



## **ALDRIDGE TRANSPORTATION CONSULTANTS, LLC**

*Advanced Transportation Planning and Traffic Engineering*

John M.W. Aldridge, P.E.  
Colorado Licensed Professional Engineer

Approved.  
CEH 8/1/23.

1082 Chimney Rock Road  
Highlands Ranch, CO 80126  
303-703-9112

June 27, 2023

Julie Gamec  
THK Associates  
2953 South Peoria St. #101  
Aurora, CO 80014

RE: Transportation Impact Study - Revised  
Kings Point South – Aurora, CO

Dear Ms. Gamec:

Aldridge Transportation Consultants (ATC) is pleased to present this traffic impact study for the proposed construction of Kings Point South a residential development in Aurora.

ATC is a professional service firm specializing in traffic engineering and transportation planning. ATC's principal, John M.W. Aldridge, is a Colorado licensed professional engineer. In the past 25 years, ATC has prepared over 1,200 traffic impact studies, designed over 120 traffic signals, and has provided expert witness testimony on engineering design and access issues on multi-million-dollar interchange and highway projects in Kansas and Colorado.

We acknowledge that City of Aurora's review of this study is only for general performance with submittal requirements, current design criteria, and standard engineering principles and practice.

ATC appreciates the opportunity to be of service. Please call if you have any questions. We can be reached on 303-703-9112.



Respectfully submitted,

**Aldridge Transportation Consultants, LLC**

John M.W. Aldridge, P.E.  
Principal



## INTRODUCTION

This Traffic Impact Study examines the potential impact on traffic that would be caused by the development of Kings Point South located on Kings Point Way northeast of Cottonwood Dr. Figure 1 shows the site vicinity and the surrounding streets and intersections.



Figure 1 Site Location and Surrounding Streets and Intersections

In preparing this study we reference two previous traffic studies, the Kings Point Development (Kings Point North aka Prairie Point) Traffic Impact Study prepared by Atkins, January 15, 2016, and the Lighthouse at Crown Point Kings Point South Traffic Impact Study prepared by FHU, May 2013. Note that the Atkins' traffic study is considered a Master Traffic Impact Study (MTIS).

Both provide an extensive analysis of the short-term and long-term impacts of the respective projects focusing on the proposed extension of Aurora Parkway from near Gartrell St. across E-470 and intersecting with SH-83 (dashed blue line in Figure 1). In particular, the Atkins study prepared an alternative development scenario that included a "New Parallel Roadway" (parallel to SH-83) which is the extension of Kings Point Way from the proposed roundabout on Aurora Parkway to the signalized intersection on Cottonwood Dr. Note, though, that the Atkins study did not include the development of Kings Point South.

## EXISTING CONDITIONS

**Kings Point Way** is a recently constructed two-lane Collector with a painted median for left turn lanes. It is approximately one-half mile long. It features detached sidewalks and bike lanes on both sides. It is posted at 35 mph. It was recently opened to traffic and presently serves an apartment complex on the west side. It is positioned to connect to a proposed roundabout on Aurora Parkway.



**Cottonwood Dr.** is a 4-lane Collector Road. The 2023 ADT is approximately 8,900 based on the growth rates found in DRCOG's 2020 and 2050 Focus Model Assigned Volumes. The speed limit is 35 mph. It intersects with SH-83 at a signalized intersection. To the east it passes under C-470 and circles around to connect at a roundabout with Crown Crest Blvd.

**Aurora Parkway** is a proposed six-lane Major Regional Arterial. It currently terminates near Gartrell St. The timing of the full extension to SH-83, which involves a bridge over E-470, is not known but it is anticipated to be in place in the long-term 2040 scenario. As we understand it, the Kings Point North project is starting construction of a portion of the Aurora Parkway intersecting with SH-83 and ending short of E-470. The section will include the roundabout at the intersection of Kings Point Way. This portion of the parkway is expected to be in place for the short-term 2025 scenario.

The intersection of Cottonwood Dr. and Kings Point Way is a traffic signal controlled with protected/permitted (flashing yellow arrows) left turn phasing on the eastbound and westbound approaches. Northbound and southbound approaches are permitted only. On the eastbound and westbound approaches there are 100-foot left turn lanes and shared through and right turn lanes. On the northbound approach, there are 185-foot dual left turn lanes and a single shared through and right turn lane. The new southbound approach features a 250-foot left turn lane and 300-foot right turn lane. This intersection was constructed by means of an IGA between Parker and Aurora.

AM and PM traffic counts were taken All Traffic Data on Tuesday, November 10, 2020. The count worksheets and graphics are provided in the appendix for reference.

#### ACCESS LOCATIONS

The site will be accessible from Kings Point Way at two full movement intersections approximately 1,000 feet apart. A third access is proposed onto the future Aurora Parkway. It is anticipated that this access will be right in /right out only. Figure 2 shows the site plan and the access locations.



Figure 2 Site Plan and Access Locations

#### LAND USE and TRIP GENERATION

The property will be developed with 194 single family homes on approximately 60 acres. The buildout is expected by 2025. The trip generation rates are from the *ITE Trip Generation Manual, 10<sup>th</sup> Edition*. The following worksheet Table 1 provides the ADT and AM/PM Peak Hour traffic volumes.

Table 1

Trip Generation Worksheet										
ITE CODE	LAND USE	UNIT	QUANTITY	ADT	AM			PM		
					IN	OUT	TOTAL	IN	OUT	TOTAL
210	Single Family	DU	194	9.44	0.19	0.56		0.67	0.33	
				1831	37	109	146	130	64	194
Total Trips				1831	37	109	146	130	64	194

#### TRAFFIC DISTRIBUTION & ASSIGNMENT

The distribution and assignment of the site generated traffic at each access and at each intersection in the 2025- and 2040-time frame are shown on the Synchro graphics attached and in Figure 3 and 4. The FHU study which focused on Kings Point South, projected that 35 percent of the trip generation would use the parkway to head north and come back south on SH-83. The traffic headed



east on the parkway is nominal at 5 percent. At the intersection of Cottonwood Dr. and Kings Point Way, the distribution was based on the projections in the FHU study which calculated to a 40/20 split.

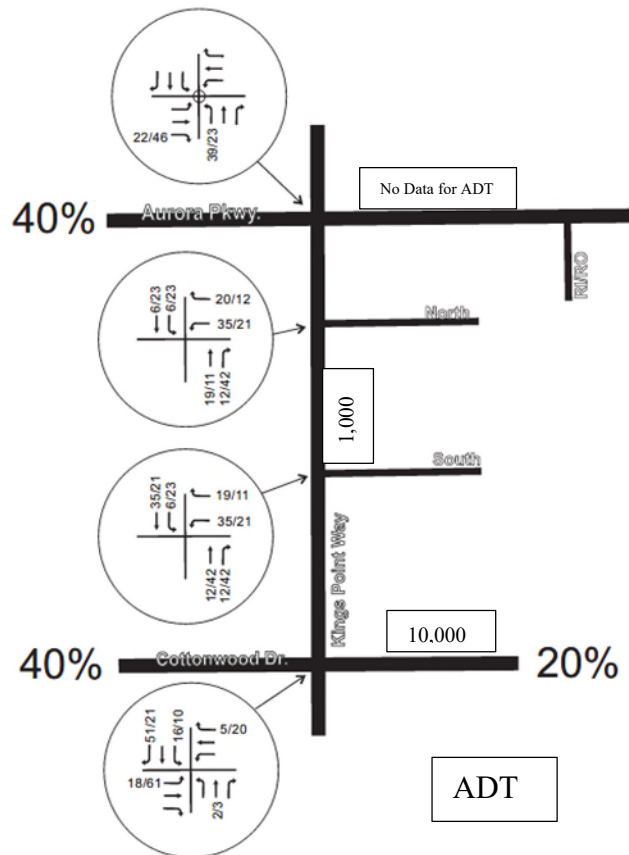


Figure 3 2025 Site Generated Trip Distribution and Assignment



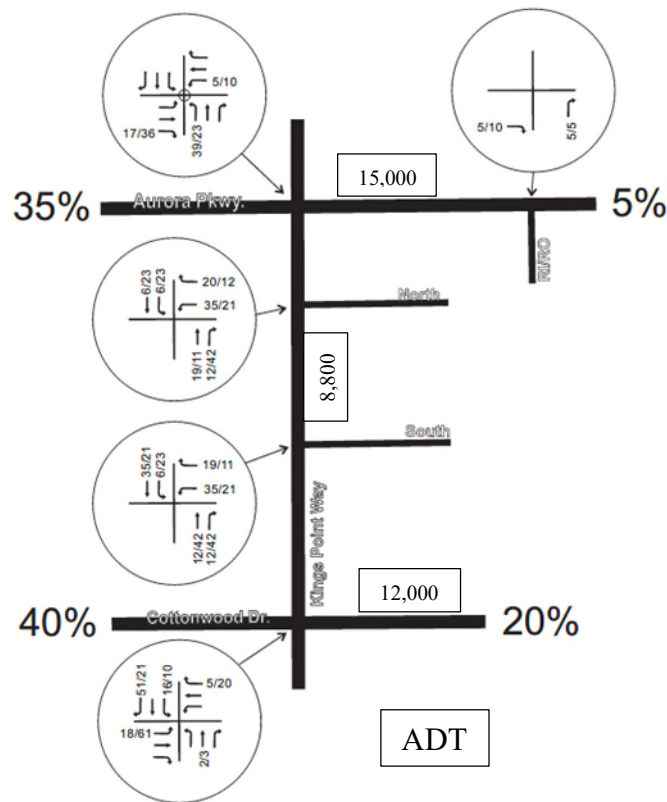


Figure 4 2040 Site Generated Trip Distribution and Assignment

#### FUTURE TRAFFIC VOLUMES

The City's Traffic Impact Study Guidelines state that future traffic volumes are generally available from the City's Transportation Planning. It also states, "For some cases developers may instead calculate future background traffic by applying a 2% growth rate factor per year, compounded annually, to existing traffic. In either case, the estimates should account for future development adjacent to or near the proposed site based on the current zoning for undeveloped parcels within the study area." The city participates in the development of the DRCOG Focus Model by providing growth and development data on households, employment, income, etc. for the model's traffic analysis zones (TAZ). The Focus model provides assigned volumes for 2020 and 2050 which are based on data provided by the city. The DRCOG urban travel model was employed to develop the short-term and long-term traffic projections in the Atkins and FHU studies. To maintain consistency with those studies we have incorporated their peak hour volume projections in this study.

The Atkins' projections tended to be higher particularly on Kings Point Way as it assumed diversion of the site generated traffic from SH-83 to Kings Point Way. In particular, the projected long-term ADT on Kings Point Way in the FHU study was 1,600 ADT. In the Atkins' study it



calculated to 8,800 ADT. In either case, the projected volume is below the LOS C capacity of a 2-lane Collector.<sup>1</sup>

The Aurora Parkway is expected to carry 20,000 ADT per the 2007 SEATS. That was the only ADT noted on the parkway. The count shown in SEATS is located at the intersection with CO-83. On the east side of Kings Point Way the ADT is 15,000. Note that the Atkins' MTIS does not report ADTs. We calculated and estimated ADT based on the standard rule that the PM Peak Hour is 10 percent of the daily.

#### PEAK HOUR INTERSECTION LEVEL OF SERVICE

ATC uses Synchro v.10 for operations analyses. The Synchro methodology is based on the 6<sup>th</sup> Edition of the Highway Capacity Manual (HCM). The table summarizes the AM and PM peak hour LOS for the Existing, 2025 Background and Total and the 2040 Background and Total conditions. Synchro graphics and reports for each timeframe are provided in the appendix. The HCM states that, *"LOS is used to translate complex numerical performance rating into a simple A-F system representative of the travelers' perception of the quality of service provided by a facility or service. Practitioners and decision makers alike must understand that the LOS letter result hides much of the complexity of facility performance<sup>2</sup>."* LOS is a letter rating from A to F. LOS A indicates free-flow traffic conditions and no delay at intersections. LOS F is heavy traffic congestion with significant delay. LOS is provided for the overall operations at signalized intersections. LOS D is generally the benchmark for acceptable signalized intersection operations during the weekday peak hours. The critical movement, not the overall, indicates the LOS rating for unsignalized intersections, which is generally a left turn out from the minor street approach. Caution must be used when evaluating the LOS at unsignalized intersections particularly when LOS F is shown. In case of LOS F, the HCM recommends that other evaluation methods should be considered such as the volume over capacity ratios, the 95<sup>th</sup> percentile queue length, and duration of LOS F to make the most effective traffic control decision<sup>3</sup>. LOS F at unsignalized intersections is typically normal during the weekday peak hours as the duration of the LOS F condition is relatively short.

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<sup>1</sup> NEATS, Table 2 Recommended Traffic Volume Thresholds

<sup>2</sup> HCM version 6, Chapter 5, pages 5-3 – 5-6.

<sup>3</sup> ditto



Table 2

Level of Service Summary LOS/Delay in Seconds										
	Existing		2025 Background		2025 Total		2040 Background		2040 Total	
Intersection	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
<b>Signalized</b>										
Cottonwood/Kings Point - Over	B/18.3	B/19.6	B/18.3	B/19.6	B/19.2	B/18.3	C/22.3	D/36.9	C/21.2	D/39.7
EBL	n/a	n/a	n/a	n/a	C/21.3	B/19.5	C/20.9	C/31.2	B/19.8	D/36.9
EBR	C/23.8	C/30.4	C/23.8	C/30.4	C/25.4	C/26.1	C/27.2	C/32.0	C/25.5	C/27.0
WBL	B/18.4	C/21.8	B/18.4	C/21.8	C/21.5	C/20.1	C/22.4	C/23.3	C/21.7	C/22.2
WBR	n/a	n/a	n/a	n/a	C/24.3	C/23.0	C/29.6	D/54.3	C/29.1	E/56.1
NBL	A/4.0	A/7.3	A/4.0	A/7.3	A/4.1	A/8.4	A/8.1	D/45.1	B/11.6	E/62.2
NBR	A/3.9	A/6.5	A/3.9	A/6.5	A/3.9	A/6.9	B/10.9	B/13.7	A/8.4	B/15.3
SBL	n/a	n/a	n/a	n/a	A/3.9	A/6.3	A/8.8	B/15.0	A/9.4	B/17.1
SBR	n/a	n/a	n/a	n/a	A/4.1	A/6.4	A/8.9	B/17.2	A/9.8	B/19.9
<b>Unsignalized</b>										
Aurora Pkwy. Rl>Ro Access	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	A/9.6	B/12.0
North Access	n/a	n/a	n/a	n/a	A/8.3	A/9.1	n/a	n/a	B/11.6	C/15.1
South Access	n/a	n/a	n/a	n/a	A/8.9	A/9.3	n/a	n/a	B/12.8	C/20.2
<b>Roundabout</b>										
Aurora Pkwy./Kings Point - Over	n/a	n/a	n/a	n/a	A/3.8	A/3.1	n/a	n/a	A/8.5	B/10.3
EB	n/a	n/a	n/a	n/a	A/3.9	A/3.0	n/a	n/a	A/4.5	B/10.8
WB	n/a	n/a	n/a	n/a	A/0.0	A/0.0	n/a	n/a	A/9.3	A/7.8
NB	n/a	n/a	n/a	n/a	A/3.4	A/2.8	n/a	n/a	A/5.0	B/14.0
WB	n/a	n/a	n/a	n/a	A/3.8	A/3.3	n/a	n/a	C/15.2	A/7.9

The signalized intersection at Kings Point Way and Cottonwood Dr. operates now at LOS B/B in the AM and PM peak hours. It will continue to operate at LOS B/B in the 2025 Background and Total AM and PM peak hours. In 2040 Background and Total AM and PM peak hours it will operate at LOS C/D with the higher traffic volume projections on the Kings Point Way leg (approach and receiving lanes) per the Atkins study.

The North Access will operate with TWSC at LOS A/A in the 2025 AM and PM peak hours and LOS B/C in the 2040 AM and PM peak hours.

The South Access will also operate with TWSC at LOS A/A in the 2025 AM and PM peak hours and LOS B/C in the 2040 AM and PM peak hours.

The roundabout will operate at LOS A/A in the 2025 AM and PM peak hours and in 2040 LOS A/B. Note that the Atkins' MTIS contains additional information on the roundabout operation.

#### AUXILIARY LANES

Southbound left turns into the accesses will be accommodated by the center left turn lane. Northbound right turn lanes are not required by the State Highway Access Code to which the City defers for auxiliary lane warrants. The threshold for an NR-C or NR-B Arterial (the Code does not define warrants for Collector roadways) that is not greater than 40 mph is 50 vehicles per hour in the peak hour. The highest right turn peak hour volume is 42 vph. No right turn lane is warranted at the right in/right out on Aurora Parkway. The threshold for this type of facility is 25 vph. The highest right turn peak hour volume is 10 vph.





## QUEUEING

Table 3 summarizes the 95<sup>th</sup> percentile queue length at the signalized intersection of Cottonwood Dr. and Kings Point Way.

Table 3

95th Percentile Queue Summary Cottonwood Dr. / Kings Point Way (feet)					
	EBL	WBL	NBL	SBL	SBR
Existing Storage	100	100	180 (2)	250	300
Senario					
EX AM	n/a	15	20	n/a	n/a
EX PM	n/a	17	56	n/a	n/a
2025 AM BKG	n/a	15	21	n/a	n/a
2025 PM BKG	n/a	39	121	n/a	n/a
2025 AM TOTAL	18	16	21	11	10
2025 PM TOTAL	18	14	53	2	0
2040 AM BKG	84	28	140	53	23
2040 PM BKG	181	38	402	74	65
2040 AM TOTAL	51	27	144	64	35
2040 PM TOTAL	242	35	429	84	50

Should it be necessary, in the absence of probable real time adjustable signal timing, the storage bays on the EBL and NBL at the intersection of Kings Point Way and Cottonwood Dr. could be lengthened to accommodate the queues. Otherwise, the existing storage length is not exceeded on any other movements particularly on the southbound approach.

A table for the 95<sup>th</sup> percentile queues in vehicles (for unsignalized intersections) at the access locations and the roundabout is not necessary as the queues are practically non-existent. No movement registered more than a one vehicle queue. In fact the highest queue reported is 0.1 vehicles.

## INTERNAL STREETS

The internal streets are either Local Street Type 1 or Local Street Type 2. Type 1 has a design speed of 30 mph. Figure 5 shows the Type 1 cross-section that includes 10' travel lanes, on-street parking, sidewalks, and landscaping on both sides. Figure 6 Shows the Local Street Type 2 cross-section which is the same except for the travel lane is 16 feet for both directions.

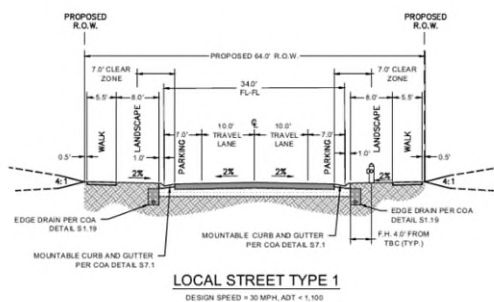


Figure 5 Local Street Type 1

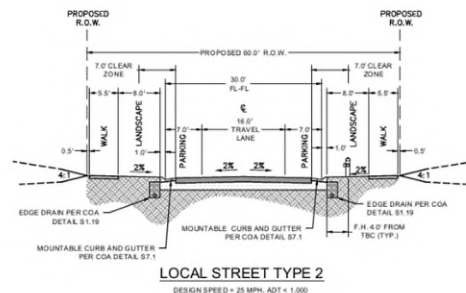


Figure 6 Local Street Type 2



The following Figure 7 is the signage and striping plan copied from the civil construction drawings. It shows the internal street layout, traffic control signs, and striping.

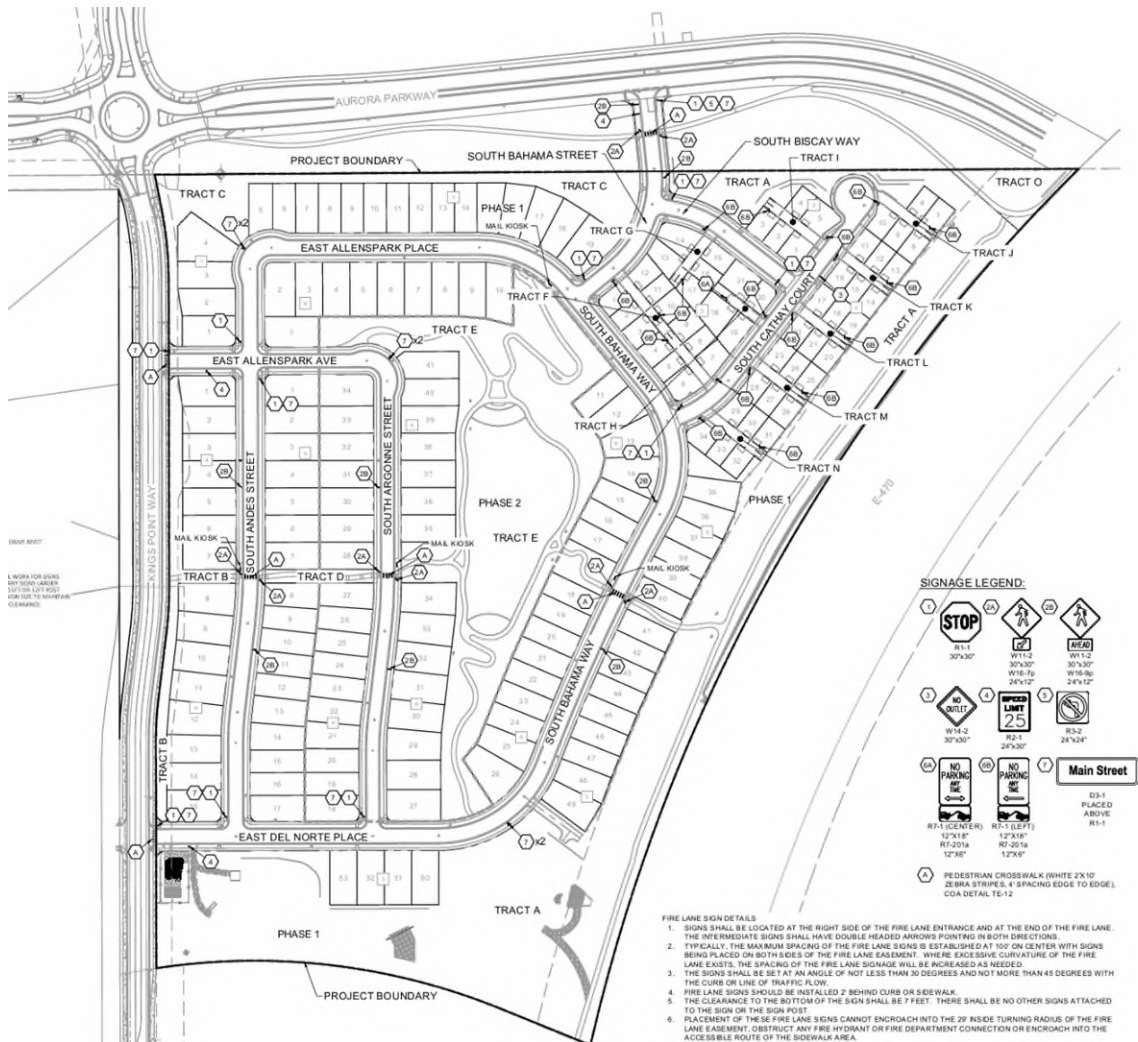


Figure 7 Signage and Striping Plan

It also shows the mid-block crosswalks for pedestrians and bike access to the center area park and trail system. For more detail on each intersection please see the construction drawings pages 66 to 80. These pages are too voluminous to include in this study. As indicated in the cross-sections all streets include sidewalks on both sides.



#### MITIGATION

Kings Point Way is a new street, and no mitigation is required. At the intersection of Cottonwood Dr. and Kings Point Way the traffic signal has been modified in cooperation with the Town of Parker to include the mast arm and signal equipment for the southbound approach. The roundabout has not been constructed but when it is Kings Point Way will become the south leg.

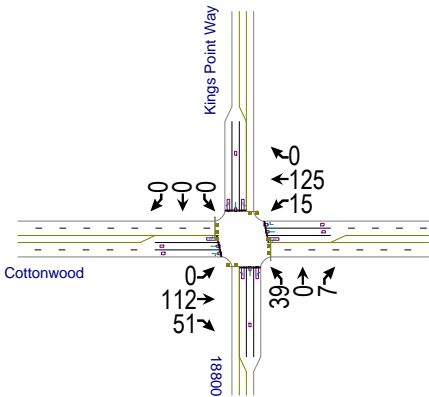
All internal streets are classified as Type 1 and Type 2 Local streets posted at 25 mph (design speed of 30 mph). All internal streets will include detached sidewalks and ADA compliant ramps on each corner for pedestrian safety. Crosswalk markings will be installed across the westbound approach to each access on Kings Point Way and on the northbound approach to Aurora Parkway. Internal traffic control will consist of two-way stop sign control on the side streets. No all way stop signs are anticipated.

#### CONCLUSIONS & RECOMMENDATIONS

Based on the analysis, traffic from the site can be absorbed by the adjacent streets and intersections and not cause a safety or operational problem. The proposed access locations are the best engineering fit for the parcel's configuration and accessibility to the streets.



APPENDIX





Kings Point South  
10: 18800/Kings Point Way & Cottonwood























EX AM  
06/08/2021

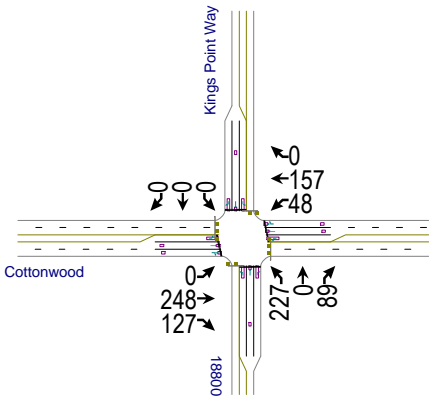


Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	177	16	136	42	8
v/c Ratio	0.33	0.06	0.21	0.05	0.01
Control Delay	15.9	16.0	17.4	5.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	16.0	17.4	5.2	0.0
Queue Length 50th (ft)	15	4	17	3	0
Queue Length 95th (ft)	46	15	34	20	0
Internal Link Dist (ft)	295		230		
Turn Bay Length (ft)		100		150	150
Base Capacity (vph)	2090	482	2755	908	1299
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.03	0.05	0.05	0.01
Intersection Summary					

Kings Point South  
10: 18800/Kings Point Way & Cottonwood

EX AM  
06/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	112	51	15	125	0	39	0	7	0	0	0
Future Volume (veh/h)	0	112	51	15	125	0	39	0	7	0	0	0
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	0	122	55	16	136	0	42	0	8	0	0	0
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	277	259	111	244	761	0	1229	1143	969	140	1143	969
Arrive On Green	0.00	0.11	0.11	0.02	0.21	0.00	0.61	0.00	0.61	0.00	0.00	0.00
Sat Flow, veh/h	1781	2422	1038	1781	3647	0	1781	1870	1585	1407	1870	1585
Grp Volume(v), veh/h	0	88	89	16	136	0	42	0	8	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1683	1781	1777	0	1781	1870	1585	1407	1870	1585
Q Serve(g_s), s	0.0	2.4	2.6	0.4	1.6	0.0	0.5	0.0	0.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	2.4	2.6	0.4	1.6	0.0	0.5	0.0	0.1	0.0	0.0	0.0
Prop In Lane	1.00		0.62	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	190	180	244	761	0	1229	1143	969	140	1143	969
V/C Ratio(X)	0.00	0.46	0.50	0.07	0.18	0.00	0.03	0.00	0.01	0.00	0.00	0.00
Avail Cap(c_a), veh/h	447	1086	1029	675	2759	0	1229	1143	969	140	1143	969
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)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.6	21.7	18.3	16.5	0.0	4.0	0.0	3.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	2.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.0	1.0	0.2	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.4	23.8	18.4	16.7	0.0	4.0	0.0	3.9	0.0	0.0	0.0
LnGrp LOS	A	C	C	B	B	A	A	A	A	A	A	A
Approach Vol, veh/h		177			152			50			0	
Approach Delay, s/veh		23.6			16.8			4.0			0.0	
Approach LOS		C			B			A				
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		36.0	5.5	10.0		36.0	0.0	15.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		31.5	13.5	31.5		31.5	5.0	40.0				
Max Q Clear Time (g_c+I1), s		2.5	2.4	4.6		0.0	0.0	3.6				
Green Ext Time (p_c), s		0.1	0.0	1.0		0.0	0.0	0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									



Kings Point South  
10: 18800/Kings Point Way & Cottonwood























EX PM  
06/08/2021



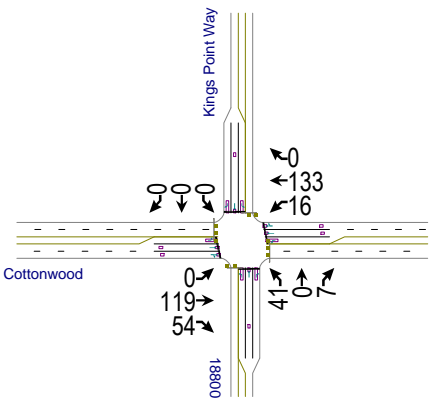
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	408	52	171	247	97
v/c Ratio	0.61	0.20	0.18	0.29	0.09
Control Delay	24.8	19.2	18.7	10.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.8	19.2	18.7	10.3	0.1
Queue Length 50th (ft)	69	17	29	56	0
Queue Length 95th (ft)	115	39	50	121	0
Internal Link Dist (ft)	295		230		
Turn Bay Length (ft)		100		150	150
Base Capacity (vph)	1302	310	1545	846	1127
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.31	0.17	0.11	0.29	0.09
Intersection Summary					

Kings Point South  
10: 18800/Kings Point Way & Cottonwood

EX PM  
06/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	248	127	48	157	0	227	0	89	0	0	0
Future Volume (veh/h)	0	248	127	48	157	0	227	0	89	0	0	0
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	0	270	138	52	171	0	247	0	97	0	0	0
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	315	398	198	241	1003	0	1153	1103	935	102	1103	935
Arrive On Green	0.00	0.17	0.17	0.05	0.28	0.00	0.59	0.00	0.59	0.00	0.00	0.00
Sat Flow, veh/h	1781	2300	1142	1781	3647	0	1781	1870	1585	1298	1870	1585
Grp Volume(v), veh/h	0	207	201	52	171	0	247	0	97	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1665	1781	1777	0	1781	1870	1585	1298	1870	1585
Q Serve(g_s), s	0.0	7.7	8.0	1.6	2.6	0.0	4.6	0.0	1.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.7	8.0	1.6	2.6	0.0	4.6	0.0	1.9	0.0	0.0	0.0
Prop In Lane	1.00		0.69	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	307	288	241	1003	0	1153	1103	935	102	1103	935
V/C Ratio(X)	0.00	0.67	0.70	0.22	0.17	0.00	0.21	0.00	0.10	0.00	0.00	0.00
Avail Cap(c_a), veh/h	439	644	603	401	1515	0	1153	1103	935	102	1103	935
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)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	27.2	27.4	21.3	19.0	0.0	6.9	0.0	6.3	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.6	3.1	0.4	0.1	0.0	0.4	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.3	3.3	0.7	1.0	0.0	1.6	0.0	0.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	29.8	30.4	21.8	19.1	0.0	7.3	0.0	6.5	0.0	0.0	0.0
LnGrp LOS	A	C	C	C	B	A	A	A	A	A	A	A
Approach Vol, veh/h		408			223			344			0	
Approach Delay, s/veh		30.1			19.7			7.1			0.0	
Approach LOS		C			B			A				
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		46.0	7.7	16.7		46.0	0.0	24.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		41.5	9.5	25.5		41.5	5.0	30.0				
Max Q Clear Time (g_c+I1), s		6.6	3.6	10.0		0.0	0.0	4.6				
Green Ext Time (p_c), s		1.0	0.0	2.2		0.0	0.0	1.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									



























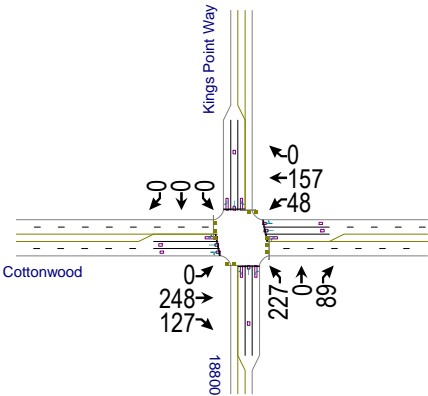


Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	188	17	144	45	8
v/c Ratio	0.35	0.07	0.22	0.05	0.01
Control Delay	15.9	16.0	17.5	5.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	16.0	17.5	5.3	0.0
Queue Length 50th (ft)	16	4	18	3	0
Queue Length 95th (ft)	48	15	36	21	0
Internal Link Dist (ft)	295		230		
Turn Bay Length (ft)		100		150	150
Base Capacity (vph)	2105	485	2775	903	1291
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.04	0.05	0.05	0.01
Intersection Summary					

Kings Point South  
10: 18800/Kings Point Way & Cottonwood

2025 AM BKG  
06/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	112	51	15	125	0	39	0	7	0	0	0
Future Volume (veh/h)	0	112	51	15	125	0	39	0	7	0	0	0
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	0	129	59	17	144	0	45	0	8	0	0	0
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	281	268	117	246	778	0	1221	1136	963	139	1136	963
Arrive On Green	0.00	0.11	0.11	0.02	0.22	0.00	0.61	0.00	0.61	0.00	0.00	0.00
Sat Flow, veh/h	1781	2410	1049	1781	3647	0	1781	1870	1585	1407	1870	1585
Grp Volume(v), veh/h	0	93	95	17	144	0	45	0	8	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1682	1781	1777	0	1781	1870	1585	1407	1870	1585
Q Serve(g_s), s	0.0	2.6	2.7	0.4	1.7	0.0	0.5	0.0	0.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	2.6	2.7	0.4	1.7	0.0	0.5	0.0	0.1	0.0	0.0	0.0
Prop In Lane	1.00		0.62	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	281	198	187	246	778	0	1221	1136	963	139	1136	963
V/C Ratio(X)	0.00	0.47	0.51	0.07	0.19	0.00	0.04	0.00	0.01	0.00	0.00	0.00
Avail Cap(c_a), veh/h	449	1079	1022	672	2741	0	1221	1136	963	139	1136	963
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)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.6	21.7	18.2	16.5	0.0	4.1	0.0	4.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.8	2.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	1.1	0.2	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.4	23.8	18.3	16.6	0.0	4.2	0.0	4.0	0.0	0.0	0.0
LnGrp LOS	A	C	C	B	B	A	A	A	A	A	A	A
Approach Vol, veh/h		188			161			53			0	
Approach Delay, s/veh		23.6			16.8			4.1			0.0	
Approach LOS		C			B			A				
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		36.0	5.6	10.3		36.0	0.0	15.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		31.5	13.5	31.5		31.5	5.0	40.0				
Max Q Clear Time (g_c+I1), s		2.5	2.4	4.7		0.0	0.0	3.7				
Green Ext Time (p_c), s		0.1	0.0	1.1		0.0	0.0	0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									



























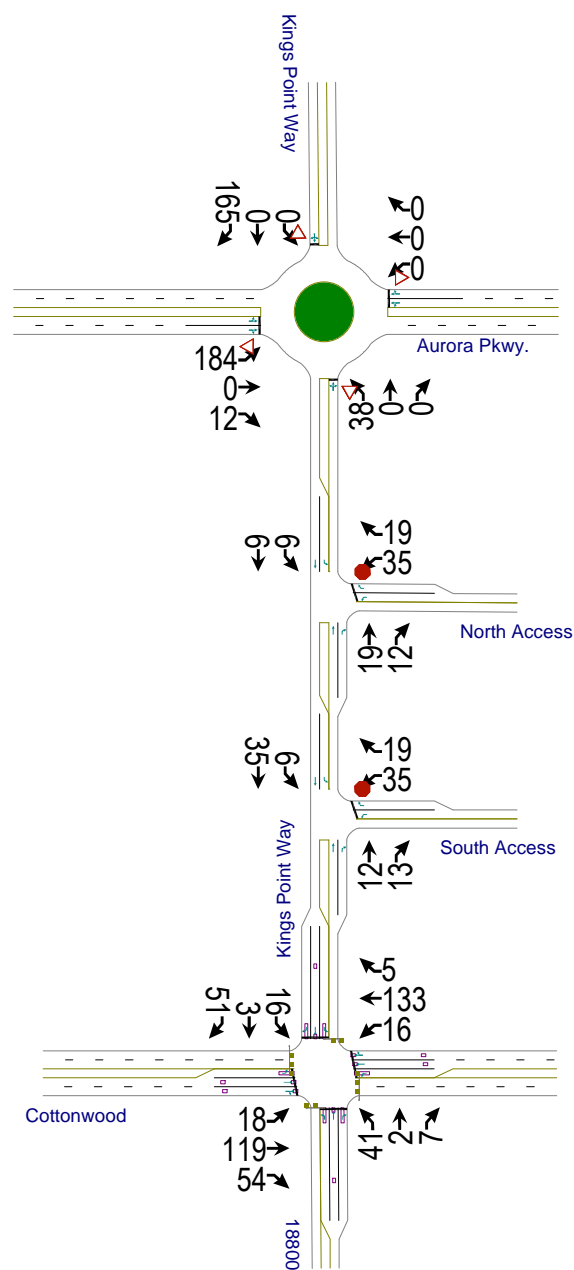
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	408	52	171	247	97
v/c Ratio	0.61	0.20	0.18	0.29	0.09
Control Delay	24.8	19.2	18.7	10.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.8	19.2	18.7	10.3	0.1
Queue Length 50th (ft)	69	17	29	56	0
Queue Length 95th (ft)	115	39	50	121	0
Internal Link Dist (ft)	295		230		
Turn Bay Length (ft)		100		150	150
Base Capacity (vph)	1302	310	1545	846	1127
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.31	0.17	0.11	0.29	0.09
Intersection Summary					



Kings Point South  
10: 18800/Kings Point Way & Cottonwood







2025 PM BKG  
06/08/2021







												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	248	127	48	157	0	227	0	89	0	0	0
Future Volume (veh/h)	0	248	127	48	157	0	227	0	89	0	0	0
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	0	270	138	52	171	0	247	0	97	0	0	0
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	315	398	198	241	1003	0	1153	1103	935	102	1103	935
Arrive On Green	0.00	0.17	0.17	0.05	0.28	0.00	0.59	0.00	0.59	0.00	0.00	0.00
Sat Flow, veh/h	1781	2300	1142	1781	3647	0	1781	1870	1585	1298	1870	1585
Grp Volume(v), veh/h	0	207	201	52	171	0	247	0	97	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1665	1781	1777	0	1781	1870	1585	1298	1870	1585
Q Serve(g_s), s	0.0	7.7	8.0	1.6	2.6	0.0	4.6	0.0	1.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.7	8.0	1.6	2.6	0.0	4.6	0.0	1.9	0.0	0.0	0.0
Prop In Lane	1.00		0.69	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	307	288	241	1003	0	1153	1103	935	102	1103	935
V/C Ratio(X)	0.00	0.67	0.70	0.22	0.17	0.00	0.21	0.00	0.10	0.00	0.00	0.00
Avail Cap(c_a), veh/h	439	644	603	401	1515	0	1153	1103	935	102	1103	935
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)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	27.2	27.4	21.3	19.0	0.0	6.9	0.0	6.3	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.6	3.1	0.4	0.1	0.0	0.4	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.3	3.3	0.7	1.0	0.0	1.6	0.0	0.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	29.8	30.4	21.8	19.1	0.0	7.3	0.0	6.5	0.0	0.0	0.0
LnGrp LOS	A	C	C	C	B	A	A	A	A	A	A	A
Approach Vol, veh/h		408			223			344			0	
Approach Delay, s/veh		30.1			19.7			7.1			0.0	
Approach LOS		C			B			A				
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		46.0	7.7	16.7		46.0	0.0	24.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		41.5	9.5	25.5		41.5	5.0	30.0				
Max Q Clear Time (g_c+I1), s		6.6	3.6	10.0		0.0	0.0	4.6				
Green Ext Time (p_c), s		1.0	0.0	2.2		0.0	0.0	1.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									



Kings Point South  
2: Kings Point Way & South Access

2025 AM Total  
06/04/2021

Intersection						
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	19	12	13	6	35
Future Vol, veh/h	35	19	12	13	6	35
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	100	-	100	100	-
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	38	21	13	14	7	38
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	65	13	0	0	27	0
Stage 1	13	-	-	-	-	-
Stage 2	52	-	-	-	-	-
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	941	1067	-	-	1587	-
Stage 1	1010	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	937	1067	-	-	1587	-
Mov Cap-2 Maneuver	937	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.8	0	1.1			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 937 1067 1587	-	-		
HCM Lane V/C Ratio	-	- 0.041 0.019 0.004	-	-		
HCM Control Delay (s)	-	- 9 8.4 7.3	-	-		
HCM Lane LOS	-	- A A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.1 0.1 0	-	-		

Intersection						
Int Delay, s/veh	5.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	19	19	12	6	6
Future Vol, veh/h	35	19	19	12	6	6
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	100	-	100	100	-
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	38	21	21	13	7	7
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	42	21	0	0	34	0
Stage 1	21	-	-	-	-	-
Stage 2	21	-	-	-	-	-
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	969	1056	-	-	1578	-
Stage 1	1002	-	-	-	-	-
Stage 2	1002	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	965	1056	-	-	1578	-
Mov Cap-2 Maneuver	965	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	998	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.8	0	3.6			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 965 1056 1578	-	-		
HCM Lane V/C Ratio	-	- 0.039 0.02 0.004	-	-		
HCM Control Delay (s)	-	- 8.9 8.5 7.3	-	-		
HCM Lane LOS	-	- A A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.1 0.1 0	-	-		

Intersection						
Intersection Delay, s/veh	3.8					
Intersection LOS	A					
Approach	EB		WB		NB	SB
Entry Lanes	2		2		1	1
Conflicting Circle Lanes	2		2		2	2
Adj Approach Flow, veh/h	213		0		41	179
Demand Flow Rate, veh/h	217		0		42	183
Vehicles Circulating, veh/h	0		246		204	42
Vehicles Exiting, veh/h	225		0		13	204
Ped Vol Crossing Leg, #/h	0		0		0	0
Ped Cap Adj	1.000		1.000		1.000	1.000
Approach Delay, s/veh	3.9		0.0		3.4	3.8
Approach LOS	A		-		A	A
Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	L	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.940	0.060	0.500	0.500	1.000	1.000
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328
Entry Flow, veh/h	204	13	0	0	42	183
Cap Entry Lane, veh/h	1350	1420	1076	1152	1194	1370
Entry HV Adj Factor	0.980	1.000	1.000	1.000	0.976	0.978
Flow Entry, veh/h	200	13	0	0	41	179
Cap Entry, veh/h	1323	1420	1076	1152	1166	1340
V/C Ratio	0.151	0.009	0.000	0.000	0.035	0.134
Control Delay, s/veh	4.0	2.6	3.3	3.1	3.4	3.8
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	0	0	0	0	0



Kings Point South  
10: 18800/Kings Point Way & Cottonwood























2025 AM Total  
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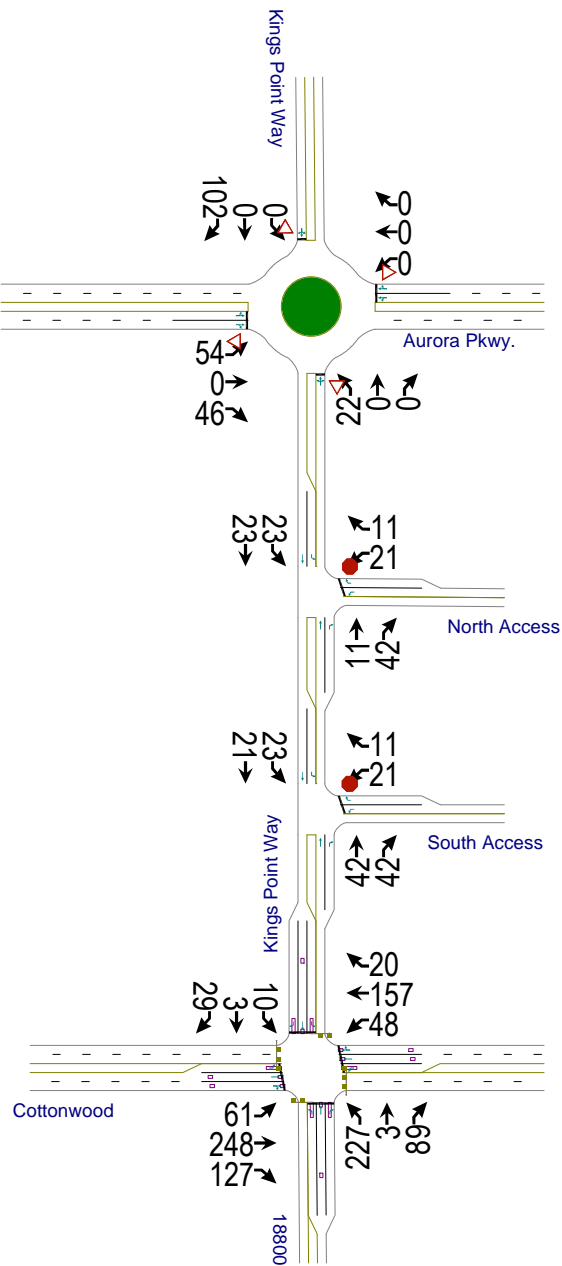


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	20	188	17	149	45	2	8	17	3	55
v/c Ratio	0.08	0.35	0.07	0.30	0.05	0.00	0.01	0.02	0.00	0.05
Control Delay	17.5	16.9	17.4	22.4	5.1	5.5	0.0	5.2	5.3	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	16.9	17.4	22.4	5.1	5.5	0.0	5.2	5.3	1.6
Queue Length 50th (ft)	5	18	4	20	3	0	0	1	0	0
Queue Length 95th (ft)	18	50	16	51	21	3	0	11	4	10
Internal Link Dist (ft)	295		230		180		265			
Turn Bay Length (ft)	100		100		150		150	150		150
Base Capacity (vph)	440	1862	439	1918	925	1224	1065	926	1224	1065
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.10	0.04	0.08	0.05	0.00	0.01	0.02	0.00	0.05
Intersection Summary										

Kings Point South  
10: 18800/Kings Point Way & Cottonwood







2025 AM Total  
06/04/2021







												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	112	51	15	125	5	39	2	7	16	3	51
Future Volume (veh/h)	18	112	51	15	125	5	39	2	7	16	3	51
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	20	129	59	17	144	5	45	2	8	17	3	55
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	255	260	113	233	367	13	972	1171	993	1010	1171	993
Arrive On Green	0.02	0.11	0.11	0.02	0.10	0.10	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1781	2410	1049	1781	3504	121	1345	1870	1585	1405	1870	1585
Grp Volume(v), veh/h	20	93	95	17	73	76	45	2	8	17	3	55
Grp Sat Flow(s),veh/h/ln	1781	1777	1682	1781	1777	1849	1345	1870	1585	1405	1870	1585
Q Serve(g_s), s	0.5	2.7	2.9	0.5	2.1	2.1	0.7	0.0	0.1	0.3	0.0	0.7
Cycle Q Clear(g_c), s	0.5	2.7	2.9	0.5	2.1	2.1	0.7	0.0	0.1	0.3	0.0	0.7
Prop In Lane	1.00		0.62	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	192	181	233	186	194	972	1171	993	1010	1171	993
V/C Ratio(X)	0.08	0.49	0.52	0.07	0.39	0.39	0.05	0.00	0.01	0.02	0.00	0.06
Avail Cap(c_a), veh/h	617	952	900	600	952	990	972	1171	993	1010	1171	993
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	23.1	23.2	21.3	23.0	23.0	4.0	3.9	3.9	3.9	3.9	4.0
Incr Delay (d2), s/veh	0.1	1.9	2.3	0.1	1.3	1.3	0.1	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.2	1.2	0.2	0.9	0.9	0.2	0.0	0.0	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.3	25.0	25.5	21.5	24.4	24.3	4.1	3.9	3.9	3.9	3.9	4.1
LnGrp LOS	C	C	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		208			166			55			75	
Approach Delay, s/veh		24.9			24.0			4.0			4.0	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		39.0	5.6	10.4		39.0	5.8	10.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.5	12.5	29.5		34.5	12.5	29.5				
Max Q Clear Time (g_c+I1), s		2.7	2.5	4.9		2.7	2.5	4.1				
Green Ext Time (p_c), s		0.1	0.0	1.0		0.2	0.0	0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			19.2									
HCM 6th LOS			B									



Kings Point South  
2: Kings Point Way & South Access

2025 PM Total  
06/08/2021

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	11	42	42	23	21
Future Vol, veh/h	21	11	42	42	23	21
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	100	-	100	100	-
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	12	46	46	25	23
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	119	46	0	0	92	0
Stage 1	46	-	-	-	-	-
Stage 2	73	-	-	-	-	-
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	877	1023	-	-	1503	-
Stage 1	976	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	862	1023	-	-	1503	-
Mov Cap-2 Maneuver	862	-	-	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.1	0	3.9			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 862 1023 1503	-	-		
HCM Lane V/C Ratio	-	- 0.026 0.012 0.017	-	-		
HCM Control Delay (s)	-	- 9.3 8.6 7.4	-	-		
HCM Lane LOS	-	- A A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.1 0 0.1	-	-		

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	11	11	42	23	23
Future Vol, veh/h	21	11	11	42	23	23
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	100	-	100	100	-
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	12	12	46	25	25
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	87	12	0	0	58	0
Stage 1	12	-	-	-	-	-
Stage 2	75	-	-	-	-	-
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	914	1069	-	-	1546	-
Stage 1	1011	-	-	-	-	-
Stage 2	948	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	899	1069	-	-	1546	-
Mov Cap-2 Maneuver	899	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	933	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.9	0	3.7			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 899 1069 1546	-	-		
HCM Lane V/C Ratio	-	- 0.025 0.011 0.016	-	-		
HCM Control Delay (s)	-	- 9.1 8.4 7.4	-	-		
HCM Lane LOS	-	- A A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.1 0 0	-	-		

Intersection						
Intersection Delay, s/veh	3.1					
Intersection LOS	A					
Approach	EB		WB		NB	SB
Entry Lanes	2		2		1	1
Conflicting Circle Lanes	2		2		2	2
Adj Approach Flow, veh/h	109		0		24	111
Demand Flow Rate, veh/h	111		0		24	113
Vehicles Circulating, veh/h	0		84		60	24
Vehicles Exiting, veh/h	137		0		51	60
Ped Vol Crossing Leg, #/h	0		0		0	0
Ped Cap Adj	1.000		1.000		1.000	1.000
Approach Delay, s/veh	3.0		0.0		2.8	3.3
Approach LOS	A		-		A	A
Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	L	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.541	0.459	0.500	0.500	1.000	1.000
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328
Entry Flow, veh/h	60	51	0	0	24	113
Cap Entry Lane, veh/h	1350	1420	1249	1322	1349	1391
Entry HV Adj Factor	0.983	0.980	1.000	1.000	1.000	0.982
Flow Entry, veh/h	59	50	0	0	24	111
Cap Entry, veh/h	1327	1392	1249	1322	1349	1367
V/C Ratio	0.044	0.036	0.000	0.000	0.018	0.081
Control Delay, s/veh	3.1	2.9	2.9	2.7	2.8	3.3
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	0	0	0	0	0

Kings Point South  
10: 18800/Kings Point Way & Cottonwood























2025 PM Total  
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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	66	408	52	193	247	3	97	11	3	32
v/c Ratio	0.18	0.58	0.18	0.31	0.31	0.00	0.10	0.01	0.00	0.03
Control Delay	16.0	21.1	16.0	22.6	10.9	9.3	2.9	9.5	9.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	21.1	16.0	22.6	10.9	9.3	2.9	9.5	9.3	0.7
Queue Length 50th (ft)	18	58	14	33	53	1	0	2	1	0
Queue Length 95th (ft)	41	102	34	62	119	5	22	10	5	3
Internal Link Dist (ft)	295		230		180		265			
Turn Bay Length (ft)	100		100		150		150	150		150
Base Capacity (vph)	492	1680	446	1691	796	1054	937	796	1054	927
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.24	0.12	0.11	0.31	0.00	0.10	0.01	0.00	0.03
Intersection Summary										

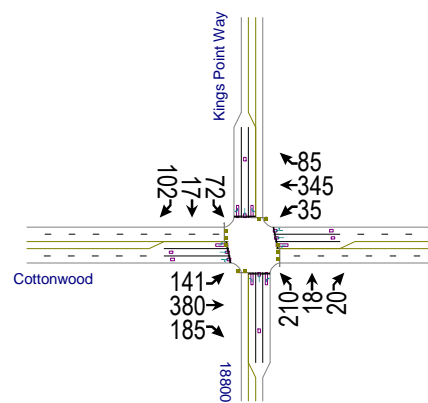
Kings Point South  
10: 18800/Kings Point Way & Cottonwood

2025 PM Total  
06/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	248	127	48	157	20	227	3	89	10	3	29
Future Volume (veh/h)	61	248	127	48	157	20	227	3	89	10	3	29
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	66	270	138	52	171	22	247	3	97	11	3	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	421	209	269	558	71	874	1034	877	831	1034	877
Arrive On Green	0.05	0.18	0.18	0.05	0.18	0.18	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1781	2300	1142	1781	3172	402	1373	1870	1585	1295	1870	1585
Grp Volume(v), veh/h	66	207	201	52	95	98	247	3	97	11	3	32
Grp Sat Flow(s),veh/h/ln	1781	1777	1665	1781	1777	1798	1373	1870	1585	1295	1870	1585
Q Serve(g_s), s	1.8	6.7	7.0	1.5	2.9	3.0	6.1	0.0	1.8	0.2	0.0	0.6
Cycle Q Clear(g_c), s	1.8	6.7	7.0	1.5	2.9	3.0	6.2	0.0	1.8	0.3	0.0	0.6
Prop In Lane	1.00		0.69	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	365	325	305	269	313	316	874	1034	877	831	1034	877
V/C Ratio(X)	0.18	0.64	0.66	0.19	0.30	0.31	0.28	0.00	0.11	0.01	0.00	0.04
Avail Cap(c_a), veh/h	625	840	787	541	840	850	874	1034	877	831	1034	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	23.6	23.7	19.7	22.4	22.4	7.6	6.2	6.6	6.3	6.2	6.4
Incr Delay (d2), s/veh	0.2	2.1	2.4	0.3	0.5	0.6	0.8	0.0	0.3	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.8	2.8	0.6	1.2	1.2	1.7	0.0	0.6	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	25.6	26.1	20.1	22.9	23.0	8.4	6.2	6.9	6.3	6.2	6.4
LnGrp LOS	B	C	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		474			245			347			46	
Approach Delay, s/veh		25.0			22.3			8.0			6.4	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		39.0	7.5	15.9		39.0	7.9	15.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.5	12.5	29.5		34.5	12.5	29.5				
Max Q Clear Time (g_c+I1), s		8.2	3.5	9.0		2.6	3.8	5.0				
Green Ext Time (p_c), s		1.1	0.1	2.4		0.1	0.1	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									



Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱↑
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	1083
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	1083
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s)	0	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	-	-	-	-		

























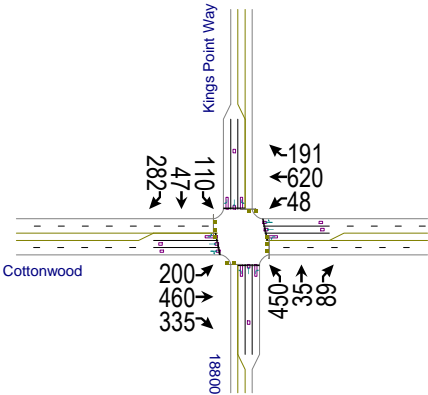


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	153	614	38	467	228	20	22	78	18	111
v/c Ratio	0.42	0.55	0.13	0.66	0.33	0.02	0.03	0.11	0.02	0.13
Control Delay	18.7	20.9	15.4	31.1	15.2	12.6	0.1	13.2	12.6	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	20.9	15.4	31.1	15.2	12.6	0.1	13.2	12.6	2.7
Queue Length 50th (ft)	47	114	11	100	61	5	0	19	4	0
Queue Length 95th (ft)	84	165	28	155	140	19	0	53	18	23
Internal Link Dist (ft)		295		230		180			299	
Turn Bay Length (ft)	100		100		150		150	150		150
Base Capacity (vph)	436	1489	297	1122	681	913	841	679	913	841
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.41	0.13	0.42	0.33	0.02	0.03	0.11	0.02	0.13
Intersection Summary										

Kings Point South  
10: 18800/Kings Point Way & Cottonwood

2040 AM BKG  
06/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	380	185	35	345	85	210	18	20	72	17	102
Future Volume (veh/h)	141	380	185	35	345	85	210	18	20	72	17	102
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	153	413	201	38	375	92	228	20	22	78	18	111
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	326	572	275	233	541	131	760	986	836	814	986	836
Arrive On Green	0.09	0.25	0.25	0.04	0.19	0.19	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	1781	2326	1119	1781	2836	688	1261	1870	1585	1365	1870	1585
Grp Volume(v), veh/h	153	314	300	38	233	234	228	20	22	78	18	111
Grp Sat Flow(s),veh/h/ln	1781	1777	1669	1781	1777	1747	1261	1870	1585	1365	1870	1585
Q Serve(g_s), s	4.7	11.5	11.7	1.2	8.7	8.9	7.5	0.4	0.5	2.1	0.3	2.5
Cycle Q Clear(g_c), s	4.7	11.5	11.7	1.2	8.7	8.9	7.8	0.4	0.5	2.4	0.3	2.5
Prop In Lane	1.00		0.67	1.00		0.39	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	326	437	410	233	339	333	760	986	836	814	986	836
V/C Ratio(X)	0.47	0.72	0.73	0.16	0.69	0.70	0.30	0.02	0.03	0.10	0.02	0.13
Avail Cap(c_a), veh/h	525	812	763	329	612	602	760	986	836	814	986	836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	24.6	24.7	22.1	26.8	26.9	9.9	8.0	8.1	8.6	8.0	8.5
Incr Delay (d2), s/veh	1.0	2.2	2.5	0.3	2.5	2.7	1.0	0.0	0.1	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	4.9	4.7	0.5	3.8	3.8	2.0	0.1	0.2	0.6	0.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	26.8	27.2	22.4	29.3	29.6	10.9	8.1	8.1	8.8	8.1	8.9
LnGrp LOS	C	C	C	C	C	C	B	A	A	A	A	A
Approach Vol, veh/h		767			505			270			207	
Approach Delay, s/veh		25.8			28.9			10.5			8.8	
Approach LOS		C			C			B			A	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		42.0	7.1	22.0		42.0	11.0	18.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		37.5	6.5	32.5		37.5	14.5	24.5				
Max Q Clear Time (g_c+I1), s		9.8	3.2	13.7		4.5	6.7	10.9				
Green Ext Time (p_c), s		1.0	0.0	3.8		0.7	0.2	2.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			22.3									
HCM 6th LOS			C									



























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	217	864	52	882	489	38	97	120	51	307
v/c Ratio	0.76	0.63	0.23	0.92	0.78	0.04	0.12	0.19	0.06	0.36
Control Delay	37.5	20.4	17.9	46.4	31.4	13.6	1.8	15.4	13.8	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	20.4	17.9	46.4	31.4	13.6	1.8	15.4	13.8	4.9
Queue Length 50th (ft)	77	168	17	244	226	12	0	39	15	19
Queue Length 95th (ft)	#181	237	38	#362	#402	29	16	74	36	65
Internal Link Dist (ft)		295		230		180			299	
Turn Bay Length (ft)	100		100		150		150	150		150
Base Capacity (vph)	284	1364	224	964	623	861	799	629	861	863
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.63	0.23	0.91	0.78	0.04	0.12	0.19	0.06	0.36

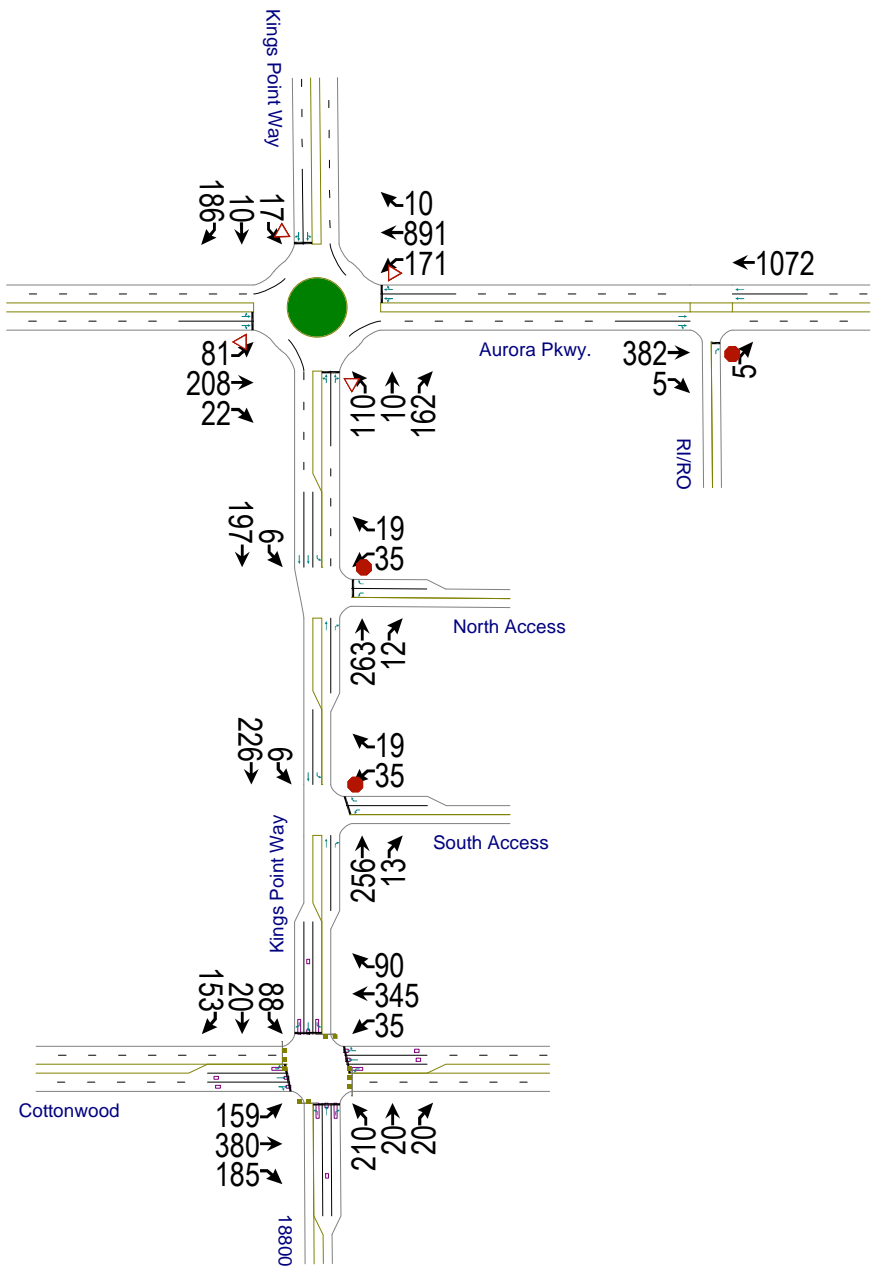
#### Intersection Summary

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

Kings Point South  
10: 18800/Kings Point Way & Cottonwood

2040 PM BKG  
06/08/2021







												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	460	335	48	620	191	450	35	89	110	47	282
Future Volume (veh/h)	200	460	335	48	620	191	450	35	89	110	47	282
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	217	500	364	52	674	208	489	38	97	120	51	307
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	287	664	483	225	730	225	546	877	743	655	877	743
Arrive On Green	0.11	0.34	0.34	0.04	0.27	0.27	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1781	1963	1427	1781	2674	825	1023	1870	1585	1254	1870	1585
Grp Volume(v), veh/h	217	452	412	52	448	434	489	38	97	120	51	307
Grp Sat Flow(s),veh/h/ln	1781	1777	1613	1781	1777	1722	1023	1870	1585	1254	1870	1585
Q Serve(g_s), s	7.4	20.0	20.1	1.8	21.7	21.7	40.2	1.0	3.1	5.1	1.3	11.3
Cycle Q Clear(g_c), s	7.4	20.0	20.1	1.8	21.7	21.7	41.5	1.0	3.1	6.1	1.3	11.3
Prop In Lane	1.00		0.88	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	601	546	225	485	470	546	877	743	655	877	743
V/C Ratio(X)	0.75	0.75	0.75	0.23	0.92	0.92	0.90	0.04	0.13	0.18	0.06	0.41
Avail Cap(c_a), veh/h	310	601	546	265	492	476	546	877	743	655	877	743
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	26.0	26.0	22.7	31.3	31.3	25.2	12.8	13.3	14.4	12.8	15.5
Incr Delay (d2), s/veh	9.4	5.3	5.9	0.5	23.0	23.7	19.9	0.1	0.4	0.6	0.1	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	9.0	8.3	0.8	12.1	11.8	12.9	0.4	1.1	1.5	0.6	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.2	31.4	32.0	23.3	54.3	55.0	45.1	12.9	13.7	15.0	13.0	17.2
LnGrp LOS	C	C	C	C	D	D	D	B	B	B	B	B
Approach Vol, veh/h		1081			934			624			478	
Approach Delay, s/veh		31.6			52.9			38.3			16.2	
Approach LOS		C			D			D			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		46.0	8.1	34.4		46.0	13.9	28.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		41.5	5.6	29.4		41.5	10.5	24.5				
Max Q Clear Time (g_c+I1), s		43.5	3.8	22.1		13.3	9.4	23.7				
Green Ext Time (p_c), s		0.0	0.0	3.3		1.8	0.1	0.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			36.9									
HCM 6th LOS			D									











Kings Point South  
2: Kings Point Way & South Access

2040 AM Total  
06/04/2021

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	19	256	13	6	226
Future Vol, veh/h	35	19	256	13	6	226
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	100	-	100	100	-
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	38	21	278	14	7	246
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	538	278	0	0	292	0
Stage 1	278	-	-	-	-	-
Stage 2	260	-	-	-	-	-
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	504	761	-	-	1270	-
Stage 1	769	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	501	761	-	-	1270	-
Mov Cap-2 Maneuver	501	-	-	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	778	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.8	0	0.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 501 761 1270	-	-		
HCM Lane V/C Ratio	-	- 0.076 0.027 0.005	-	-		
HCM Control Delay (s)	-	- 12.8 9.9 7.8	-	-		
HCM Lane LOS	-	- B A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.2 0.1 0	-	-		

Kings Point South  
5: North Access

2040 AM Total  
06/04/2021

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	19	263	12	6	197
Future Vol, veh/h	35	19	263	12	6	197
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	100	-	100	100	-
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	38	21	286	13	7	214
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	407	286	0	0	299	0
Stage 1	286	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	586	752	-	-	1261	-
Stage 1	762	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	582	752	-	-	1261	-
Mov Cap-2 Maneuver	582	-	-	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	887	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11	0	0.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 582 752 1261	-	-		
HCM Lane V/C Ratio	-	- 0.065 0.027 0.005	-	-		
HCM Control Delay (s)	-	- 11.6 9.9 7.9	-	-		
HCM Lane LOS	-	- B A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.2 0.1 0	-	-		

Intersection									
Intersection Delay, s/veh	8.5								
Intersection LOS	A								
Approach	EB		WB		NB		SB		
Entry Lanes	2		2		2		2		
Conflicting Circle Lanes	2		2		2		2		
Adj Approach Flow, veh/h	338		1165		307		231		
Demand Flow Rate, veh/h	345		1188		313		235		
Vehicles Circulating, veh/h	219		223		339		1299		
Vehicles Exiting, veh/h	1315		429		225		112		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	4.5		9.3		5.0		15.2		
Approach LOS	A		A		A		C		
Lane	Left	Right	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR	
Assumed Moves	LT	TR	LT	TR	LT	R	LT	R	
RT Channelized									
Lane Util	0.470	0.530	0.470	0.530	0.425	0.575	0.123	0.877	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328	
Entry Flow, veh/h	162	183	558	630	133	180	29	206	
Cap Entry Lane, veh/h	1104	1179	1099	1175	988	1065	409	471	
Entry HV Adj Factor	0.982	0.980	0.981	0.980	0.983	0.978	0.993	0.981	
Flow Entry, veh/h	159	179	547	617	131	176	29	202	
Cap Entry, veh/h	1084	1156	1079	1151	972	1041	406	462	
V/C Ratio	0.147	0.155	0.508	0.536	0.135	0.169	0.071	0.438	
Control Delay, s/veh	4.6	4.5	9.3	9.4	5.0	5.0	9.9	15.9	
LOS	A	A	A	A	A	A	A	C	
95th %tile Queue, veh	1	1	3	3	0	1	0	2	

Kings Point South  
10: 18800/Kings Point Way & Cottonwood























2040 AM Total  
06/04/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	614	38	473	228	22	22	96	22	166
v/c Ratio	0.45	0.53	0.13	0.65	0.35	0.03	0.03	0.15	0.03	0.20
Control Delay	18.0	19.4	14.5	30.1	16.2	13.2	0.1	14.1	13.2	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	19.4	14.5	30.1	16.2	13.2	0.1	14.1	13.2	3.3
Queue Length 50th (ft)	51	109	10	98	64	5	0	24	5	0
Queue Length 95th (ft)	90	158	27	154	144	21	0	64	21	35
Internal Link Dist (ft)		295		230		180			265	
Turn Bay Length (ft)	100		100		150		150	150		150
Base Capacity (vph)	482	1603	311	1142	653	880	814	653	880	835
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.38	0.12	0.41	0.35	0.03	0.03	0.15	0.03	0.20
Intersection Summary										

Kings Point South  
10: 18800/Kings Point Way & Cottonwood

2040 AM Total  
06/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	380	185	35	345	90	210	20	20	88	20	153
Future Volume (veh/h)	159	380	185	35	345	90	210	20	20	88	20	153
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	173	413	201	38	375	98	228	22	22	96	22	166
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	345	594	286	245	533	138	709	958	812	794	958	812
Arrive On Green	0.10	0.26	0.26	0.04	0.19	0.19	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1781	2326	1119	1781	2795	722	1195	1870	1585	1362	1870	1585
Grp Volume(v), veh/h	173	314	300	38	237	236	228	22	22	96	22	166
Grp Sat Flow(s),veh/h/ln	1781	1777	1669	1781	1777	1740	1195	1870	1585	1362	1870	1585
Q Serve(g_s), s	5.1	11.1	11.3	1.2	8.6	8.8	8.1	0.4	0.5	2.6	0.4	4.0
Cycle Q Clear(g_c), s	5.1	11.1	11.3	1.2	8.6	8.8	8.5	0.4	0.5	3.0	0.4	4.0
Prop In Lane	1.00		0.67	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	345	454	426	245	339	332	709	958	812	794	958	812
V/C Ratio(X)	0.50	0.69	0.70	0.15	0.70	0.71	0.32	0.02	0.03	0.12	0.02	0.20
Avail Cap(c_a), veh/h	586	885	831	346	628	615	709	958	812	794	958	812
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	23.3	23.4	21.4	26.2	26.3	10.4	8.3	8.4	9.1	8.3	9.2
Incr Delay (d2), s/veh	1.1	1.9	2.1	0.3	2.6	2.8	1.2	0.0	0.1	0.3	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.6	4.4	0.5	3.7	3.7	2.1	0.2	0.2	0.8	0.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	25.2	25.5	21.7	28.8	29.1	11.6	8.4	8.4	9.4	8.4	9.8
LnGrp LOS	B	C	C	C	C	C	B	A	A	A	A	A
Approach Vol, veh/h		787			511			272			284	
Approach Delay, s/veh		24.2			28.4			11.1			9.5	
Approach LOS		C			C			B			A	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		40.0	7.1	22.2		40.0	11.6	17.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	6.5	34.5		35.5	16.5	24.5				
Max Q Clear Time (g_c+I1), s		10.5	3.2	13.3		6.0	7.1	10.8				
Green Ext Time (p_c), s		1.0	0.0	3.9		1.0	0.3	2.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			21.2									
HCM 6th LOS			C									

Intersection

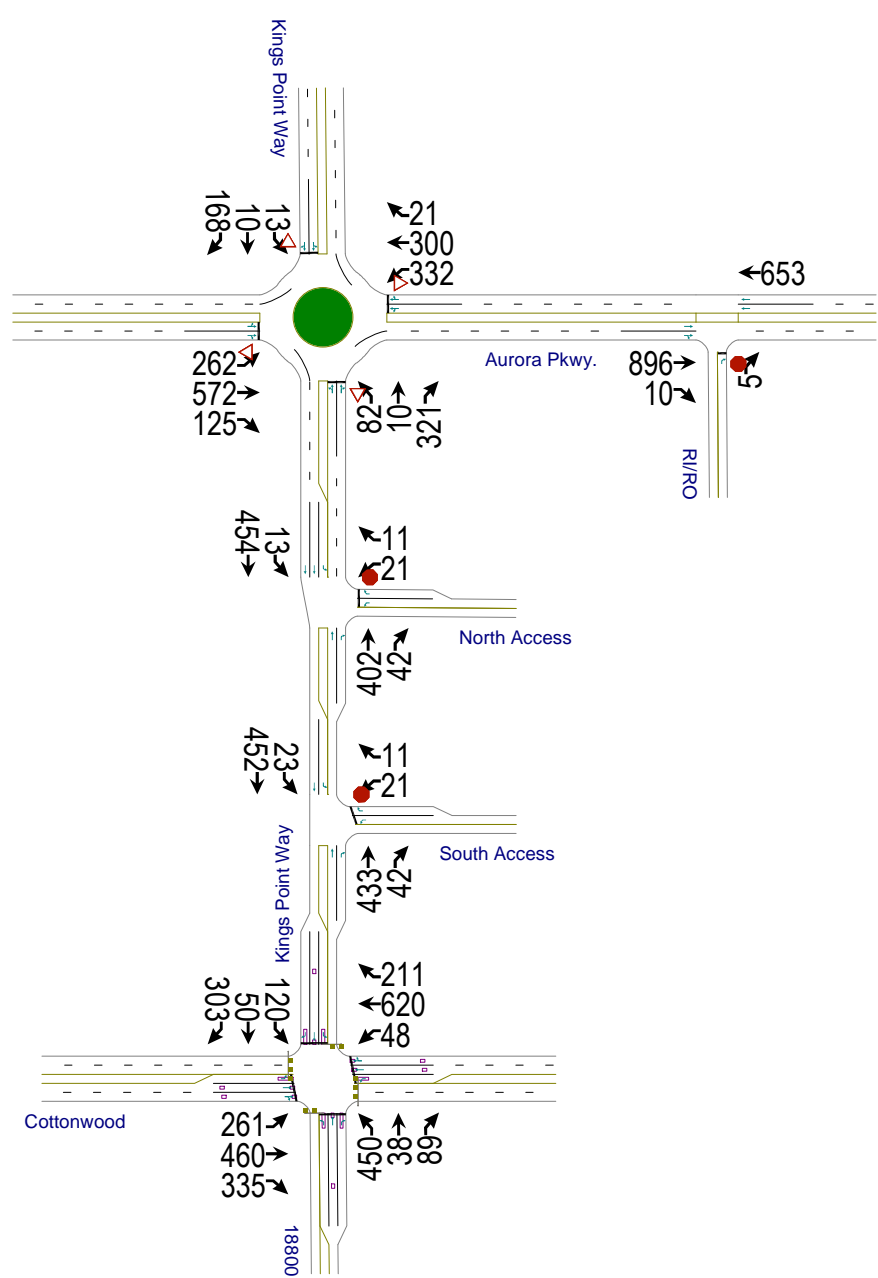
Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	382	5	0	1072	0	5
Future Vol, veh/h	382	5	0	1072	0	5
Conflicting Peds, #/hr	0	5	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	415	5	0	1165	0	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 215
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 790
Stage 1	-	-	0 - 0
Stage 2	-	-	0 - 0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 786
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -







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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	786	-	-	-
HCM Lane V/C Ratio	0.007	-	-	-
HCM Control Delay (s)	9.6	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-



Kings Point South  
2: Kings Point Way & South Access







2040 PM Total  
06/08/2021

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	11	433	42	23	452
Future Vol, veh/h	21	11	433	42	23	452
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	100	-	100	100	-
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	12	471	46	25	491
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1012	471	0	0	517	0
Stage 1	471	-	-	-	-	-
Stage 2	541	-	-	-	-	-
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	265	593	-	-	1049	-
Stage 1	628	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	259	593	-	-	1049	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	17.1	0	0.4			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 259 593 1049	-	-		
HCM Lane V/C Ratio	-	- 0.088 0.02 0.024	-	-		
HCM Control Delay (s)	-	- 20.2 11.2 8.5	-	-		
HCM Lane LOS	-	- C B A	-	-		
HCM 95th %tile Q(veh)	-	- 0.3 0.1 0.1	-	-		



Kings Point South  
5: North Access

2040 PM Total  
06/08/2021

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	11	402	42	13	454
Future Vol, veh/h	21	11	402	42	13	454
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	100	-	100	100	-
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	12	437	46	14	493
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	712	437	0	0	483	0
Stage 1	437	-	-	-	-	-
Stage 2	275	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	383	619	-	-	1078	-
Stage 1	650	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	378	619	-	-	1078	-
Mov Cap-2 Maneuver	378	-	-	-	-	-
Stage 1	650	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	13.7	0	0.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 378 619 1078	-	-		
HCM Lane V/C Ratio	-	- 0.06 0.019 0.013	-	-		
HCM Control Delay (s)	-	- 15.1 10.9 8.4	-	-		
HCM Lane LOS	-	- C B A	-	-		
HCM 95th %tile Q(veh)	-	- 0.2 0.1 0	-	-		

Intersection									
Intersection Delay, s/veh	10.3								
Intersection LOS	B								
Approach	EB		WB		NB		SB		
Entry Lanes	2		2		2		2		
Conflicting Circle Lanes	2		2		2		2		
Adj Approach Flow, veh/h	1043		710		449		208		
Demand Flow Rate, veh/h	1064		724		458		212		
Vehicles Circulating, veh/h	393		393		939		792		
Vehicles Exiting, veh/h	611		1004		518		325		
Ped Vol Crossing Leg, #/h	0		0		0		0		
Ped Cap Adj	1.000		1.000		1.000		1.000		
Approach Delay, s/veh	10.8		7.8		14.0		7.9		
Approach LOS	B		A		B		A		
Lane	Left	Right	Left	Right	Left	Right	Left	Right	
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR	
Assumed Moves	LT	TR	L	TR	LT	R	LT	R	
RT Channelized									
Lane Util	0.470	0.530	0.508	0.492	0.223	0.777	0.118	0.882	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328	
Entry Flow, veh/h	500	564	368	356	102	356	25	187	
Cap Entry Lane, veh/h	940	1017	940	1017	569	639	651	724	
Entry HV Adj Factor	0.980	0.980	0.981	0.982	0.978	0.980	0.991	0.979	
Flow Entry, veh/h	490	553	361	349	100	349	25	183	
Cap Entry, veh/h	922	996	922	998	557	627	646	709	
V/C Ratio	0.532	0.555	0.391	0.350	0.179	0.557	0.038	0.258	
Control Delay, s/veh	10.9	10.8	8.3	7.3	8.8	15.5	6.0	8.1	
LOS	B	B	A	A	A	C	A	A	
95th %tile Queue, veh	3	4	2	2	1	3	0	1	

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	284	864	52	903	489	41	97	130	54	329
v/c Ratio	0.83	0.58	0.21	0.94	0.85	0.05	0.13	0.22	0.07	0.38
Control Delay	41.7	17.6	16.0	48.4	39.4	15.4	2.0	17.6	15.6	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	17.6	16.0	48.4	39.4	15.4	2.0	17.6	15.6	3.6
Queue Length 50th (ft)	108	155	16	251	243	13	0	45	18	3
Queue Length 95th (ft)	#242	220	35	#374	#429	32	17	85	39	50
Internal Link Dist (ft)		295		230		180			265	
Turn Bay Length (ft)	100		100		150		150	150		150
Base Capacity (vph)	343	1477	250	964	575	796	749	581	796	860
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.58	0.21	0.94	0.85	0.05	0.13	0.22	0.07	0.38

#### Intersection Summary

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

Kings Point South  
10: 18800/Kings Point Way & Cottonwood

2040 PM Total  
06/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	460	335	48	620	211	450	38	89	120	50	303
Future Volume (veh/h)	261	460	335	48	620	211	450	38	89	120	50	303
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	284	500	364	52	674	229	489	41	97	130	54	329
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	333	724	526	252	721	245	502	818	693	613	818	693
Arrive On Green	0.13	0.37	0.37	0.04	0.28	0.28	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	1781	1963	1427	1781	2604	884	1000	1870	1585	1251	1870	1585
Grp Volume(v), veh/h	284	452	412	52	460	443	489	41	97	130	54	329
Grp Sat Flow(s),veh/h/ln	1781	1777	1613	1781	1777	1711	1000	1870	1585	1251	1870	1585
Q Serve(g_s), s	9.5	19.0	19.0	1.8	22.2	22.2	37.0	1.1	3.2	5.9	1.5	13.0
Cycle Q Clear(g_c), s	9.5	19.0	19.0	1.8	22.2	22.2	38.5	1.1	3.2	7.0	1.5	13.0
Prop In Lane	1.00		0.88	1.00		0.52	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	333	655	595	252	492	474	502	818	693	613	818	693
V/C Ratio(X)	0.85	0.69	0.69	0.21	0.93	0.93	0.97	0.05	0.14	0.21	0.07	0.47
Avail Cap(c_a), veh/h	370	655	595	293	494	476	502	818	693	613	818	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	23.5	23.6	21.8	31.0	31.0	28.1	14.3	14.9	16.3	14.4	17.6
Incr Delay (d2), s/veh	16.1	3.1	3.4	0.4	25.0	25.8	34.1	0.1	0.4	0.8	0.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	8.2	7.5	0.8	12.6	12.2	15.3	0.5	1.2	1.8	0.6	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	26.6	27.0	22.2	56.1	56.8	62.2	14.4	15.3	17.1	14.5	19.9
LnGrp LOS	D	C	C	C	E	E	E	B	B	B	B	B
Approach Vol, veh/h		1148			955			627			513	
Approach Delay, s/veh		29.3			54.6			51.8			18.6	
Approach LOS		C			D			D			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		43.0	8.1	37.0		43.0	16.2	28.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		38.5	5.6	32.4		38.5	13.5	24.5				
Max Q Clear Time (g_c+I1), s		40.5	3.8	21.0		15.0	11.5	24.2				
Green Ext Time (p_c), s		0.0	0.0	4.4		1.9	0.2	0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			39.4									
HCM 6th LOS			D									

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	896	10	0	653	0	5
Future Vol, veh/h	896	10	0	653	0	5
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	974	11	0	710	0	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 493
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 522
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 522
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	522	-	-	-
HCM Lane V/C Ratio	0.01	-	-	-
HCM Control Delay (s)	12	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

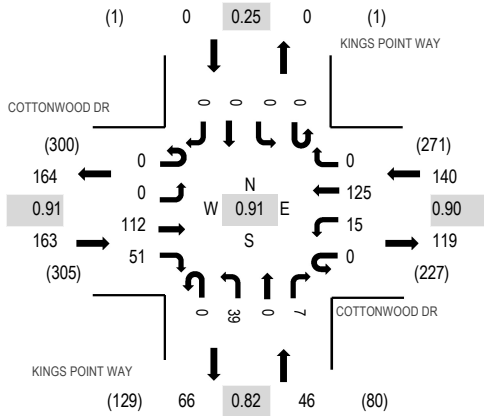
**Location:** 1 KINGS POINT WAY & COTTONWOOD DR AM

**Date:** Tuesday, November 10, 2020

**Peak Hour:** 07:30 AM - 08:30 AM

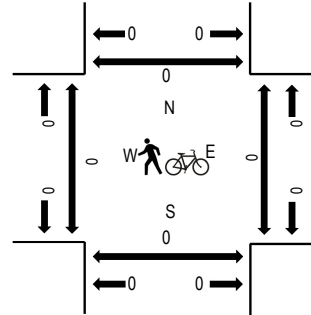
**Peak 15-Minutes:** 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

Interval Start Time	COTTONWOOD DR Eastbound				COTTONWOOD DR Westbound				KINGS POINT WAY Northbound				KINGS POINT 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	0	19	11	0	5	26	0	0	8	0	1	0	0	0	1	71	317	0	0	0	0
7:15 AM	0	0	22	6	0	2	39	0	0	7	0	1	0	0	0	0	77	341	0	0	0	0
7:30 AM	0	0	16	11	0	4	35	0	0	6	0	1	0	0	0	0	73	349	0	0	0	0
7:45 AM	0	0	33	15	0	6	29	0	0	11	0	2	0	0	0	0	96	345	0	0	0	0
8:00 AM	0	0	31	16	0	3	30	0	0	11	0	4	0	0	0	0	95	340	0	0	0	0
8:15 AM	0	0	32	9	0	2	31	0	0	11	0	0	0	0	0	0	85		0	0	0	0
8:30 AM	0	1	26	11	0	5	16	0	0	8	0	2	0	0	0	0	69		0	0	0	0
8:45 AM	0	0	35	11	0	12	26	0	0	5	0	2	0	0	0	0	91		0	0	0	0
Count Total	0	1	214	90	0	39	232	0	0	67	0	13	0	0	0	1	657		0	0	0	0
Peak Hour	0	0	112	51	0	15	125	0	0	39	0	7	0	0	0	0	349		0	0	0	0



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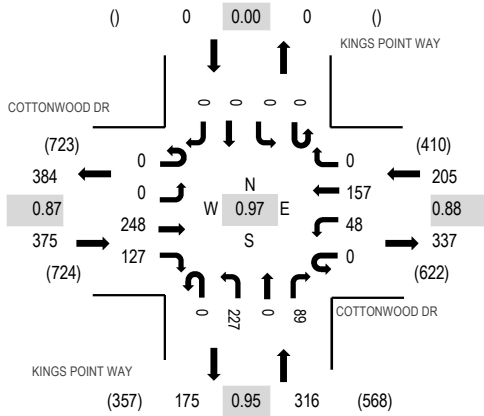
**Location:** 1 KINGS POINT WAY & COTTONWOOD DR PM

**Date:** Tuesday, November 10, 2020

**Peak Hour:** 04:30 PM - 05:30 PM

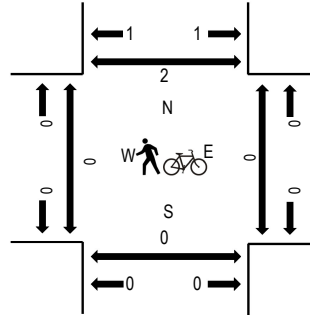
**Peak 15-Minutes:** 05:15 PM - 05:30 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

Interval Start Time	COTTONWOOD DR Eastbound				COTTONWOOD DR Westbound				KINGS POINT WAY Northbound				KINGS POINT 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	0	45	39	0	18	42	0	0	51	0	15	0	0	0	0	210	868	0	0	0	0
4:15 PM	0	0	48	46	0	10	32	0	0	52	0	21	0	0	0	0	209	875	0	0	0	0
4:30 PM	0	0	67	42	0	9	28	0	0	60	0	23	0	0	0	0	229	896	0	0	0	0
4:45 PM	0	0	61	31	0	13	38	0	0	54	0	23	0	0	0	0	220	877	0	0	0	0
5:00 PM	0	0	58	27	0	9	44	0	0	60	0	19	0	0	0	0	217	834	0	0	0	2
5:15 PM	0	0	62	27	0	17	47	0	0	53	0	24	0	0	0	0	230		0	0	0	0
5:30 PM	0	0	57	24	0	15	41	0	0	50	0	23	0	0	0	0	210		0	0	0	0
5:45 PM	0	0	67	23	0	7	40	0	0	31	0	9	0	0	0	0	177		0	0	0	1
Count Total	0	0	465	259	0	98	312	0	0	411	0	157	0	0	0	0	1,702		0	0	0	3
Peak Hour	0	0	248	127	0	48	157	0	0	227	0	89	0	0	0	0	896		0	0	0	2

**Table 5-3 Peak Hour Intersection Analysis – Ireland Way Closure**

Intersection	Traffic Control	AM Peak Hour Ireland Wy Open		AM Peak Hour Ireland Wy Closed		PM Peak Hour Ireland Wy Open		PM Peak Hour Ireland Wy Closed	
		Delay (secs/veh) <sup>2</sup>	LOS	Delay (secs/veh) <sup>2</sup>	LOS	Delay (secs/veh) <sup>2</sup>	LOS	Delay (secs/veh) <sup>2</sup>	LOS
S Gartrell Rd / E Aurora Pkwy	Traffic Signal	15.7	B	17.1	B	<b>59.8</b>	<b>E</b>	<b>65.5</b>	<b>E</b>
S Gartrell Rd / E Dry Creek Rd	Traffic Signal	9.0	A	8.8	A	9.5	A	9.3	A
E Aurora Pkwy / S Ireland Wy	2-way Stop	25.6 (NB)	D	18.0 (NB)	C	<b>54.3 (NB)</b>	<b>F</b>	<b>36.6 (NB)</b>	<b>E</b>
E Dry Creek Rd / S Ireland Wy	2-way Stop	11.0 (SB)	B	10.2 (SB)	B	11.2 (NB)	B	12.0 (SB)	B

Source: Atkins, 2015.

Notes: Delay/LOS at stop-controlled intersections are reported for worst approach.

Intersections shown in bold operate at an unacceptable LOS.

- (1) HCM 2010 computation does not support turning movement with shared and exclusive lanes; therefore, this intersection was evaluated using HCM 2000 methodology.
- (2) Approach with highest delay is reported for stop-controlled intersections (e.g., EB = eastbound)

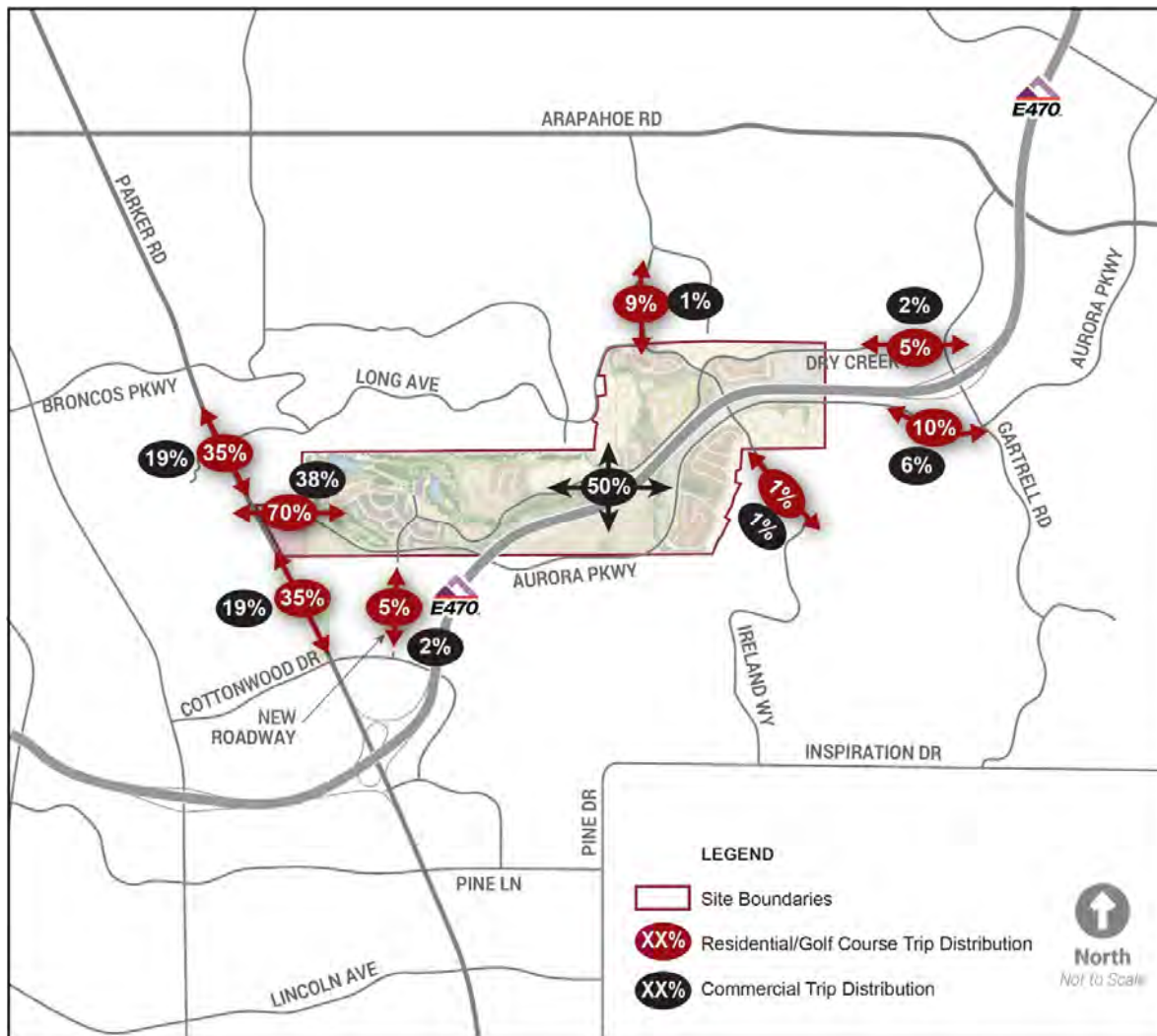
While the results indicate that the closure of S Ireland Way would not cause any dramatic negative impacts on the study intersections, it should be noted that access to destinations to the north of the Project, namely Creekside Elementary School and Grandview High School, will require drivers to make longer, more circuitous trips. Vehicles traveling to Liberty Middle School from the north would continue to use neighborhood streets as their primary route to get to the school if the Dry Creek Road extension could not be accessed due to the S Ireland Way closure. This potential closure would continue to impose a traffic burden on those neighborhood streets and would likely affect emergency response times.

### 5.2.5. 2035 with Project – New Parallel Roadway

One additional analysis was conducted to test conditions in 2035 with the construction of a new full two-lane collector roadway that would connect E Aurora Parkway to the north with E Cottonwood Drive to the south. This one-half-mile long facility would run parallel to S Parker Road through the Town of Parker and the City of Aurora, with the desire to relieve some of the travel demand on S Parker Road, which is expected to experience long travel delays in the future. At E Aurora Parkway, the new roadway would connect to the proposed S Kings Point Way roundabout; at E Cottonwood Drive, it would connect to the Costco driveway. Background traffic volumes on this proposed new roadway connection were provided by the *Lighthouse at Crown Point Kings Point South Traffic Impact Study* (Felsburg Holt & Ullevig, December 2013), which indicated that approximately 7,000 vehicles per day would use the facility (not including Project Trips). Traffic volumes on S Parker Road were reduced to account for the redistributed traffic on the new roadway; project trips were then redistributed and assigned to the roadway network taking into account this new access point. Trip distribution percentages are shown below in Figure 5-8.



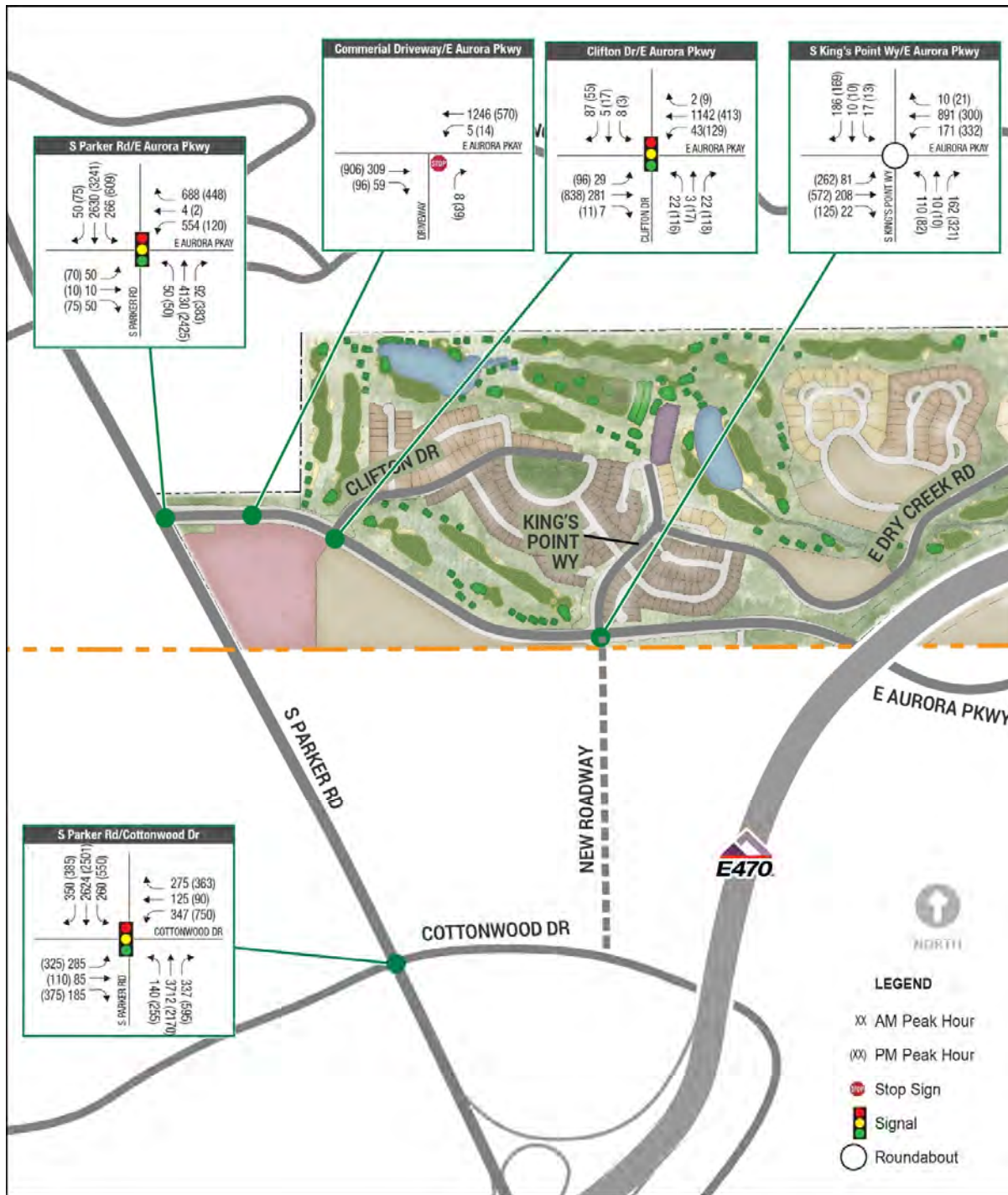
Figure 5-8 Trip Distribution – New Parallel Roadway



Source: Atkins, 2015.

Projected 2035 AM and PM peak hour turning movements at the five intersections affected by this analysis are presented in Figure 5-9.

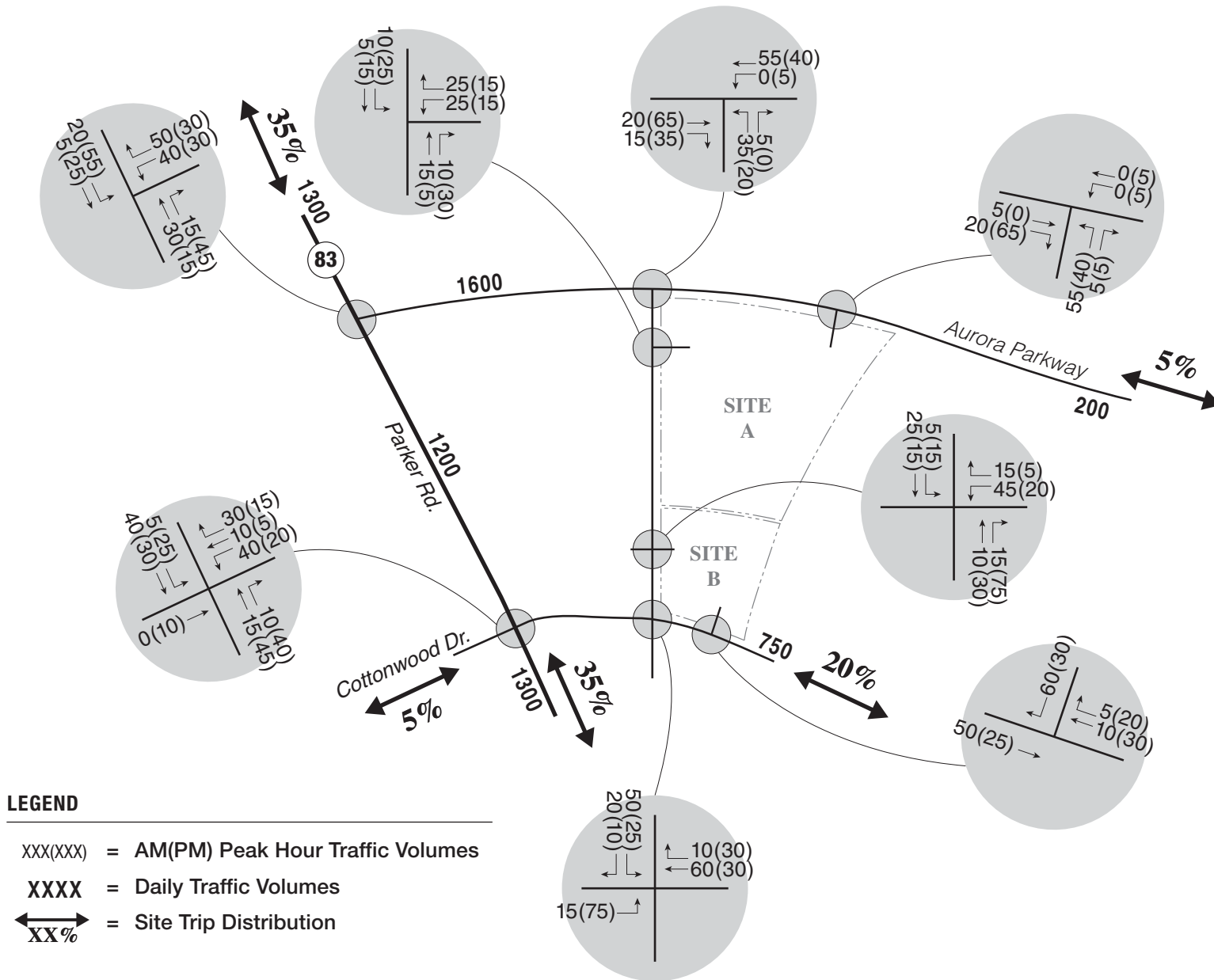
Figure 5-9 Peak Hour Turning Movements – New Parallel Roadway



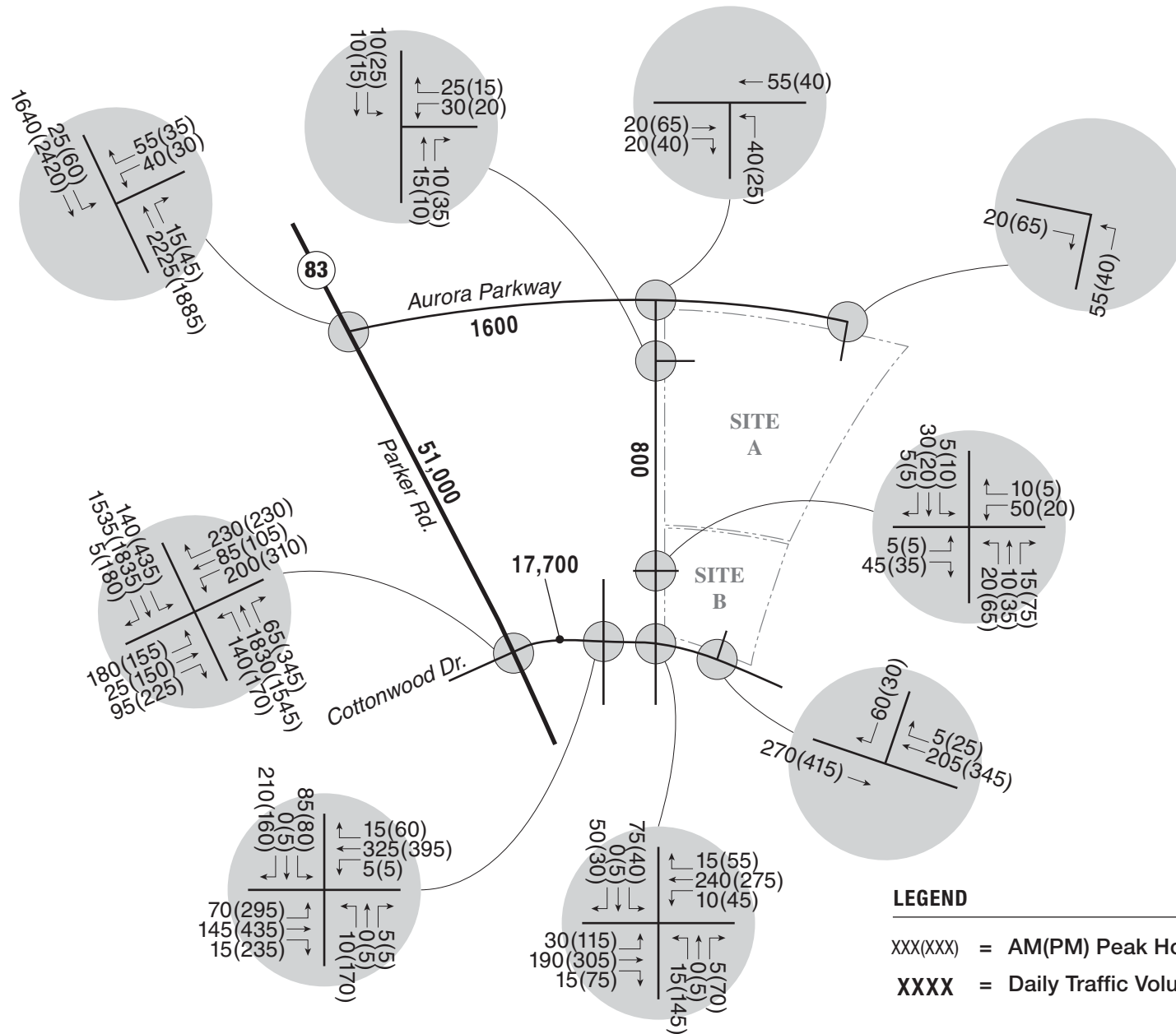
Source: Atkins, 2015

This analysis indicated that during the AM peak hour, vehicle delay along S Parker Road between E Aurora Parkway and Cottonwood Drive would be reduced due to some demand shifting east to the new roadway; however, the LOS at these two study intersections would remain at LOS F. During the PM peak hour, however, LOS would improve from an unacceptable LOS (LOS E) at these two intersections to an acceptable LOS (LOS D). Reduced travel demand on E Aurora Parkway between S Parker Road and the S Kings Point Way roundabout would also benefit from the new roadway connection, with slightly lower delays at the two access points to the commercial development.

The roundabout would continue to operate at LOS C during both the AM and PM peak hours with very little change in delay. It should be noted that adding the new roadway connection to the south leg of the E Aurora Parkway / S Kings Point Way roundabout would require two circulating lanes all the way around the



**Figure 4**  
Long Term Trip Distribution  
and Site Generated Traffic



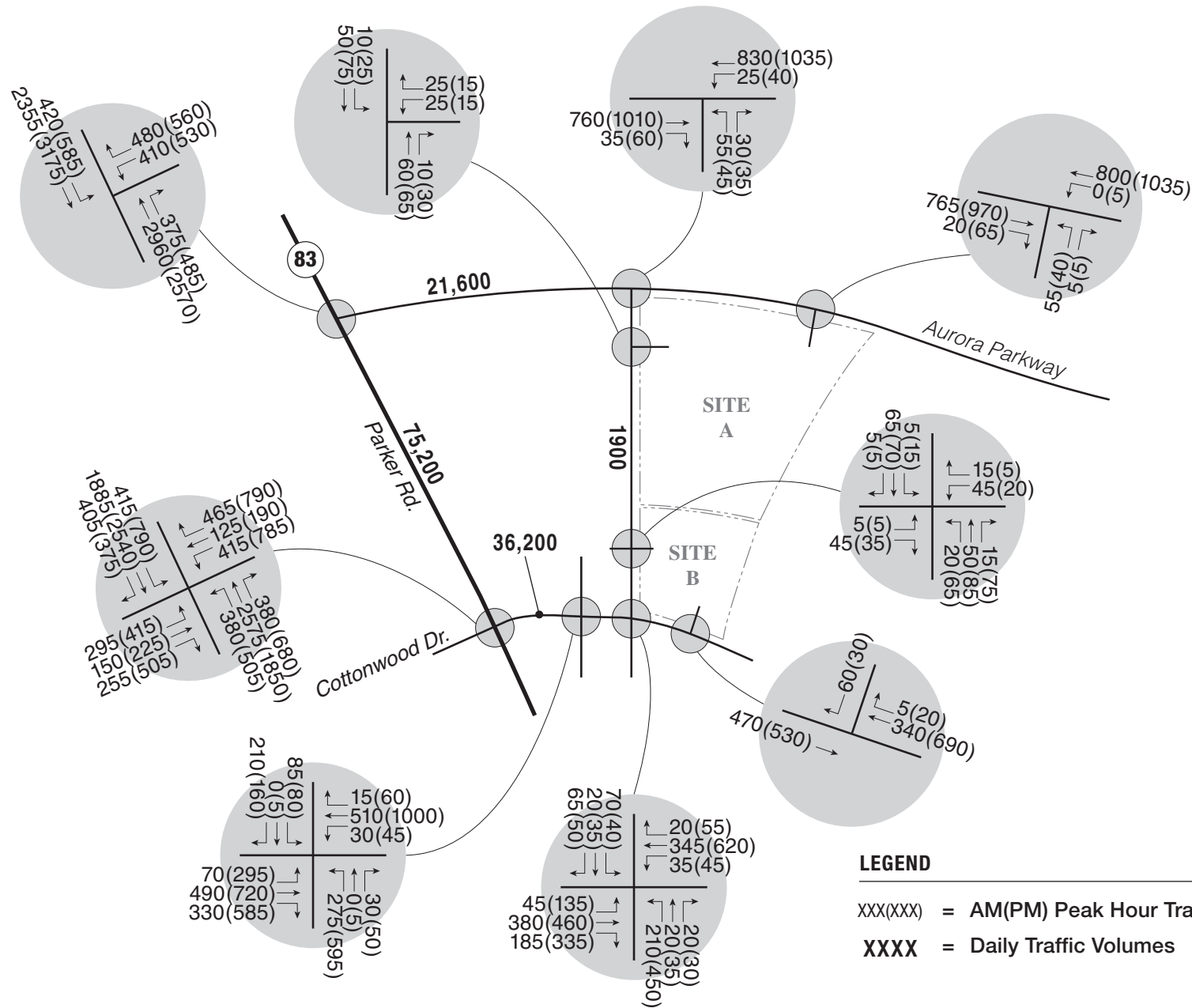
#### LEGEND

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

XXXX = Daily Traffic Volumes

**Figure 7**  
Short Term Total Traffic Volumes

**NORTH**



**Figure 9**  
 Long Term Total Traffic Volumes

**NORTH**