

TRANSPORTATION IMPACT STUDY

High Point PA 64 in Aurora

Prepared for:

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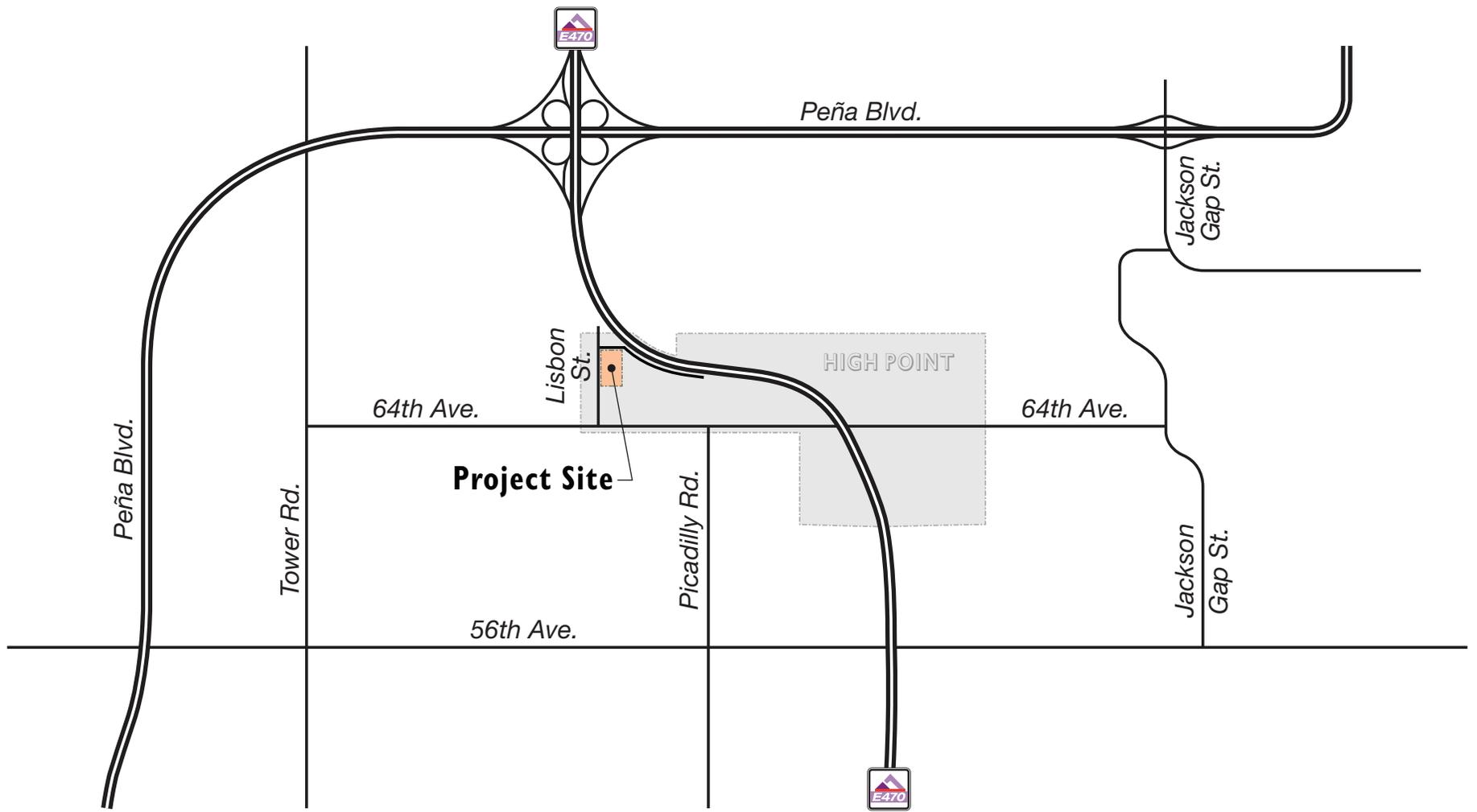
I. INTRODUCTION

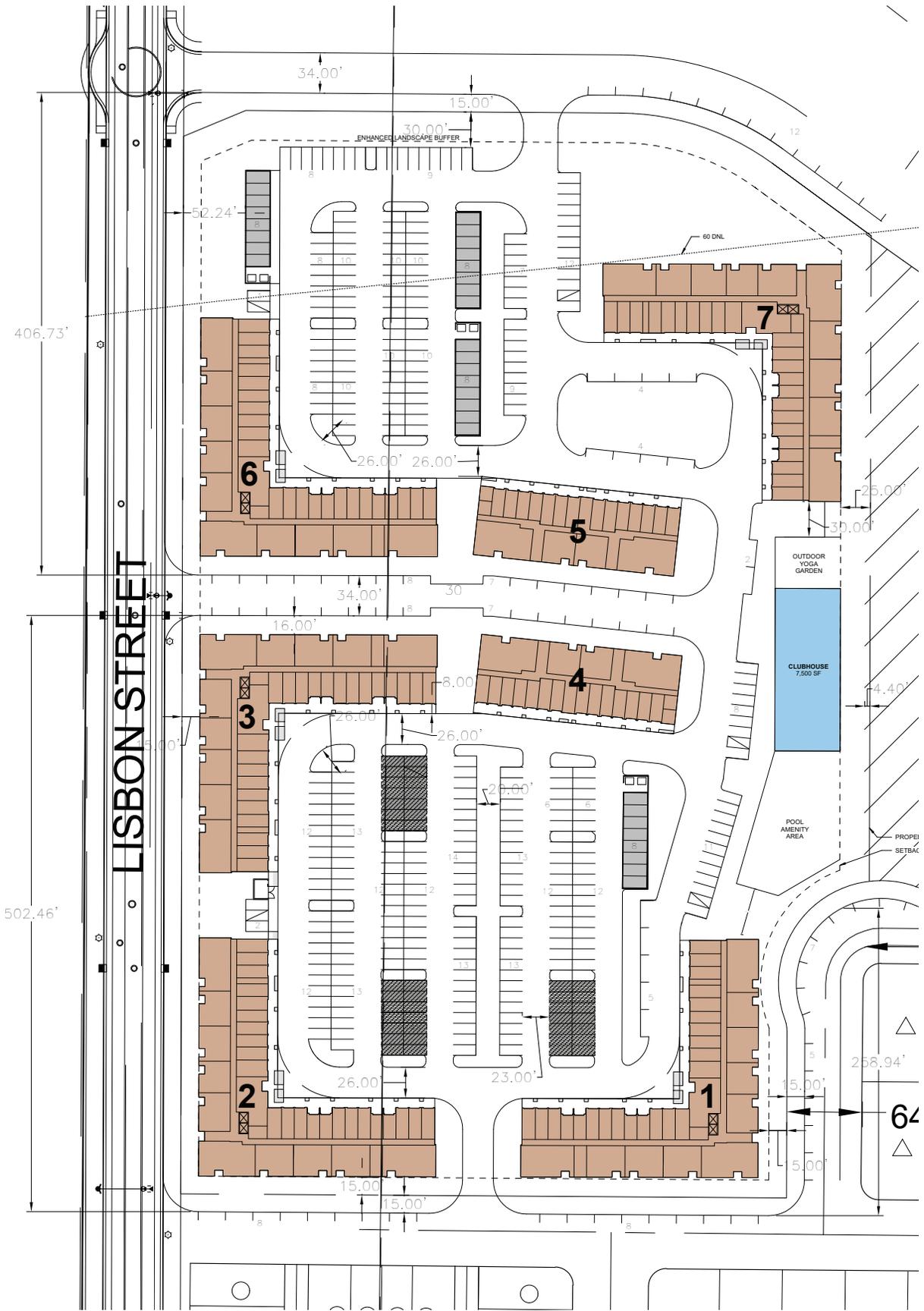
Prime West Companies is proposing to develop an approximate 13.5-acre site within the High Point Master Plan. The PA-64 site is located along the east side of the future Lisbon Street approximately one-quarter mile north of 64th Avenue. **Figure 1** illustrates the location of the site and the adjacent primary roadway network (existing and future planned roadways).

The proposed residential development would consist of approximately 365 multi-family units. Primary access to the site will be provided onto Lisbon Street along the west side of the site. Local east-west streets are also planned along the north and south sides of the site thereby providing access to the proposed development. **Figure 2** depicts the current site plan concept.

The purpose of this Transportation Impact Study (TIS) is to estimate the potential impacts specific to the proposed development and to identify any resultant required roadway and/or intersection improvements and traffic control needs. A short-term scenario representing completion of the site in year 2022 and a long-term future scenario were explored to examine the traffic impacts within the context of the year 2040 horizon. An existing conditions analysis has been omitted as PA-64 is the first site within High Point, and none of the study area intersections exist under current conditions. The site roadways will provide access only to the site and will not carry any background traffic due to lack of connectivity at initial buildout.

This study builds from the *High Point Master Plan Traffic Impact Study Analysis*, January 2020, prepared by Felsburg Holt & Ullevig, that addresses transportation needs of the 1,180-acre High Point Framework Development Plan (FDP).





II. EXISTING CONDITIONS

II.A. Surrounding Land Use

The area around the High Point FDP is mostly vacant. The Gaylord Rockies Resort is located to the west of the site. The Green Valley Ranch residential development also exists about 1 mile south in Denver. Denver International Airport (DEN) is located north of the FDP.

II.B. Roadway System

Very few roadways exist in proximity to the site. One notable roadway, 64th Avenue, runs east-west and defines part of the FDP's southern boundary. The roadway was recently improved in association with the Gaylord Rockies Resort, and it provides two lanes of through traffic. The roadway extends west to Tower Road and east to E-470.

Lisbon Street extends north of 64th Avenue for approximately 1,000 feet as a two-lane roadway but terminates at Aurora Fire Station #16 approximately 500 feet south of the proposed site.

E-470 exists north of the site, but site access to E-470 is a mile away to the east at the 64th Avenue interchange.

II.C. Traffic Volumes

Past data collected along 64th avenue indicate that approximately 2,850 vehicles per day (VPD) travel 64th Avenue near the site today. This is well below the capacity threshold of a two-lane roadway, so operationally 64th Avenue is not experiencing any functional challenges today in proximity to the PA 64 site.

III. PROPOSED CONDITIONS

III.A. Future Road Network

In 2018, the City of Aurora completed the NEATS Refresh study, which provides Year 2040 and regional buildout transportation recommendations for the roadways and a multimodal transportation system. The NEATS Refresh study area encompassed a regional area extending from approximately between Tower Road east to Schumaker Road, and from Jewell Avenue on the south to 72nd Avenue on the north. Recommendations with respect to High Point included:

- Constructing 64th Avenue to major arterial standards including six-through lanes plus turn lanes
- Constructing Picadilly Road as a six-lane arterial road through the FDP as far south as I-70 and to the north, crossing over E-470, extending through DEN, and into Commerce City

More recently, the City retained a consultant to assess adjustment to the ultimate cross-section for 64th Avenue such that it would provide four through lanes of traffic and on-street parallel parking. Potentially, this would be limited to the section of 64th Avenue west of E-470.

Lisbon Street will provide the main access for the site and will ultimately continue as a three-lane collector to the north before bending to the west north of the Gaylord Rockies Resort likely tying in to High Point Boulevard at Dunkirk Street.

III.B. Site Trip Generation

The current proposed residential development will consist of 365 multi-family units (the FDP master plan traffic study had incorporated 405 units; the proposed PA 64 plan reflects a reduction). Trip generation estimates were developed using average weekday data contained in *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), 2017. **Table I** shows the trip generation for the proposed development.

Table I. Trip Generation Summary

Land Use	Intensity	ITE Code	Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise)	365 DUs	221	1,988	32	90	122	94	60	154
TOTAL			1,988	32	90	122	94	60	154

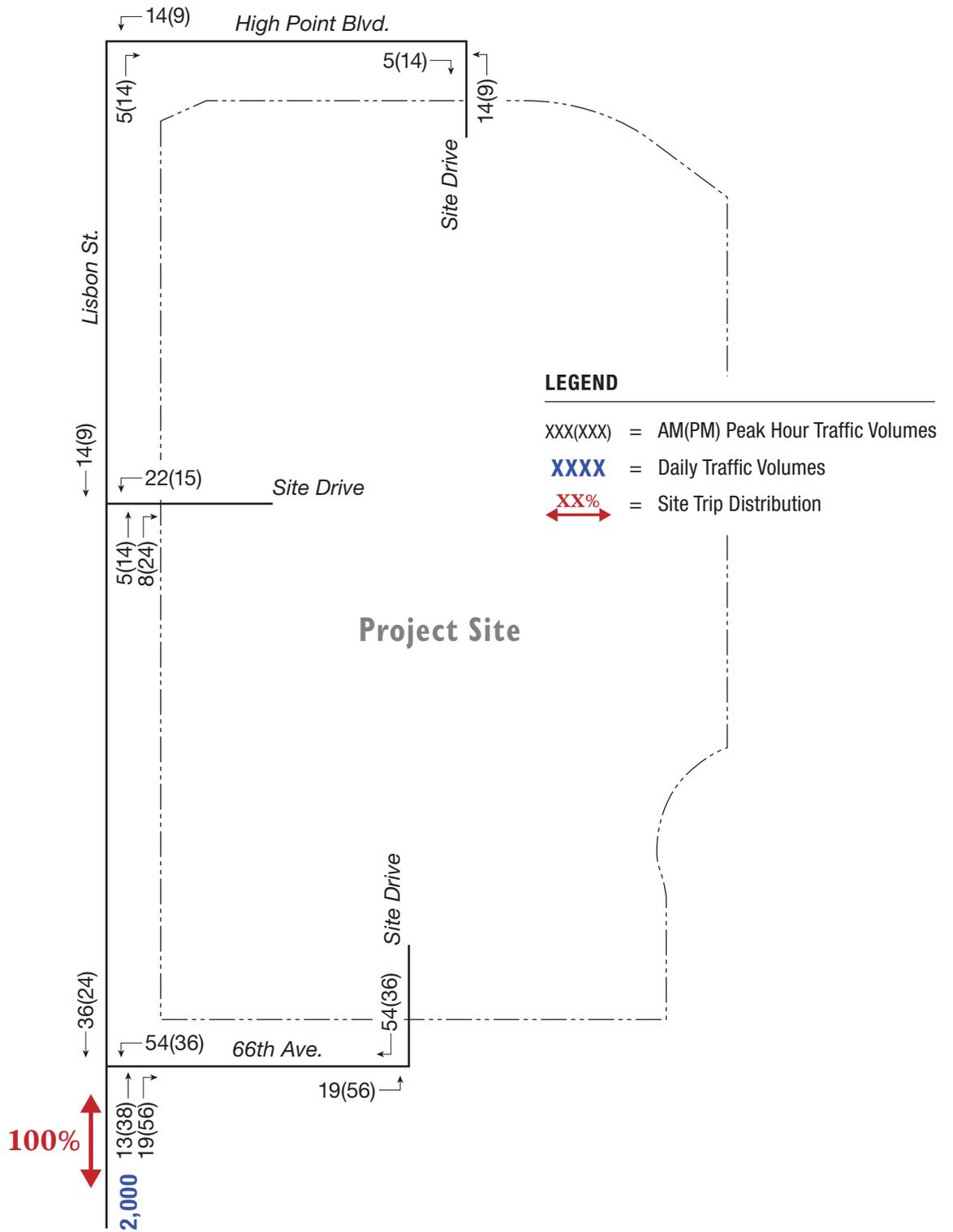
The High Point FDP master plan traffic study had estimated 2,200 trips per day from PA 64. The proposed plan reflects a 9.6 percent reduction in PA-64 trip-making, which equates to a 0.3 percent decrease with respect to the entire High Point Master Plan.

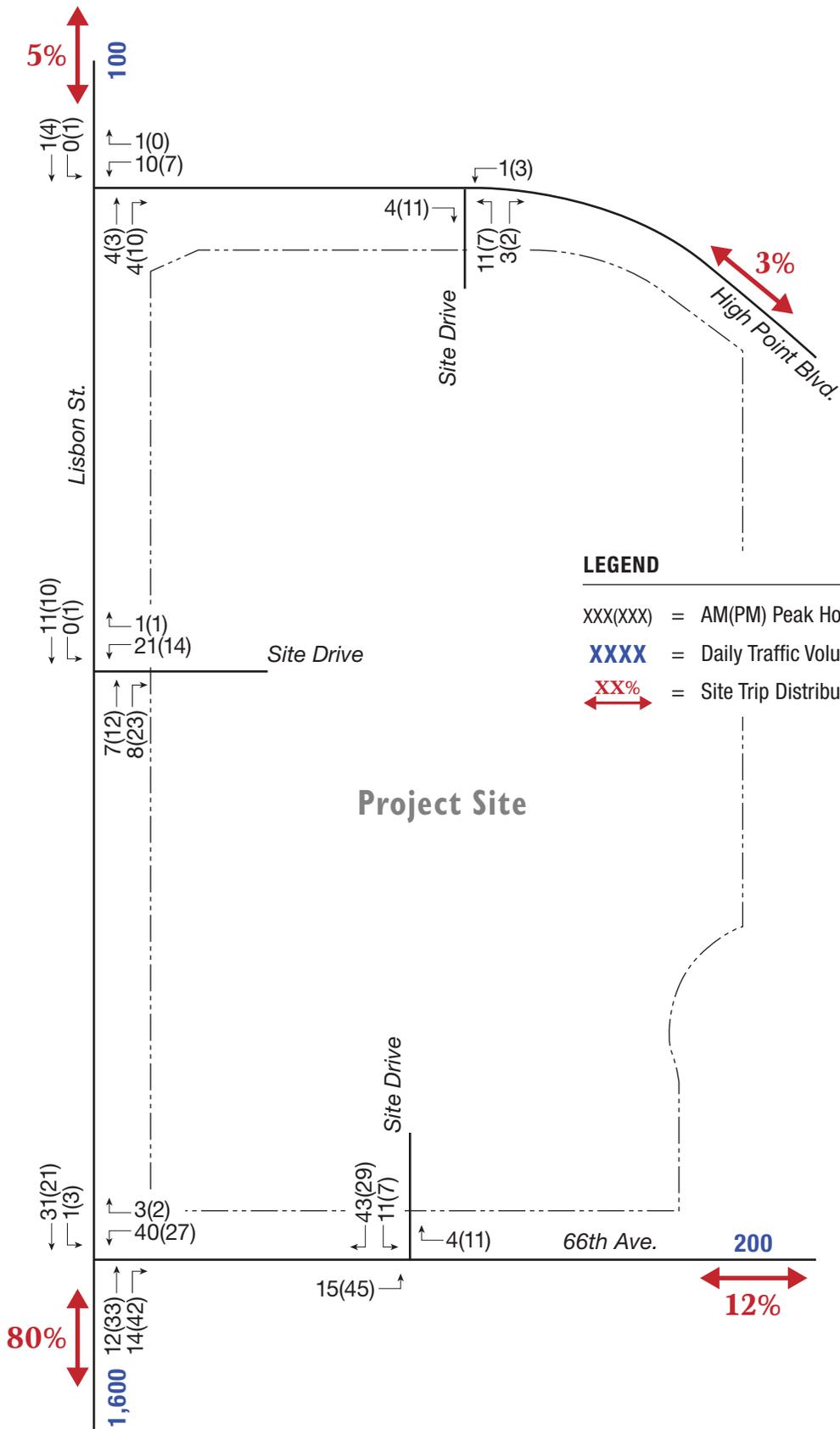
III.C. Trip Distribution and Traffic Assignment

Trip distribution estimates for this site were based on those used in the FDP master plan. The greatest component of site traffic will be toward 64th Avenue and Picadilly Road for more regional connectivity as the roadway network in the area is built out.

Figure I shows the site-trip distribution percentages and the trip assignment for the short term scenario in which all traffic will access the site via Lisbon Street from 64th Avenue to the south.

Figure I shows the site-trip distribution percentages and the trip assignment resulting from applying the percentages for site traffic in the long term scenario. As indicated, Lisbon Street to the south will see the largest percentage of site traffic. Minor amounts will be oriented to the north and to the east reflecting completion of the area's roadway system by 2040.





IV. FUTURE CONDITIONS

IV.A. Short Term Future Background

Roadway System

In the absence of this development no additional roadways will be built under short term background conditions.

Traffic Volumes

Background traffic is the component of roadway volumes that would use the adjacent roadway system regardless of site development. Along the roadways adjacent to the site no background traffic is expected as Lisbon Street will serve only the site and Aurora Fire Station #16 in a short term scenario.

Traffic Control and Operations

In the absence of this development, there will be no roadways or volume to evaluate for a short term background condition.

IV.B. Long Term Future Background

Roadway System

By the year 2040, High Point is assumed to be built out for the purposes of this analysis. This includes the full roadway network surrounding the site, including connectivity into Rockies Village to the west, Lisbon Street to the north providing additional connectivity to other High Point development north of the Gaylord Rockies Resort and Convention Center, High Point Boulevard and 66th Avenue to the east into other residential areas continuing on to Picadilly Road, and Picadilly Road to the east.

Traffic Volumes

The long-term background traffic has been estimated using traffic volume projections from the High Point Master Traffic Study and Gaylord Rockies Phase 2. Volumes from the two studies were combined and then trips associated with PA 64 were removed as analyzed in the High Point Master Traffic Study.

Figure 5 shows the results of the projected long-term background traffic demands along the study area roadways and intersections. Lisbon Street is estimated to serve the greatest amount of background traffic reaching up to 6,500 VPD south of the site.

Traffic Control

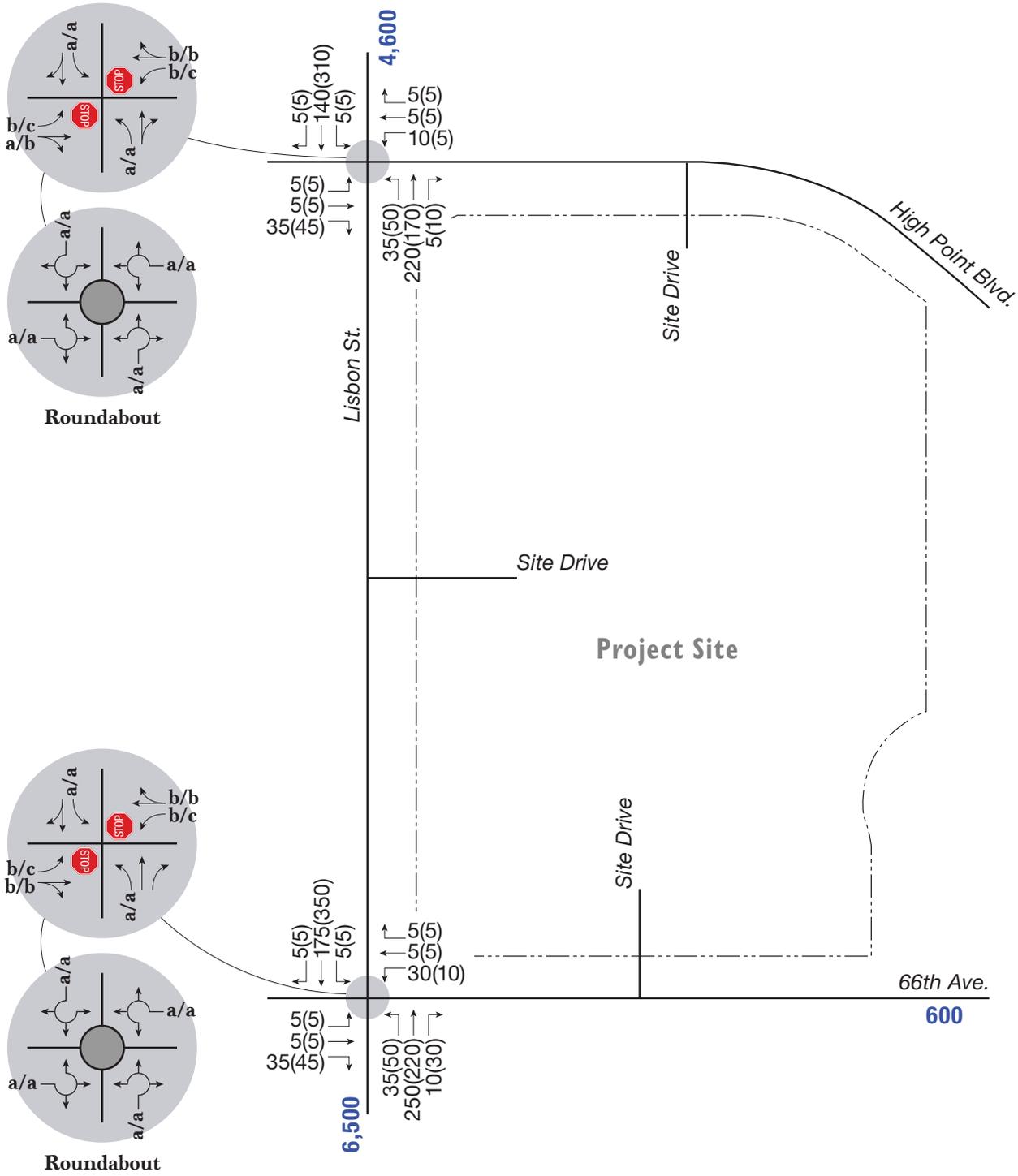
All study area intersections have been assumed to be under side-street stop-control. The two public street intersections of Lisbon Street/High Point Boulevard and Lisbon Street/66th Avenue have also been evaluated as one lane roundabouts at the request of city staff.

Traffic Operations

The long-term future background traffic volumes were used as the basis for intersection capacity analyses, the results of which are also shown on **Figure 5** (**Appendix A** includes LOS worksheets).

Calculations were carried out to assess operations given long term background traffic demands. These were conducted using techniques documented in the *Highway Capacity Manual* (Transportation Research Board, 2016) using the existing traffic volumes and intersection geometry. Level of Service (LOS) is a qualitative measure of traffic operational conditions, based on roadway capacity and vehicle delay. Levels of service are described by a letter designation ranging from A to F, with LOS A representing almost free-flow travel, while LOS F represents congested conditions. For signalized intersections, LOS is calculated for the entire intersection while LOS for unsignalized intersections is calculated for movements that must yield right-of-way to other traffic movements.

As indicated, all intersections are projected to operate within acceptable parameters, at LOS C or better, during peak times given the long-term background traffic.



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 Sign



NOTE: Drawing Not to Scale



FIGURE 5
Long Term Future (2040) Background Traffic Conditions

IV.C. Short Term Future Total Traffic Conditions

Roadway System

Very few roadways exist within High Point at this time and that will remain true for a short term scenario. Additional roadways are planned in the short term aimed at providing access to the site:

- The construction of Lisbon Street north of Aurora Fire Station #16 approximately 1,200 feet to provide access to 66th Avenue and High Point Boulevard
- The construction of 66th Avenue east of Lisbon Street to provide access to the south site driveway
- The construction of High Point Boulevard west of Lisbon Street to provide access to the north site driveway

In addition to the above planned roadways, a secondary access will need to be provided to satisfy city requirements for life safety and fire prevention. The most efficient way to achieve this is to construct Malta Street to the south and east of the site to provide connectivity between 65th and 66th Avenues. Given that this will serve as an emergency access, it does not have to be completed as the full street cross-section.

Traffic Volumes

The short term total traffic has been estimated using trip generation for the site alone as no background traffic is expected to occur along study area roadways upon completion of the site, which has an expected build year of 2022.

Figure 5 shows the results of the projected short term total traffic demands along the study area roadways and intersections. Lisbon Street is estimated to serve the greatest amount of traffic reaching up to 2,000 VPD south of the site.

Traffic Control and Operations

All study area intersections have been assumed to be under side-street stop-control. Only two intersections will exist in the short term total scenario, the public street intersection of Lisbon Street/66th Avenue and the site driveway intersection of Lisbon Street and the western site driveway. All other roadways will essentially act as elongated driveways as Lisbon Street will not extend north of High Point Boulevard, and High Point Boulevard and 66th Avenue will not extend beyond the north and south site driveways, respectively. All movements are expected to operate at LOS A as one-lane approaches in the short term and roadway cross-sections can be kept to two-lane cross-sections prior to additional development in the area. **Figure 5** shows the results of the projected short term total traffic demands along the study area roadways and intersections. Lisbon Street is estimated to serve the greatest amount of background traffic reaching up to 2,000 VPD south of the site. **Appendix B** includes analysis worksheets.

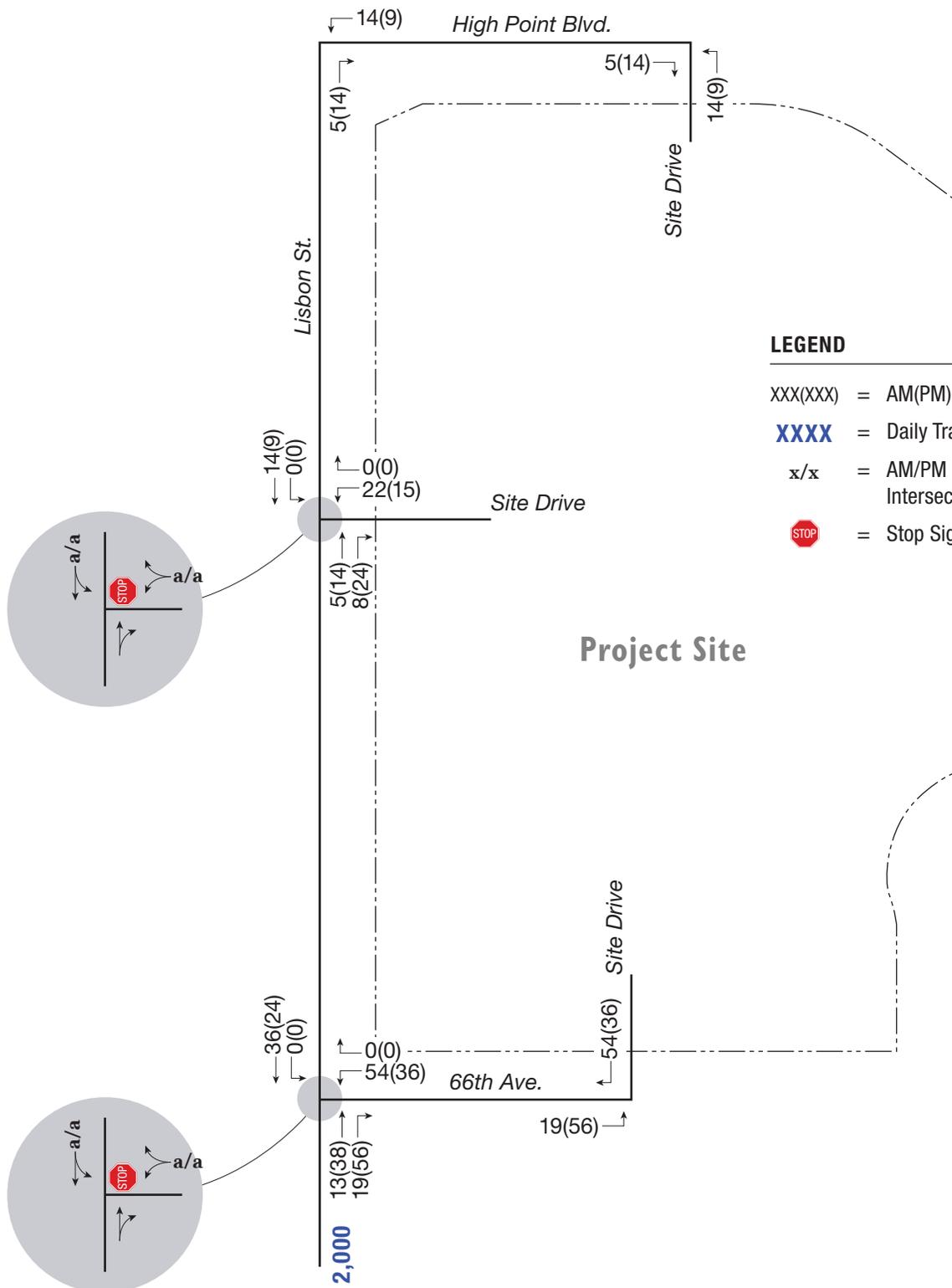


FIGURE 6

Short Term Future (2022) Total Traffic Conditions

IV.D. Short-Term Future Total Traffic Conditions

Roadway System

The roadway network for the High Point development is assumed to be built out by the year 2040 long term future scenario, and no additional roadways are anticipated as compared to the long term background scenario.

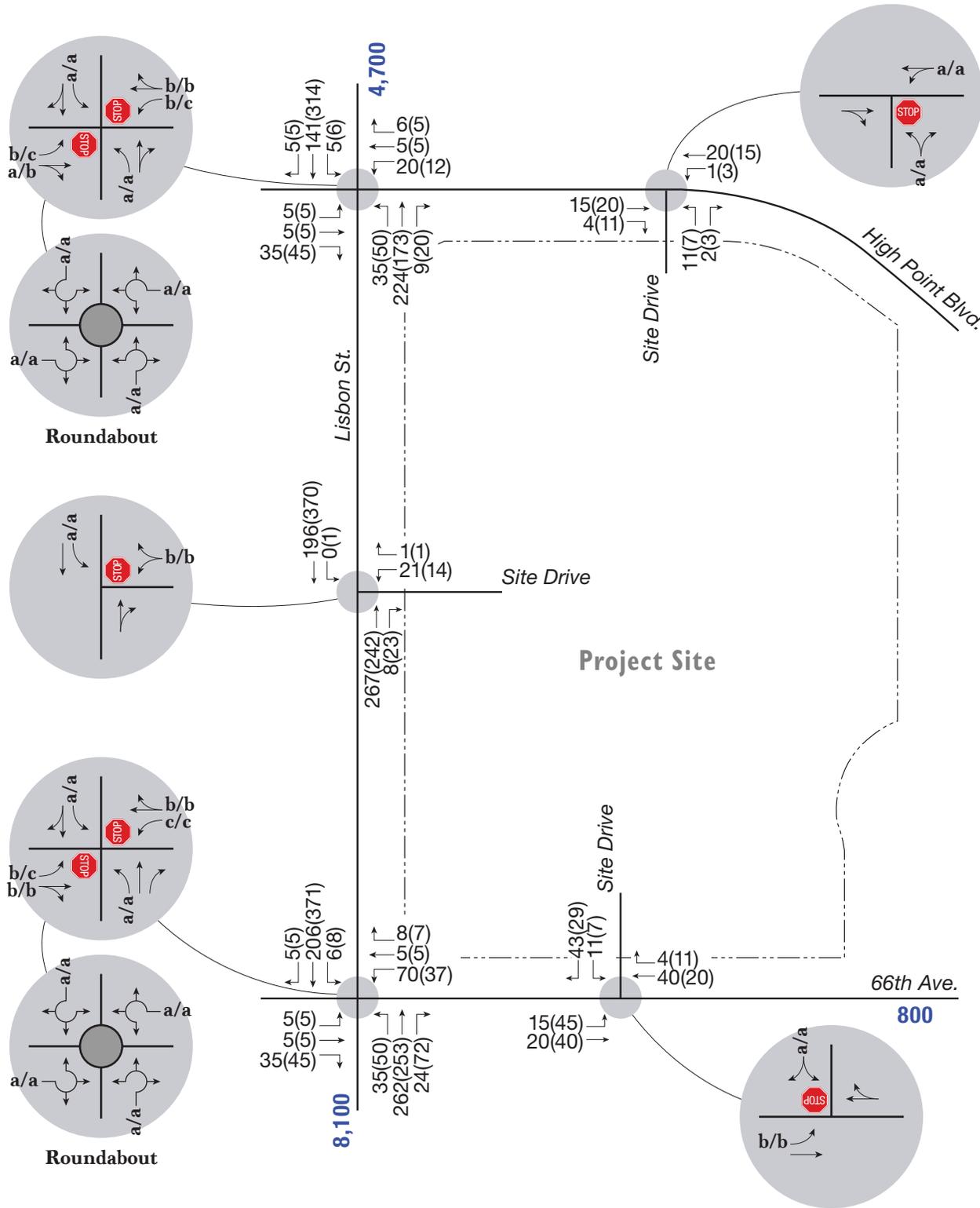
Traffic Volumes

The long term site generated traffic volumes illustrated on **Figure 3** were added to the long term future background traffic volumes found on **Figure 5** to produce the year 2040 total traffic volumes shown on **Figure 7**. Lisbon Street is estimated to serve the greatest amount of background traffic reaching up to 8,100 VPD south of the site.

Traffic Control and Operations

Intersection capacity analyses were conducted using the long term total peak hour volumes and intersection geometrics as illustrated on **Figure 7**. All study area intersections are anticipated to be constructed as side-street stop-controlled intersections with the exception of the intersection of Lisbon Street and High Point Boulevard, which is planned as a one-lane roundabout. **Appendix B** includes analysis worksheets. As indicated, traffic operations would remain acceptable at LOS C or better. The intersection of Lisbon Street and 66th Avenue was also analyzed as a roundabout at the request of city staff; however, the developer intends to construct the intersection as a side-street stop-controlled intersection since traffic operations would meet and exceed city requirements.

City of Aurora *Traffic Impact Study Guidelines* indicate that the *CDOT SHAC* be used to determine storage and taper lengths. These values often yield overly conservative results and provide storage well in excess of 95th percentile queues (which already incorporate a heavy vehicle percentage), often by a factor of two to three. Rather, our recommendation is that the values in **Table 2** corresponding to the 95th percentile lengths be used for storage lengths, plus tapers of 120 feet (to provide the required 10:1 taper ratio for 12-foot lanes on streets with a posted speed 35 MPH and an NR-B classification as identified in the *CDOT SHAC*). In the case of the study area intersections in this report, volumes are relatively low and both the 95th percentile and *CDOT SHAC* recommendations remain consistent with one another.



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



NOTE: Drawing Not to Scale



FIGURE 7
Long Term Future (2040) Total Traffic Conditions

Table 2. Long Term Future High Point PA 64 Queueing

Intersection	Approach	Movement	2040 95th Percentile Queue Length (ft) ₁		Recommended Storage Length	2040 SHAC Recommended Storage Length ²
			AM	PM		
Lisbon Street/High Point Boulevard (Stop-Controlled)	Eastbound	Left-Turn	0	0	50	50
		Through / Right-Turn	5	8	Continuous	Continuous
	Westbound	Left-Turn	5	3	50	50
		Through / Right-Turn	3	3	Continuous	Continuous
	Northbound	Left-Turn	3	3	50	50
		Through / Right-Turn	0	0	Continuous	Continuous
	Southbound	Left-Turn	0	0	50	50
		Through / Right-Turn	0	0	Continuous	Continuous
Lisbon Street/High Point Boulevard (Roundabout)	Eastbound	Left-Turn / Through / Right-Turn	5	8	Continuous	Continuous
	Westbound	Left-Turn / Through / Right-Turn	3	3	Continuous	Continuous
	Northbound	Left-Turn / Through / Right-Turn	28	25	Continuous	Continuous
	Southbound	Left-Turn / Through / Right-Turn	15	38	Continuous	Continuous
Lisbon Street/66 th Avenue (Stop-Controlled)	Eastbound	Left-Turn	0	3	50	50
		Through / Right-Turn	5	8	Continuous	Continuous
	Westbound	Left-Turn	20	15	50	50
		Through / Right-Turn	3	3	Continuous	Continuous
	Northbound	Left-Turn	3	3	50	50
		Through / Right-Turn	0	0	Continuous	Continuous
	Southbound	Left-Turn	0	0	50	50
		Through / Right-Turn	0	0	Continuous	Continuous

Intersection	Approach	Movement	2040 95th Percentile Queue Length ¹ (ft)		Recommended Storage Length	2040 SHAC Recommended Storage Length ²
			AM	PM		
Lisbon Street/66 th Avenue (Roundabout)	Eastbound	Left-Turn / Through / Right-Turn	5	8	Continuous	Continuous
	Westbound	Left-Turn / Through / Right-Turn	10	5	Continuous	Continuous
	Northbound	Left-Turn / Through / Right-Turn	35	48	Continuous	Continuous
	Southbound	Left-Turn / Through / Right-Turn	25	65	Continuous	Continuous
High Point Boulevard/North Site Driveway	Eastbound	Through / Left-Turn	0	0	Continuous	Continuous
	Westbound	Through / Left-Turn	0	0	Continuous	Continuous
	Northbound	Left-Turn / Right-Turn	0	0	Continuous	Continuous
Lisbon Street / West Site Driveway	Westbound	Left-Turn / Right-Turn	3	3	Continuous	Continuous
	Northbound	Through / Right-Turn	0	0	Continuous	Continuous
	Southbound	Left-Turn	0	0	50	50
		Through	0	0	Continuous	Continuous
66 th Avenue / South Site Driveway	Eastbound	Left-Turn	0	3	50	50
		Through	0	0	Continuous	Continuous
	Westbound	Through / Right-Turn	0	0	Continuous	Continuous
	Southbound	Left-Turn / Right-Turn	5	3	Continuous	Continuous

¹ Calculations based on HCM methodology using a heavy vehicle percentage of 2 percent network wide.

² Number shown is based on volume adjustments of 3 PCE per heavy vehicle.

V. SUMMARY AND RECOMMENDATIONS

Prime West Companies is proposing to develop an approximate 13.5-acre site within the High Point Master Plan. The PA-64 site is located along the east side of the future Lisbon Street approximately one-quarter mile north of 64th Avenue. The proposed residential development would consist of approximately 365 multi-family units. The site represents approximately 1 percent of the High Point Master development by land area.

The proposed development is estimated to generate approximately 1,988 trips per day, with an estimated 122 occurring during the AM peak hour and 154 occurring during the PM peak hour. By comparison to the High Point Master Plan Traffic Impact Study, PA 64 was assumed to generate 2,200 trips per day. The current development proposal represents a 9.6 percent decrease in daily traffic generation as compared to that analyzed in the 2020 master plan study, which equates to a 0.3 percent decrease with respect to the entire High Point Master Plan.

The potential traffic impacts of the development were evaluated under short term (2022) and long term future (2040) conditions. For the short term only, the public road intersection of Lisbon Street/66th Avenue and the site driveway intersection of Lisbon Street and the western site driveway will exist. All movements are expected to operate at LOS A as one lane approaches in the short term and roadway cross-sections can be kept to two-lane cross-sections prior to additional development in the area. For the long term scenario, this study assessed two public road intersections and all three of the site access points with respect to peak hour traffic and LOS operations. There are no projected traffic operation issues in the long term future planning horizon. Intersections are expected to operate acceptably at LOS C or better during peak hours. Lisbon Street will function adequately as a three-lane collector. Side-street stop-control is all that is required at the intersections of Lisbon Street/High Point Boulevard, Lisbon Street/66th Avenue, and all of the site access points. However, at the request of city staff, both Lisbon Street/High Point Boulevard and Lisbon Street/66th Avenue were evaluated as single-lane roundabouts. While both locations perform marginally better as roundabouts, only Lisbon Street/High Point Boulevard will be constructed as a roundabout. The side-street stop configuration will be more than adequate with respect to meeting city LOS requirements.

APPENDIX A. BACKGROUND TRAFFIC LOS

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Vol, veh/h	5	5	35	10	5	5	35	220	5	5	140	5
Future Vol, veh/h	5	5	35	10	5	5	35	220	5	5	140	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	50	-	-	50	-	-	50	-	-	50	-	-
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	5	38	11	5	5	38	239	5	5	152	5

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	488	485	155	504	485	242	157	0	0	244	0	0
Stage 1	165	165	-	318	318	-	-	-	-	-	-	-
Stage 2	323	320	-	186	167	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	490	482	891	478	482	797	1423	-	-	1322	-	-
Stage 1	837	762	-	693	654	-	-	-	-	-	-	-
Stage 2	689	652	-	816	760	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	471	467	891	443	467	797	1423	-	-	1322	-	-
Mov Cap-2 Maneuver	471	467	-	443	467	-	-	-	-	-	-	-
Stage 1	814	759	-	674	636	-	-	-	-	-	-	-
Stage 2	660	634	-	773	757	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	12.3	1	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1423	-	-	471	800	443	589	1322	-	-
HCM Lane V/C Ratio	0.027	-	-	0.012	0.054	0.025	0.018	0.004	-	-
HCM Control Delay (s)	7.6	-	-	12.7	9.8	13.3	11.2	7.7	-	-
HCM Lane LOS	A	-	-	B	A	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.2	0.1	0.1	0	-	-

LANE SUMMARY

 Site: 101 [High Point Blvd and Lisbon St]

New Site
Site Category: AM 2040 Background
Roundabout

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lisbon St													
Lane 1 ^d	283	2.0	1330	0.212	100	4.5	LOS A	1.1	27.9	Full	1600	0.0	0.0
Approach	283	2.0		0.212		4.5	LOS A	1.1	27.9				
East: High Point Blvd													
Lane 1 ^d	22	2.0	1008	0.022	100	3.8	LOS A	0.1	2.2	Full	1600	0.0	0.0
Approach	22	2.0		0.022		3.8	LOS A	0.1	2.2				
North: Lisbon St													
Lane 1 ^d	163	2.0	1279	0.128	100	3.9	LOS A	0.6	15.0	Full	1600	0.0	0.0
Approach	163	2.0		0.128		3.9	LOS A	0.6	15.0				
West: High Point Blvd													
Lane 1 ^d	49	2.0	1135	0.043	100	3.5	LOS A	0.2	4.5	Full	1600	0.0	0.0
Approach	49	2.0		0.043		3.5	LOS A	0.2	4.5				
Intersection	516	2.0		0.212		4.2	LOS A	1.1	27.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

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Project: I:\120089-01 High Point PA-64\Analysis\Lisbon and HP AM Background.sip8

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Vol, veh/h	5	5	35	30	5	5	35	250	10	5	175	5
Future Vol, veh/h	5	5	35	30	5	5	35	250	10	5	175	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	50	-	-	50	-	-	50	-	50	50	-	-
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	5	38	33	5	5	38	272	11	5	190	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	562	562	193	572	553	272	195	0	0	283	0	0
Stage 1	203	203	-	348	348	-	-	-	-	-	-	-
Stage 2	359	359	-	224	205	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	438	436	849	431	441	767	1378	-	-	1279	-	-
Stage 1	799	733	-	668	634	-	-	-	-	-	-	-
Stage 2	659	627	-	779	732	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	420	422	849	398	427	767	1378	-	-	1279	-	-
Mov Cap-2 Maneuver	420	422	-	398	427	-	-	-	-	-	-	-
Stage 1	777	730	-	649	616	-	-	-	-	-	-	-
Stage 2	631	609	-	736	729	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	14.1	0.9	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1378	-	-	420	754	398	549	1279	-	-
HCM Lane V/C Ratio	0.028	-	-	0.013	0.058	0.082	0.02	0.004	-	-
HCM Control Delay (s)	7.7	-	-	13.7	10.1	14.9	11.7	7.8	-	-
HCM Lane LOS	A	-	-	B	B	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.2	0.3	0.1	0	-	-

LANE SUMMARY

 Site: 101 [66th Ave and Lisbon St]

New Site
Site Category: AM 2040 Background
Roundabout

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lisbon St													
Lane 1 ^d	321	2.0	1330	0.241	100	4.8	LOS A	1.3	32.7	Full	1600	0.0	0.0
Approach	321	2.0		0.241		4.8	LOS A	1.3	32.7				
East: 66th Ave													
Lane 1 ^d	43	2.0	975	0.045	100	4.1	LOS A	0.2	4.6	Full	1600	0.0	0.0
Approach	43	2.0		0.045		4.1	LOS A	0.2	4.6				
North: Lisbon St													
Lane 1 ^d	201	2.0	1250	0.161	100	4.2	LOS A	0.8	19.5	Full	1600	0.0	0.0
Approach	201	2.0		0.161		4.2	LOS A	0.8	19.5				
West: 66th Ave													
Lane 1 ^d	49	2.0	1067	0.046	100	3.8	LOS A	0.2	4.8	Full	1600	0.0	0.0
Approach	49	2.0		0.046		3.8	LOS A	0.2	4.8				
Intersection	614	2.0		0.241		4.5	LOS A	1.3	32.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

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Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Vol, veh/h	5	5	45	5	5	5	50	170	10	5	310	5
Future Vol, veh/h	5	5	45	5	5	5	50	170	10	5	310	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	50	-	-	50	-	-	50	-	-	50	-	-
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	5	49	5	5	5	54	185	11	5	337	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	654	654	340	676	651	191	342	0	0	196	0	0
Stage 1	350	350	-	299	299	-	-	-	-	-	-	-
Stage 2	304	304	-	377	352	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	380	386	702	367	388	851	1217	-	-	1377	-	-
Stage 1	666	633	-	710	666	-	-	-	-	-	-	-
Stage 2	705	663	-	644	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	360	367	702	325	369	851	1217	-	-	1377	-	-
Mov Cap-2 Maneuver	360	367	-	325	369	-	-	-	-	-	-	-
Stage 1	637	630	-	679	637	-	-	-	-	-	-	-
Stage 2	664	634	-	592	629	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.5		13.5		1.8		0.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1217	-	-	360	643	325	515	1377	-	-
HCM Lane V/C Ratio	0.045	-	-	0.015	0.085	0.017	0.021	0.004	-	-
HCM Control Delay (s)	8.1	-	-	15.2	11.1	16.3	12.1	7.6	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.3	0.1	0.1	0	-	-

LANE SUMMARY

 Site: 101 [High Point Blvd and Lisbon St]

New Site
Site Category: PM 2040 Background
Roundabout

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lisbon St													
Lane 1 ^d	250	2.0	1330	0.188	100	4.3	LOS A	0.9	23.9	Full	1600	0.0	0.0
Approach	250	2.0		0.188		4.3	LOS A	0.9	23.9				
East: High Point Blvd													
Lane 1 ^d	16	2.0	1049	0.016	100	3.6	LOS A	0.1	1.6	Full	1600	0.0	0.0
Approach	16	2.0		0.016		3.6	LOS A	0.1	1.6				
North: Lisbon St													
Lane 1 ^d	348	2.0	1264	0.275	100	5.3	LOS A	1.5	38.1	Full	1600	0.0	0.0
Approach	348	2.0		0.275		5.3	LOS A	1.5	38.1				
West: High Point Blvd													
Lane 1 ^d	60	2.0	942	0.063	100	4.4	LOS A	0.3	6.6	Full	1600	0.0	0.0
Approach	60	2.0		0.063		4.4	LOS A	0.3	6.6				
Intersection	674	2.0		0.275		4.8	LOS A	1.5	38.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

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Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↶	↶	↶	↷	↷
Traffic Vol, veh/h	5	5	45	10	5	5	50	220	30	5	350	5
Future Vol, veh/h	5	5	45	10	5	5	50	220	30	5	350	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	50	-	-	50	-	-	50	-	50	50	-	-
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	5	49	11	5	5	54	239	33	5	380	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	762	773	383	767	742	239	385	0	0	272	0	0
Stage 1	393	393	-	347	347	-	-	-	-	-	-	-
Stage 2	369	380	-	420	395	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	322	330	664	319	344	800	1173	-	-	1291	-	-
Stage 1	632	606	-	669	635	-	-	-	-	-	-	-
Stage 2	651	614	-	611	605	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	304	314	664	280	327	800	1173	-	-	1291	-	-
Mov Cap-2 Maneuver	304	314	-	280	327	-	-	-	-	-	-	-
Stage 1	603	604	-	638	606	-	-	-	-	-	-	-
Stage 2	611	586	-	559	603	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.1		15.7		1.4		0.1	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1173	-	-	304	597	280	464	1291	-	-
HCM Lane V/C Ratio	0.046	-	-	0.018	0.091	0.039	0.023	0.004	-	-
HCM Control Delay (s)	8.2	-	-	17.1	11.6	18.4	12.9	7.8	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.3	0.1	0.1	0	-	-

LANE SUMMARY

 Site: 101 [66th Ave and Lisbon St]

New Site
Site Category: PM 2040 Background
Roundabout

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lisbon St													
Lane 1 ^d	326	2.0	1330	0.245	100	4.8	LOS A	1.3	33.5	Full	1600	0.0	0.0
Approach	326	2.0		0.245		4.8	LOS A	1.3	33.5				
East: 66th Ave													
Lane 1 ^d	22	2.0	991	0.022	100	3.8	LOS A	0.1	2.2	Full	1600	0.0	0.0
Approach	22	2.0		0.022		3.8	LOS A	0.1	2.2				
North: Lisbon St													
Lane 1 ^d	391	2.0	1257	0.311	100	5.7	LOS A	1.8	44.9	Full	1600	0.0	0.0
Approach	391	2.0		0.311		5.7	LOS A	1.8	44.9				
West: 66th Ave													
Lane 1 ^d	60	2.0	895	0.067	100	4.6	LOS A	0.3	6.9	Full	1600	0.0	0.0
Approach	60	2.0		0.067		4.6	LOS A	0.3	6.9				
Intersection	799	2.0		0.311		5.2	LOS A	1.8	44.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

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APPENDIX B. TOTAL TRAFFIC LOS

Intersection						
Int Delay, s/veh	4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	54	0	13	19	0	36
Future Vol, veh/h	54	0	13	19	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	0	14	21	0	39

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	64	25	0	0	35
Stage 1	25	-	-	-	-
Stage 2	39	-	-	-	-
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	942	1051	-	-	1576
Stage 1	998	-	-	-	-
Stage 2	983	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	942	1051	-	-	1576
Mov Cap-2 Maneuver	942	-	-	-	-
Stage 1	998	-	-	-	-
Stage 2	983	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	942	1576
HCM Lane V/C Ratio	-	-	0.062	-
HCM Control Delay (s)	-	-	9.1	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection						
Int Delay, s/veh	3.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	22	0	5	8	0	14
Future Vol, veh/h	22	0	5	8	0	14
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	24	0	5	9	0	15

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	25	10	0	0	14
Stage 1	10	-	-	-	-
Stage 2	15	-	-	-	-
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	991	1071	-	-	1604
Stage 1	1013	-	-	-	-
Stage 2	1008	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	991	1071	-	-	1604
Mov Cap-2 Maneuver	991	-	-	-	-
Stage 1	1013	-	-	-	-
Stage 2	1008	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	991	1604
HCM Lane V/C Ratio	-	-	0.024	-
HCM Control Delay (s)	-	-	8.7	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	0	38	56	0	24
Future Vol, veh/h	36	0	38	56	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	0	41	61	0	26

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	98	72	0	0	102
Stage 1	72	-	-	-	-
Stage 2	26	-	-	-	-
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	901	990	-	-	1490
Stage 1	951	-	-	-	-
Stage 2	997	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	901	990	-	-	1490
Mov Cap-2 Maneuver	901	-	-	-	-
Stage 1	951	-	-	-	-
Stage 2	997	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	901	1490
HCM Lane V/C Ratio	-	-	0.043	-
HCM Control Delay (s)	-	-	9.2	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	15	0	14	24	0	9
Future Vol, veh/h	15	0	14	24	0	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	-	-	-	-	-
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	16	0	15	26	0	10

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	38	28	0	0	41
Stage 1	28	-	-	-	-
Stage 2	10	-	-	-	-
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	974	1047	-	-	1568
Stage 1	995	-	-	-	-
Stage 2	1013	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	974	1047	-	-	1568
Mov Cap-2 Maneuver	974	-	-	-	-
Stage 1	995	-	-	-	-
Stage 2	1013	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	974	1568
HCM Lane V/C Ratio	-	-	0.017	-
HCM Control Delay (s)	-	-	8.8	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Vol, veh/h	5	5	35	20	5	6	35	224	9	5	141	5
Future Vol, veh/h	5	5	35	20	5	6	35	224	9	5	141	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	50	-	-	50	-	-	50	-	-	50	-	-
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	5	38	22	5	7	38	243	10	5	153	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	496	495	156	511	492	248	158	0	0	253	0	0
Stage 1	166	166	-	324	324	-	-	-	-	-	-	-
Stage 2	330	329	-	187	168	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	484	476	890	473	478	791	1422	-	-	1312	-	-
Stage 1	836	761	-	688	650	-	-	-	-	-	-	-
Stage 2	683	646	-	815	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	465	461	890	438	463	791	1422	-	-	1312	-	-
Mov Cap-2 Maneuver	465	461	-	438	463	-	-	-	-	-	-	-
Stage 1	813	758	-	669	632	-	-	-	-	-	-	-
Stage 2	654	629	-	772	756	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	12.7	1	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1422	-	-	465	797	438	598	1312	-	-
HCM Lane V/C Ratio	0.027	-	-	0.012	0.055	0.05	0.02	0.004	-	-
HCM Control Delay (s)	7.6	-	-	12.8	9.8	13.6	11.1	7.8	-	-
HCM Lane LOS	A	-	-	B	A	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.2	0.2	0.1	0	-	-

LANE SUMMARY

 Site: 101 [High Point Blvd and Lisbon St]

New Site
Site Category: AM 2040 Total
Roundabout

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lisbon St													
Lane 1 ^d	291	2.0	1330	0.219	100	4.6	LOS A	1.1	28.9	Full	1600	0.0	0.0
Approach	291	2.0		0.219		4.6	LOS A	1.1	28.9				
East: High Point Blvd													
Lane 1 ^d	34	2.0	1004	0.034	100	3.9	LOS A	0.1	3.4	Full	1600	0.0	0.0
Approach	34	2.0		0.034		3.9	LOS A	0.1	3.4				
North: Lisbon St													
Lane 1 ^d	164	2.0	1264	0.130	100	3.9	LOS A	0.6	15.3	Full	1600	0.0	0.0
Approach	164	2.0		0.130		3.9	LOS A	0.6	15.3				
West: High Point Blvd													
Lane 1 ^d	49	2.0	1121	0.044	100	3.6	LOS A	0.2	4.6	Full	1600	0.0	0.0
Approach	49	2.0		0.044		3.6	LOS A	0.2	4.6				
Intersection	538	2.0		0.219		4.2	LOS A	1.1	28.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

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Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Vol, veh/h	5	5	35	70	5	8	35	262	24	6	206	5
Future Vol, veh/h	5	5	35	70	5	8	35	262	24	6	206	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	50	-	-	50	-	-	50	-	50	50	-	-
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	5	38	76	5	9	38	285	26	7	224	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	622	628	227	623	604	285	229	0	0	311	0	0
Stage 1	241	241	-	361	361	-	-	-	-	-	-	-
Stage 2	381	387	-	262	243	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	399	400	812	398	412	754	1339	-	-	1249	-	-
Stage 1	762	706	-	657	626	-	-	-	-	-	-	-
Stage 2	641	610	-	743	705	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	380	386	812	366	398	754	1339	-	-	1249	-	-
Mov Cap-2 Maneuver	380	386	-	366	398	-	-	-	-	-	-	-
Stage 1	741	702	-	639	608	-	-	-	-	-	-	-
Stage 2	610	593	-	699	701	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	16.5	0.8	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1339	-	-	380	714	366	561	1249	-	-
HCM Lane V/C Ratio	0.028	-	-	0.014	0.061	0.208	0.025	0.005	-	-
HCM Control Delay (s)	7.8	-	-	14.6	10.4	17.4	11.6	7.9	-	-
HCM Lane LOS	A	-	-	B	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.2	0.8	0.1	0	-	-

LANE SUMMARY

 **Site: 101 [66th Ave and Lisbon St]**

New Site
 Site Category: AM 2040 Total
 Roundabout

Lane Use and Performance													
	Demand Total	Flows HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lisbon St													
Lane 1 ^d	349	2.0	1329	0.263	100	5.0	LOS A	1.4	36.6	Full	1600	0.0	0.0
Approach	349	2.0		0.263		5.0	LOS A	1.4	36.6				
East: 66th Ave													
Lane 1 ^d	90	2.0	962	0.094	100	4.6	LOS A	0.4	10.0	Full	1600	0.0	0.0
Approach	90	2.0		0.094		4.6	LOS A	0.4	10.0				
North: Lisbon St													
Lane 1 ^d	236	2.0	1195	0.197	100	4.7	LOS A	1.0	24.4	Full	1600	0.0	0.0
Approach	236	2.0		0.197		4.7	LOS A	1.0	24.4				
West: 66th Ave													
Lane 1 ^d	49	2.0	984	0.050	100	4.1	LOS A	0.2	5.1	Full	1600	0.0	0.0
Approach	49	2.0		0.050		4.1	LOS A	0.2	5.1				
Intersection	724	2.0		0.263		4.8	LOS A	1.4	36.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

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Intersection						
Int Delay, s/veh	2.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	4	1	20	11	2
Future Vol, veh/h	15	4	1	20	11	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	16	4	1	22	12	2

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	20	0	42 18
Stage 1	-	-	-	-	18 -
Stage 2	-	-	-	-	24 -
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	-	-	1596	-	969 1061
Stage 1	-	-	-	-	1005 -
Stage 2	-	-	-	-	999 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1596	-	968 1061
Mov Cap-2 Maneuver	-	-	-	-	968 -
Stage 1	-	-	-	-	1005 -
Stage 2	-	-	-	-	998 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	981	-	-	1596	-
HCM Lane V/C Ratio	0.014	-	-	0.001	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T		Y	T
Traffic Vol, veh/h	21	1	267	8	0	196
Future Vol, veh/h	21	1	267	8	0	196
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	-	-	-	50	-
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	23	1	290	9	0	213

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	508	295	0	0	299
Stage 1	295	-	-	-	-
Stage 2	213	-	-	-	-
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	525	744	-	-	1262
Stage 1	755	-	-	-	-
Stage 2	823	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	525	744	-	-	1262
Mov Cap-2 Maneuver	525	-	-	-	-
Stage 1	755	-	-	-	-
Stage 2	823	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	532	1262
HCM Lane V/C Ratio	-	-	0.045	-
HCM Control Delay (s)	-	-	12.1	0
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	20	40	4	11	43
Future Vol, veh/h	15	20	40	4	11	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	-	-
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	16	22	43	4	12	47

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	47	0	-	0	99
Stage 1	-	-	-	-	45
Stage 2	-	-	-	-	54
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1560	-	-	-	900
Stage 1	-	-	-	-	977
Stage 2	-	-	-	-	969
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1560	-	-	-	891
Mov Cap-2 Maneuver	-	-	-	-	891
Stage 1	-	-	-	-	967
Stage 2	-	-	-	-	969

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1560	-	-	-	995
HCM Lane V/C Ratio	0.01	-	-	-	0.059
HCM Control Delay (s)	7.3	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

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	5	5	45	12	5	5	50	173	20	6	314	5
Future Vol, veh/h	5	5	45	12	5	5	50	173	20	6	314	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	50	-	-	50	-	-	50	-	-	50	-	-
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	5	49	13	5	5	54	188	22	7	341	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	670	676	344	692	667	199	346	0	0	210	0	0
Stage 1	358	358	-	307	307	-	-	-	-	-	-	-
Stage 2	312	318	-	385	360	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	371	375	699	358	380	842	1213	-	-	1361	-	-
Stage 1	660	628	-	703	661	-	-	-	-	-	-	-
Stage 2	699	654	-	638	626	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	351	356	699	317	361	842	1213	-	-	1361	-	-
Mov Cap-2 Maneuver	351	356	-	317	361	-	-	-	-	-	-	-
Stage 1	630	625	-	671	631	-	-	-	-	-	-	-
Stage 2	658	625	-	585	623	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.6		14.8		1.7		0.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1213	-	-	351	638	317	505	1361	-	-
HCM Lane V/C Ratio	0.045	-	-	0.015	0.085	0.041	0.022	0.005	-	-
HCM Control Delay (s)	8.1	-	-	15.4	11.2	16.8	12.3	7.7	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.3	0.1	0.1	0	-	-

LANE SUMMARY

 Site: 101 [High Point Blvd and Lisbon St]

New Site
Site Category: PM 2040 Total
Roundabout

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lisbon St													
Lane 1 ^d	264	2.0	1329	0.199	100	4.4	LOS A	1.0	25.6	Full	1600	0.0	0.0
Approach	264	2.0		0.199		4.4	LOS A	1.0	25.6				
East: High Point Blvd													
Lane 1 ^d	24	2.0	1045	0.023	100	3.6	LOS A	0.1	2.3	Full	1600	0.0	0.0
Approach	24	2.0		0.023		3.6	LOS A	0.1	2.3				
North: Lisbon St													
Lane 1 ^d	353	2.0	1254	0.282	100	5.4	LOS A	1.5	39.1	Full	1600	0.0	0.0
Approach	353	2.0		0.282		5.4	LOS A	1.5	39.1				
West: High Point Blvd													
Lane 1 ^d	60	2.0	929	0.064	100	4.5	LOS A	0.3	6.6	Full	1600	0.0	0.0
Approach	60	2.0		0.064		4.5	LOS A	0.3	6.6				
Intersection	701	2.0		0.282		4.9	LOS A	1.5	39.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

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Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↑	↶	↶	↷	
Traffic Vol, veh/h	5	5	45	37	5	7	50	253	72	8	371	5
Future Vol, veh/h	5	5	45	37	5	7	50	253	72	8	371	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	50	-	-	50	-	-	50	-	50	50	-	-
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	5	49	40	5	8	54	275	78	9	403	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	853	885	406	834	809	275	408	0	0	353	0	0
Stage 1	424	424	-	383	383	-	-	-	-	-	-	-
Stage 2	429	461	-	451	426	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	279	284	645	288	314	764	1151	-	-	1206	-	-
Stage 1	608	587	-	640	612	-	-	-	-	-	-	-
Stage 2	604	565	-	588	586	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	261	269	645	251	297	764	1151	-	-	1206	-	-
Mov Cap-2 Maneuver	261	269	-	251	297	-	-	-	-	-	-	-
Stage 1	579	583	-	610	583	-	-	-	-	-	-	-
Stage 2	565	538	-	534	582	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	19.9	1.1	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1151	-	-	261	566	251	462	1206	-	-
HCM Lane V/C Ratio	0.047	-	-	0.021	0.096	0.16	0.028	0.007	-	-
HCM Control Delay (s)	8.3	-	-	19.1	12	22.1	13	8	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.3	0.6	0.1	0	-	-

LANE SUMMARY

 Site: 101 [66th Ave and Lisbon St]

New Site
Site Category: PM 2040 Total
Roundabout

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Queue Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lisbon St													
Lane 1 ^d	408	2.0	1214	0.336	100	6.1	LOS A	1.9	49.0	Full	1600	0.0	0.0
Approach	408	2.0		0.336		6.1	LOS A	1.9	49.0				
East: 66th Ave													
Lane 1 ^d	53	2.0	955	0.056	100	4.3	LOS A	0.2	5.8	Full	1600	0.0	0.0
Approach	53	2.0		0.056		4.3	LOS A	0.2	5.8				
North: Lisbon St													
Lane 1 ^d	502	2.0	1219	0.412	100	7.1	LOS A	2.6	66.7	Full	1600	0.0	0.0
Approach	502	2.0		0.412		7.1	LOS A	2.6	66.7				
West: 66th Ave													
Lane 1 ^d	60	2.0	774	0.077	100	5.4	LOS A	0.3	7.8	Full	1600	0.0	0.0
Approach	60	2.0		0.077		5.4	LOS A	0.3	7.8				
Intersection	1023	2.0		0.412		6.5	LOS A	2.6	66.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

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Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	20	11	3	15	7	3
Future Vol, veh/h	20	11	3	15	7	3
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	12	3	16	8	3

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	34	0	50
Stage 1	-	-	-	-	28
Stage 2	-	-	-	-	22
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1578	-	959
Stage 1	-	-	-	-	995
Stage 2	-	-	-	-	1001
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1578	-	957
Mov Cap-2 Maneuver	-	-	-	-	957
Stage 1	-	-	-	-	995
Stage 2	-	-	-	-	999

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	982	-	-	1578	-
HCM Lane V/C Ratio	0.011	-	-	0.002	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P		Y	↑
Traffic Vol, veh/h	14	1	242	23	1	370
Future Vol, veh/h	14	1	242	23	1	370
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	-	-	-	50	-
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	15	1	263	25	1	402

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	680	276	0	0	288
Stage 1	276	-	-	-	-
Stage 2	404	-	-	-	-
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	417	763	-	-	1274
Stage 1	771	-	-	-	-
Stage 2	674	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	417	763	-	-	1274
Mov Cap-2 Maneuver	417	-	-	-	-
Stage 1	771	-	-	-	-
Stage 2	673	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	430	1274
HCM Lane V/C Ratio	-	-	0.038	0.001
HCM Control Delay (s)	-	-	13.7	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	40	20	11	7	29
Future Vol, veh/h	45	40	20	11	7	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	-	-
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	49	43	22	12	8	32

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	34	0	-	0	169 28
Stage 1	-	-	-	-	28 -
Stage 2	-	-	-	-	141 -
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	1578	-	-	-	821 1047
Stage 1	-	-	-	-	995 -
Stage 2	-	-	-	-	886 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1578	-	-	-	796 1047
Mov Cap-2 Maneuver	-	-	-	-	796 -
Stage 1	-	-	-	-	964 -
Stage 2	-	-	-	-	886 -

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1578	-	-	-	987
HCM Lane V/C Ratio	0.031	-	-	-	0.04
HCM Control Delay (s)	7.4	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1