access to be located approximately 550 feet north of the existing north access. The proposed access for the Parcel B lot is planned to align with the Jackson Gap Street/Jackson Gap Way intersection.

EXISTING ROADWAY NETWORK

Jackson Gap Street extends in the north/south direction with two through lanes in each direction. A two-way left turn lane center lane is provided near the proposed expansion. The posted speed limit is 40 miles per hour with sidewalks provided along the frontages of recent or under construction developments.

Jackson Gap Street transitions to Jackson Gap Way as a north/south roadway at the intersection of Jackson Gap Street / Jackson Gap Way intersection. Jackson Gap Way continues as a four-lane undivided roadway with a center lane provided for left turn lanes in the future. The posted speed limit is 40 miles per hour with sidewalk on the west side of the roadway.

EXISTING AND FUTURE TRAFFIC VOLUMES

Existing turning movement counts were conducted at the intersection of Jackson Gap Way/Jackson Gap Street on Thursday, January 19, 2023, during the morning and afternoon peak hours. The counts were conducted during the morning and afternoon peak hours of adjacent street traffic in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. The existing intersection traffic volumes are also shown in attached **Figure 2a** with count sheets attached. However, the existing counts were adjusted to balance with the Ace-Rent-A-Car Parcel A existing traffic volumes. The intersection from Parcel A is shown in Figure 2a for reference. Therefore, the adjusted existing turning movement counts are shown in **Figure 2b**.

The City of Aurora standard annual growth rate of two (2) percent was applied to the existing turning movements to generate short-term traffic volumes. In addition, the Ryder Truck Facility traffic volumes and the coinciding Ace-Rent-A-Car (Parcel A) traffic volumes were added directly to the study intersection. The Ryder Truck Facility is proposed on the east side of Jackson Gap Way, south of the Jackson Gap Street / Jackson Gap Way intersection. To generate long-term 2040 background volumes, the long-term 2040 traffic volumes from the Costco Maintenance Aurora development were used to derive 2040 background through volumes along Jackson Gap Street. The Costco Maintenance Aurora development is being submitted at the same time as this letter and better portrays the future volumes in NEATS and recent approved traffic studies. In addition, the entering and exiting volumes along the west leg of the intersection were taken directly from the 2040 total volumes at the Porteos – Project Pearl in Aurora Traffic Impact Study. The project traffic volume excerpts from the background studies are attached for reference.

Of note, per coordination with City of Aurora staff, the existing Jackson Gap Way alignment may be improved by the 2040 horizon to be known as Aerotropolis Parkway, which would become the major north-south corridor in the study area if implemented. As such, this would result in higher north-south through traffic volume adjacent to the project access. An alternative analysis has been prepared for this scenario with the additional north-south through traffic volumes.

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 Manual¹ published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of many types of land uses.

However, ITE does not have a site-specific land use for a rental car expansion.

The project team believes the expansion of Parcel B has the potential to increase existing operations by approximately 25 percent. However, the City of Aurora has requested to increase the trip generation by the additional parking provided in Parcel B based on a ratio of

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

the parking supply to the existing site. The existing site peak hour trip generation was determined based on existing site driveway counts conducted during the peak hours of the adjacent street. Therefore, a 70 percent growth increase was applied to the existing trip generation to provide a conservative trip generation estimate for Parcel B. The following **Table 1** summarizes the estimated trip generation for traffic associated with the expansion based on the existing driveway volumes.

Table 1 – Ace-Rent-A-Car Parcel B Expansion Traffic Generation

Use	Weekday Vehicles Trips					
	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Existing Site	27	9	36	17	15	32
Proposed Parcel B Overflow Lot (70% Increase of Existing)	19	6	25	12	11	23

As shown in the table and based on existing driveway counts and expected scaled operations, the expansion in Parcel B of the Ace-Rent-A-Car facility is expected to generate approximately 25 trips during the morning peak hour and 23 trips during the afternoon peak hour.

TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

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 external trip distribution is based on the existing driveway counts of the Ace-Rent-A-Car and trip distribution patterns are expected to remain the same with the expansion of the site. The traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. The trip distribution and the traffic assignment for this project is illustrated in **Figure 3**.

TOTAL (BACKGROUND PLUS PROJECT) TRAFFIC

Site traffic volumes were added to the background volumes to represent estimated total traffic conditions for the 2024 and 2040 horizons. These total traffic volumes for the study area are illustrated for the 2024 and 2040 horizon years in **Figures 4** and **5**, respectively. The 2040 total traffic volumes for the Aerotropolis Parkway alternative are also included in **Figure 5**.

TRAFFIC OPERATIONS ANALYSIS METHODOLOGY

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies at the project key intersections for the 2024 opening and 2040 long-term horizons. The acknowledged source for determining overall capacity is the Highway Capacity Manual².

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

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). According to City of Aurora guidelines for signalized intersections, individual movements may be allowed to fall to LOS E, but in most cases the overall intersection must operate (or be projected to operate) at a LOS D or better during AM and PM peak periods. If the existing LOS for an intersection is worse than LOS D, potential alternatives to improve the intersection to achieve LOS D should be provided or maintain the existing critical lane volume with the addition of site generated traffic. Minor movements at unsignalized intersections, such as left turns onto a major arterial from a side street, may be allowed to fall below LOS D pending the specific conditions. Movements which have a light traffic demand, and a viable travel alternative may be allowed to fall below LOS D. **Table 2** below shows the definition of level of service for signalized and unsignalized intersections.

Table 2 - Level of Service Definitions

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

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

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.

Calculations for the level of service at the key intersections identified for the study are attached. Synchro traffic analysis software was used to analyze the study area key intersection drives for level of service. The Synchro Highway Capacity Manual (HCM) methodology reports were used to analyze intersection delay and level of service.

Jackson Gap Street / Jackson Gap Way

The existing intersection Jackson Gap Street / Jackson Gap Way operates with stop control on the eastbound approach of Jackson Gap Street. **Table 3** provides the results of the level of service for the project access intersection. As shown in the table, the intersection movements currently operate at LOS A during both peak hours. Access to Parcel B is proposed to align on the northeast leg of the Jackson Gap Street and Jackson Gap Way intersection. An R1-1 "STOP" sign should be provided on the exiting approach of the proposed Parcel B driveway. With project traffic, the intersection movements are expected to continue operating acceptably.

However, if 2040 volumes are realized, then a signal could be needed at this intersection. This recommendation is consistent with the Porteos – Project Pearl traffic impact study. The MUTCD Four Hour Signal Warrant figure is attached. **Table 3** also includes the signalized level of service results for this intersection if Aerotropolis Parkway is implemented. Of note, the intersection is anticipated to operate at acceptable LOS B or better through the 2040 horizon either with or without the Aerotropolis Parkway implementation.

Table 3 – Jackson Gap Street & Jackson Gap Way LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Existing Adjusted				
Northbound Left	7.4	A	7.8	A
Eastbound Left	9.9	A	9.7	A
Eastbound Right	8.5	A	8.5	A
2024 Background Plus Project				
Northbound Left	7.5	A	7.9	A
Eastbound Left	10.7	B	10.3	B
Eastbound Through/Right	9.7	A	10.2	B
Westbound Approach	10.0	B	10.6	B
Southbound Left	7.5	A	7.4	A
2040 Background Plus Project				
Northbound Left	11.2	B	13.9	B
Eastbound Left	122.2	F	>300	F
Eastbound Through/Right	18.9	C	18.5	C
Westbound Approach	31.8	D	40.6	E
Southbound Left	11.6	B	10.7	B
2040 Background Plus Project #	7.7	A	12.4	B
Eastbound Approach	30.0	C	27.4	C
Eastbound Left	30.8	C	29.0	C
Eastbound Through/Right	28.5	C	22.8	C
Westbound Approach	26.7	C	21.3	C
Northbound Approach	4.6	A	7.5	A
Northbound Left	4.4	A	8.7	A
Northbound Through	4.7	A	7.5	A
Northbound Right	4.6	A	7.4	A
Southbound Approach	7.0	A	12.4	B
Southbound Left	5.5	A	8.9	A
Southbound Through	7.2	A	13.0	B
Southbound Right	5.2	A	9.6	A

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2040 Background Plus Project – With Aerotropolis Parkway	9.1	A	13.7	B
Eastbound Approach	30.1	C	27.4	C
Eastbound Left	30.8	C	29.0	C
Eastbound Through/Right	28.6	C	22.8	C
Westbound Approach	26.7	C	21.3	C
Northbound Approach	6.2	A	10.8	B
Northbound Left	6.9	A	9.8	A
Northbound Through	6.3	A	10.9	B
Northbound Right	6.2	A	10.8	B
Southbound Approach	9.4	A	13.6	B
Southbound Left	8.0	A	14.1	B
Southbound Through	9.7	A	14.2	B
Southbound Right	9.4	A	9.6	A

= Signalized

TURN BAY WARRANT 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 project accesses. CDOT classifies their state highways based on roadway types. It is believed that Jackson Gap Street/Jackson Gap Way meets the characteristics of CDOT roadway category NR-C.

According to the State Highway Access Code for category 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.

Jackson Gap Street/Jackson Gap Way currently has a posted speed limits of 40 miles per hour. Based on the speed limits and 2040 traffic volume projections, turn lane requirements that the project contributes to at the study intersection are as follows:

- A northbound right turn lane **is not** warranted at the existing Jackson Gap Street/Jackson Gap Way intersection based on projected 2040 background plus

- project traffic volumes being 2 northbound right turns during the peak hour and the threshold being 50 vehicles per hour.
- A southbound left turn lane **is not** warranted at the existing Jackson Gap Street/Jackson Gap Way intersection based on projected 2040 background plus project traffic volumes being 6 southbound left turns during the peak hour and the threshold being 25 vehicles per hour. However, the center lane provides space for a southbound left turn lane. It is recommended the turn lane be striped to provide a minimum 150 feet with a 100-foot taper.

VEHICLE QUEUING ANALYSIS

A vehicle queuing analysis was conducted for the studied intersection. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Results are shown in the following **Table 4** with calculations provided within the attached level of service operational sheets. The Aerotropolis Parkway queues in the 2040 horizon are shown in *italics* in **Table 4**.

Table 4 – Project Access Vehicle Queuing Analysis

Intersection Turn Lane	Existing Turn Lane Length (feet)	2024 Calculated Queue (feet)	2024 Recommended Length (feet)	2040 Calculated Queue (feet)	2040 Recommended Length (feet)
Jackson Gap Street & Jackson Gap Way					
Eastbound Left	C	25'	C	218' / 218'	C
Northbound Left	200'	25'	200'	20' / 20'	200'
Southbound Left	DNE	25'	150'+100'T	8' / 8'	150'+100'T

TWLTL = Two Way Left Turn Lane; DNE = Does Not Exist; * = Proposed on Site Plan (could provide less length); *Italics* = Aerotropolis Parkway Queues

As shown in **Table 4** above, with the Parcel B expansion of the existing Ace-Rent-A-Car facility, all vehicle queues entering and exiting the project site are anticipated to remain within the existing or recommended storage lengths. Of note, the turning movement queues shown in **Table 4** are not anticipated to change significantly based on this analysis with Aerotropolis Parkway implementation, although the northbound and southbound through movement queues do increase if Aerotropolis Parkway is implemented.

CONCLUSIONS AND RECOMMENDATIONS


Based on the traffic analysis presented in this report, Kimley-Horn and Associates, Inc. believes the Parcel B expansion of Ace-Rent-A-Car will be successfully incorporated into the existing and future roadway network.

The access to Parcel B is proposed as the northeast leg of the Jackson Gap Street and Jackson Gap Way intersection. An R1-1 "STOP" sign should be provided on the exiting approach of the proposed Parcel B driveway. The southbound left turn lane at the Jackson Gap Street and Jackson Gap Way intersection will need to be striped within the existing center lane to a minimum length of 150 feet with a 100-foot taper.

Figure 6 attached illustrates the 2024 recommended improvements. If 2040 volumes are realized, the intersection of Jackson Gap Street and Jackson Gap Way may need to be signalized, with or without Aerotropolis Parkway implementation. **Figure 7** attached illustrates the 2040 recommended improvements. If you have any questions or require anything further, please feel free to call me at (720) 943-9962.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.



Jeffrey R. Planck, P.E.
Project Traffic Engineer



Figures

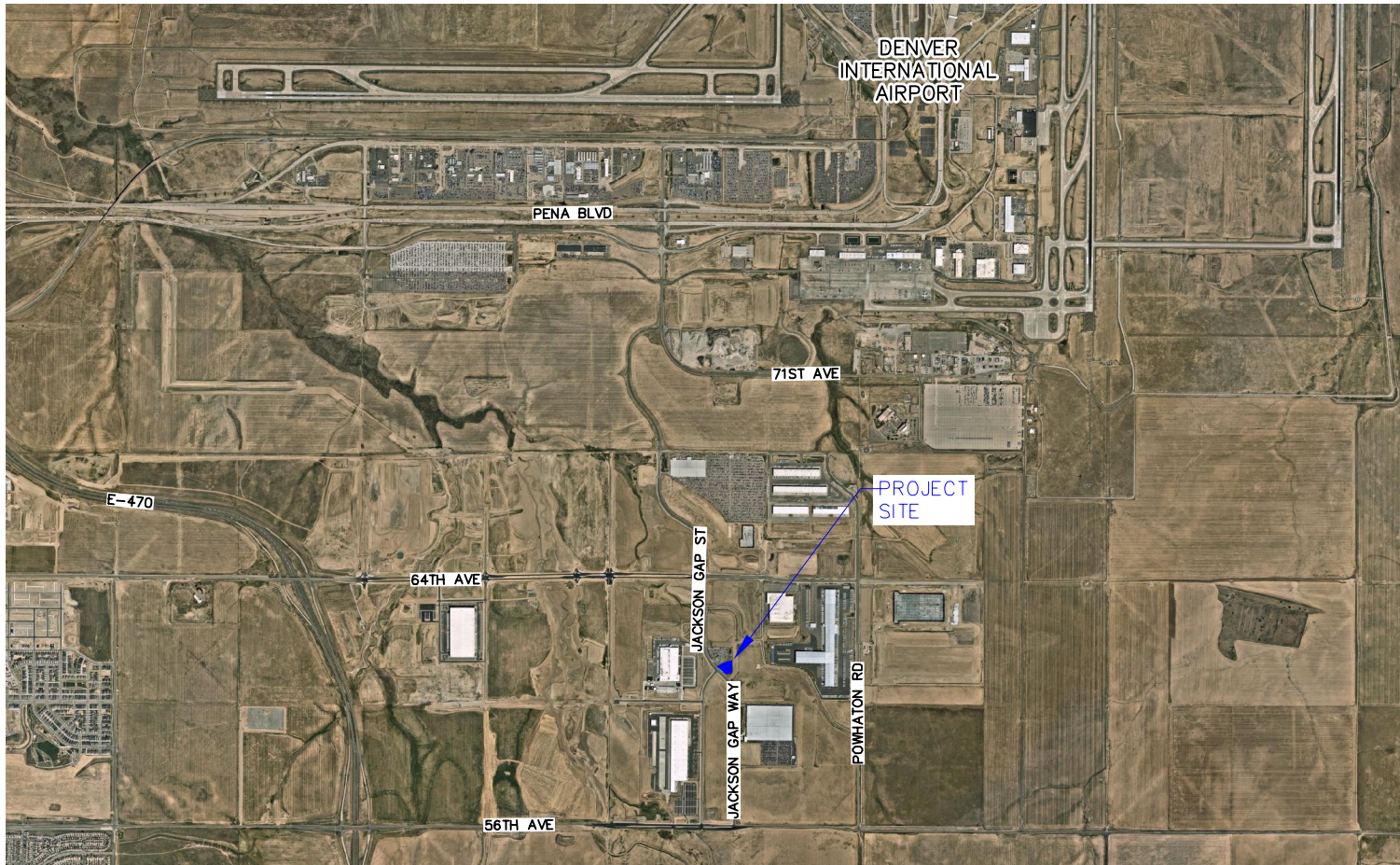
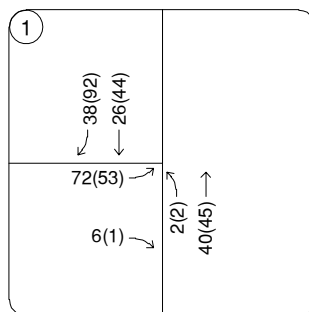
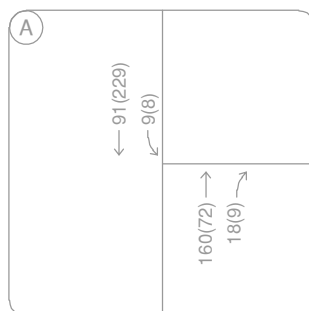


FIGURE 1
ACE-RENT-A-CAR (PARCEL B)
AURORA, COLORADO
VICINITY MAP

Thursday, January 19, 2023
 7:15 to 8:15AM (4:15 to 5:15PM)



Tuesday, September 27, 2022
 7:30 to 8:30AM (4:00 to 5:00PM)



*EXISTING TRAFFIC VOLUMES FROM PARCEL A TO BALANCE WITH INT. 1

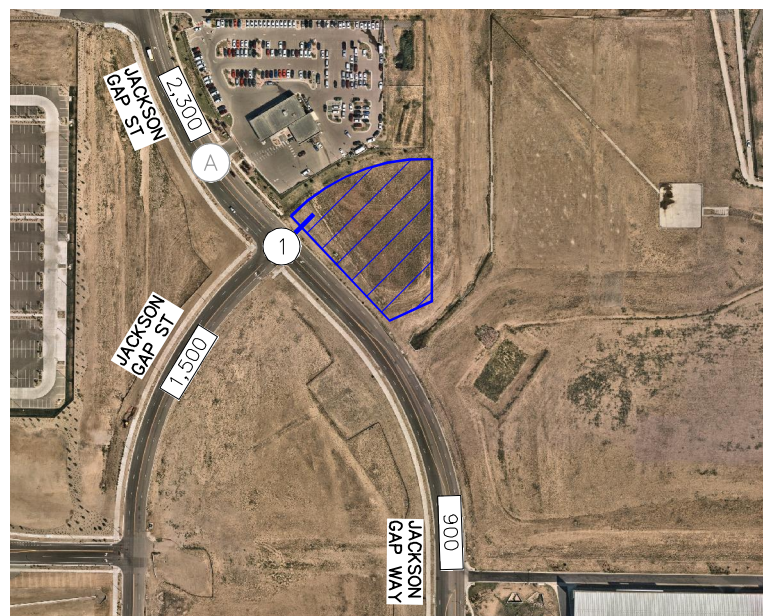


FIGURE 2a
 ACE-RENT-A-CAR (PARCEL B)
 AURORA, COLORADO
 2023 EXISTING TRAFFIC VOLUMES

LEGEND

(X) Study Area Key Intersection

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

xx,x00 Estimated Daily Traffic Volume

<p>①</p> <p>53(156) 36(75)</p>	
<p>115(53) 10(1)</p>	<p>3(2) 64(45)</p>

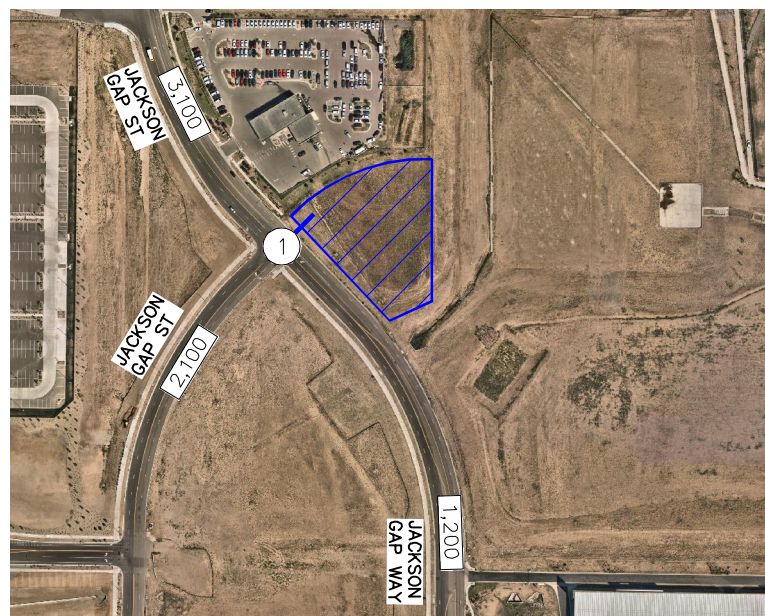


FIGURE 2b
ACE-RENT-A-CAR (PARCEL B)
AURORA, COLORADO
2023 ADJUSTED TRAFFIC VOLUMES

LEGEND	
ⓧ	Study Area Key Intersection
xxx(xxx)	Weekday AM(PM) Peak Hour Traffic Volumes
xx,x00	Estimated Daily Traffic Volume

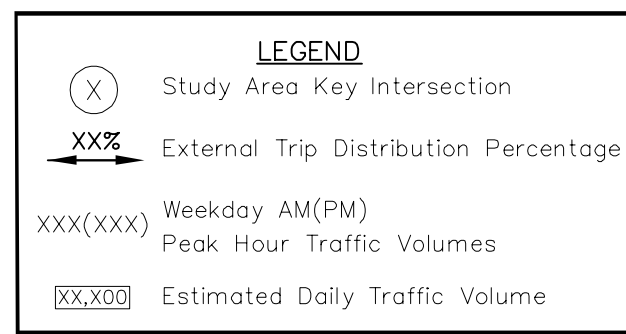
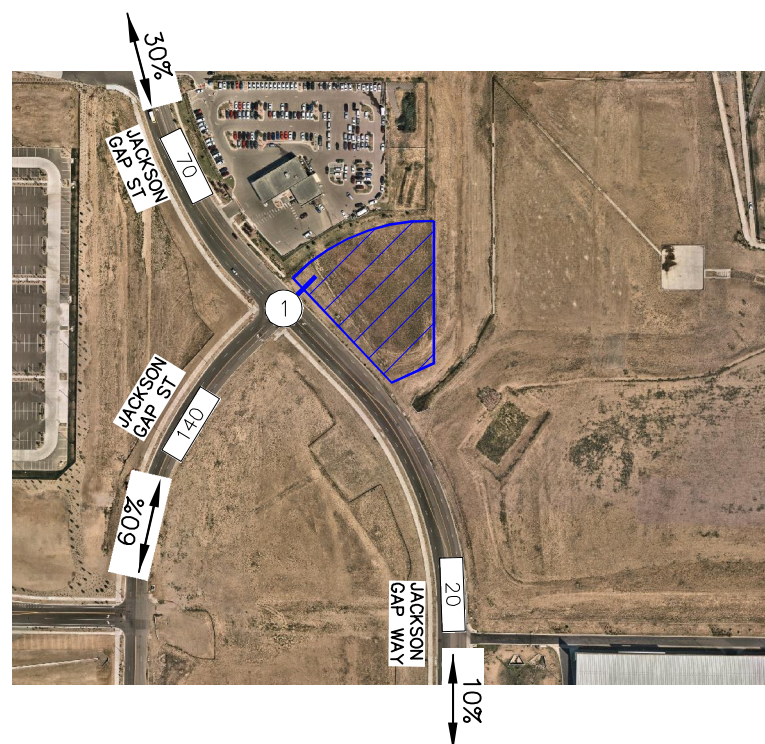
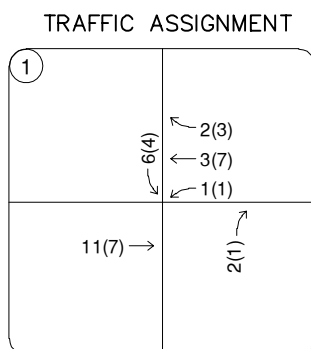


FIGURE 3
ACE-RENT-A-CAR (PARCEL B)
AURORA, COLORADO
PROJECT TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

①	<div> <div>54(159)</div> <div>69(109)</div> <div>6(4)</div> </div> <div> <div>2(3)</div> <div>3(7)</div> <div>1(1)</div> </div>
	<div> <div>117(54)</div> <div>11(7)</div> <div>10(1)</div> </div> <div> <div>3(2)</div> <div>133(77)</div> <div>2(1)</div> </div>

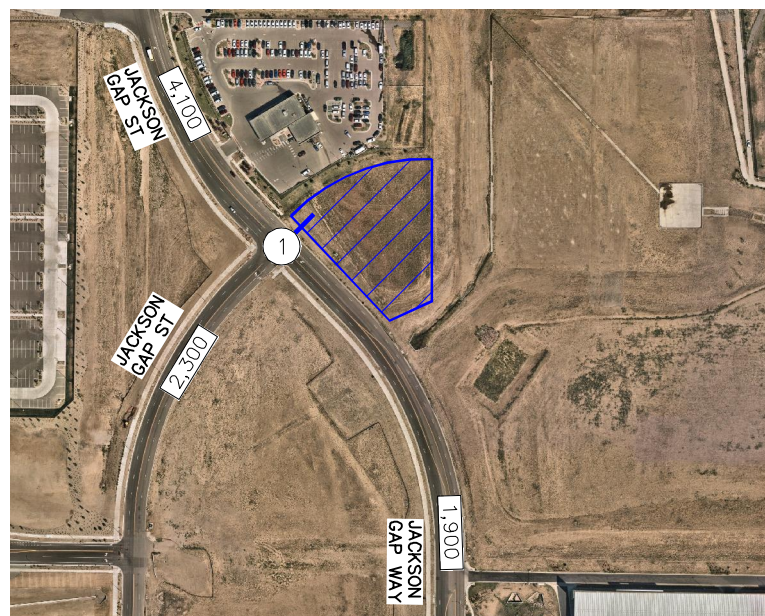


FIGURE 4
ACE-RENT-A-CAR (PARCEL B)
AURORA, COLORADO
2024 TOTAL TRAFFIC VOLUMES

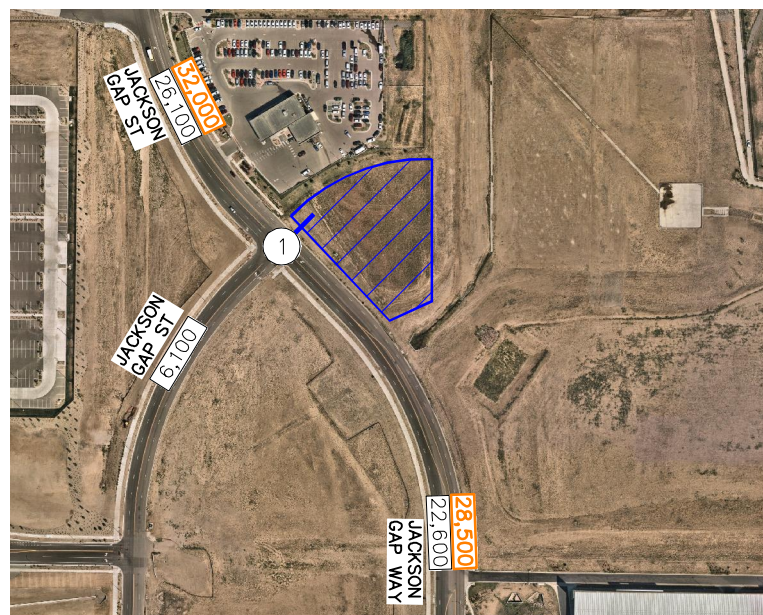
LEGEND	
ⓧ	Study Area Key Intersection
xxx(xxx)	Weekday AM(PM) Peak Hour Traffic Volumes
xx,x00	Estimated Daily Traffic Volume

WITHOUT AEROTROPOLIS

<p>①</p> <p>86(217) 919(1124) 6(4)</p>	<p>2(3) 3(7) 1(1)</p>
<p>129(252) 11(7) 50(75)</p>	<p>50(50) 1149(1008) 2(1)</p>

WITH AEROTROPOLIS

<p>①</p> <p>86(217) 1369(1244) 6(4)</p>	<p>2(3) 3(7) 1(1)</p>
<p>129(252) 11(7) 50(75)</p>	<p>50(50) 1509(1478) 2(1)</p>



LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume
Without Aerotropolis Parkway
- XX,X00 Estimated Daily Traffic Volume
With Aerotropolis Parkway

FIGURE 5
ACE-RENT-A-CAR (PARCEL B)
AURORA, COLORADO
2040 TOTAL TRAFFIC VOLUMES

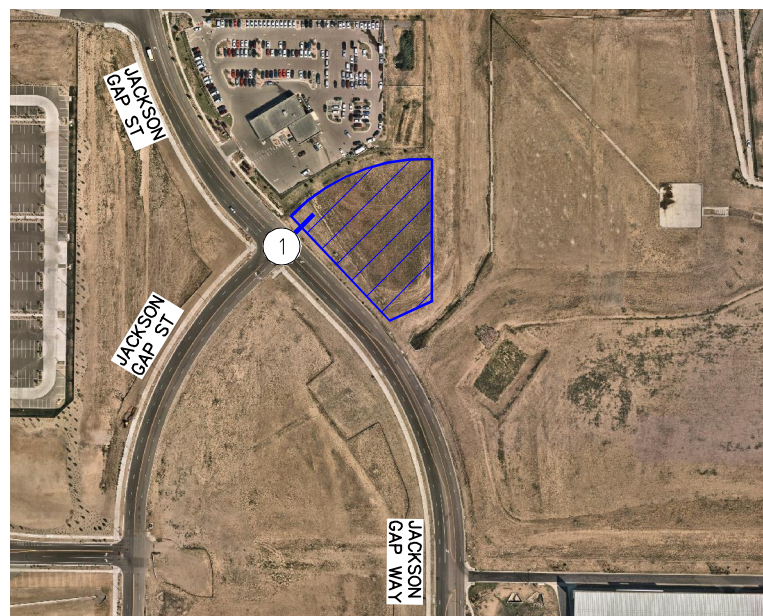
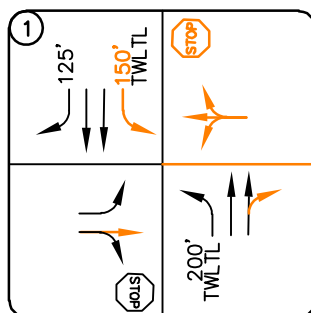
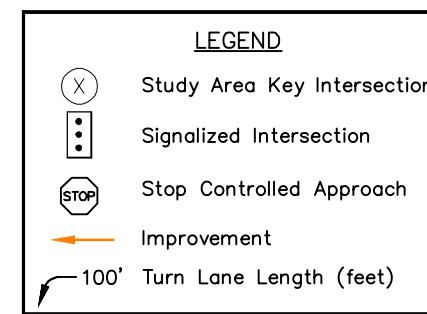
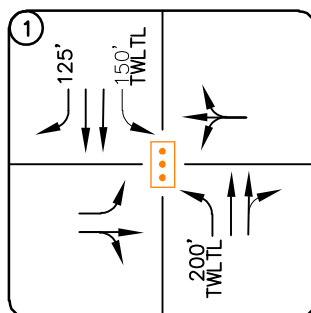


FIGURE 6
ACE-RENT-A-CAR (PARCEL B)
AURORA, COLORADO
2024 RECOMMENDED GEOMETRY AND CONTROL





NOTE:
Recommendations remain the same at this intersection with or without Aerotropolis Parkway implementation.

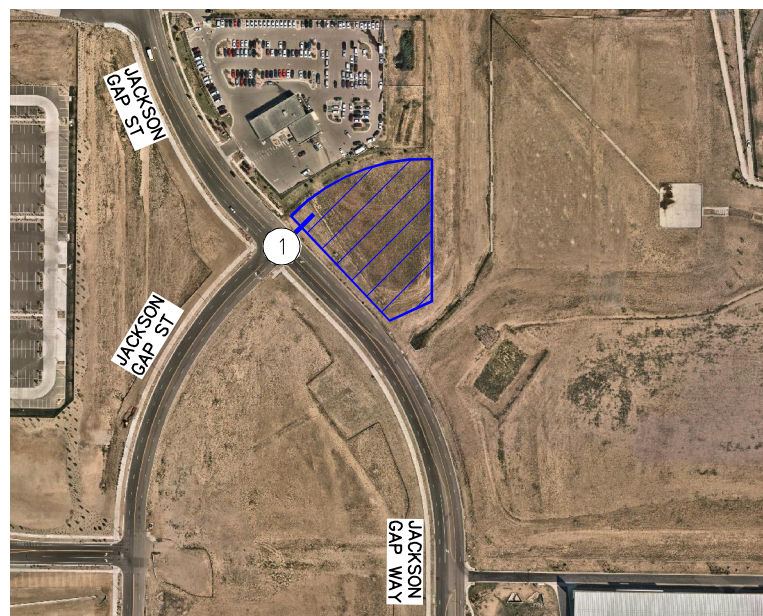
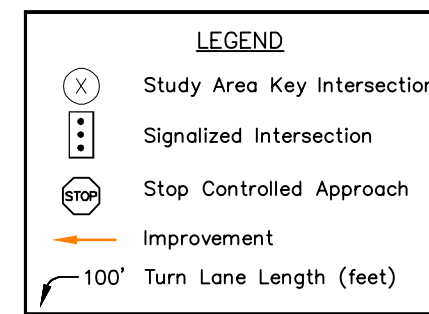


FIGURE 7
ACE-RENT-A-CAR (PARCEL B)
AURORA, COLORADO
2040 RECOMMENDED GEOMETRY AND CONTROL



Intersection Count Sheets



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

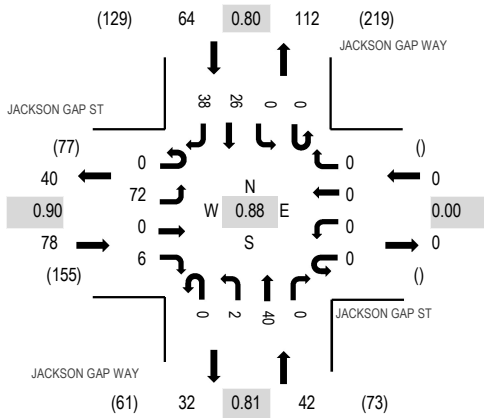
Location: 1 JACKSON GAP WAY & JACKSON GAP ST AM

Date: Thursday, January 19, 2023

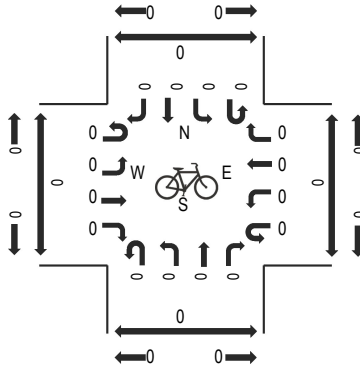
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

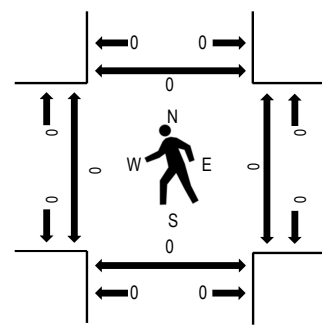
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	JACKSON GAP ST Eastbound				JACKSON GAP ST Westbound				JACKSON GAP WAY Northbound				JACKSON GAP WAY 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	20	0	0	0	0	0	0	0	0	6	0	0	0	9	11	46	181	0	0	0	0
7:15 AM	0	22	0	1	0	0	0	0	0	0	12	0	0	0	6	11	52	184	0	0	0	0
7:30 AM	0	13	0	1	0	0	0	0	0	2	8	0	0	0	10	12	46	172	0	0	0	0
7:45 AM	0	19	0	0	0	0	0	0	0	0	7	0	0	0	5	6	37	171	0	0	0	0
8:00 AM	0	18	0	4	0	0	0	0	0	0	13	0	0	0	5	9	49	176	0	0	0	0
8:15 AM	0	17	0	0	0	0	0	0	0	0	10	0	0	0	6	7	40		0	0	0	0
8:30 AM	0	20	0	1	0	0	0	0	0	0	7	0	0	0	6	11	45		0	0	0	0
8:45 AM	0	19	0	0	0	0	0	0	0	0	8	0	0	0	7	8	42		0	0	0	0
Count Total	0	148	0	7	0	0	0	0	0	2	71	0	0	0	54	75	357		0	0	0	0
Peak Hour	0	72	0	6	0	0	0	0	0	2	40	0	0	0	26	38	184		0	0	0	0



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

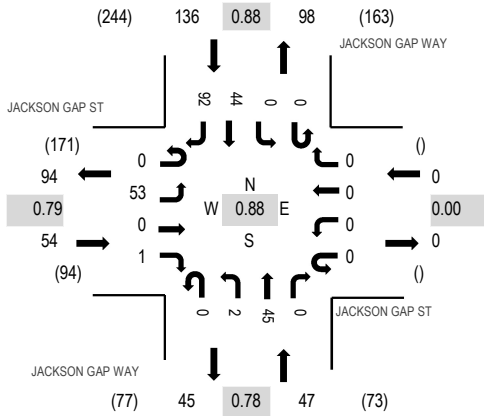
Location: 1 JACKSON GAP WAY & JACKSON GAP ST PM

Date: Thursday, January 19, 2023

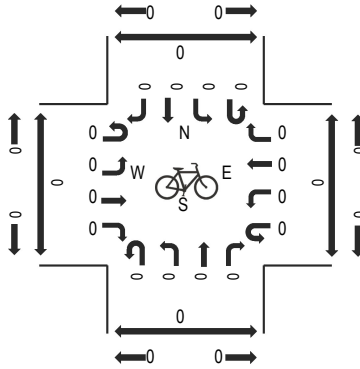
Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 04:45 PM - 05:00 PM

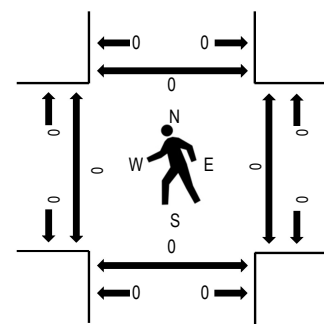
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	JACKSON GAP ST Eastbound				JACKSON GAP ST Westbound				JACKSON GAP WAY Northbound				JACKSON GAP WAY 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	14	0	0	0	0	0	0	0	0	7	0	0	0	8	24	53	230	0	0	0	0
4:15 PM	0	14	0	0	0	0	0	0	0	0	8	0	0	0	8	23	53	237	0	0	0	0
4:30 PM	0	7	0	0	0	0	0	0	0	0	10	0	0	0	11	29	57	235	0	0	0	0
4:45 PM	0	16	0	0	0	0	0	0	0	0	14	0	0	0	15	22	67	215	0	0	0	0
5:00 PM	0	16	0	1	0	0	0	0	0	2	13	0	0	0	10	18	60	181	0	0	0	0
5:15 PM	0	11	0	0	0	0	0	0	0	0	5	0	0	0	10	25	51		0	0	0	0
5:30 PM	0	9	0	1	0	0	0	0	0	0	5	0	0	0	9	13	37		0	0	0	0
5:45 PM	0	5	0	0	0	0	0	0	0	0	9	0	0	0	4	15	33		0	0	0	0
Count Total	0	92	0	2	0	0	0	0	0	2	71	0	0	0	75	169	411		0	0	0	0
Peak Hour	0	53	0	1	0	0	0	0	0	2	45	0	0	0	44	92	237		0	0	0	0

Background Traffic Studies

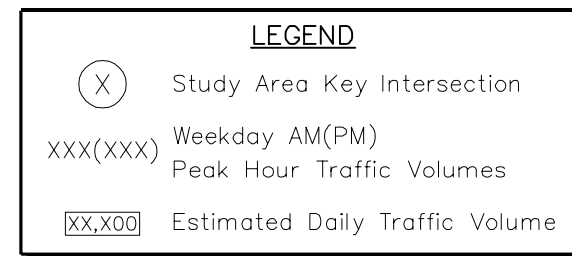
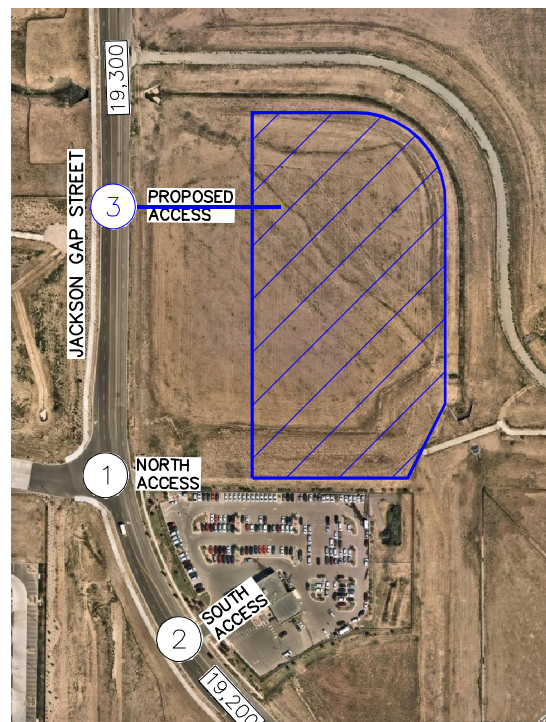
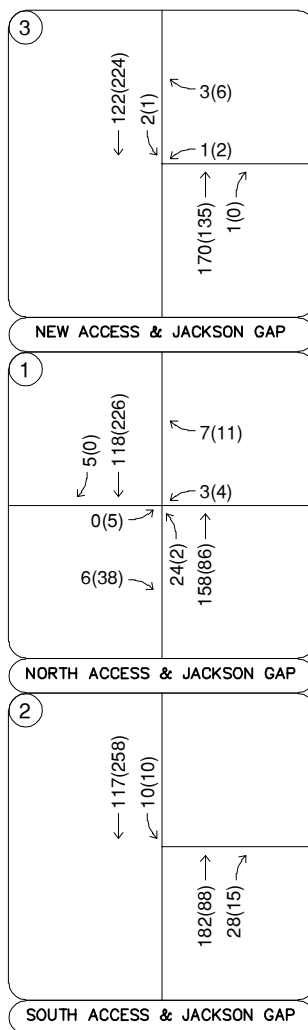


FIGURE 4
ACE-RENT-A-CAR
AURORA, COLORADO
2024 TOTAL TRAFFIC VOLUMES

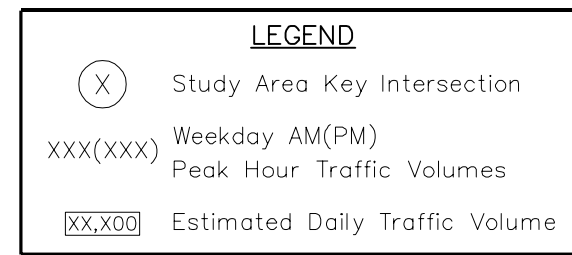
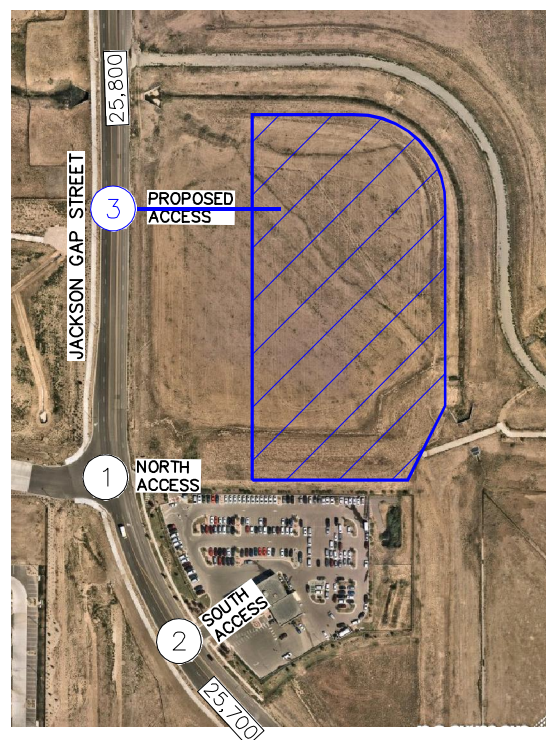
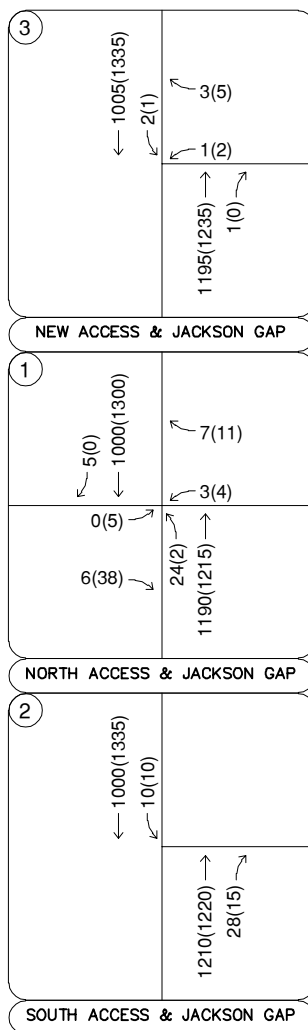


FIGURE 5
ACE-RENT-A-CAR
AURORA, COLORADO
2040 TOTAL TRAFFIC VOLUMES

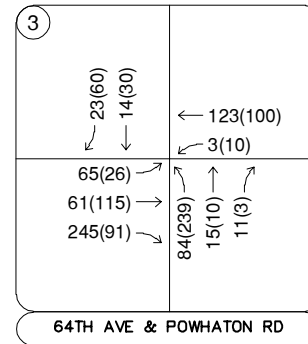
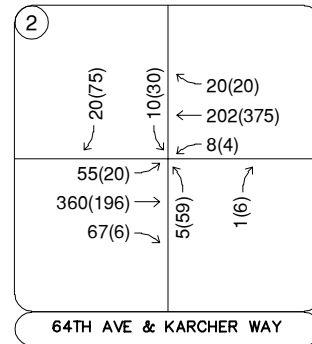
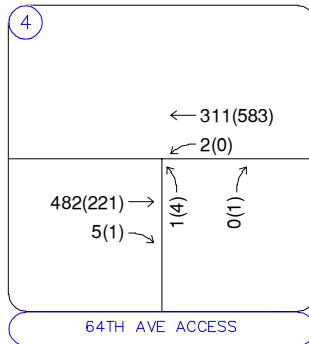
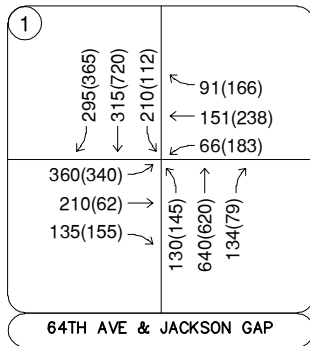
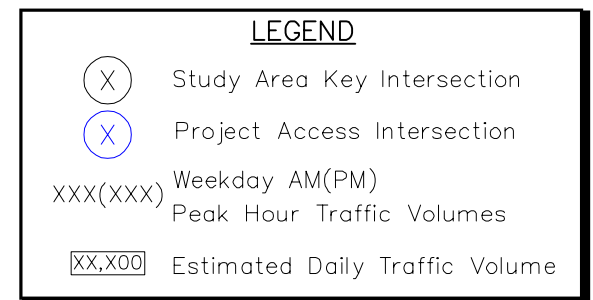


FIGURE 10
COSTCO MAINTENANCE AURORA
AURORA, COLORADO
2025 TOTAL TRAFFIC VOLUMES



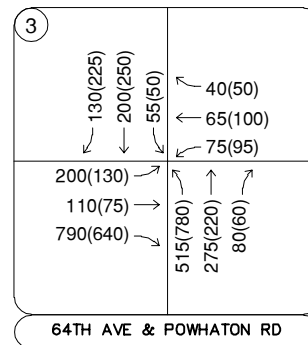
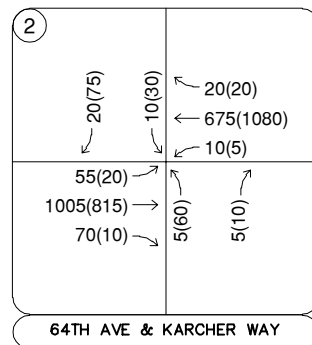
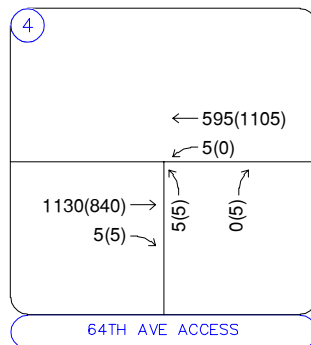
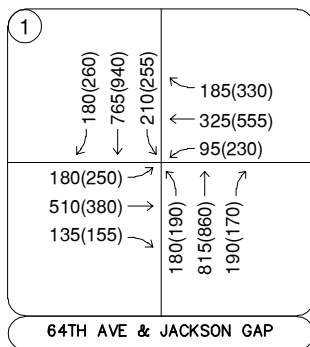
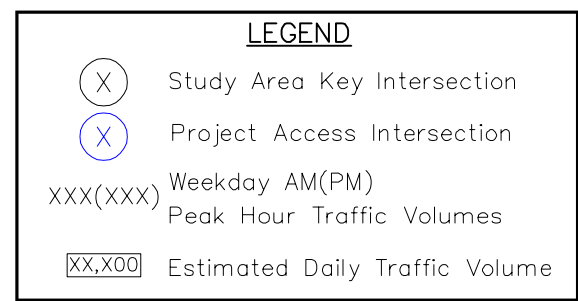


FIGURE 11
COSTCO MAINTENANCE AURORA
AURORA, COLORADO
2040 TOTAL TRAFFIC VOLUMES



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

Ryder Truck Facility (Porteos Subdivision Filing 4)

Aurora, Colorado

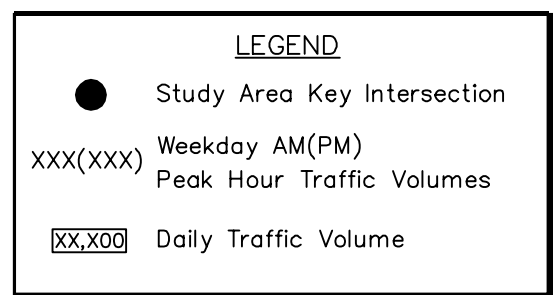
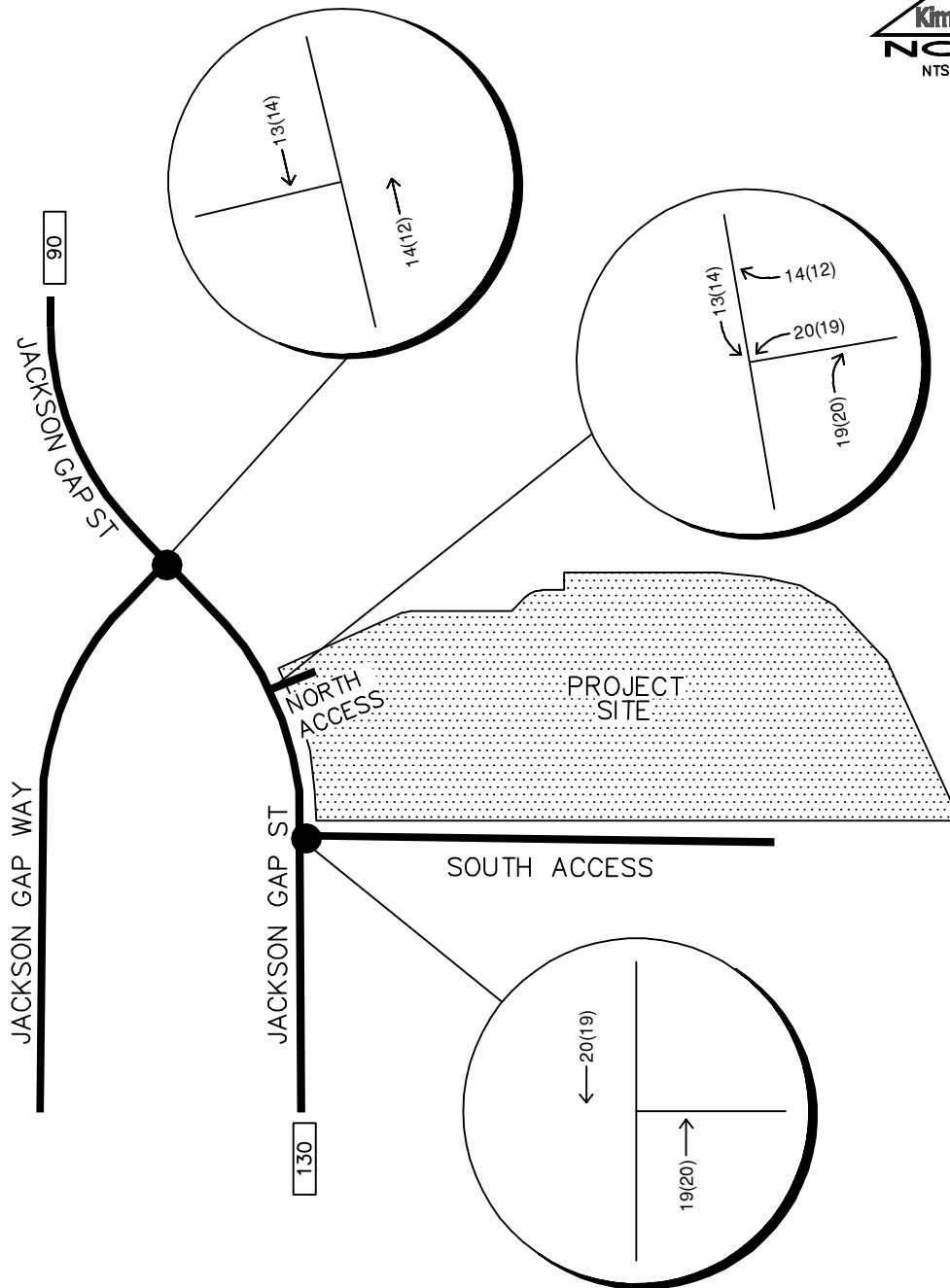
Prepared for
Ware Malcomb
990 S. Broadway
Suite 230
Denver, CO 80209

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



April 2020

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RYDER (PORTEOS SUBDIVISION FILING 4)
AURORA, CO
PROJECT TRAFFIC ASSIGNMENT

FIGURE 8

TRANSPORTATION IMPACT STUDY

Porteos – Project Pearl in Aurora

Prepared for:

Ryan Companies
533 South Third Street, Suite 100
Minneapolis, MN 55415

Prepared by:

Felsburg Holt & Ullevig
6400 S Fiddlers Green Circle, Suite 1500
Greenwood Village, CO 80111
303.721.1440

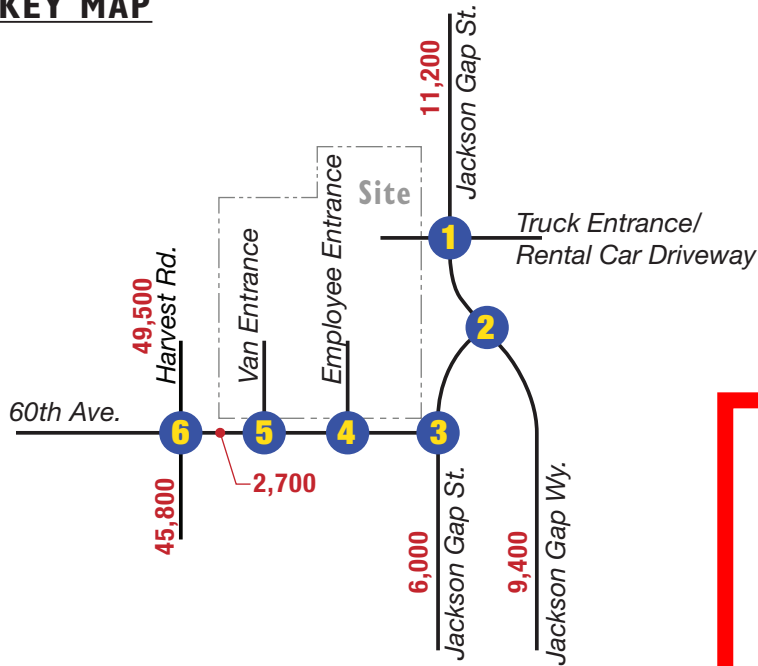
Principal: Christopher J. Fasching, PE, PTOE
Project Manager: Philip Dunham, PE, PTOE



FHU Reference No. 120196-01

September 2020

KEY MAP



LEGEND

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

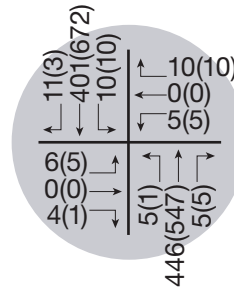
XXXX = Daily Traffic Volumes

X/X = AM/PM Peak Hour Signalized Intersection Level of Service

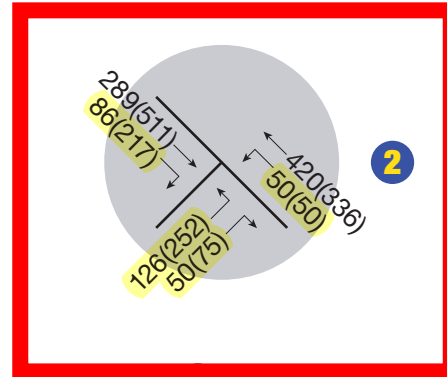
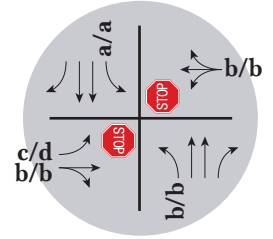
x/x = AM/PM Peak Hour Unsignalized Intersection Level of Service

STOP = Stop Sign

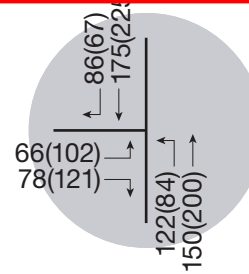
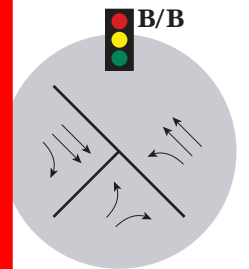
Traffic Signal



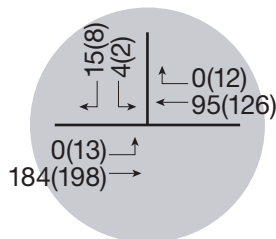
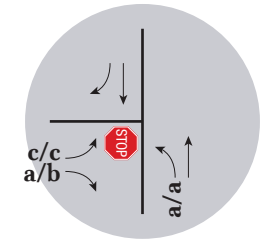
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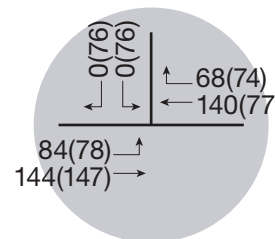
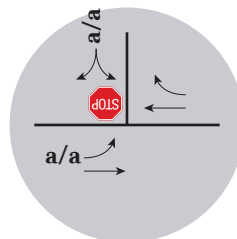
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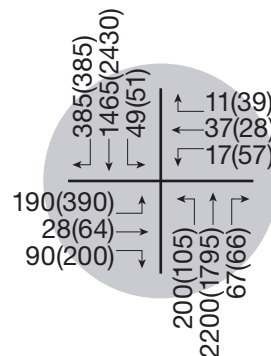
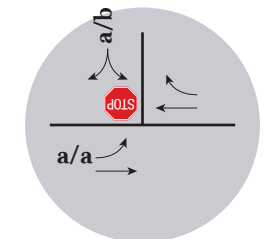
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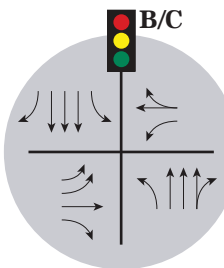
4



5



6



NOTE: Drawing Not to Scale



NORTH

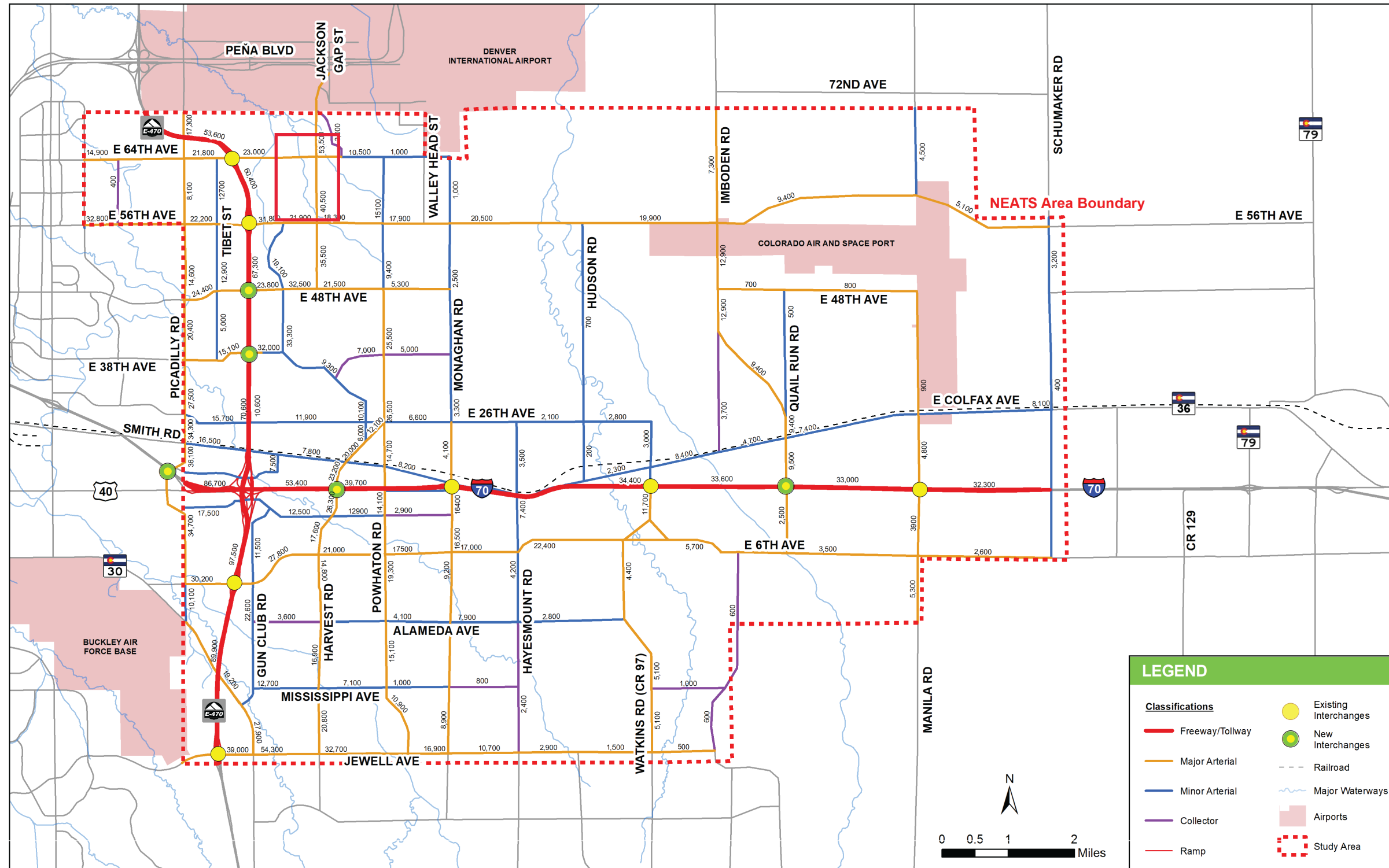
FIGURE 7

Long-Term (2040) Total
Traffic Volumes and Operations

Project Pearl 20-196 8/31/20



Figure 11.
2040 Daily Traffic Volumes









Intersection Capacity Analysis Outputs

HCM 6th TWSC
1: Jackson Gap Way & Jackson Gap Street







2023 Existing Adjusted AM

05/25/2023

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	115	10	3	64	36	53
Future Vol, veh/h	115	10	3	64	36	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	131	11	3	73	41	60
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	84	21	101	0	-	0
Stage 1	41	-	-	-	-	-
Stage 2	43	-	-	-	-	-
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	908	1051	1489	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	906	1051	1489	-	-	-
Mov Cap-2 Maneuver	858	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.8	0.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1489	-	858	1051	-	-
HCM Lane V/C Ratio	0.002	-	0.152	0.011	-	-
HCM Control Delay (s)	7.4	-	9.9	8.5	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.5	0	-	-









HCM 6th TWSC
1: Jackson Gap Way & Jackson Gap Street

2023 Existing Adjusted PM
05/25/2023

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	53	1	2	45	75	156
Future Vol, veh/h	53	1	2	45	75	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	1	2	51	85	177
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	115	43	262	0	-	0
Stage 1	85	-	-	-	-	-
Stage 2	30	-	-	-	-	-
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	869	1018	1299	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	867	1018	1299	-	-	-
Mov Cap-2 Maneuver	828	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.7	0.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1299	-	828	1018	-	-
HCM Lane V/C Ratio	0.002	-	0.073	0.001	-	-
HCM Control Delay (s)	7.8	-	9.7	8.5	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0	-	-

Intersection

Int Delay, s/veh 3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	117	11	10	1	3	2	3	133	2	6	69	54
Future Vol, veh/h	117	11	10	1	3	2	3	133	2	6	69	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	133	13	11	1	3	2	3	151	2	7	78	61









Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	175	251	39	218	311	77	139	0	0	153	0	0
Stage 1	92	92	-	158	158	-	-	-	-	-	-	-
Stage 2	83	159	-	60	153	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	771	651	1024	719	602	968	1442	-	-	1425	-	-
Stage 1	905	818	-	828	766	-	-	-	-	-	-	-
Stage 2	916	765	-	944	770	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	762	646	1024	697	598	968	1442	-	-	1425	-	-
Mov Cap-2 Maneuver	759	650	-	710	621	-	-	-	-	-	-	-
Stage 1	903	814	-	826	764	-	-	-	-	-	-	-
Stage 2	908	763	-	915	766	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.5		10		0.2		0.4	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1442	-	-	759	787	722	1425	-	-
HCM Lane V/C Ratio	0.002	-	-	0.175	0.03	0.009	0.005	-	-
HCM Control Delay (s)	7.5	-	-	10.7	9.7	10	7.5	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.1	0	0	-	-

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	54	7	1	1	7	3	2	77	1	4	109	159
Future Vol, veh/h	54	7	1	1	7	3	2	77	1	4	109	159
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	0	-	-	0	-	0
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	8	1	1	8	3	2	88	1	5	124	181









Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	186	227	62	169	408	45	305	0	0	89	0	0
Stage 1	134	134	-	93	93	-	-	-	-	-	-	-
Stage 2	52	93	-	76	315	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	758	671	990	779	531	1015	1253	-	-	1504	-	-
Stage 1	855	785	-	904	817	-	-	-	-	-	-	-
Stage 2	954	817	-	924	654	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	744	668	990	768	528	1015	1253	-	-	1504	-	-
Mov Cap-2 Maneuver	742	668	-	764	560	-	-	-	-	-	-	-
Stage 1	853	783	-	902	815	-	-	-	-	-	-	-
Stage 2	940	815	-	911	652	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.3		10.6		0.2		0.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1253	-	-	742	696	656	1504	-	-
HCM Lane V/C Ratio	0.002	-	-	0.083	0.013	0.019	0.003	-	-
HCM Control Delay (s)	7.9	-	-	10.3	10.2	10.6	7.4	-	-
HCM Lane LOS	A	-	-	B	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0.1	0	-	-









HCM 6th TWSC
1: Jackson Gap Way & Jackson Gap Street & Access

2040 Total AM
05/25/2023

Intersection												
Int Delay, s/veh	7.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	129	11	50	1	3	2	50	1149	2	6	919	86
Future Vol, veh/h	129	11	50	1	3	2	50	1149	2	6	919	86
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	0	-	-	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	140	12	54	1	3	2	54	1249	2	7	999	93
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1747	2372	500	1878	2464	626	1092	0	0	1251	0	0
Stage 1	1013	1013	-	1358	1358	-	-	-	-	-	-	-
Stage 2	734	1359	-	520	1106	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 55	34	516	44	30	427	635	-	-	552	-	-
Stage 1	256	315	-	157	215	-	-	-	-	-	-	-
Stage 2	378	215	-	507	284	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 50	31	516	34	27	427	635	-	-	552	-	-
Mov Cap-2 Maneuver	147	121	-	107	108	-	-	-	-	-	-	-
Stage 1	234	311	-	144	197	-	-	-	-	-	-	-
Stage 2	338	197	-	431	280	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	89			31.2			0.5			0.1		
HCM LOS	F			D								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	635	-	-	147	325	144	552	-	-			
HCM Lane V/C Ratio	0.086	-	-	0.954	0.204	0.045	0.012	-	-			
HCM Control Delay (s)	11.2	-	-	122.2	18.9	31.2	11.6	-	-			
HCM Lane LOS	B	-	-	F	C	D	B	-	-			
HCM 95th %tile Q(veh)	0.3	-	-	6.8	0.8	0.1	0	-	-			
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

HCM 6th TWSC
1: Jackson Gap Way & Jackson Gap Street & Access

2040 Total PM
05/25/2023

Intersection												
Int Delay, s/veh	64.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	252	7	75	1	7	3	50	1008	1	4	1124	217
Future Vol, veh/h	252	7	75	1	7	3	50	1008	1	4	1124	217
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	0	-	-	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	274	8	82	1	8	3	54	1096	1	4	1222	236

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1890	2435	611	1828	2671	549	1458	0	0	1097	0	0
Stage 1	1230	1230	-	1205	1205	-	-	-	-	-	-	-
Stage 2	660	1205	-	623	1466	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 43	31	437	48	22	480	460	-	-	632	-	-
Stage 1	~ 188	248	-	195	255	-	-	-	-	-	-	-
Stage 2	418	255	-	440	191	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 36	27	437	34	19	480	460	-	-	632	-	-
Mov Cap-2 Maneuver	~ 117	119	-	113	85	-	-	-	-	-	-	-
Stage 1	~ 166	247	-	172	225	-	-	-	-	-	-	-
Stage 2	354	225	-	345	190	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	524.3	40.6	0.7	0
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	460	-	-	117	356	113	632	-	-
HCM Lane V/C Ratio	0.118	-	-	2.341	0.25	0.106	0.007	-	-
HCM Control Delay (s)	13.9	-	-	688.9	18.5	40.6	10.7	-	-
HCM Lane LOS	B	-	-	F	C	E	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	23.9	1	0.3	0	-	-

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

Timings

2040 Total AM - Signalized

1: Jackson Gap Way & Jackson Gap Street & Access

05/25/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	129	11	1	3	50	1149	6	919	86
Future Volume (vph)	129	11	1	3	50	1149	6	919	86
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm
Protected Phases		4		8	5	2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	23.0	23.0	10.0	47.0	37.0	37.0	37.0
Total Split (%)	32.9%	32.9%	32.9%	32.9%	14.3%	67.1%	52.9%	52.9%	52.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	12.2	12.2		11.9	51.1	52.0	45.4	45.4	45.4
Actuated g/C Ratio	0.17	0.17		0.17	0.73	0.74	0.65	0.65	0.65
v/c Ratio	0.57	0.20		0.02	0.13	0.48	0.03	0.43	0.09
Control Delay	35.0	10.5		18.7	5.0	6.0	10.0	10.1	2.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	10.5		18.7	5.0	6.0	10.0	10.1	2.8
LOS	D	B		B	A	A	A	B	A
Approach Delay		27.2		18.7		5.9		9.5	
Approach LOS		C		B		A		A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 9.1

Intersection LOS: A

Intersection Capacity Utilization 61.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Jackson Gap Way & Jackson Gap Street & Access























HCM 6th Signalized Intersection Summary

1: Jackson Gap Way & Jackson Gap Street & Access

2040 Total AM - Signalized

05/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	11	50	1	3	2	50	1149	2	6	919	86
Future Volume (veh/h)	129	11	50	1	3	2	50	1149	2	6	919	86
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	140	12	54	1	3	2	54	1249	2	7	999	93
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	285	38	172	73	134	74	461	2704	4	373	2246	1002
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.05	0.74	0.74	0.63	0.63	0.63
Sat Flow, veh/h	1411	296	1334	105	1045	575	1781	3640	6	444	3554	1585
Grp Volume(v), veh/h	140	0	66	6	0	0	54	610	641	7	999	93
Grp Sat Flow(s),veh/h/ln	1411	0	1630	1725	0	0	1781	1777	1869	444	1777	1585
Q Serve(g_s), s	6.4	0.0	2.6	0.0	0.0	0.0	0.6	9.4	9.4	0.4	10.1	1.6
Cycle Q Clear(g_c), s	6.7	0.0	2.6	0.2	0.0	0.0	0.6	9.4	9.4	2.1	10.1	1.6
Prop In Lane	1.00		0.82	0.17		0.33	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	285	0	210	282	0	0	461	1320	1389	373	2246	1002
V/C Ratio(X)	0.49	0.00	0.31	0.02	0.00	0.00	0.12	0.46	0.46	0.02	0.44	0.09
Avail Cap(c_a), veh/h	477	0	431	507	0	0	518	1320	1389	373	2246	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	0.0	27.7	26.7	0.0	0.0	4.2	3.5	3.5	5.5	6.6	5.0
Incr Delay (d2), s/veh	1.3	0.0	0.8	0.0	0.0	0.0	0.1	1.2	1.1	0.1	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.0	0.1	0.0	0.0	0.2	2.4	2.5	0.0	3.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	0.0	28.5	26.7	0.0	0.0	4.4	4.7	4.6	5.5	7.2	5.2
LnGrp LOS	C	A	C	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h	206			6			1305			1099		
Approach Delay, s/veh	30.0			26.7			4.6			7.0		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4		5	6		8			
Phs Duration (G+Y+Rc), s	56.5			13.5		7.8	48.7		13.5			
Change Period (Y+Rc), s	4.5			4.5		4.5	4.5		4.5			
Max Green Setting (Gmax), s	42.5			18.5		5.5	32.5		18.5			
Max Q Clear Time (g_c+I1), s	11.4			8.7		2.6	12.1		2.2			
Green Ext Time (p_c), s	10.6			0.5		0.0	7.8		0.0			
Intersection Summary												
HCM 6th Ctrl Delay	7.7											
HCM 6th LOS	A											

Timings

2040 Total PM - Signalized

1: Jackson Gap Way & Jackson Gap Street & Access

05/25/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	252	7	1	7	50	1008	4	1124	217
Future Volume (vph)	252	7	1	7	50	1008	4	1124	217
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm
Protected Phases		4		8	5	2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	23.0	23.0	9.5	47.0	37.5	37.5	37.5
Total Split (%)	32.9%	32.9%	32.9%	32.9%	13.6%	67.1%	53.6%	53.6%	53.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	16.8	16.8		16.8	44.2	44.2	38.5	38.5	38.5
Actuated g/C Ratio	0.24	0.24		0.24	0.63	0.63	0.55	0.55	0.55
v/c Ratio	0.82	0.20		0.03	0.21	0.49	0.02	0.63	0.24
Control Delay	45.8	7.5		17.3	7.4	8.2	10.2	14.2	2.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	7.5		17.3	7.4	8.2	10.2	14.2	2.4
LOS	D	A		B	A	A	B	B	A
Approach Delay		36.3		17.3		8.1		12.3	
Approach LOS		D		B		A		B	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 67.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Jackson Gap Way & Jackson Gap Street & Access























HCM 6th Signalized Intersection Summary

1: Jackson Gap Way & Jackson Gap Street & Access

2040 Total PM - Signalized

05/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	7	75	1	7	3	50	1008	1	4	1124	217
Future Volume (veh/h)	252	7	75	1	7	3	50	1008	1	4	1124	217
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	274	8	82	1	8	3	54	1096	1	4	1222	236
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	417	32	325	65	285	98	294	2366	2	359	1914	854
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.05	0.65	0.65	0.54	0.54	0.54
Sat Flow, veh/h	1404	143	1464	44	1285	443	1781	3643	3	514	3554	1585
Grp Volume(v), veh/h	274	0	90	12	0	0	54	535	562	4	1222	236
Grp Sat Flow(s),veh/h/ln	1404	0	1607	1772	0	0	1781	1777	1870	514	1777	1585
Q Serve(g_s), s	12.7	0.0	3.2	0.0	0.0	0.0	0.8	10.6	10.6	0.3	16.9	5.6
Cycle Q Clear(g_c), s	13.1	0.0	3.2	0.4	0.0	0.0	0.8	10.6	10.6	3.1	16.9	5.6
Prop In Lane	1.00		0.91	0.08		0.25	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	417	0	357	449	0	0	294	1154	1214	359	1914	854
V/C Ratio(X)	0.66	0.00	0.25	0.03	0.00	0.00	0.18	0.46	0.46	0.01	0.64	0.28
Avail Cap(c_a), veh/h	476	0	425	522	0	0	338	1154	1214	359	1914	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	0.0	22.4	21.3	0.0	0.0	8.4	6.2	6.2	8.9	11.4	8.8
Incr Delay (d2), s/veh	2.7	0.0	0.4	0.0	0.0	0.0	0.3	1.3	1.3	0.1	1.6	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	4.5	0.0	1.2	0.2	0.0	0.0	0.3	3.4	3.6	0.0	6.1	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	0.0	22.8	21.3	0.0	0.0	8.7	7.5	7.4	8.9	13.0	9.6
LnGrp LOS	C	A	C	C	A	A	A	A	A	A	B	A
Approach Vol, veh/h	364			12			1151			1462		
Approach Delay, s/veh	27.4			21.3			7.5			12.4		
Approach LOS	C			C			A			B		
Timer - Assigned Phs	2			4		5	6		8			
Phs Duration (G+Y+Rc), s	50.0			20.0		7.8	42.2		20.0			
Change Period (Y+Rc), s	4.5			4.5		4.5	4.5		4.5			
Max Green Setting (Gmax), s	42.5			18.5		5.0	33.0		18.5			
Max Q Clear Time (g_c+I1), s	12.6			15.1		2.8	18.9		2.4			
Green Ext Time (p_c), s	8.6			0.5		0.0	8.2		0.0			
Intersection Summary												
HCM 6th Ctrl Delay	12.4											
HCM 6th LOS	B											

Timings

2040 Total AM - Signalized - With Aerotropolis

1: Jackson Gap Way & Jackson Gap Street & Access

07/11/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	129	11	1	3	50	1509	6	1369	86
Future Volume (vph)	129	11	1	3	50	1509	6	1369	86
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm
Protected Phases		4		8	5	2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	22.5	9.5	47.5	38.0	38.0	38.0
Total Split (%)	32.1%	32.1%	32.1%	32.1%	13.6%	67.9%	54.3%	54.3%	54.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	12.2	12.2		11.9	51.1	52.0	45.6	45.6	45.6
Actuated g/C Ratio	0.17	0.17		0.17	0.73	0.74	0.65	0.65	0.65
v/c Ratio	0.57	0.20		0.02	0.21	0.62	0.04	0.64	0.09
Control Delay	35.0	10.5		18.7	6.1	7.7	10.5	13.5	2.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	10.5		18.7	6.1	7.7	10.5	13.5	2.7
LOS	D	B		B	A	A	B	B	A
Approach Delay		27.2		18.7		7.7		12.8	
Approach LOS		C		B		A		B	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 11.2

Intersection LOS: B

Intersection Capacity Utilization 63.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Jackson Gap Way & Jackson Gap Street & Access























HCM 6th Signalized Intersection Summary

2040 Total AM - Signalized - With Aerotropolis

1: Jackson Gap Way & Jackson Gap Street & Access

07/11/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	11	50	1	3	2	50	1509	2	6	1369	86
Future Volume (veh/h)	129	11	50	1	3	2	50	1509	2	6	1369	86
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	140	12	54	1	3	2	54	1640	2	7	1488	93
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	285	38	171	73	134	74	316	2706	3	265	2247	1002
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.05	0.74	0.74	0.63	0.63	0.63
Sat Flow, veh/h	1411	296	1334	105	1045	575	1781	3642	4	305	3554	1585
Grp Volume(v), veh/h	140	0	66	6	0	0	54	800	842	7	1488	93
Grp Sat Flow(s),veh/h/ln	1411	0	1630	1725	0	0	1781	1777	1870	305	1777	1585
Q Serve(g_s), s	6.5	0.0	2.6	0.0	0.0	0.0	0.6	14.7	14.7	0.8	18.5	1.6
Cycle Q Clear(g_c), s	6.7	0.0	2.6	0.2	0.0	0.0	0.6	14.7	14.7	7.8	18.5	1.6
Prop In Lane	1.00		0.82	0.17		0.33	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	285	0	209	282	0	0	316	1320	1389	265	2247	1002
V/C Ratio(X)	0.49	0.00	0.32	0.02	0.00	0.00	0.17	0.61	0.61	0.03	0.66	0.09
Avail Cap(c_a), veh/h	467	0	419	495	0	0	360	1320	1389	265	2247	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	0.0	27.7	26.7	0.0	0.0	6.6	4.2	4.2	7.8	8.1	5.0
Incr Delay (d2), s/veh	1.3	0.0	0.9	0.0	0.0	0.0	0.3	2.1	2.0	0.2	1.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.0	0.1	0.0	0.0	0.2	3.8	4.0	0.1	5.9	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	0.0	28.6	26.7	0.0	0.0	6.9	6.3	6.2	8.0	9.7	5.2
LnGrp LOS	C	A	C	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h	206			6			1696			1588		
Approach Delay, s/veh	30.1			26.7			6.2			9.4		
Approach LOS	C			C			A			A		
Timer - Assigned Phs	2			4		5	6		8			
Phs Duration (G+Y+Rc), s	56.5			13.5		7.8	48.8		13.5			
Change Period (Y+Rc), s	4.5			4.5		4.5	4.5		4.5			
Max Green Setting (Gmax), s	43.0			18.0		5.0	33.5		18.0			
Max Q Clear Time (g_c+I1), s	16.7			8.7		2.6	20.5		2.2			
Green Ext Time (p_c), s	14.6			0.5		0.0	8.8		0.0			
Intersection Summary												
HCM 6th Ctrl Delay	9.1											
HCM 6th LOS	A											

Timings

2040 Total PM - Signalized - With Aerotropolis

1: Jackson Gap Way & Jackson Gap Street & Access

07/11/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	252	7	1	7	50	1478	4	1244	217
Future Volume (vph)	252	7	1	7	50	1478	4	1244	217
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm
Protected Phases		4		8	5	2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	23.0	23.0	9.5	47.0	37.5	37.5	37.5
Total Split (%)	32.9%	32.9%	32.9%	32.9%	13.6%	67.1%	53.6%	53.6%	53.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	16.8	16.8		16.8	44.2	44.2	38.5	38.5	38.5
Actuated g/C Ratio	0.24	0.24		0.24	0.63	0.63	0.55	0.55	0.55
v/c Ratio	0.82	0.20		0.03	0.23	0.72	0.04	0.69	0.25
Control Delay	45.8	7.5		17.3	7.9	11.5	11.2	15.6	5.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	7.5		17.3	7.9	11.5	11.2	15.6	5.8
LOS	D	A		B	A	B	B	B	A
Approach Delay		36.3		17.3		11.4		14.2	
Approach LOS		D		B		B		B	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 15.1

Intersection LOS: B

Intersection Capacity Utilization 69.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Jackson Gap Way & Jackson Gap Street & Access























HCM 6th Signalized Intersection Summary

2040 Total PM - Signalized - With Aerotropolis

1: Jackson Gap Way & Jackson Gap Street & Access

07/11/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	7	75	1	7	3	50	1478	1	4	1244	217
Future Volume (veh/h)	252	7	75	1	7	3	50	1478	1	4	1244	217
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	274	8	82	1	8	3	54	1607	1	4	1352	236
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	417	32	325	65	285	98	268	2367	1	220	1914	854
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.05	0.65	0.65	0.54	0.54	0.54
Sat Flow, veh/h	1404	143	1464	44	1285	443	1781	3645	2	315	3554	1585
Grp Volume(v), veh/h	274	0	90	12	0	0	54	783	825	4	1352	236
Grp Sat Flow(s),veh/h/ln	1404	0	1607	1772	0	0	1781	1777	1870	315	1777	1585
Q Serve(g_s), s	12.7	0.0	3.2	0.0	0.0	0.0	0.8	19.4	19.4	0.6	19.8	5.6
Cycle Q Clear(g_c), s	13.1	0.0	3.2	0.4	0.0	0.0	0.8	19.4	19.4	12.2	19.8	5.6
Prop In Lane	1.00		0.91	0.08		0.25	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	417	0	357	449	0	0	268	1154	1214	220	1914	854
V/C Ratio(X)	0.66	0.00	0.25	0.03	0.00	0.00	0.20	0.68	0.68	0.02	0.71	0.28
Avail Cap(c_a), veh/h	476	0	425	522	0	0	312	1154	1214	220	1914	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	0.0	22.4	21.3	0.0	0.0	9.5	7.7	7.7	13.9	12.0	8.8
Incr Delay (d2), s/veh	2.7	0.0	0.4	0.0	0.0	0.0	0.4	3.2	3.1	0.2	2.2	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	4.5	0.0	1.2	0.2	0.0	0.0	0.3	6.5	6.9	0.0	7.2	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	0.0	22.8	21.3	0.0	0.0	9.8	10.9	10.8	14.1	14.2	9.6
LnGrp LOS	C	A	C	C	A	A	A	B	B	B	B	A
Approach Vol, veh/h	364			12			1662			1592		
Approach Delay, s/veh	27.4			21.3			10.8			13.6		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	2			4		5	6		8			
Phs Duration (G+Y+Rc), s	50.0			20.0		7.8	42.2		20.0			
Change Period (Y+Rc), s	4.5			4.5		4.5	4.5		4.5			
Max Green Setting (Gmax), s	42.5			18.5		5.0	33.0		18.5			
Max Q Clear Time (g_c+I1), s	21.4			15.1		2.8	21.8		2.4			
Green Ext Time (p_c), s	12.5			0.5		0.0	7.5		0.0			
Intersection Summary												
HCM 6th Ctrl Delay	13.7											
HCM 6th LOS	B											

Queue Analysis Outputs

Queues

2040 Total AM - Signalized

1: Jackson Gap Way & Jackson Gap Street & Access

05/25/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	140	66	6	54	1251	7	999	93
v/c Ratio	0.57	0.20	0.02	0.13	0.48	0.03	0.43	0.09
Control Delay	35.0	10.5	18.7	5.0	6.0	10.0	10.1	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	10.5	18.7	5.0	6.0	10.0	10.1	2.8
Queue Length 50th (ft)	56	4	1	6	107	1	131	0
Queue Length 95th (ft)	99	32	10	19	195	8	218	21
Internal Link Dist (ft)		293	36		511		709	
Turn Bay Length (ft)								
Base Capacity (vph)	371	471	454	411	2629	269	2297	1060
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.14	0.01	0.13	0.48	0.03	0.43	0.09
Intersection Summary								

Queues

2040 Total AM - Signalized - With Aerotropolis

1: Jackson Gap Way & Jackson Gap Street & Access

07/11/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	140	66	6	54	1642	7	1488	93
v/c Ratio	0.57	0.20	0.02	0.21	0.62	0.04	0.64	0.09
Control Delay	35.0	10.5	18.7	6.1	7.7	10.5	13.5	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	10.5	18.7	6.1	7.7	10.5	13.5	2.7
Queue Length 50th (ft)	56	4	1	6	170	1	242	0
Queue Length 95th (ft)	99	32	10	19	309	8	#435	21
Internal Link Dist (ft)		794	567		712		709	
Turn Bay Length (ft)				100		150		75
Base Capacity (vph)	361	460	442	262	2629	157	2307	1064
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.14	0.01	0.21	0.62	0.04	0.64	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

2040 Total PM - Signalized

1: Jackson Gap Way & Jackson Gap Street & Access

05/25/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	274	90	12	54	1097	4	1222	236
v/c Ratio	0.82	0.20	0.03	0.21	0.49	0.02	0.63	0.24
Control Delay	45.8	7.5	17.3	7.4	8.2	10.2	14.2	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	7.5	17.3	7.4	8.2	10.2	14.2	2.4
Queue Length 50th (ft)	108	3	3	8	125	1	212	0
Queue Length 95th (ft)	#218	34	15	20	169	6	285	33
Internal Link Dist (ft)		293	36		511		709	
Turn Bay Length (ft)								
Base Capacity (vph)	369	485	471	263	2234	265	1946	977
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.19	0.03	0.21	0.49	0.02	0.63	0.24

Intersection Summary

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

Queues

2040 Total PM - Signalized - With Aerotropolis

1: Jackson Gap Way & Jackson Gap Street & Access

07/11/2023



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	274	90	12	54	1608	4	1352	236
v/c Ratio	0.82	0.20	0.03	0.23	0.72	0.04	0.69	0.24
Control Delay	45.8	7.5	17.3	7.9	11.5	11.2	15.6	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	7.5	17.3	7.9	11.5	11.2	15.6	2.4
Queue Length 50th (ft)	108	3	3	8	232	1	247	0
Queue Length 95th (ft)	#218	34	15	20	313	6	333	33
Internal Link Dist (ft)		794	567		712		709	
Turn Bay Length (ft)				100		150		75
Base Capacity (vph)	369	485	471	233	2234	111	1946	977
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.19	0.03	0.23	0.72	0.04	0.69	0.24

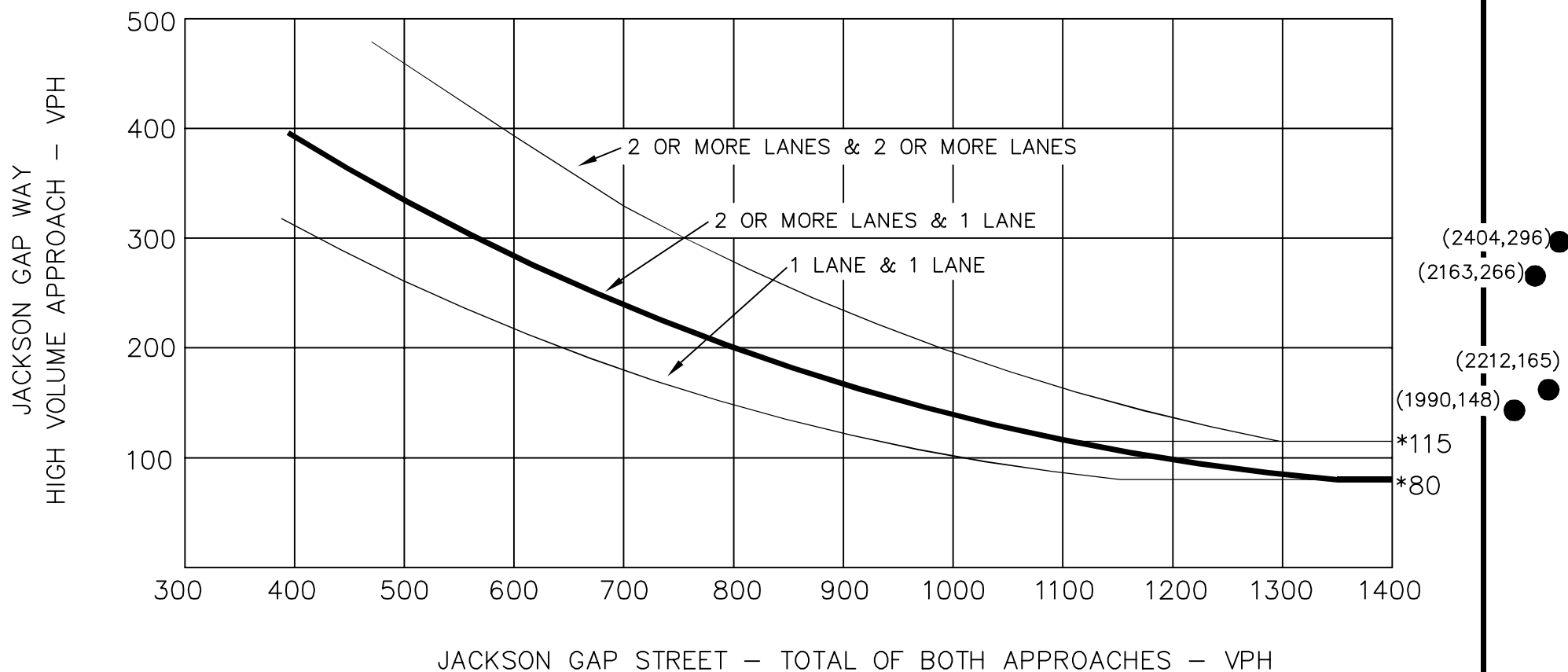
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Signal Warrant Analysis Worksheet

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME



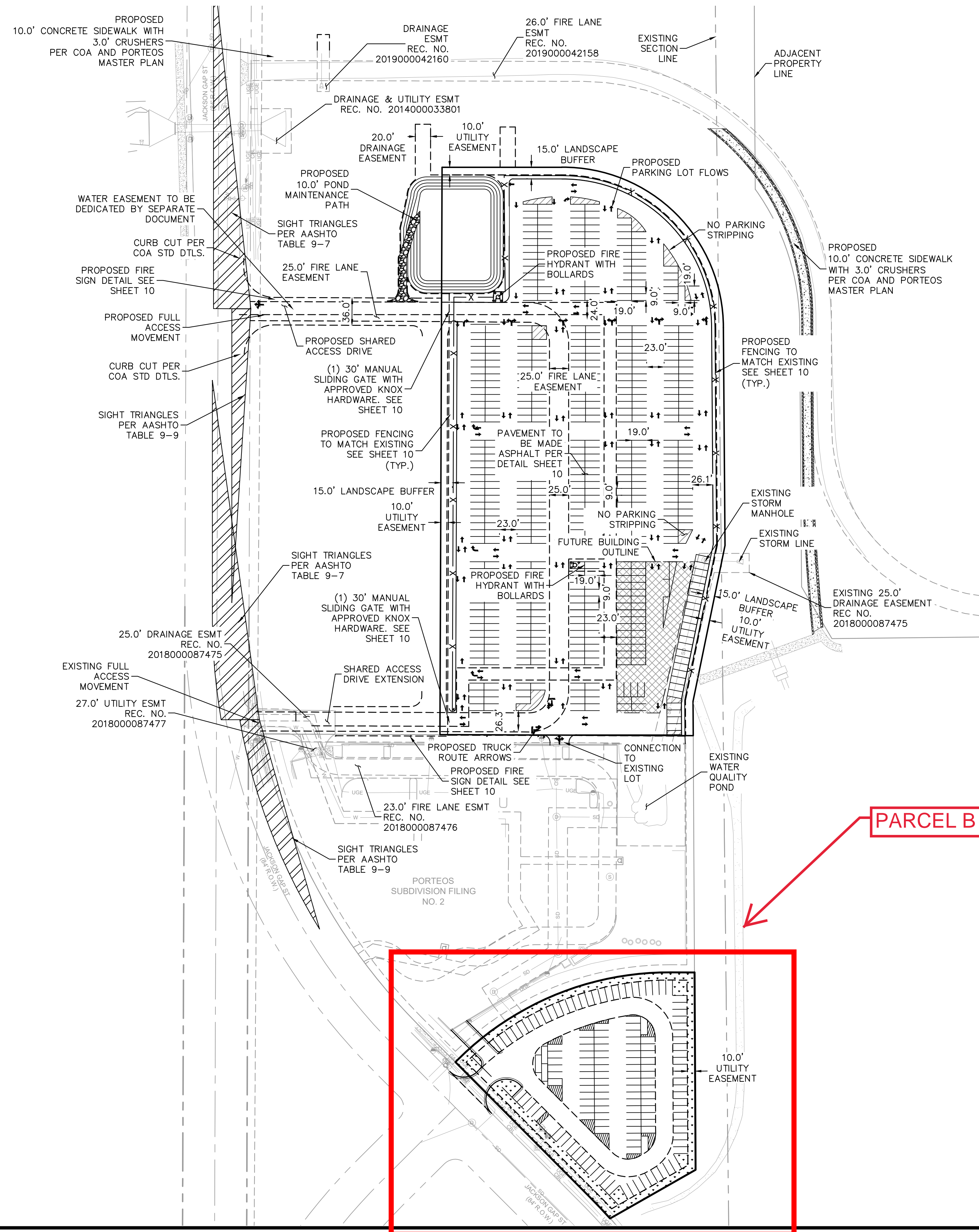
JACKSON GAP ST/JACKSON GAP WAY
SIGNAL WARRANT ANALYSIS
FOUR HOUR VOLUME WARRANT

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

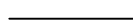






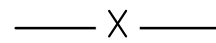






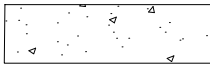
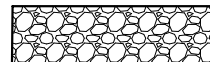
● 2040 TRAFFIC DATA POINT

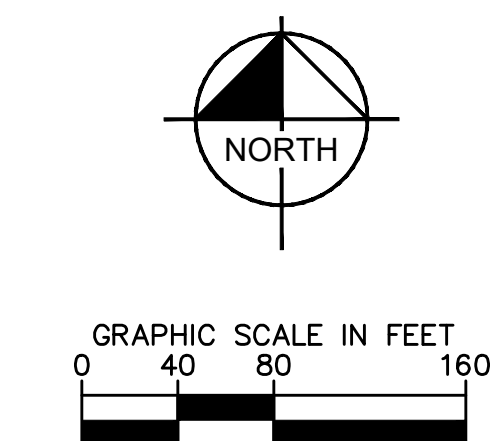
Source: Manual of Uniform Traffic Control Devices 2009

Conceptual Site Plan



LEGEND:

- | | |
|---|-----------------------------------|
|  | PARKING STRIPPING |
|  | TRUCK ROUTE SIGN |
|  | PROPOSED FIRE HYDRANT |
|  | PROPOSED PARKING LOT FLOW ARROWS |
|  | PROPOSED BOLLARD |
|  | PROPOSED NO PARKING HATCH |
|  | FUTURE BUILDING LOCATION HATCH |
|  | PROPOSED FENCING |
|  | PROPERTY LINE |
|  | PROPOSED CURB AND GUTTER (SPILL) |
|  | EXISTING EASEMENT |
|  | EXISTING FIRE HYDRANTS |
|  | EXISTING CONCRETE |
|  | SIGHT TRIANGLES PER COA STANDARDS |
|  | PROPOSED CONCRETE |
|  | PROPOSED CRUSHER RUNOFF |



ECONOMY RENTAL PARKING
EXPANSION AT PORTEOS
SITE PLAN
CITY OF AURORA
OVERALL SITE PLAN

PRELIMINARY
FOR REVIEW ONLY
NOT FOR
CONSTRUCTION
Kimley»Horn
Kimley-Horn and Associates, Inc.

PROJECT NO. 196412000

SHEET

3

Kimley»»Horn

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4582 South Ulster Street, Suite 1500

DESIGNED BY: KTS
DRAWN BY: KTS
CHECKED BY: SLP
DATE: 10/03/22

Denver, Colorado 80237 (303) 228-2300

NO.	REVISION	BY
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