

The Aurora Highlands North Area, Area C Traffic Impact Study

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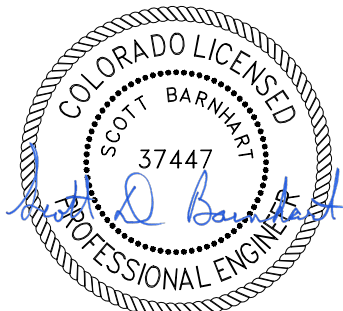


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Appendix A – Background Traffic Volumes

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Introduction

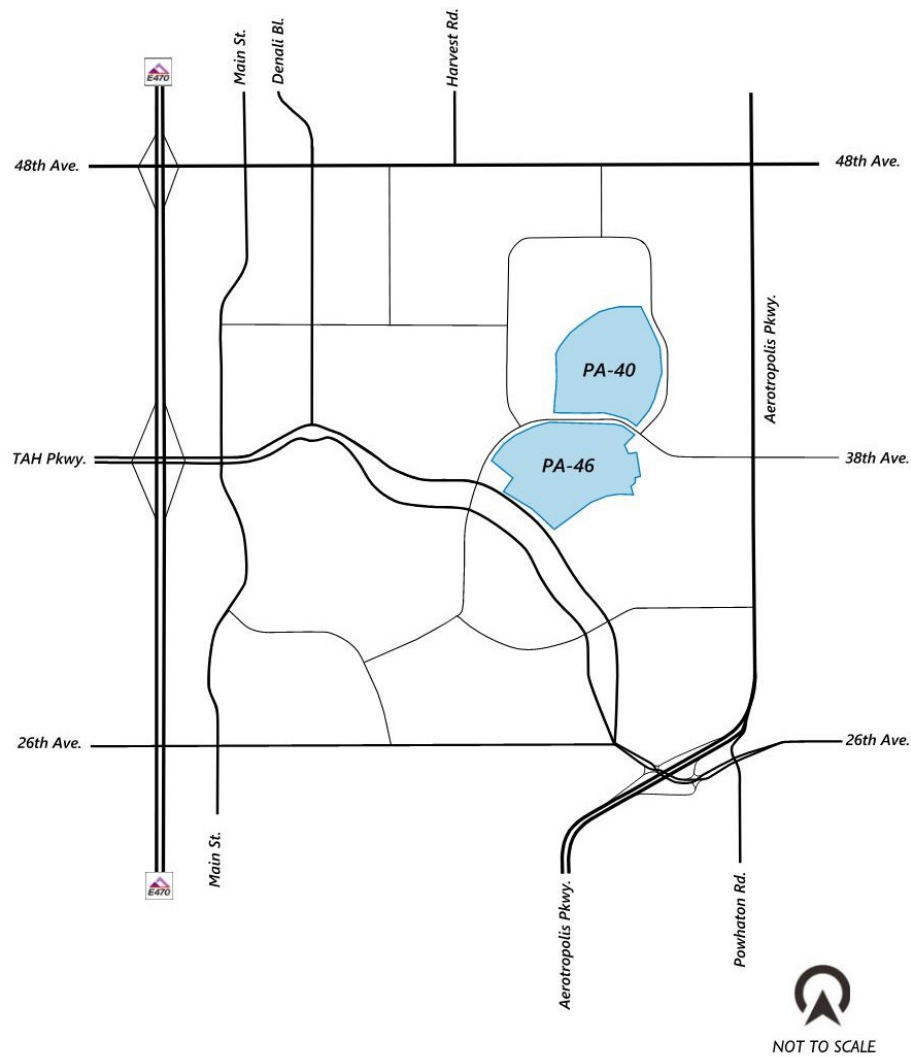
The Aurora Highlands is a 2,550-acre development located between Denver International Airport (DEN) and Interstate 70 (I-70). The Aurora Highlands North (TAH North) phase includes the majority of the planning areas between 42nd Avenue and 28th Avenue. TAH North has been split into three sub-areas: Area A, Area B and Area C.

The purpose of this study is to assess the effects the development of the TAH North, Area C will have on the surrounding transportation system.

The report is organized as follows:

- **Introduction** – Describes the purpose and intent of this study.
- **Area Conditions** – Describes the study area land uses as well as the existing and future roadway network.
- **Proposed Development** – Describes the proposed development and the location.
- **Projected Traffic** – Identifies the expected number of daily and peak hour trips that will be generated by the Aurora Highlands, North Area, Area C development. The expected external trip distribution is also shown.
- **Traffic Analysis** – Analyzes the horizon year (2040) conditions with and without the project. The traffic from Area A north, and Area B north are included in the background volumes.
- **Findings and Conclusions** – Identifies any deficiencies in the study area roadway network with or without the project and mitigation measures that will alleviate any identified deficiencies.
- **Recommendations** – Provides a summary of the study findings.

Figure 1. Vicinity Map

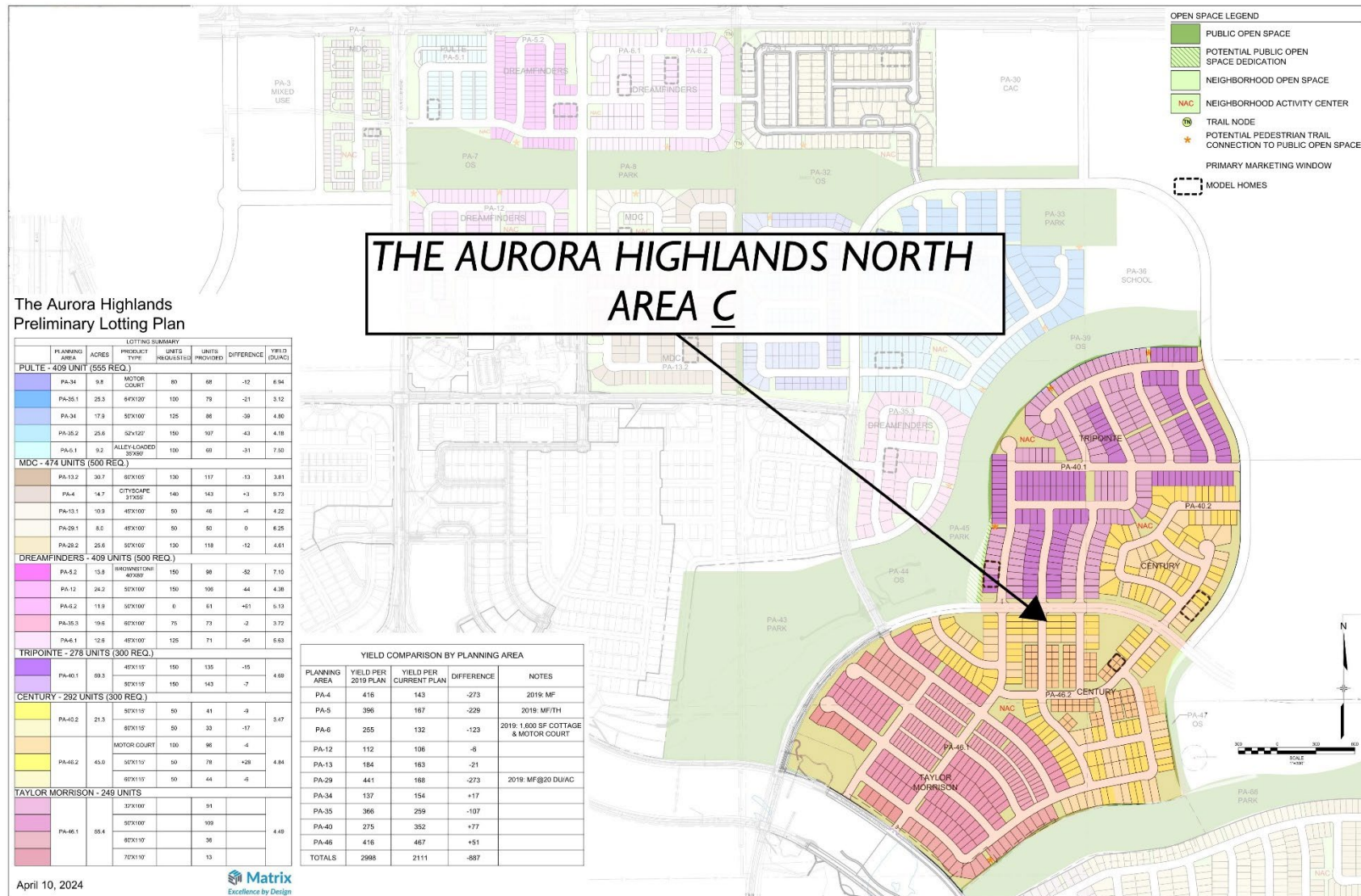


Proposed Development

The Aurora Highlands Area C consists of 819 single family detached dwelling units.

Figure 2 illustrates The Aurora Highlands North site plan for Area C. A higher quality exhibit can be found in Appendix D on the last page of this document.

Figure 2. The Aurora Highlands North Area Site Plan



Area Conditions

This section describes the existing conditions and the planned level of improvements adjacent to the Aurora Highlands North Area, Area C development.

Study Area Land Use

The Aurora Highlands, North Area C will be constructed on vacant land and is bound on the west by E-470, on the south by the future The Aurora Highlands Parkway, on the east by the future Aerotropolis Parkway and the north by 48th Avenue. This area of Aurora is mostly vacant land but is growing rapidly and includes other developments such as other areas of The Aurora Highlands, Windler, and ATEC.

Site Accessibility

The existing roadway system is largely non-existent in this area of Aurora. However, the future roadway network consists of the following transportation facilities:

E-470 is a north-south four-lane tollway that runs along The Aurora Highlands' west side. A grade-separated interchange is provided at 56th Avenue. An interchange is planned at 48th Avenue and the bridge over E-470 at 48th Avenue is in place (the roadway connecting to it is not yet built, nor are the ramps).

26th Avenue is a minor two-lane roadway facility along the south side of The Aurora Highlands spanning E-470 (no interchange) and extending to Picadilly Road to the west and Watkins Road to the east. The Northeast Area Transportation Study (NEATS) recommends this road as a four-lane minor arterial in the 2040 plan.

Aerotropolis Parkway (Powhaton Road) is a two-lane road that will ultimately define the east side of the residential development within The Aurora Highlands. Currently, this road extends south from 26th Avenue as a two-lane facility, crossing the Union Pacific (UP) Railroad at-grade, spanning I-70, and extending south to Jewell Avenue. This road is anticipated to be a 6-lane major arterial per NEATS recommendations and will be renamed Aerotropolis Parkway.

48th Avenue will be constructed on the north side of The Aurora Highlands prior to issuance of any Certificate of Occupancy for lots within TAH North. 48th Avenue will ultimately be a 6-lane major arterial and have a grade-separated interchange with E-470. The south half of this arterial will be built in conjunction with The Aurora Highlands by ARTA (Aerotropolis Regional Transportation Authority). The north half of 48th Avenue will be constructed by the Windler development to the north. The timing of individual developments is unclear, so it is difficult to determine when 48th Avenue will need to be constructed beyond each half-road section. It is assumed that if only the north or south half of 48th Avenue is constructed first, that it would serve temporarily as a 3-lane collector road with one lane in each direction and a center turn lane. In this scenario, the daily threshold for the half roadway section would be 12,000 vehicles-per-day. Daily traffic from Area C alone would not require more than the south half three-lane collector road section on its own.

The Aurora Highlands Parkway currently exists as an east-west four-lane to six-lane facility between Main Street and 38th Parkway. It has a large median east of Denali Boulevard containing a creek and recreational trail. The Aurora Highlands Parkway will ultimately be a four-lane minor arterial.

38th Parkway currently exists as a three-lane (striped median/center turn lane) roadway between The Aurora Highlands Parkway and Reserve Loop (western connection). It will ultimately connect to Aerotropolis Parkway as a three-lane collector road.

No existing conditions analysis will be completed for this study as the land is mostly vacant at this time and has no traffic other than construction traffic. No new traffic counts were conducted for this study. This study builds on the traffic volumes presented *The Aurora Highlands Traffic Impact Study* (August 2019) which looked at the entirety of The Aurora Highlands development. The studies of surrounding developments are as follows:

- The Northeast Area Transportation Study Refresh (NEATS), 2018
- The Aurora Highlands Transportation Impact Study; August 2019
- ATEC Traffic Impact Analysis; November 2019
- Powhaton Alignment Study; October 2022
- The Aurora Highlands CSP#1, TIS; July 2019
- The Aurora Highlands North Area, Area A TIS, December 2022
- The Aurora Highlands North Area, Area B TIS, July 2023

Projected Development Traffic

This section documents how much traffic The Aurora Highlands, North Area, Area C development is expected to generate and how the external site trips will be distributed on the adjacent roadway network.

Trip Generation

The vehicle trips associated with The Aurora Highlands, North Area, Area C were calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. This methodology consists of choosing an independent variable for the land use for a particular time of day. The independent variable correlates to the variation in trip ends and is related to the land use. The value of the independent variable is either multiplied by a weighted average or used in a regression equation to calculate the trips generated by the land use. The *ITE Trip Generation Manual* provides guidance on when to use the weighted average versus the regression equation. In most cases, the regression equations are recommended when there are adequate study data points.

Table 1 shows the trips that are expected to be generated by The Aurora Highlands, North Area, Area C at buildout.

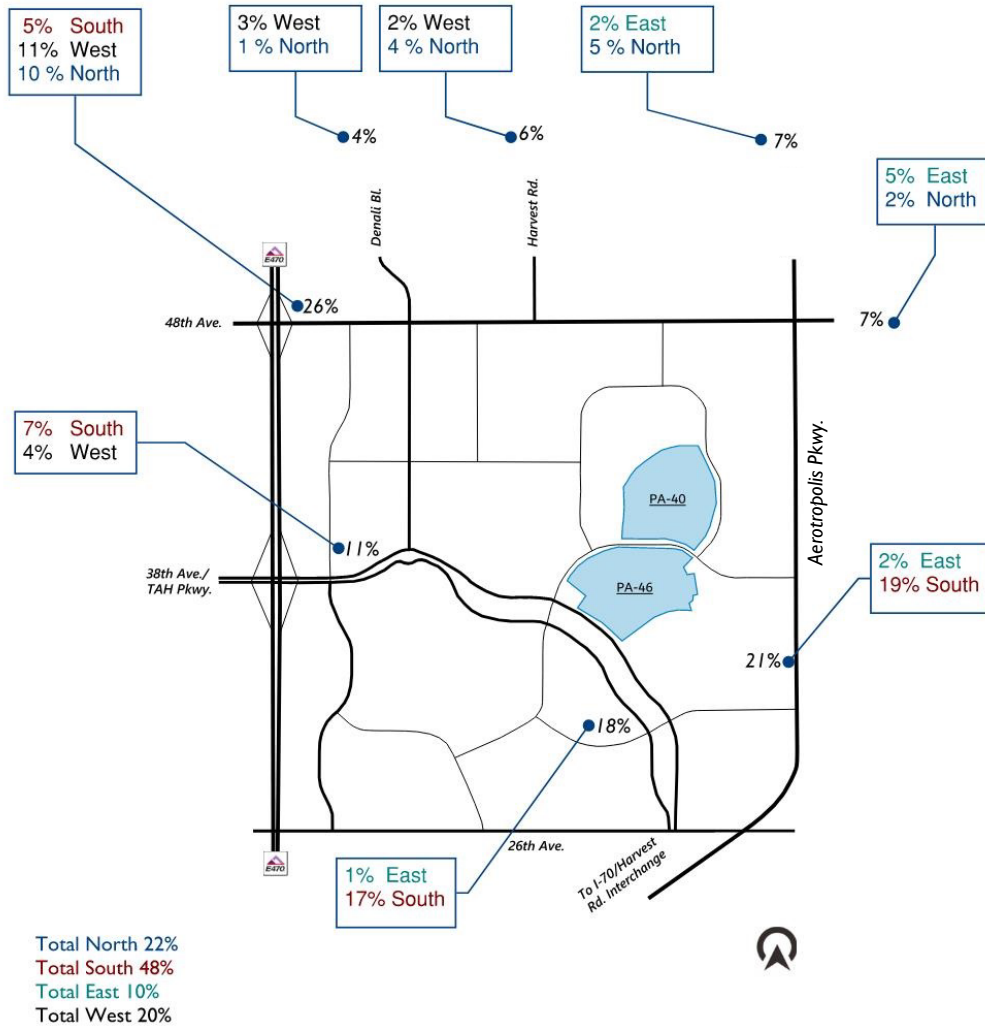
Table 1. TAH North Area C Trip Generation

The Aurora Highlands North, Area C												
Parcel	ITE - Code and Land Use	Size	Units	Weekday			AM Peak Hour			PM Peak Hour		
				Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting
PA-40.1	210- Single-Family Detached Housing	278	DU	2,584	1,292	1,292	189	47	142	260	164	96
PA-40.2	210- Single-Family Detached Housing	74	DU	764	382	382	56	14	42	75	47	28
PA-46.1	210- Single-Family Detached Housing	249	DU	2,336	1,168	1,168	171	43	128	235	148	87
PA-46.2	210- Single-Family Detached Housing	218	DU	2,066	1,033	1,033	152	38	114	206	130	76
	Total	819		7,750	3,875	3,875	568	142	426	776	489	287

No trip reduction is accounted for because there is only one land-use. It was also assumed that 100 percent of the trips will be made by personal vehicles.

Trip Distribution

Figure 3 illustrates the expected external distribution of travel for the site-generated trips. This distribution was determined by reviewing the general distribution of trips on the roadway network in 2019 -*The Aurora Highlands Traffic Impact Study* (Derived from *NEATS 2018*).

Figure 3. Trip Distribution

The overall distribution based on the previous study is 48% of the trips will travel to/from the south; 20% of the trips will travel to/from the west; 22% of the trips will travel to/from the north and 10% of the trips will travel to/from the east. Recently, a new connection from Powhatan Road (Aerotropolis Parkway) to Jackson Gap Way was proposed that would ultimately affect the traffic on 48th Avenue, Aerotropolis Parkway, and Harvest Road. After a careful review of this new alignment and its impact on the adjacent road we concluded that it would have a minimal impact on our site trips due to the distance between the new alignment and the project. However, to address this small impact we adjusted the trip distribution on Denali Boulevard, Harvest Road and Aerotropolis Parkway in a way that 2 percent of the trips that were supposed to be made through Denali Boulevard and Harvest Road are now shifted to this new alignment. The overall distribution remained unchanged and when those overall distributions are distributed among the available lanes traveling in each direction, the distributions shown in Figure 3 is the result. This new improvement would mainly alleviate the background traffic on 48th Avenue since it will provide an alternative for long distance travelers especially for trips to/from the DEN airport.

The project trips for both the AM and PM peak hours are shown in Figures 4 and 5 and daily project trips are shown in Figure 6.

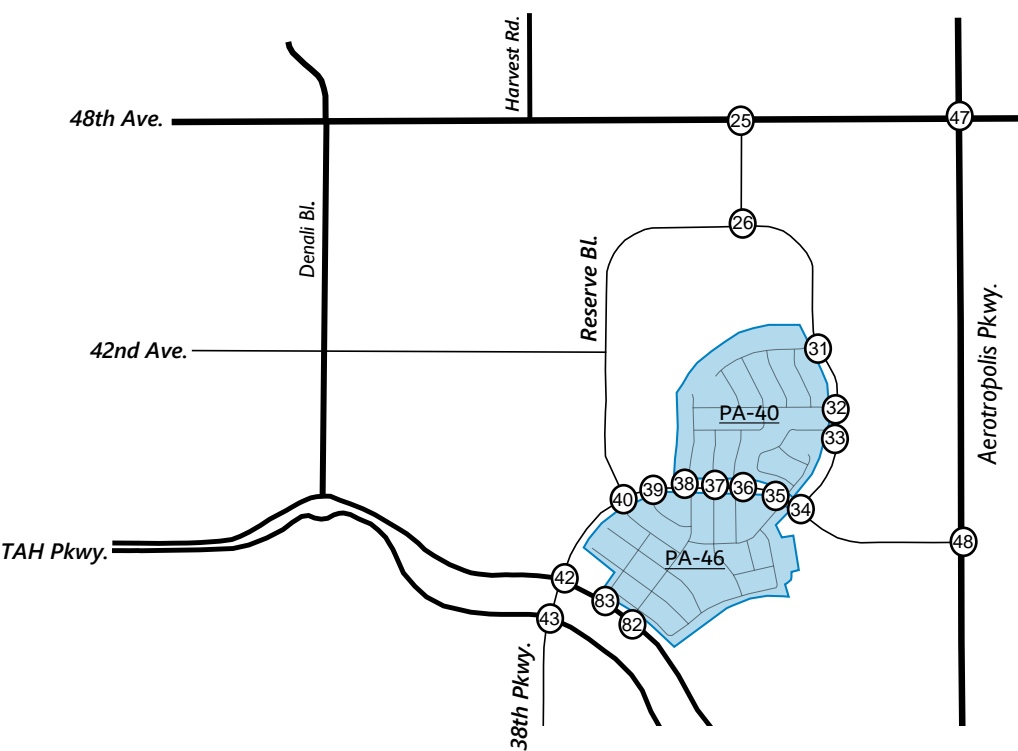
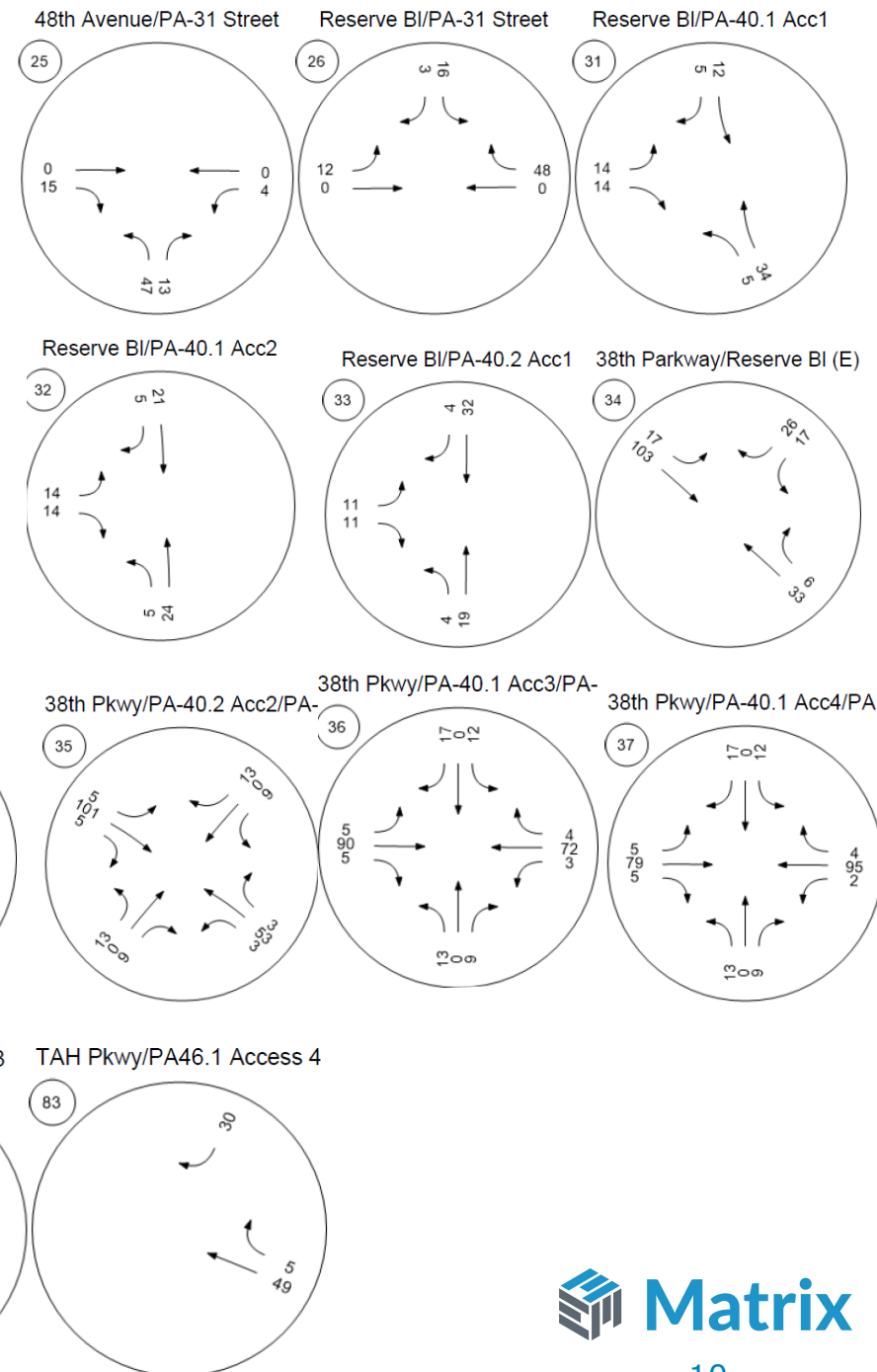


Figure 4. The Area C North Project Trips (AM Peak Hour)



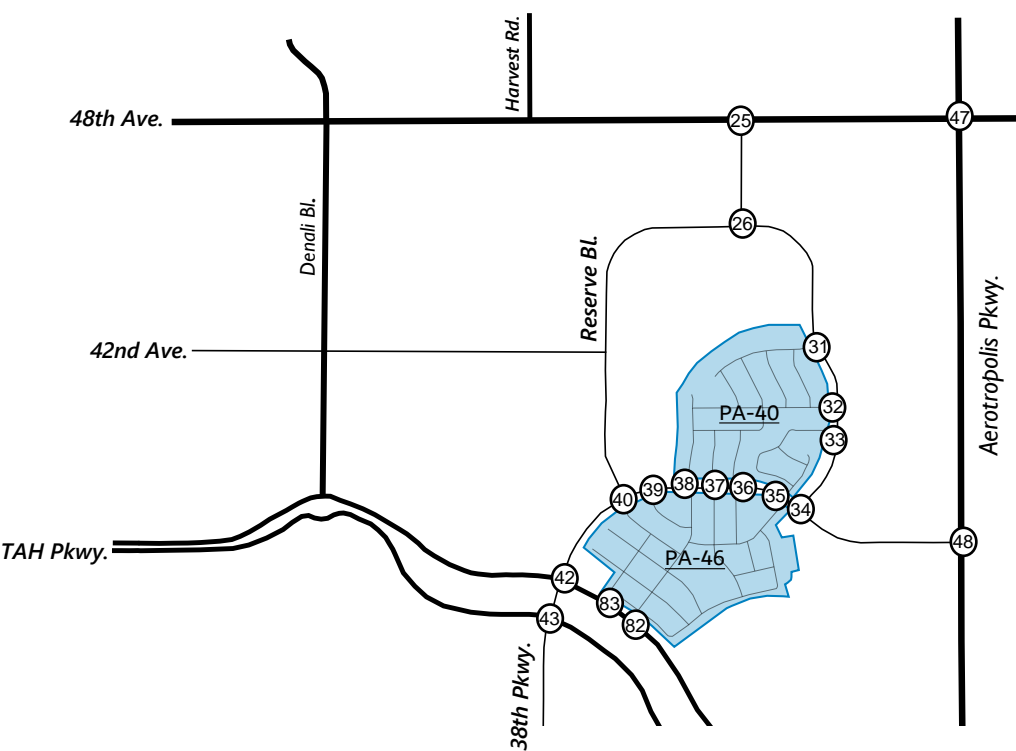


Figure 5. The Area C North Project Trips (PM Peak Hour)

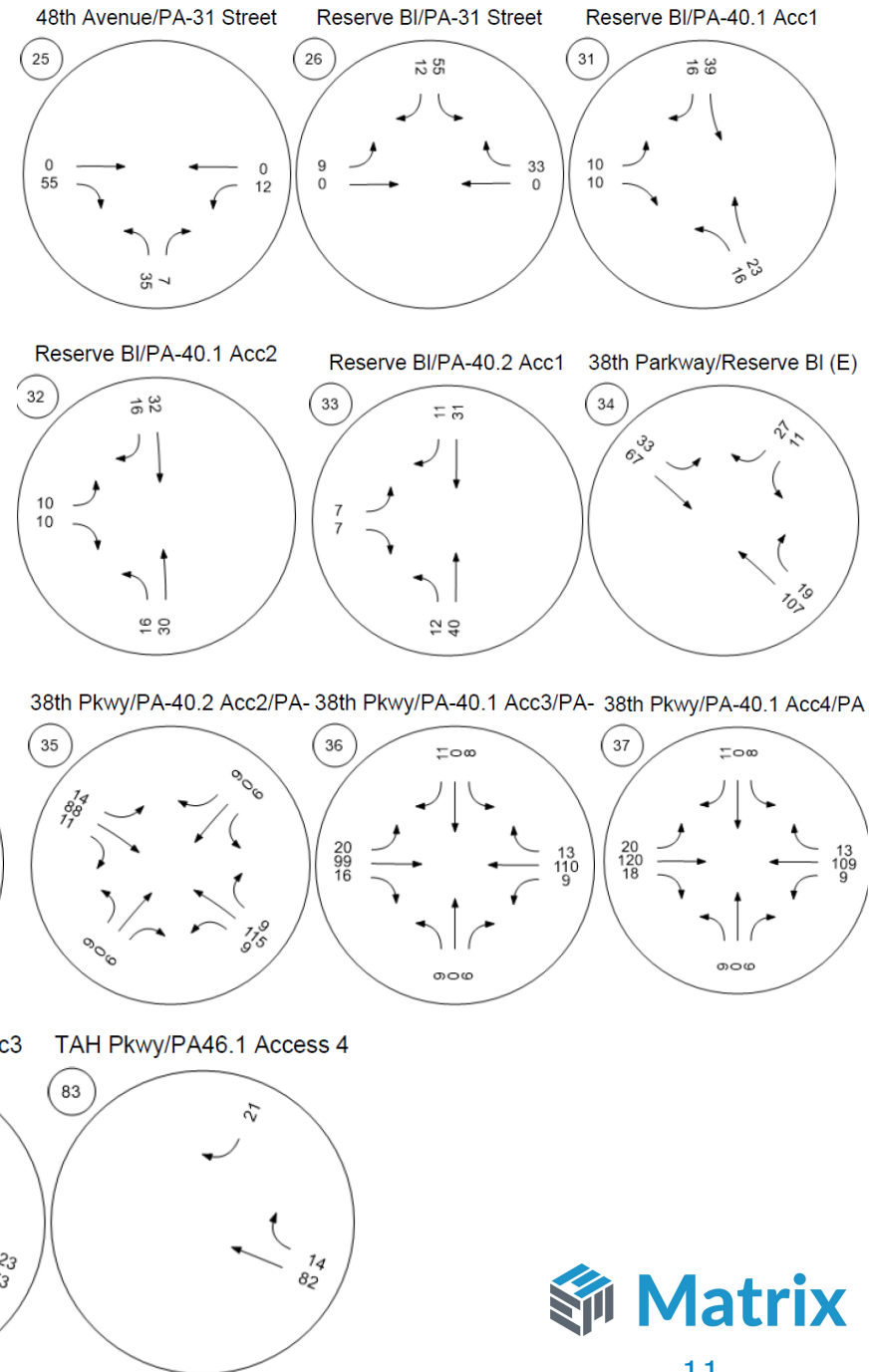
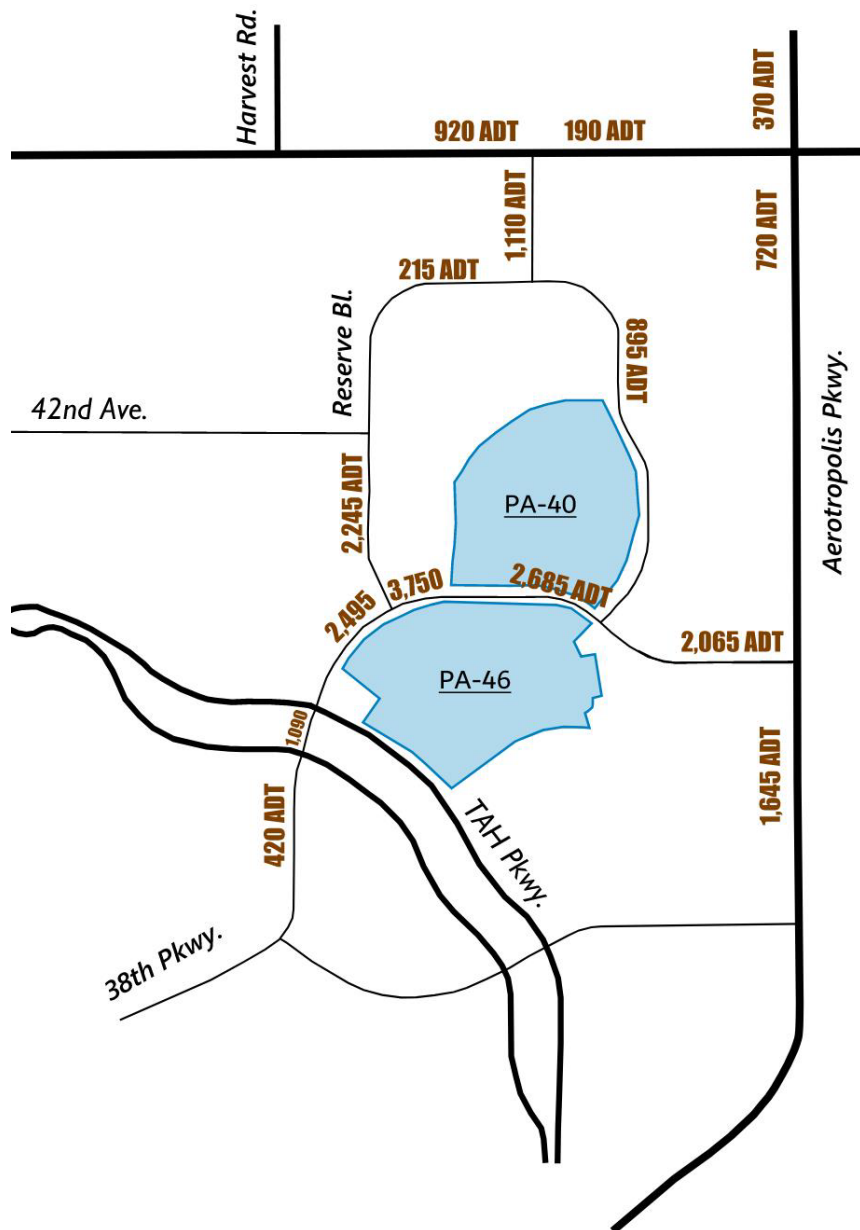


Figure 6. The Aurora Highlands North, Area C Daily Site Trips



Traffic Analysis

Both traffic conditions with and without the project were studied for the horizon year (2040) conditions.

Horizon (2040) Background Conditions

The horizon year traffic volumes without the Aurora Highlands Area C project are shown in Figure 7 and Figure 8, and daily traffic volumes are shown in Figure 9. In this study, *The Aurora Highlands North, Area A (2022)* and *The Aurora Highlands North, Area B (2023)* background volumes were used as the basis of the report. The site traffic from both north areas (Area A and Area B) were later added to the background volumes.

Figure 7. Horizon (2040) Background Traffic Volumes (AM Peak Hour)

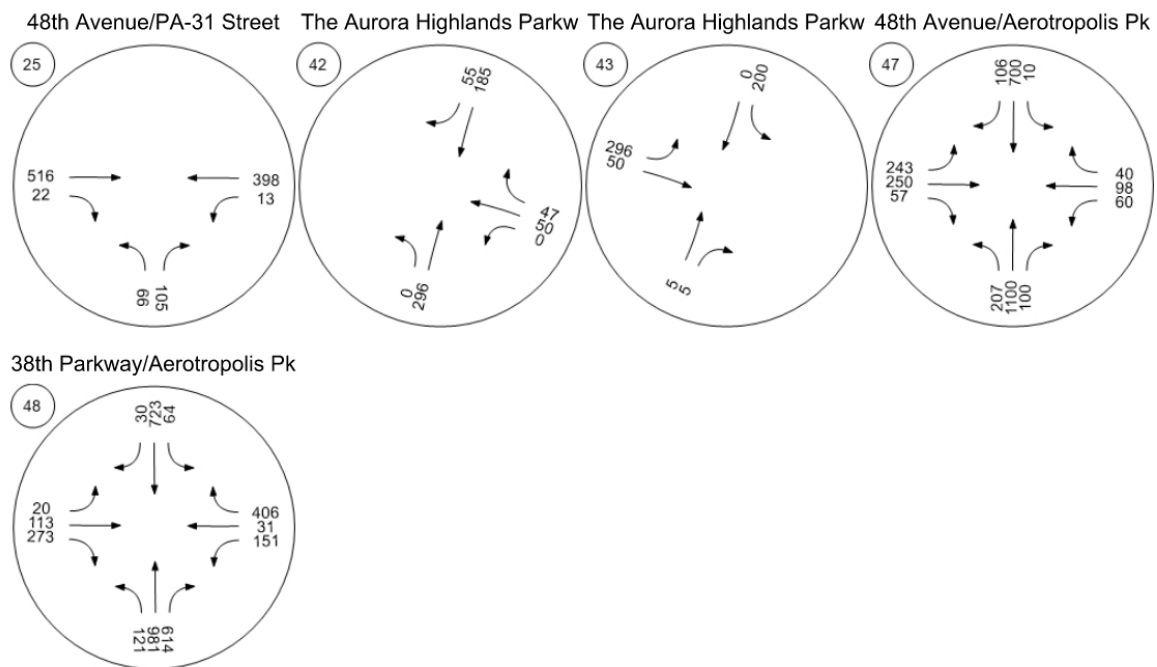
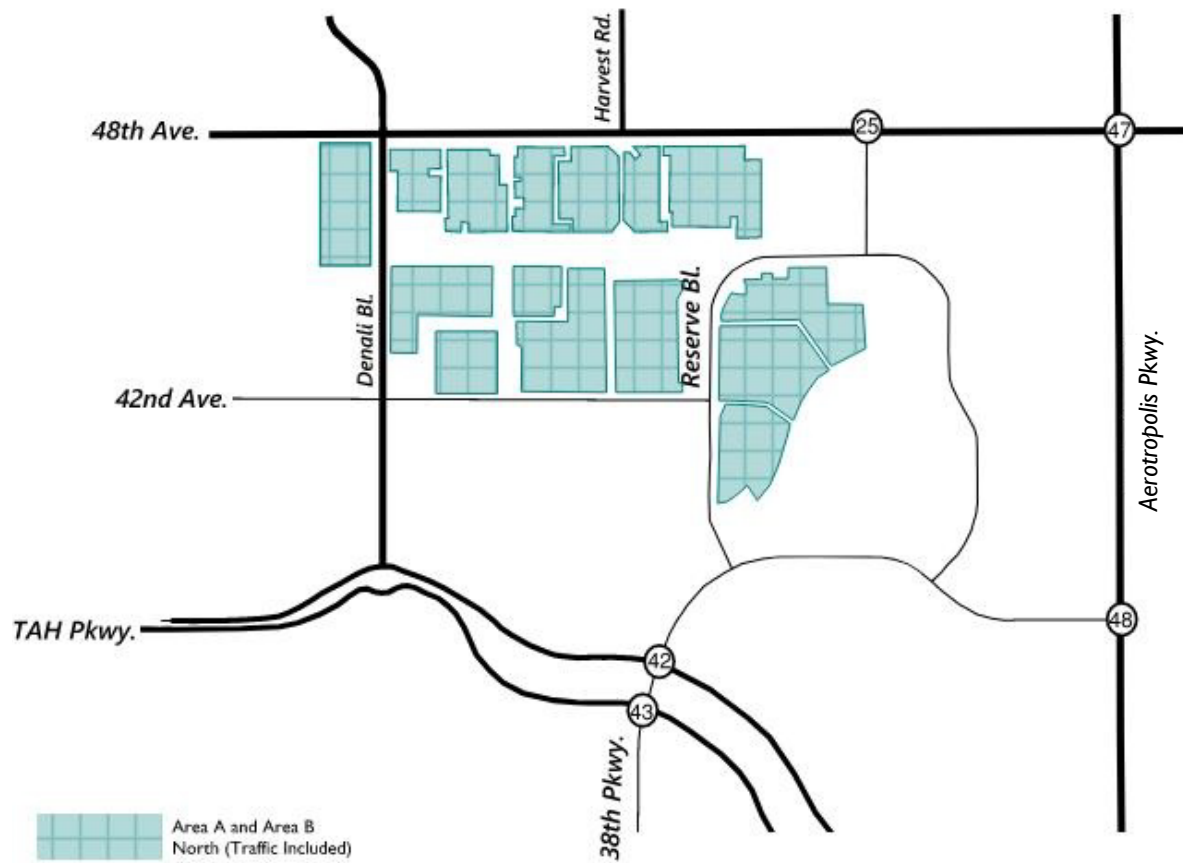


Figure 8. Horizon (2040) Background Traffic Volumes (PM Peak Hour)

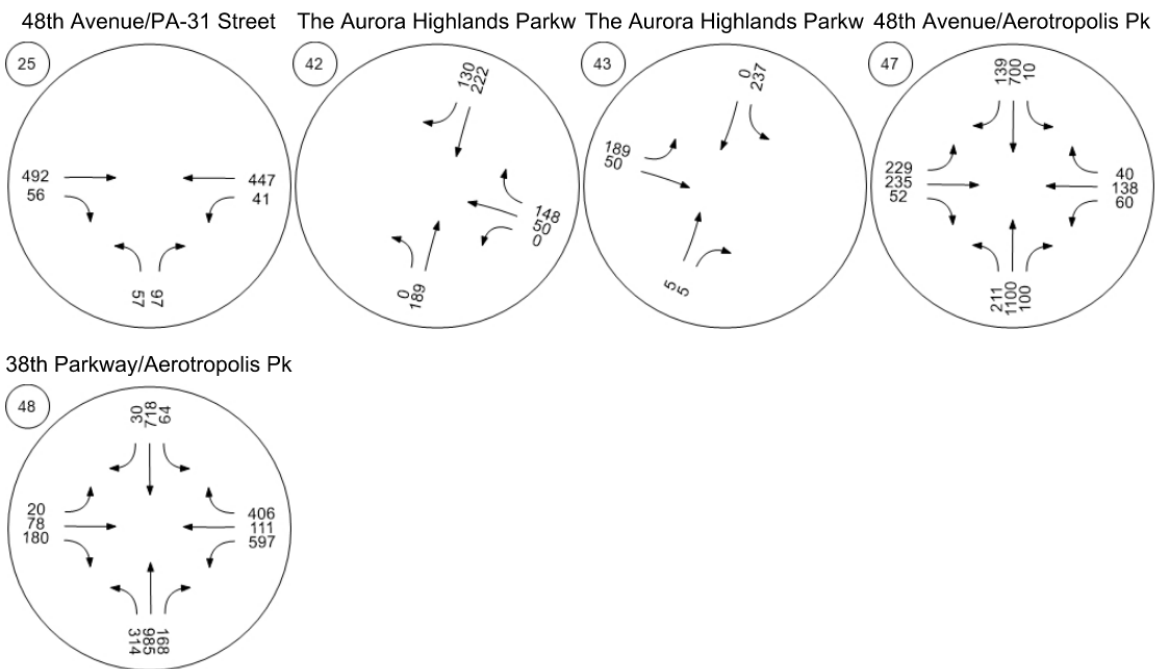
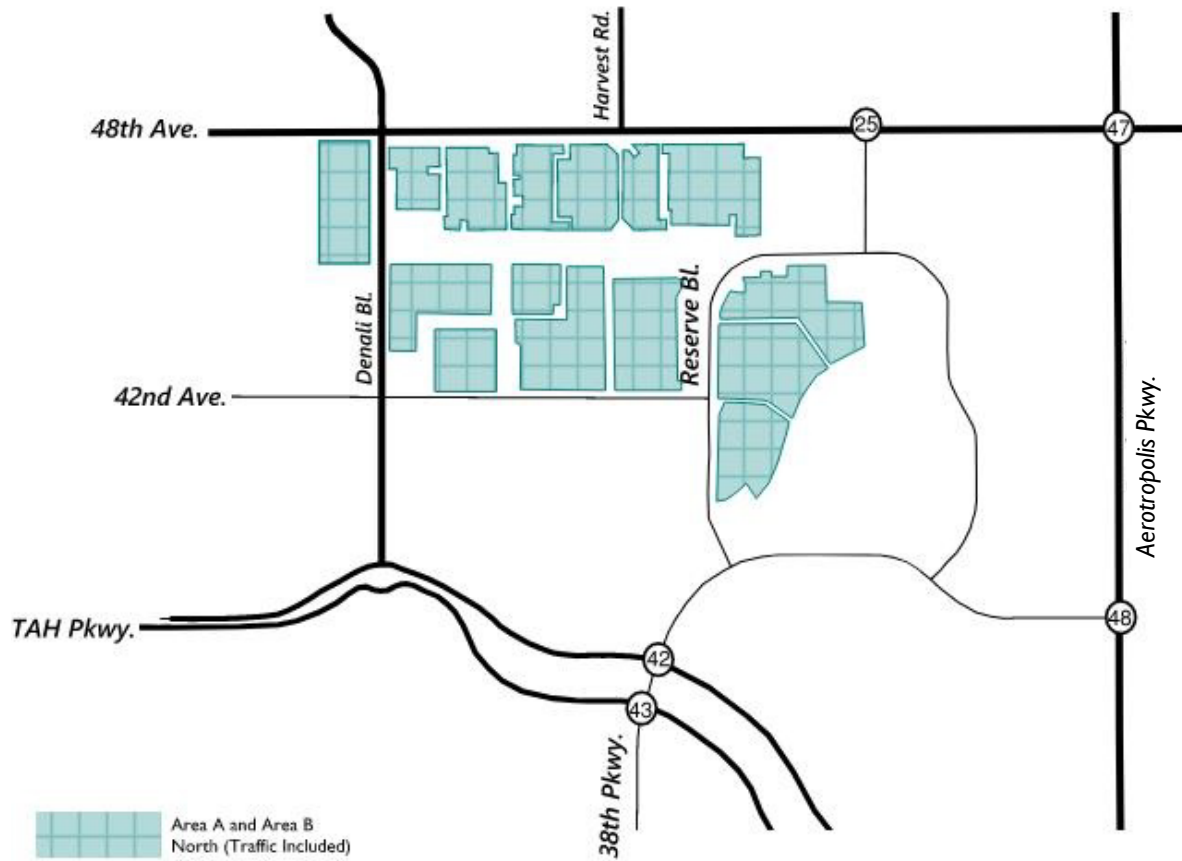
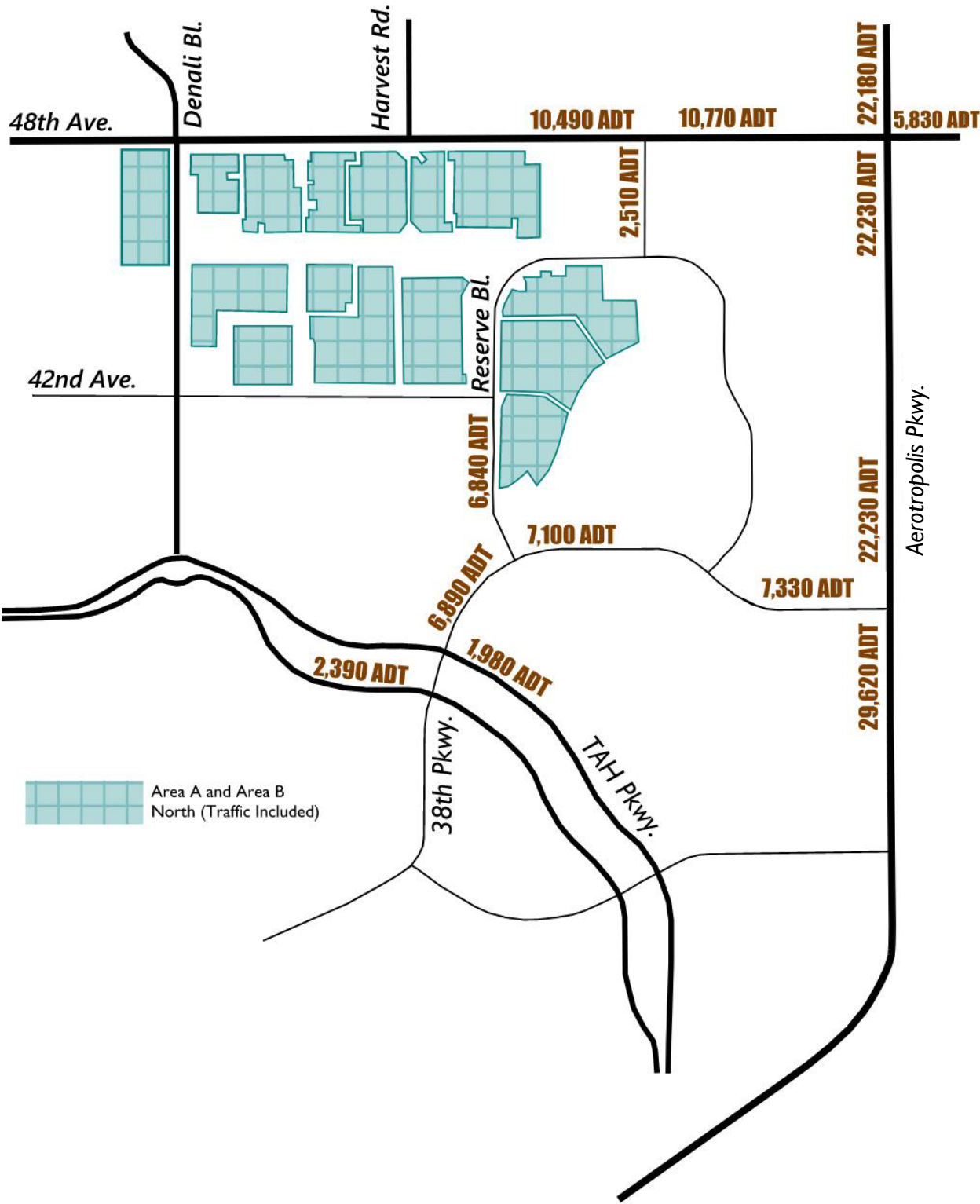


Figure 9. Horizon (2040) Background Daily Traffic



The assumed intersection configurations are shown in Figure 10. The operations of the study area intersections in horizon background (no project) scenario are shown in Table 2 and Table 3. Intersection configurations were taken from the ATEC TIS, TAH MTIS (2019), NEATS (2018) roadway recommendations and planned or built roadways within the Aurora Highlands.

Figure 10. Horizon (2040) Background Intersection Configurations and LOS

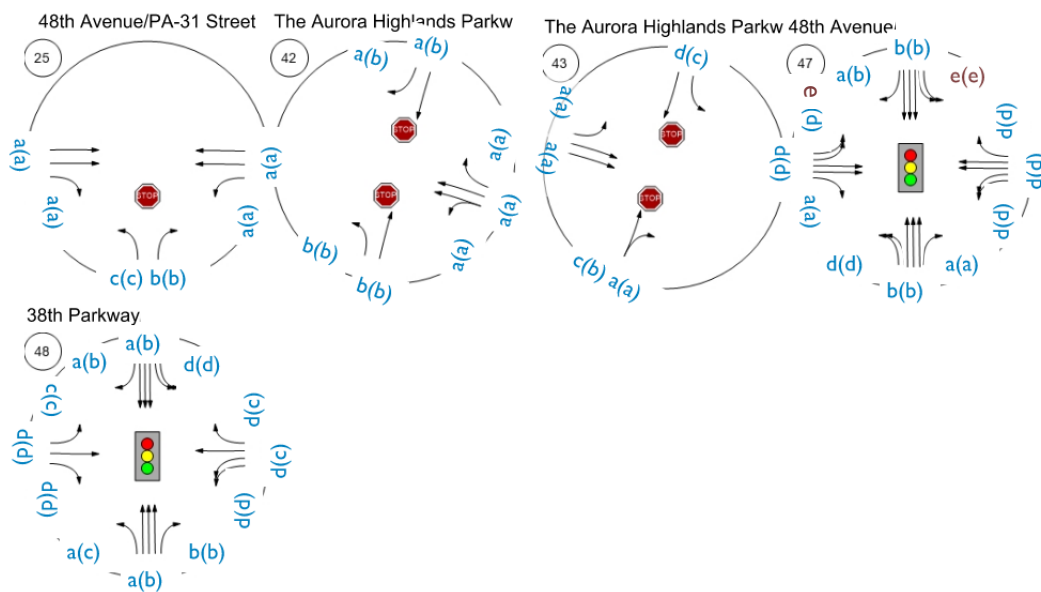
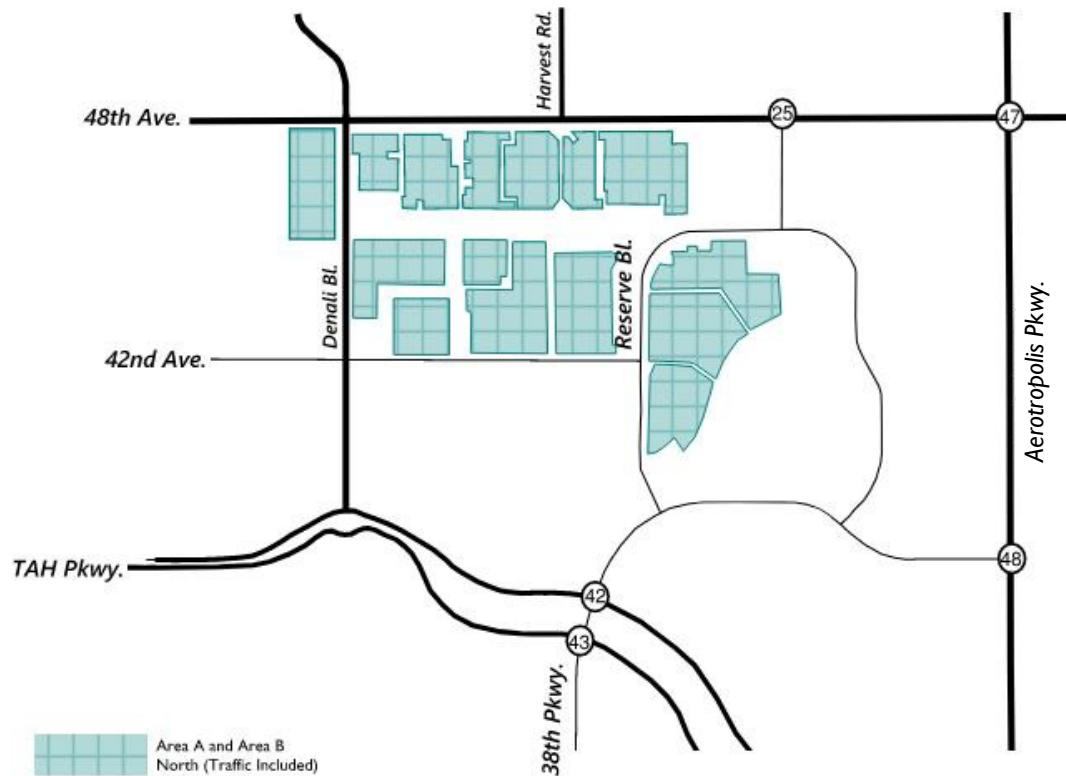


Table 2. Horizon (2040) Background Intersection Operations (AM Peak Hour)**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
25	48th Avenue/PA-31 Street	Two-way stop	HCM 7th Edition	NB Left	0.228	19.8	C
42	The Aurora Highlands Parkway/38th Parkway	Two-way stop	HCM 7th Edition	NB Thru	0.411	12.8	B
43	The Aurora Highlands Parkway/38th Parkway	Two-way stop	HCM 7th Edition	SB Left	0.651	33.9	D
47	48th Avenue/Aerotropolis Pkwy	Signalized	HCM 7th Edition	SB Left	0.344	22.7	C
48	38th Parkway/Aerotropolis Pkwy	Signalized	HCM 7th Edition	WB Left	0.380	19.0	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 3. Horizon (2040) Background Intersection Operations (PM Peak Hour)**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
25	48th Avenue/PA-31 Street	Two-way stop	HCM 7th Edition	NB Left	0.223	21.6	C
42	The Aurora Highlands Parkway/38th Parkway	Two-way stop	HCM 7th Edition	NB Thru	0.301	12.5	B
43	The Aurora Highlands Parkway/38th Parkway	Two-way stop	HCM 7th Edition	SB Left	0.524	20.1	C
47	48th Avenue/Aerotropolis Pkwy	Signalized	HCM 7th Edition	SB Left	0.352	22.6	C
48	38th Parkway/Aerotropolis Pkwy	Signalized	HCM 7th Edition	SB Left	0.510	26.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

All study area intersections are projected to operate at an acceptable LOS in the horizon year without the project traffic as shown in Tables 2 and 3. Additionally, all the approaches operate at an acceptable LOS. As shown in Figure 9, all movements also operate at an acceptable level of service, except for the southbound left-turn movement at 48th Avenue/Aerotropolis Parkway which operates at LOS E during both AM and PM peak hours. Table 4 shows the turn lane requirements in the 2040 background scenario.

Table 4. Horizon (2040) Background Turn Lane Evaluations

ID	Intersection	Movement	No. of Lanes	Access Category	Speed Limit (mph)	Turning Volume (veh/hr)	Queue (ft)	Deceleration Lane (ft)	Storage Lane (ft)	Taper Lane (ft)	COA Min Decel + Storage (ft)	Total (ft)	Notes
25	48th Ave/Collector Road	NBL	1	NR-C	35	66	22		100	120	150	220	Occur Within the Median
		EBR	1	NR-A	45	56	0	273		162		435	
		WBL	1	NR-A	45	41	4	273	50	162	200	485	
42	TAH Pkwy/38th Pkwy (VV)	SBR	1	NR-C	35	130	12		130	120		250	
		WBR	1	NR-B	40	148	0		50	144		195	
43	TAH Pkwy/38th Pkwy (E)	SBL		NR-C	35	237	108		237	120	150	355	Occur Within the Median
		EBL	1	NR-B	40	296	0		296	144	200	440	
47	48TH Ave/Aerotropolis Pkwy	NBL	2	NR-A	45	211	146	273	105	162	200	540	
		NBR	1	NR-A	45	100	20	273		162		435	
		SBL	2	NR-A	45	10	8	273	50	162	200	485	
		SBR	1	NR-A	45	139	36	373		162		535	
		EBL	2	NR-A	45	243	169	273	121	162	200	555	
		EBR	1	NR-A	45	57	0	273		162		435	
		WBL	2	NR-A	45	60	41	273	50	162	200	485	
		WBR	1	NR-A	45	40	26	273		162		435	
48	38th Pkwy/Aerotropolis Pkwy	NBL	1	NR-A	45	314	206	273	314	162	200	750	
		NBR	1	NR-A	45	614	162	273		162		435	
		SBL	2	NR-A	45	64	40	273	25	162	200	460	
		SBR	1	NR-A	45	30	9	273		162		435	
		EBR	1	NR-C	35	273	175		273	120		395	
		WBL	2	NR-C	35	597	321		299	120	150	420	
		WBR	1	NR-C	35	406	244		406	120		525	

COA: City of Aurora

Total turn lane is rounded to the nearest 5-ft.

Horizon (2040) With Project Conditions

When the project traffic is added to the 2040 background traffic, the resulting AM peak hour, PM peak hour and daily traffic volumes are as shown in Figure 11, Figure 12 and Figure 13.

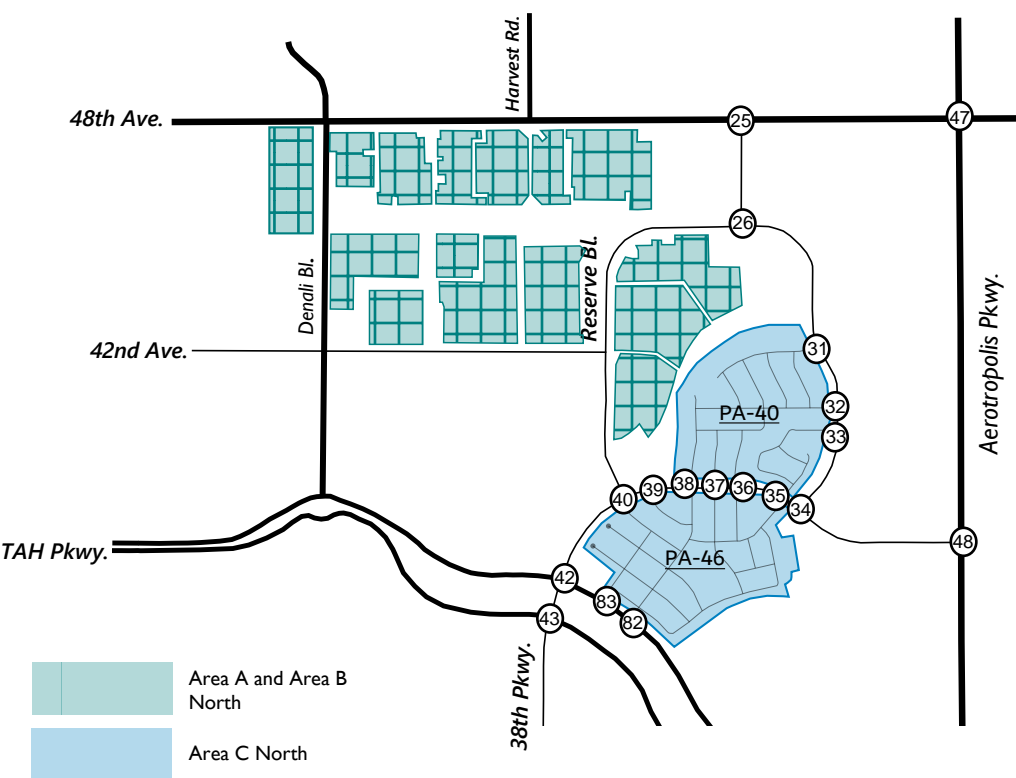
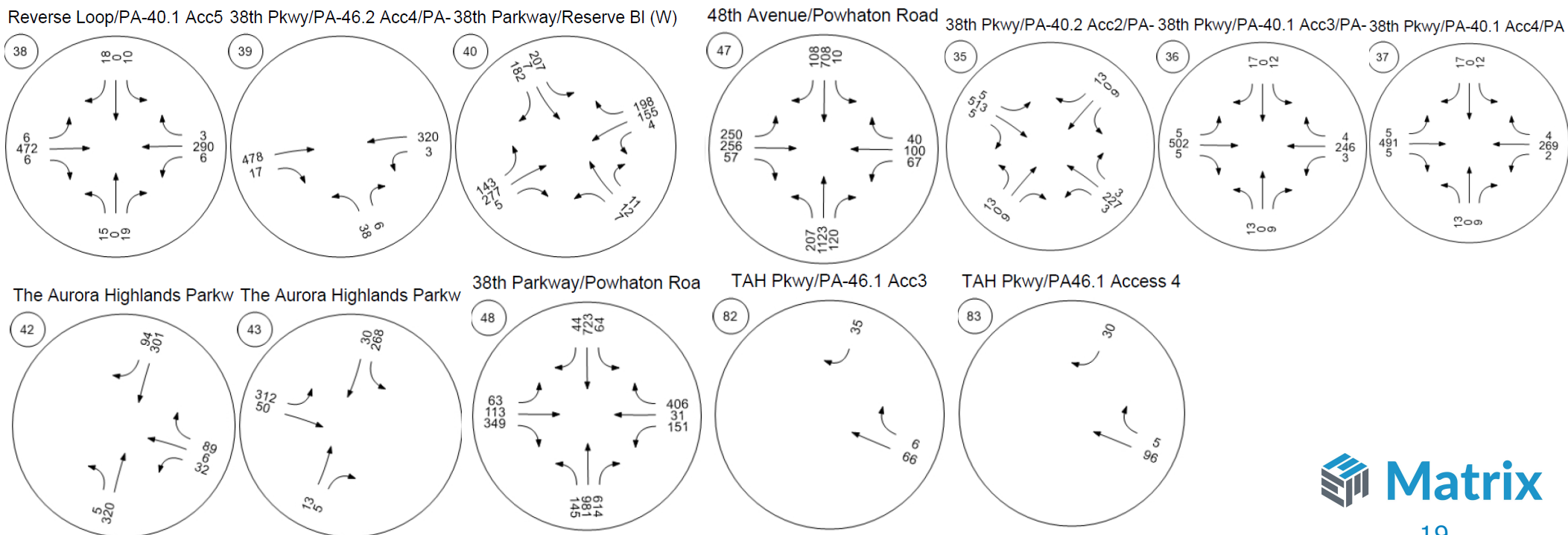
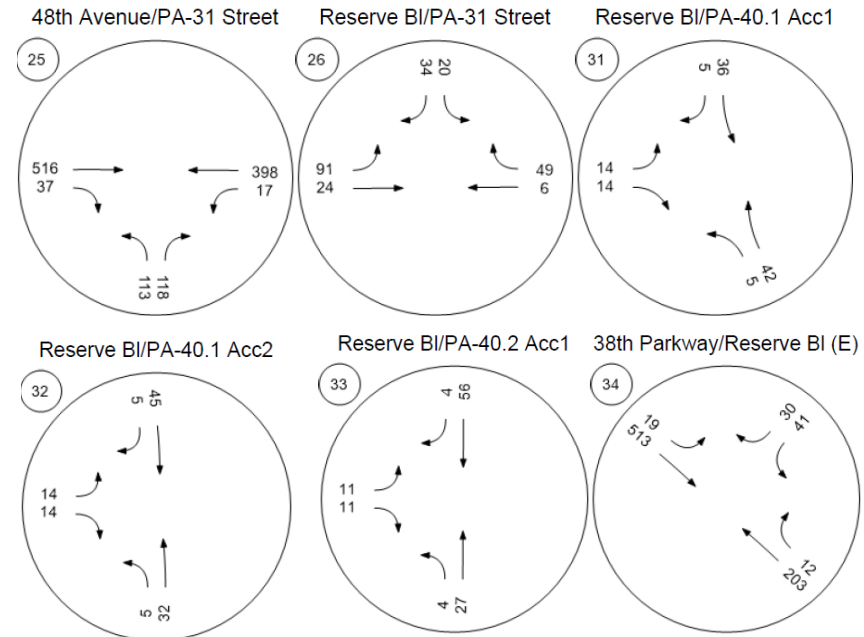


Figure 11. Horizon (2040) With Project Traffic Volumes (AM Peak Hour)



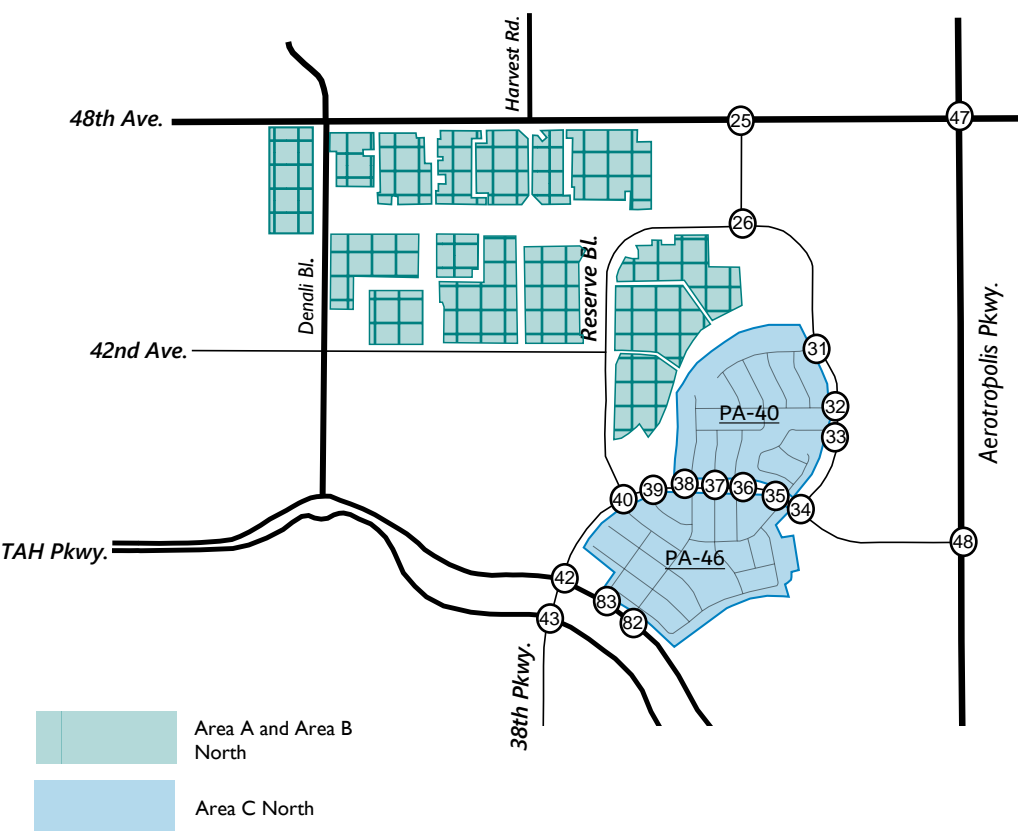


Figure 12. Horizon (2040) With Project Traffic Volumes (PM Peak Hour)

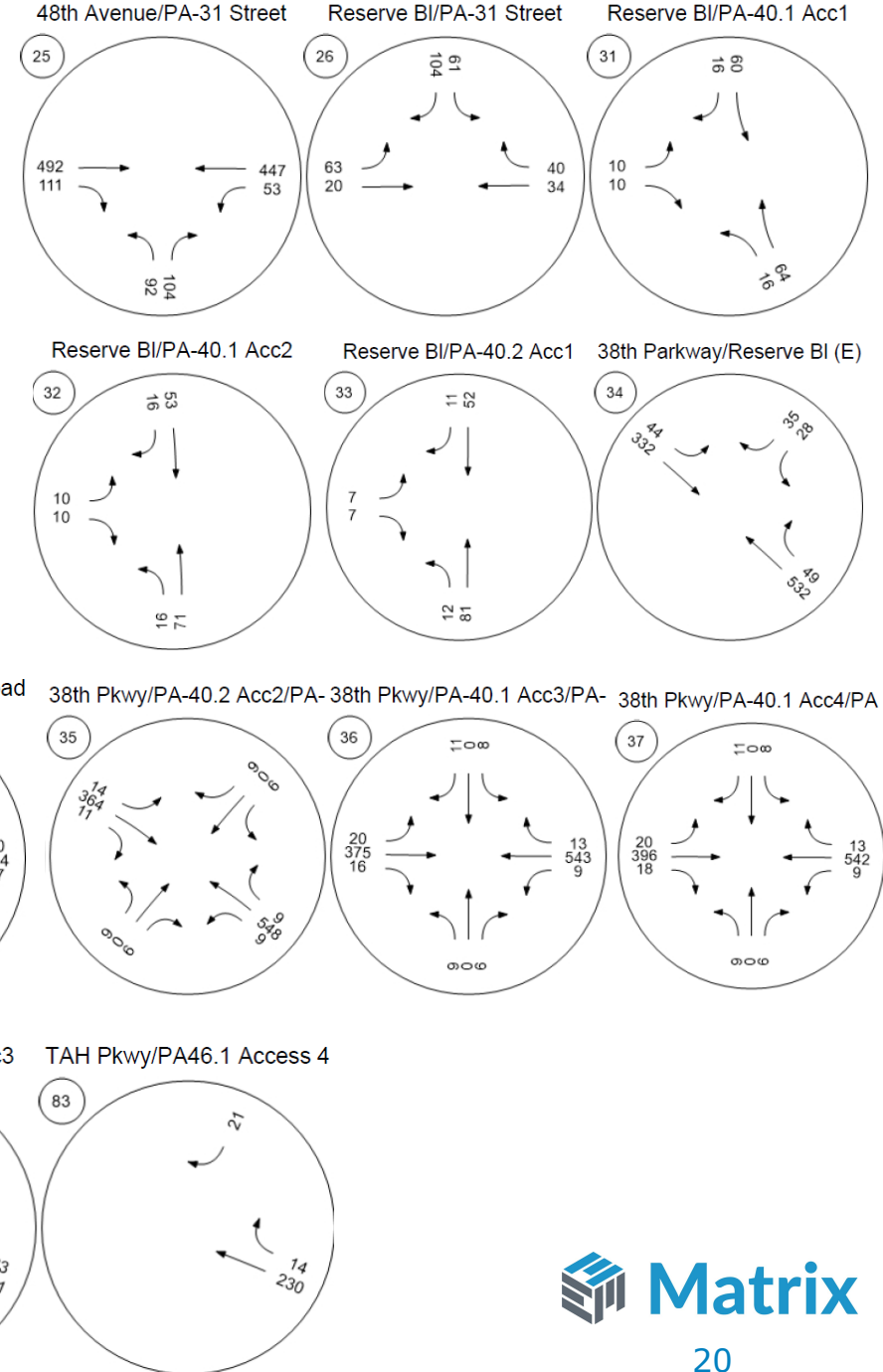
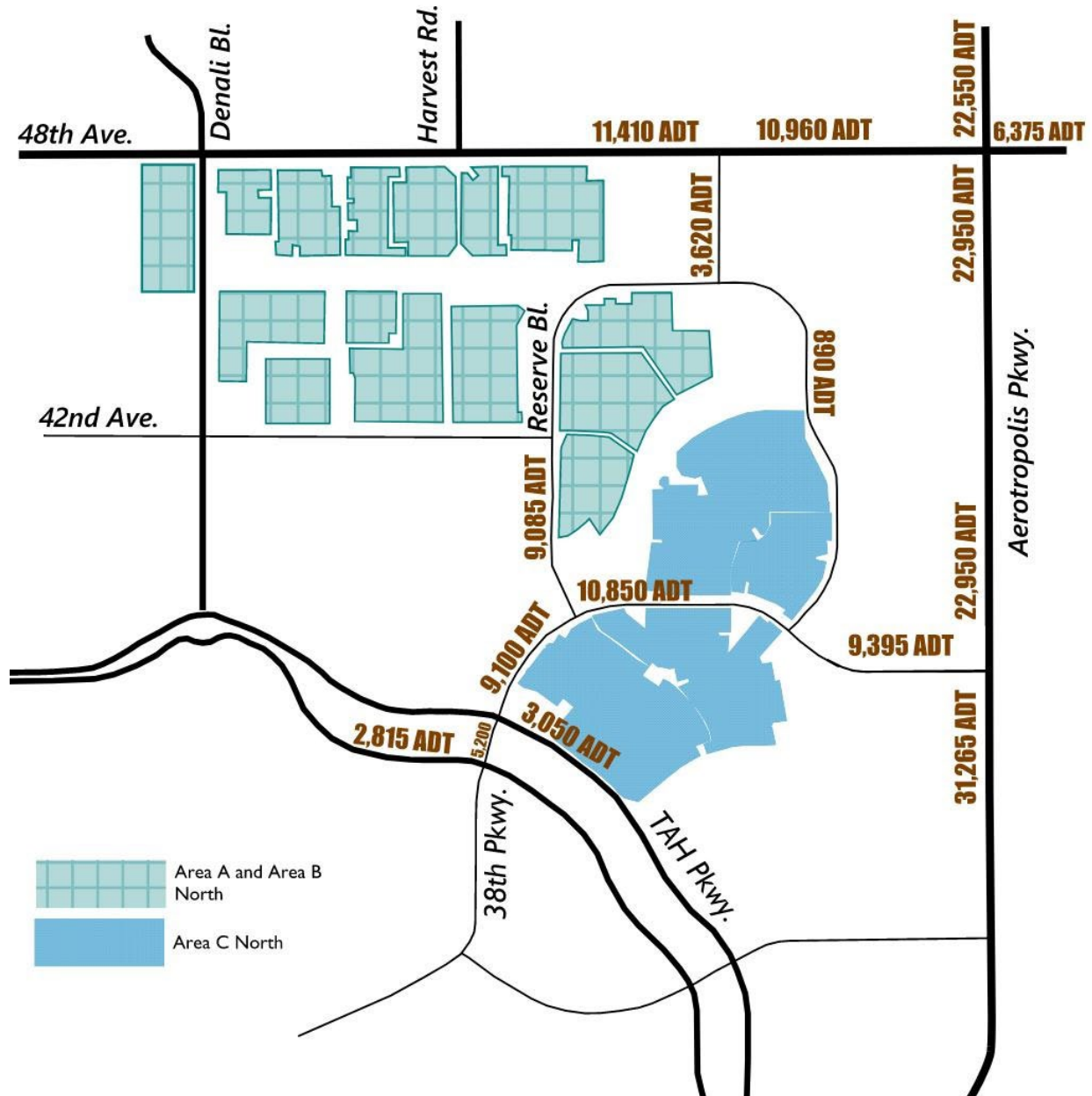


Figure 13. Horizon (2040) With Project Daily Traffic Volumes



Assumed intersection configurations for the study area intersections are shown in Figure 14.

Analysis of the intersections and roadways for buildout conditions with the volumes and configurations shown below results in the operations shown in Tables 5 and 6. Signal Warrant analysis was performed for the studied intersections and the intersection of 38th Parkway/Reserve Boulevard (#40) requires a traffic signal control in the horizon year with addition of the Area C north. Additionally, the intersection of TAH Parkway (E)/38th Parkway (#43) control type should change to an All-Way-Stopped-Controlled (AWSC). Signal warrant analysis is included in Appendix D.

Table 5. Horizon (2040) With Project Intersection Operations (AM Peak Hour)**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
25	48th Avenue/PA-31 Street	Two-way stop	HCM 7th Edition	NB Left	0.396	24.0	C
26	Reserve Bl/PA-31 Street	Two-way stop	HCM 7th Edition	SB Left	0.032	10.4	B
31	Reserve Bl/PA-40.1 Acc1	Two-way stop	HCM 7th Edition	EB Left	0.017	9.1	A
32	Reserve Bl/PA-40.1 Acc2	Two-way stop	HCM 7th Edition	EB Left	0.017	9.1	A
33	Reserve Bl/PA-40.2 Acc1	Two-way stop	HCM 7th Edition	EB Left	0.013	9.1	A
34	38th Parkway/Reserve Bl (E)	Two-way stop	HCM 7th Edition	SB Left	0.134	17.4	C
35	38th Pkwy/PA-40.2 Acc2/PA-46.2 Acc1/PA-46.1 Acc4	Two-way stop	HCM 7th Edition	NB Left	0.050	18.6	C
36	38th Pkwy/PA-40.1 Acc3/PA-46.2 Acc2	Two-way stop	HCM 7th Edition	NB Left	0.051	18.9	C
37	38th Pkwy/PA-40.1 Acc4/PA-46.2 Acc3	Two-way stop	HCM 7th Edition	NB Left	0.052	19.1	C
38	38th Pkwy/PA-40.1 Acc5	Two-way stop	HCM 7th Edition	NB Left	0.061	19.9	C
39	38th Pkwy/PA-46.2 Acc4/PA-46.1 Acc1	Two-way stop	HCM 7th Edition	NB Left	0.128	17.9	C
40	38th Parkway/Reserve Bl (W)	Signalized	HCM 7th Edition	SB Left	0.324	10.8	B
42	The Aurora Highlands Parkway/38th Parkway	Two-way stop	HCM 7th Edition	NB Left	0.013	14.7	B
43	The Aurora Highlands Parkway/38th Parkway	All-way stop	HCM 7th Edition	EB Left	0.552	12.7	B
47	48th Avenue/Aerotropolis Pkwy	Signalized	HCM 7th Edition	SB Left	0.352	22.8	C
48	38th Parkway/Aerotropolis Pkwy	Signalized	HCM 7th Edition	SB Left	0.400	20.1	C
82	TAH Pkwy/PA-46.1 Acc3	Two-way stop	HCM 7th Edition	SB Right	0.037	8.7	A
83	TAH Pkwy/PA46.1 Access 4	Two-way stop	HCM 7th Edition	SB Right	0.033	8.7	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 6. Horizon (2040) With Project Intersection Operations (PM Peak Hour)

Intersection Analysis Summary							
ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
25	48th Avenue/PA-31 Street	Two-way stop	HCM 7th Edition	NB Left	0.380	26.8	D
26	Reserve Bl/PA-31 Street	Two-way stop	HCM 7th Edition	SB Left	0.090	10.4	B
31	Reserve Bl/PA-40.1 Acc1	Two-way stop	HCM 7th Edition	EB Left	0.014	9.6	A
32	Reserve Bl/PA-40.1 Acc2	Two-way stop	HCM 7th Edition	EB Left	0.014	9.6	A
33	Reserve Bl/PA-40.2 Acc1	Two-way stop	HCM 7th Edition	EB Left	0.010	9.5	A
34	38th Parkway/Reserve Bl (E)	Two-way stop	HCM 7th Edition	SB Left	0.128	22.5	C
35	38th Pkwy/PA-40.2 Acc2/PA-46.2 Acc1/PA-46.1 Acc4	Two-way stop	HCM 7th Edition	NB Left	0.052	24.5	C
36	38th Pkwy/PA-40.1 Acc3/PA-46.2 Acc2	Two-way stop	HCM 7th Edition	NB Left	0.054	25.5	D
37	38th Pkwy/PA-40.1 Acc4/PA-46.2 Acc3	Two-way stop	HCM 7th Edition	NB Left	0.056	26.3	D
38	38th Pkwy/PA-40.1 Acc5	Two-way stop	HCM 7th Edition	NB Left	0.080	28.8	D
39	38th Pkwy/PA-46.2 Acc4/PA-46.1 Acc1	Two-way stop	HCM 7th Edition	NB Left	0.113	22.6	C
40	38th Parkway/Reserve Bl (W)	Signalized	HCM 7th Edition	SB Left	0.456	11.3	B
42	The Aurora Highlands Parkway/38th Parkway	Two-way stop	HCM 7th Edition	NB Thru	0.480	17.0	C
43	The Aurora Highlands Parkway/38th Parkway	All-way stop	HCM 7th Edition	EB Left	0.429	11.4	B
47	48th Avenue/Aerotropolis Pkwy	Signalized	HCM 7th Edition	SB Left	0.357	23.0	C
48	38th Parkway/Aerotropolis Pkwy	Signalized	HCM 7th Edition	EB Right	0.553	27.0	C
82	TAH Pkwy/PA-46.1 Acc3	Two-way stop	HCM 7th Edition	SB Right	0.029	9.2	A
83	TAH Pkwy/PA46.1 Access 4	Two-way stop	HCM 7th Edition	SB Right	0.026	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 7 shows the recommended auxiliary lane lengths for the corresponding movement in the horizon year with addition of the project.

Table 7. Horizon (2040) With Project Turn Lane Evaluations

ID	Intersection	Movement	No. of Lanes	Access Category	Speed Limit (mph)	Turning Volume (veh/hr)	Queue (ft)	Deceleration Lane (ft)	Storage Lane (ft)	Taper Lane (ft)	COA Min Deceleration + Storage Requirement	Total (ft)	Notes
25	48th Ave/Collector Road	NBL	1	NR-C	35	113	46		113	120	150	235	Occur Within the Median
		EBR	1	NR-A	45	111	0	273		162		435	
		WBL	1	NR-A	45	53	5	273	50	162	200	485	
26	Reserve Bl/PA-31 Street	SBL	1	NR-C	35	61	7		50	120	150	170	
		EBL	1	NR-C	35	91	5		100	120		220	
34	38th Pkwy/Reserve Bl (E)	SBL	1	NR-C	35	41	11		50	120	150	170	
		EBL	1	NR-C	35	44	4		50	0	150	50	Occur Within the Median
39	38th Pkwy/PA-46.2 & PA-46.1 Access	NBL	1	NR-C	35	38	11		50	120		170	
		EBR	1	NR-C	35	54	0		50	120		170	
40	38th Pkwy/Reserve Bl (W)	SBL	1	NR-C	35	254	161		254	120	150	375	
		SBR	1	NR-C	35	182	52		182	120		300	Shared with SBT Due to Low Through Volume
		EBL	1	NR-C	35	227	110		227	120	150	345	Occur Within the Median
		WBL	1	NR-C	35	61	21		50	120	150	170	Occur Within the Median
		WBR	1	NR-C	35	220	22		220	120		340	
42	TAH Pkwy/38th Pkwy (W)	SBR	1	NR-C	35	157	15		130	120		250	
		WBL	1	NR-B	40	32	0		50	144	200	195	
		WBR	1	NR-B	40	228	0		50	144		195	
43	TAH Pkwy/38th Pkwy (E)	SBL		NR-C	35	274	52		237	120	150	355	AWSC Intersection
		EBL	1	NR-B	40	312	53		50	144	200	195	
47	48TH Ave/Aerotropolis Pkwy	NBL	2	NR-A	45	211	172	273	106	162	200	540	
		NBR	1	NR-A	45	120	26	273		162		435	
		SBL	2	NR-A	45	10	8	273	50	162	200	485	
		SBR	1	NR-A	45	145	38	373		162		535	
		EBL	2	NR-A	45	250	204	273	125	162	200	560	
		EBR	1	NR-A	45	57	0	273		162		435	
		WBL	2	NR-A	45	87	62	273	50	162	200	485	
		WBR	1	NR-A	45	40	32	273		162		435	
48	38th Pkwy/Aerotropolis Pkwy	NBL	1	NR-A	45	396	267	273	314	162	200	750	
		NBR	1	NR-A	45	614	179	273		162		435	
		SBL	2	NR-A	45	64	40	273	25	162	200	460	
		SBR	1	NR-A	45	73	25	273		162		435	
		EBL	1	NR-C	35	63	58		50	120	150	170	Occur Within the Median
		EBR	1	NR-C	35	349	214		349	120		470	
		WBL	2	NR-C	35	597	329		299	120	150	420	
		WBR	1	NR-C	35	406	237		406	120		525	

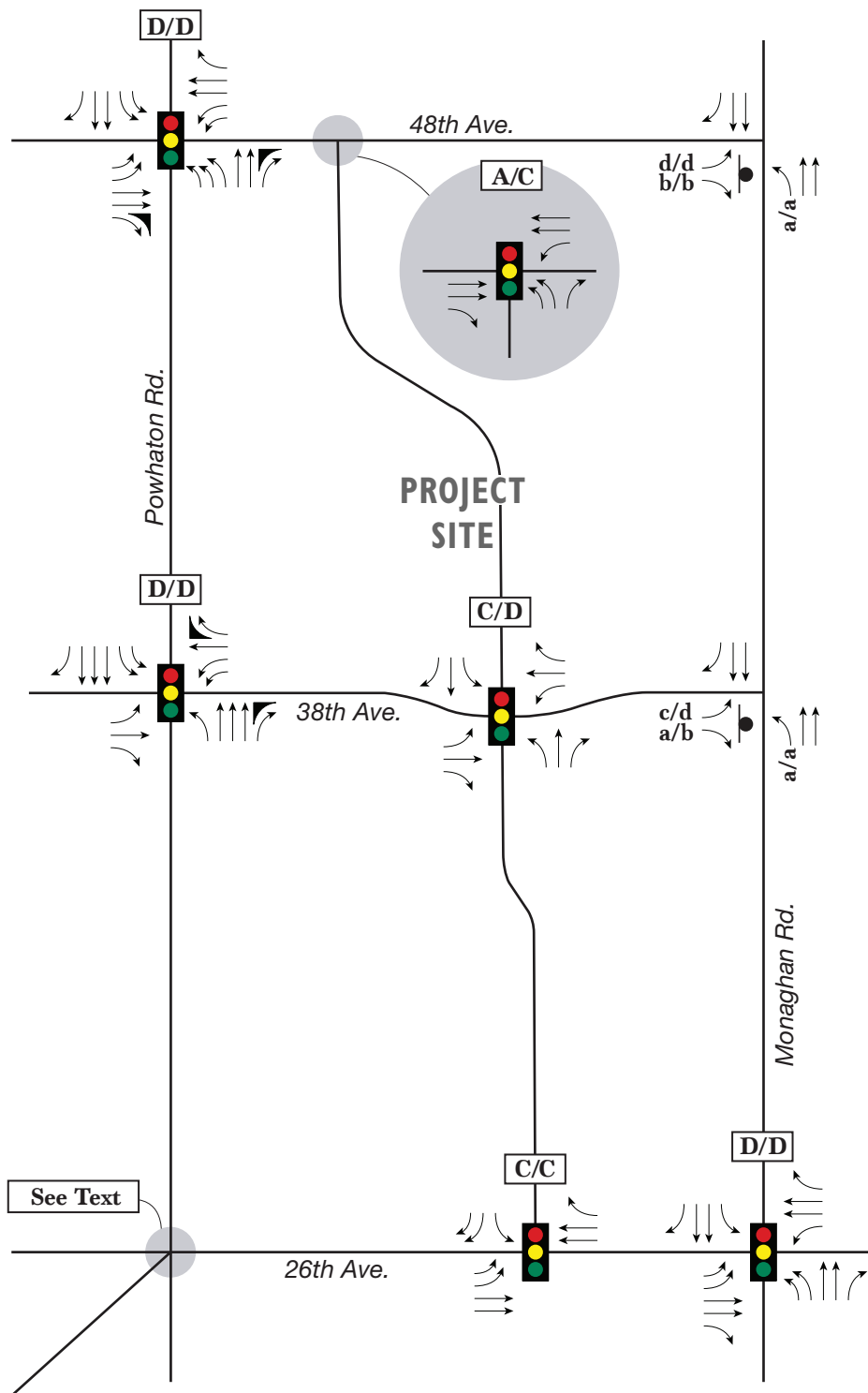
COA: City of Aurora

Total turn lane is rounded to the nearest 5-ft.

Conclusions and Recommendations

The traffic impacts on the assumed roadway network were studied regarding the development of the Aurora Highlands, North Area, Area C. The roadway network assumptions were developed from a combination of *NEATS Final Report, 2018*, *The Aurora Highlands Traffic Impact Study; August 2019*, *Powhaton Road Alignment Study, October 2022*, *ATEC Traffic Impact Analysis; November 2019*, *The Aurora Highlands North, Area A (2022)*, *The Aurora Highlands North Area B (2023)*, and built or planned roadways within the Aurora highlands. These studies were used to obtain the 2040 roadway network, intersection configurations and 2040 background traffic volumes in the study area. New project trips for The Aurora Highlands, North Area, Area C were generated using the ITE Trip Generation Manual, 11th Edition. Subsequently, they were distributed to the roadway network based on trip distribution assumptions from other area studies and then assigned to the roadway network. The transportation network was assessed according to the State Highway Access Code (SHAC), and the roadway needs were summarized in Table 7.

Appendix A – Background Traffic Volumes



LEGEND

- X/X = AM/PM Peak Hour Signalized Intersection Level of Service
- x/x = AM/PM Peak Hour Unsignalized Intersection Level of Service
- = Stop Sign
- ⬆️⬇️⬆️ = Traffic Signal

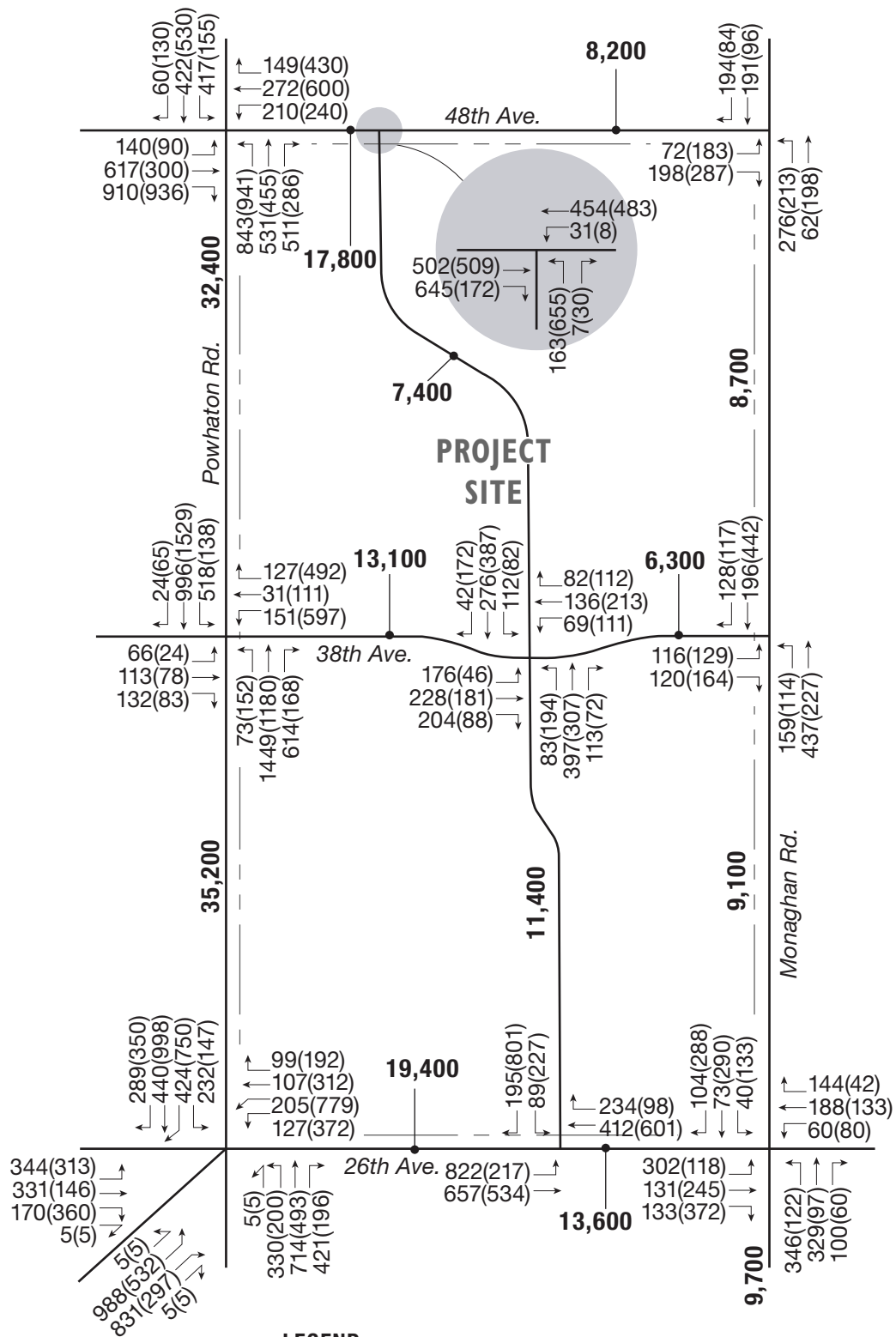
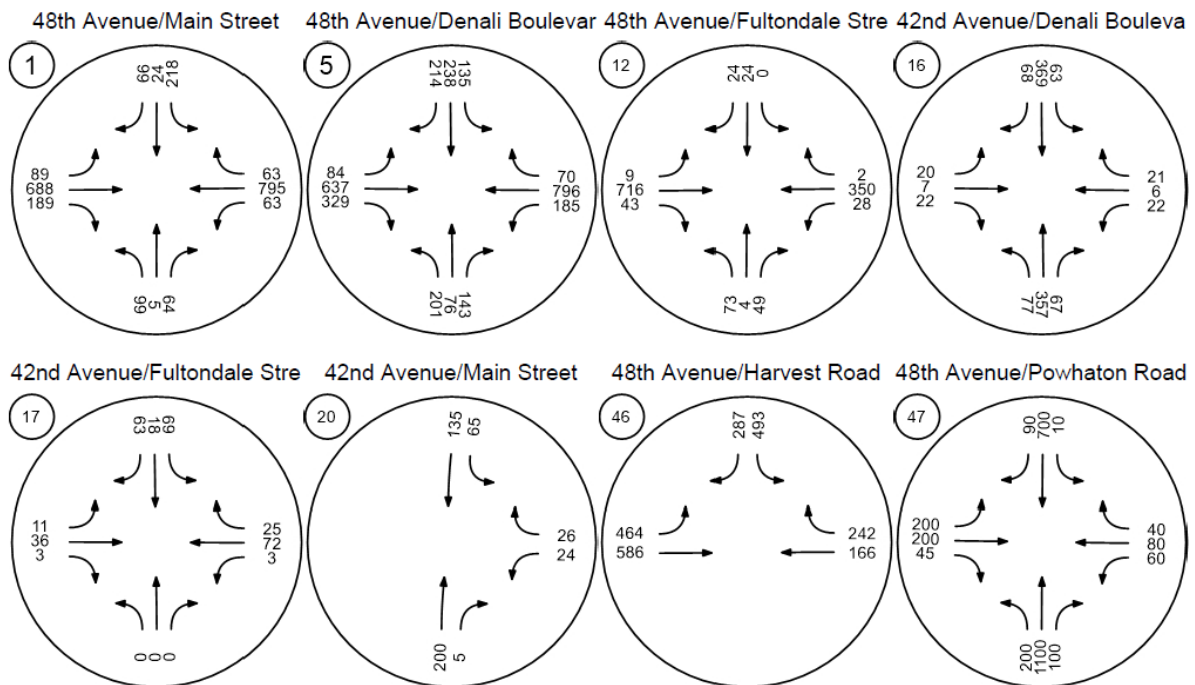


Figure 7. Horizon Year No Project Traffic Volumes (AM Peak Hour)



Horizon Year No Project Traffic Volumes (AM Peak Hour) Continued



38th Parkway/Powhatan Road

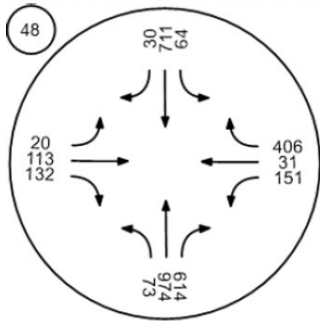
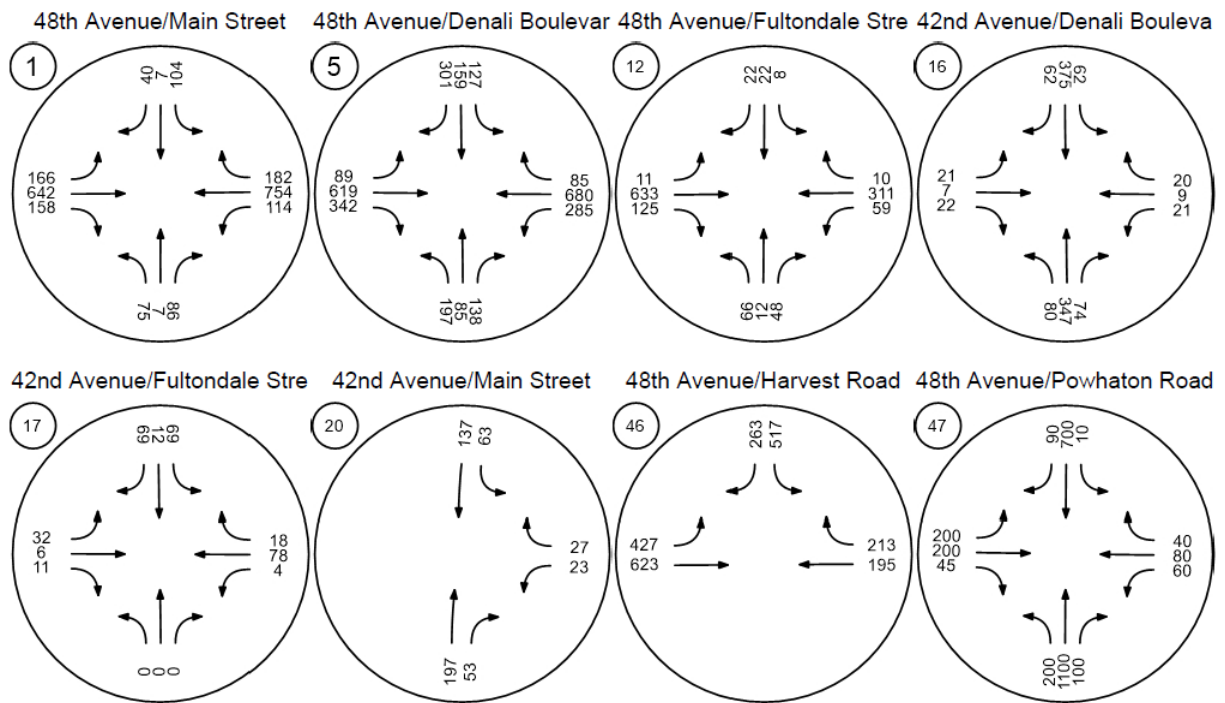


Figure 8. Horizon Year No Project Traffic Volumes (PM Peak Hour)



Horizon Year No Project Traffic Volumes (PM Peak Hour) Continued



38th Parkway/Powhatan Roa

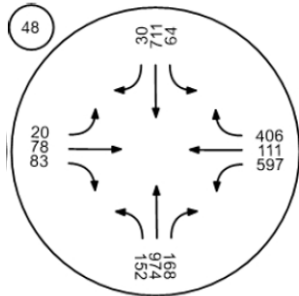
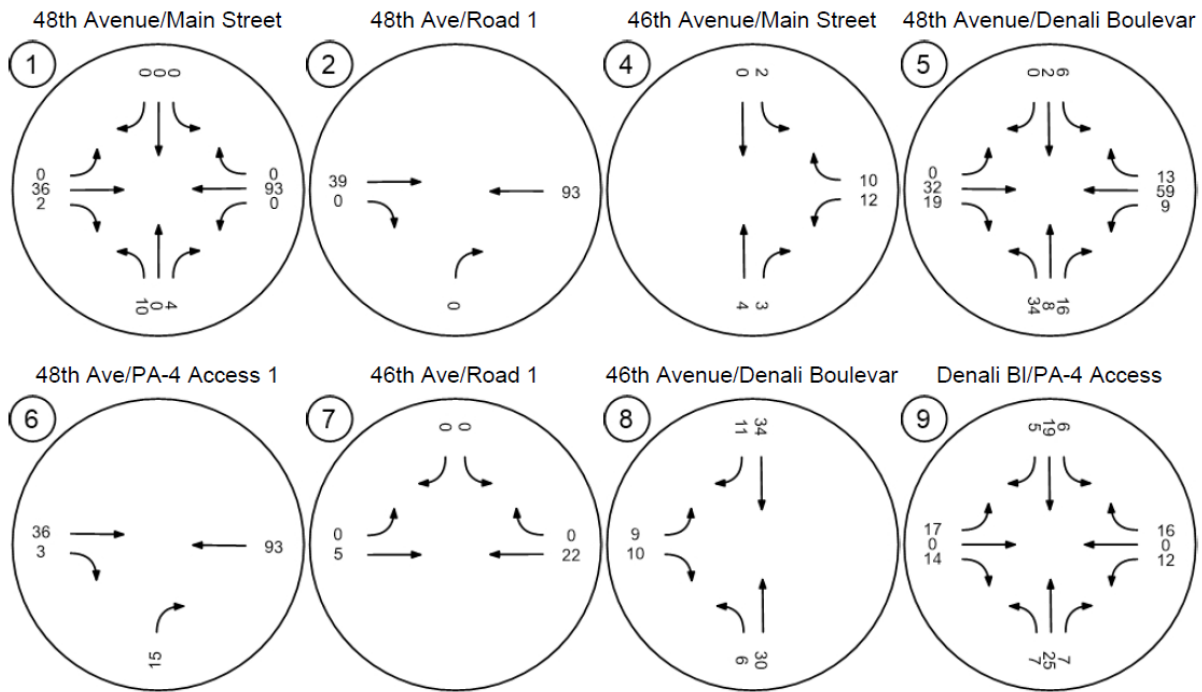
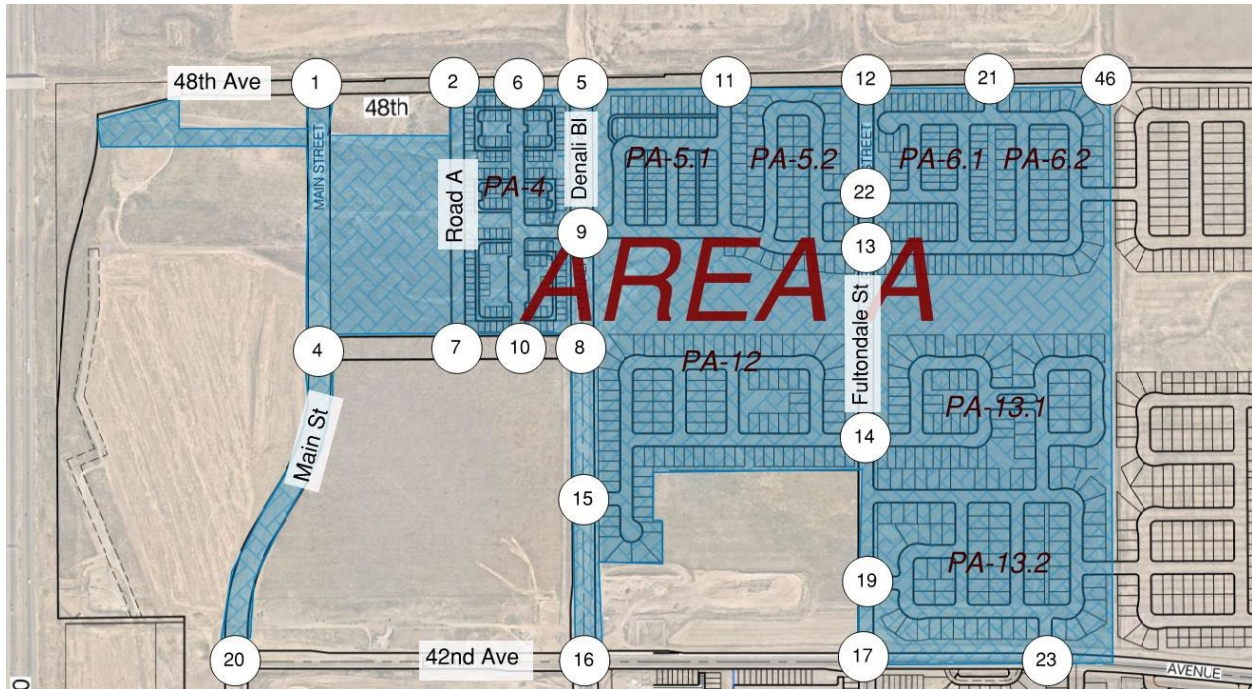
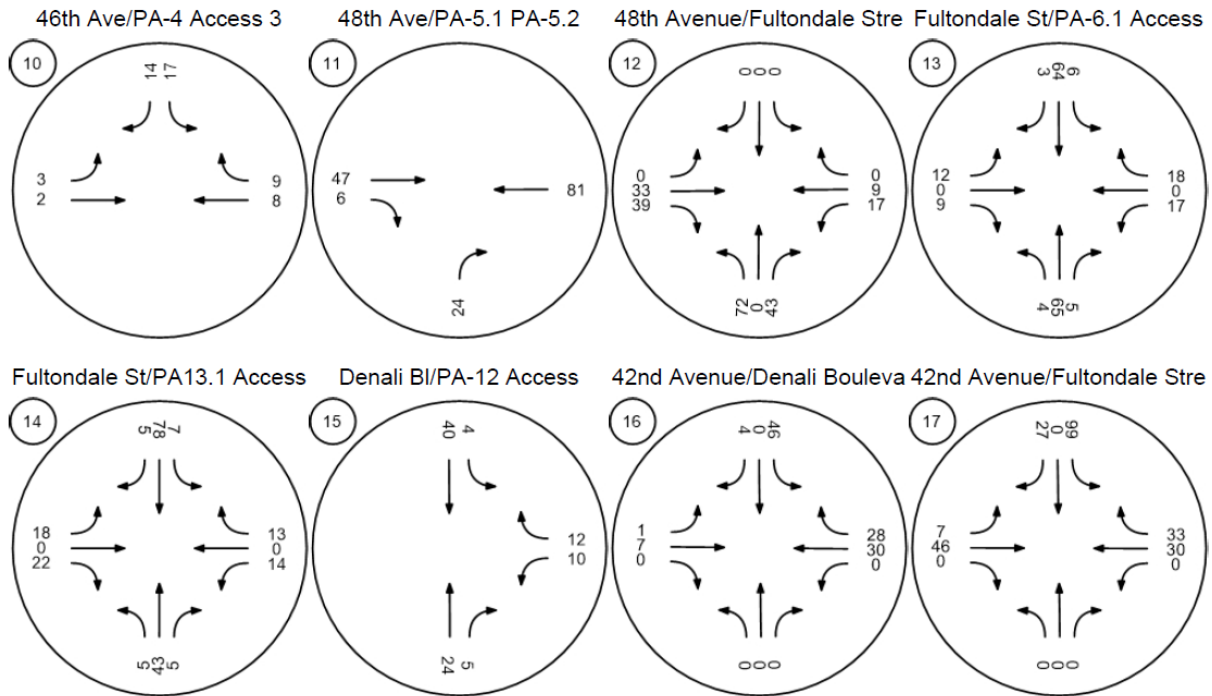


Figure 4. The Aurora Highlands North, Area A Project Trips (AM Peak Hour)



The Aurora Highlands North, Area A Project Trips (AM Peak Hour) Continued



The Aurora Highlands North, Area A Project Trips (AM Peak Hour) Continued

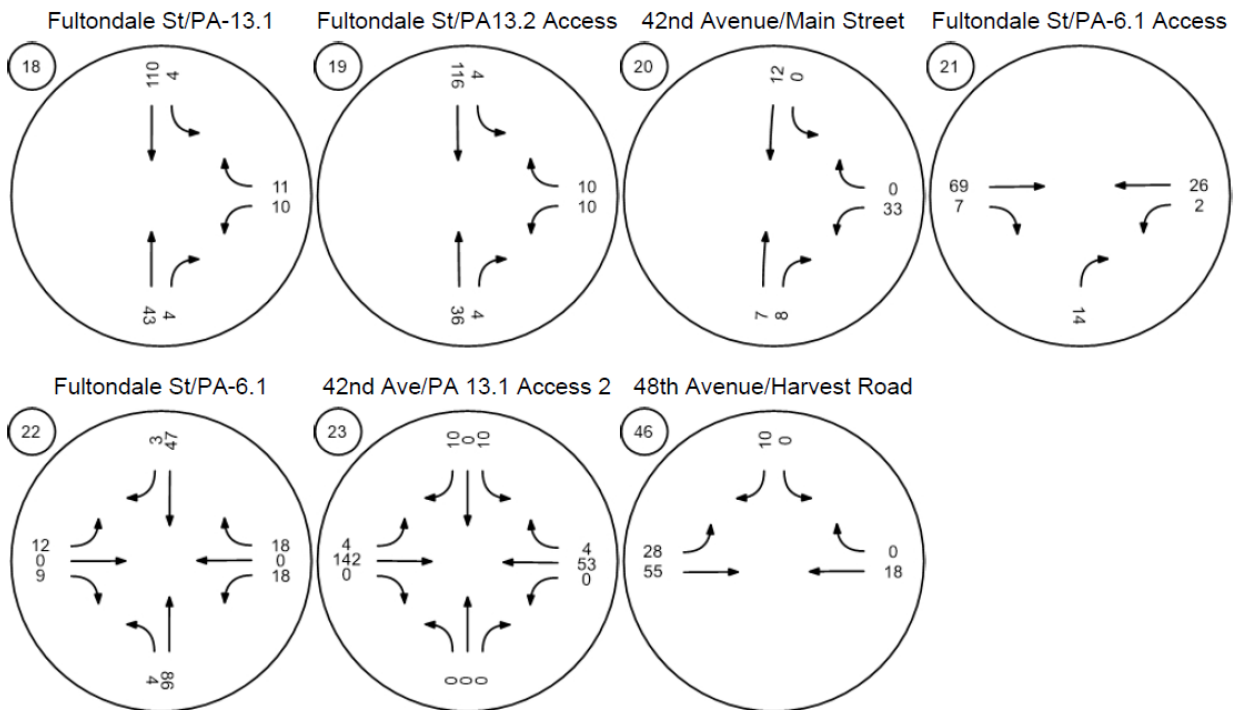
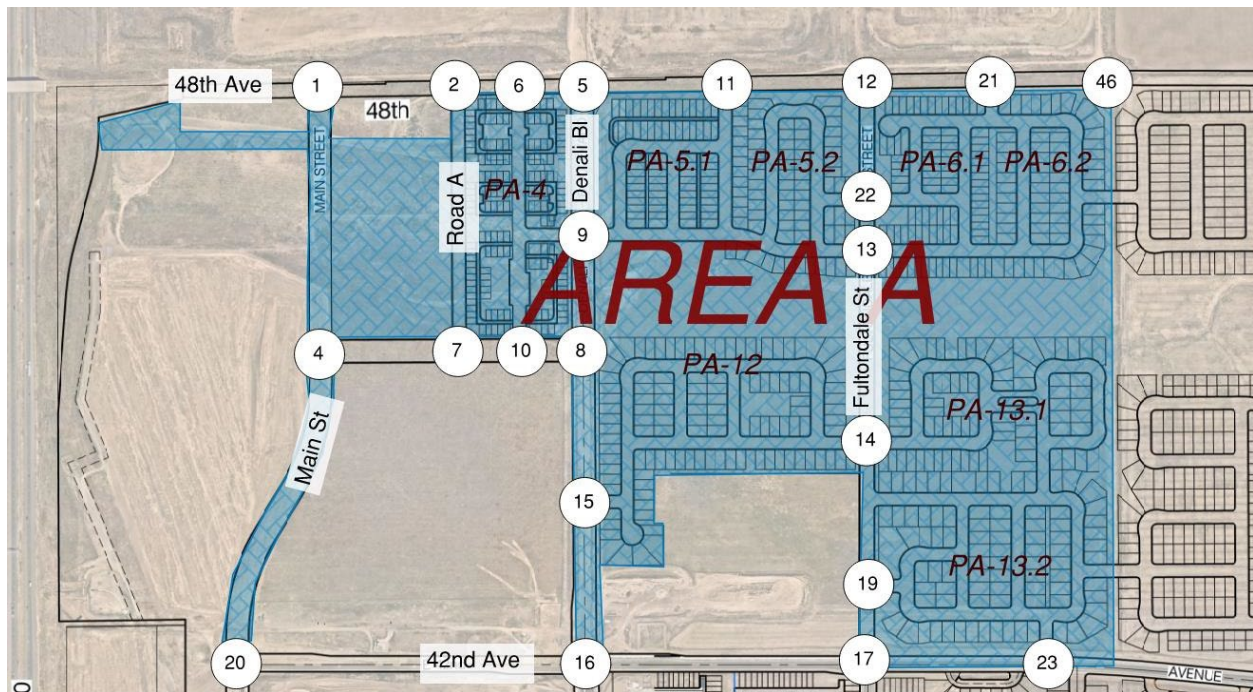
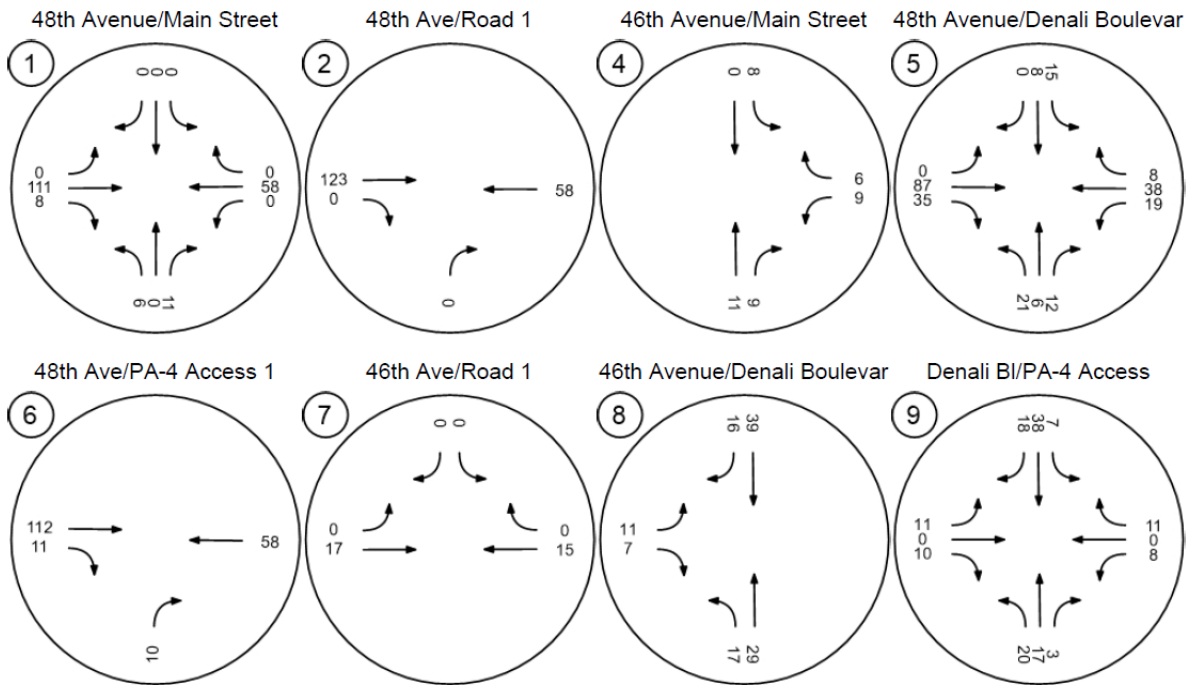
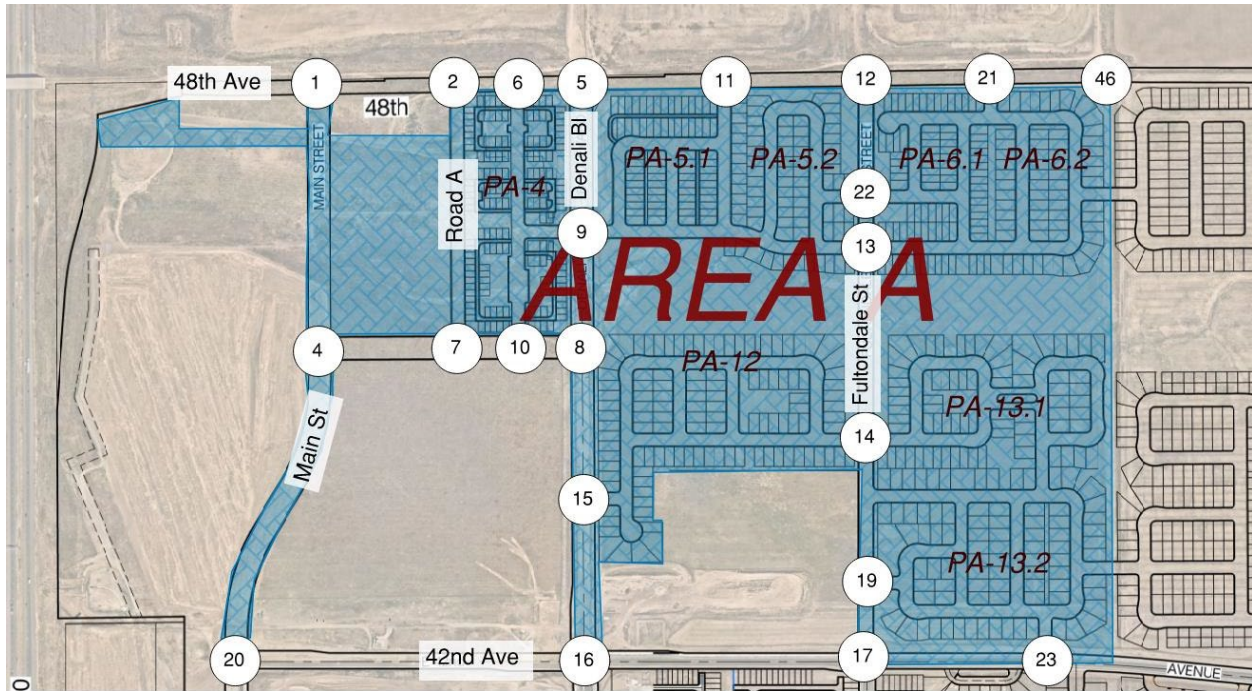
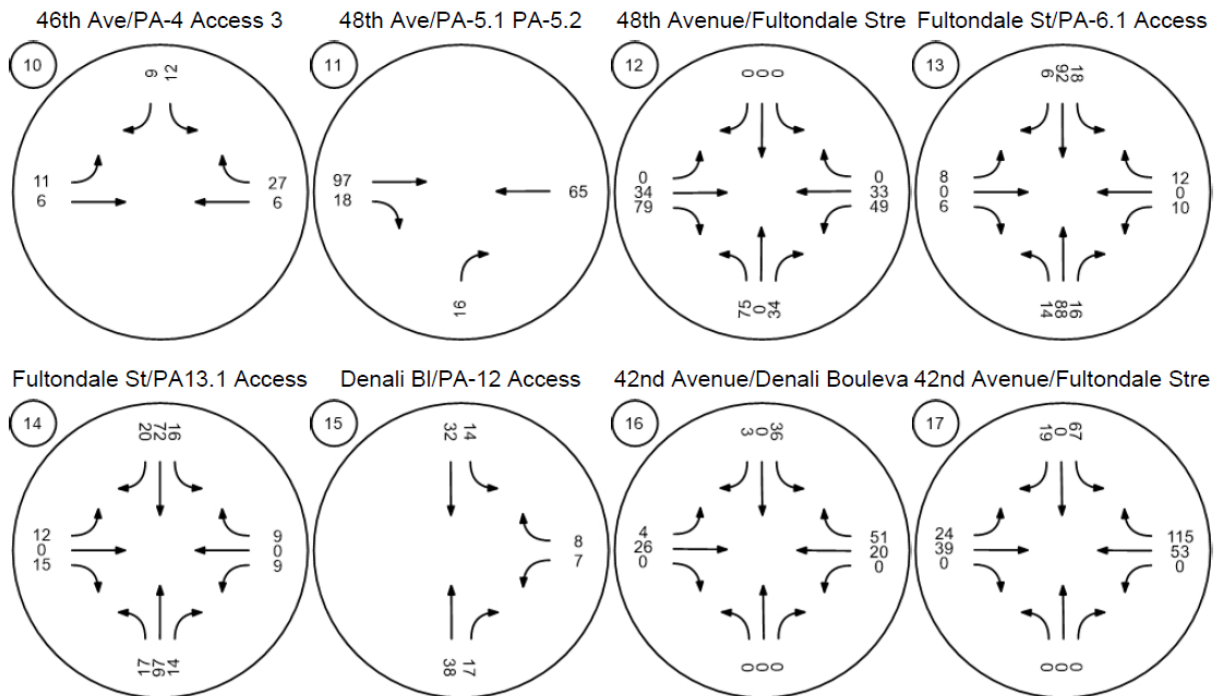
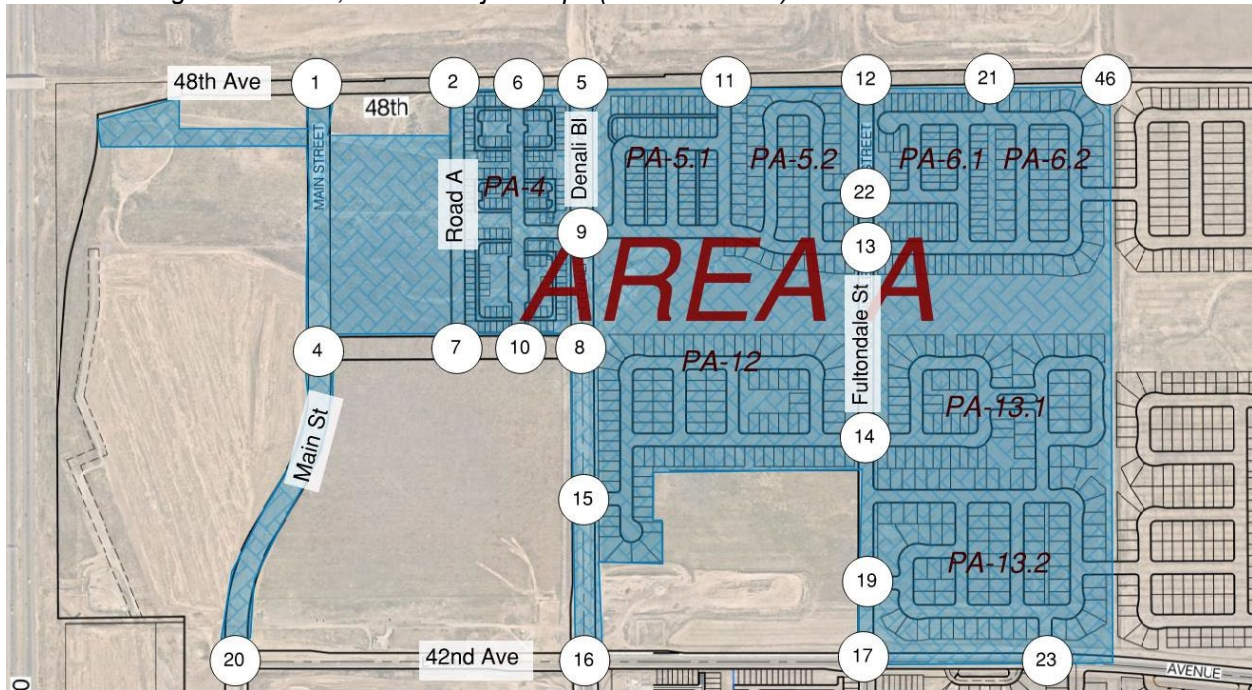


Figure 5. The Aurora Highlands North, Area A Project Trips (PM Peak)



The Aurora Highlands North, Area A Project Trips (PM Peak Hour) Continued



The Aurora Highlands North, Area A Project Trips (PM Peak Hour) Continued

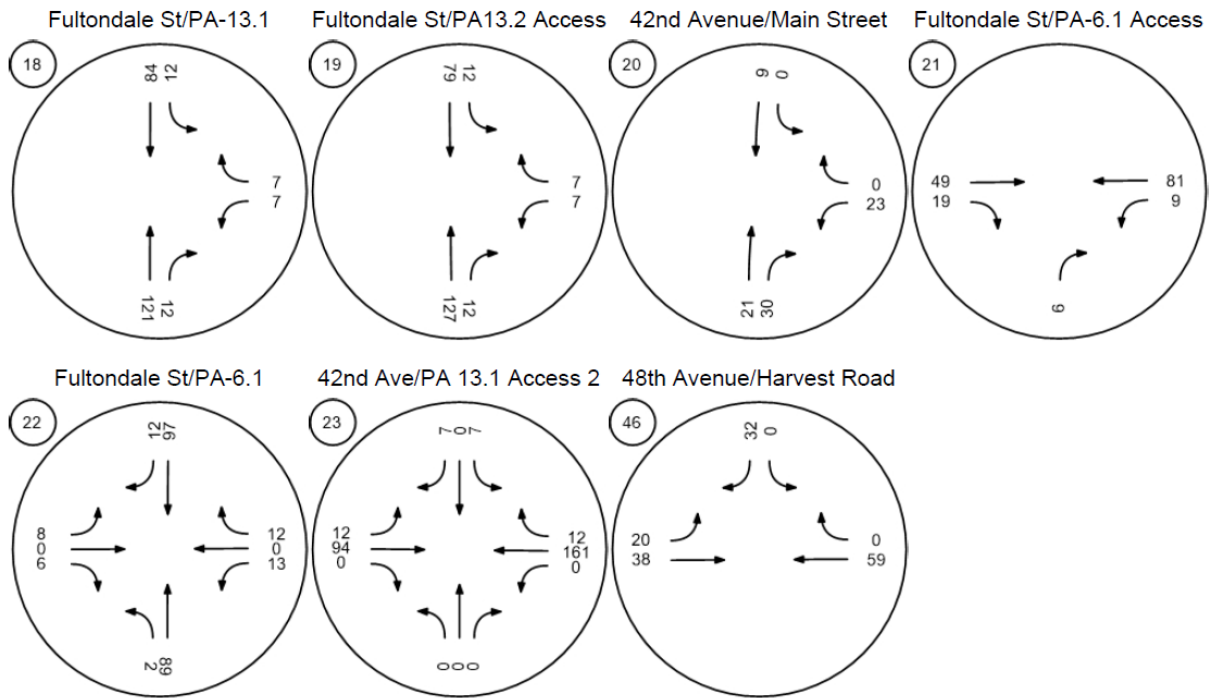
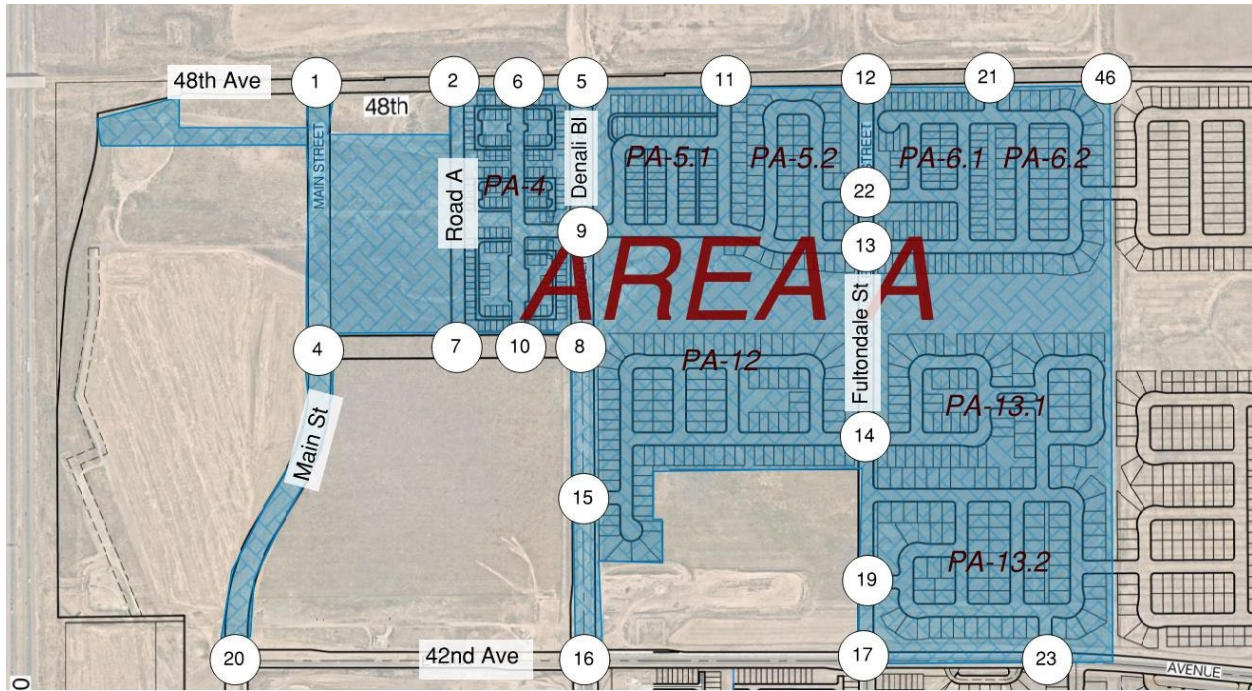
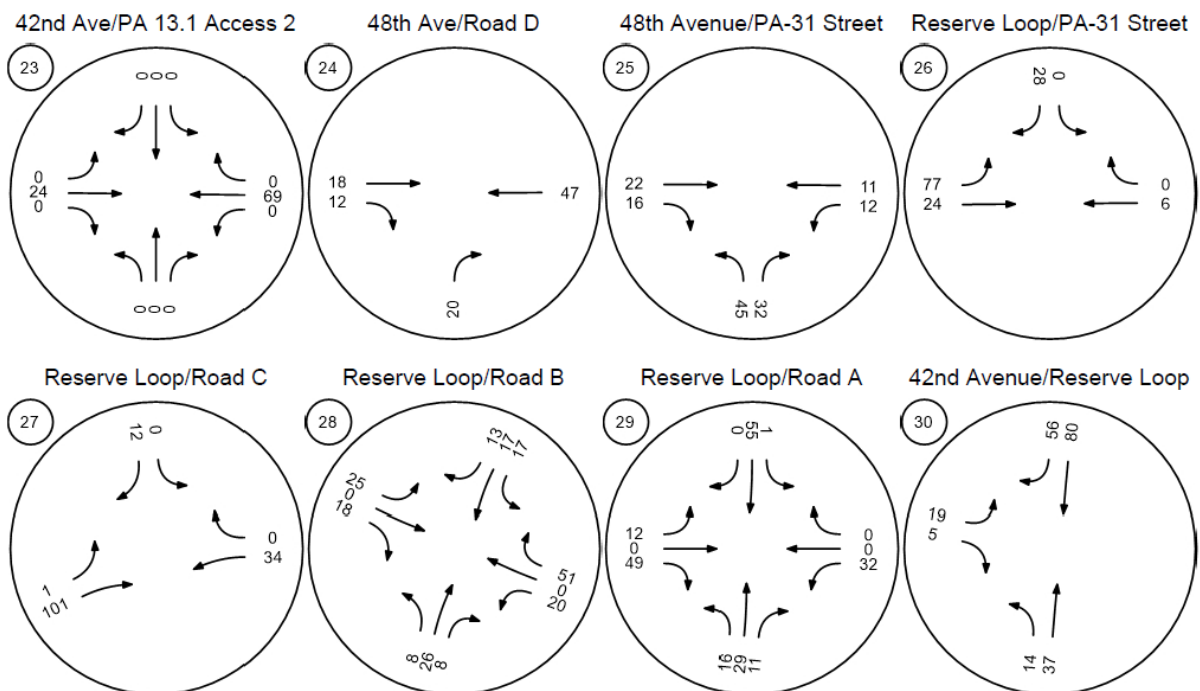
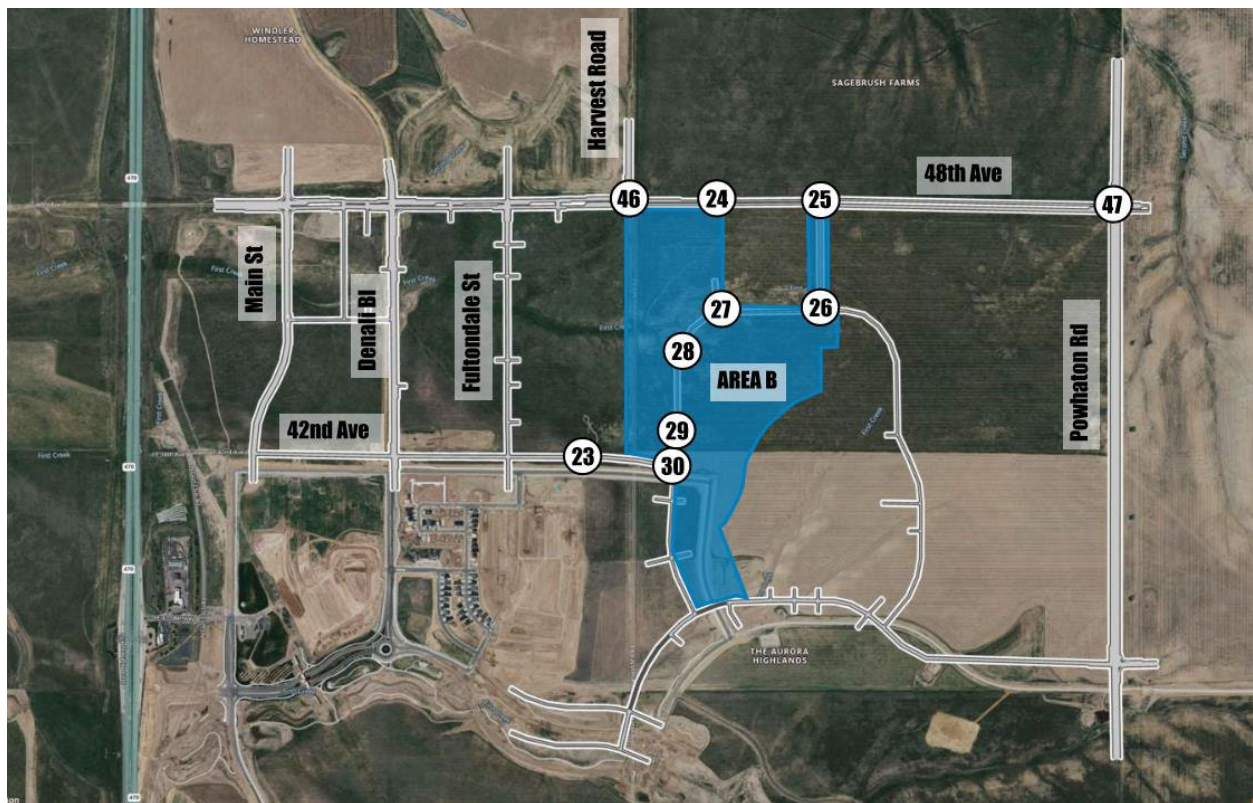


Figure 4. The Aurora Highlands North, Area B Project Trips (AM Peak Hour)



The Aurora Highlands North, Area B Project Trips (AM Peak Hour) Continued



48th Avenue/Harvest Road 48th Avenue/Powhatan Road

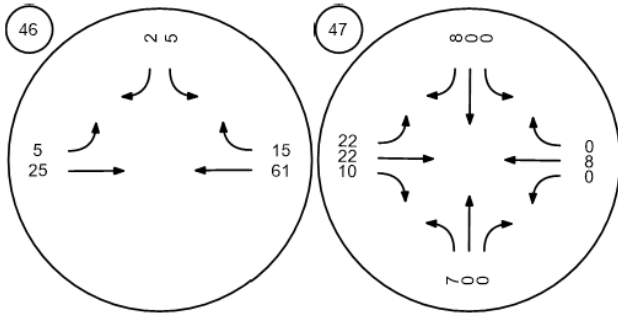
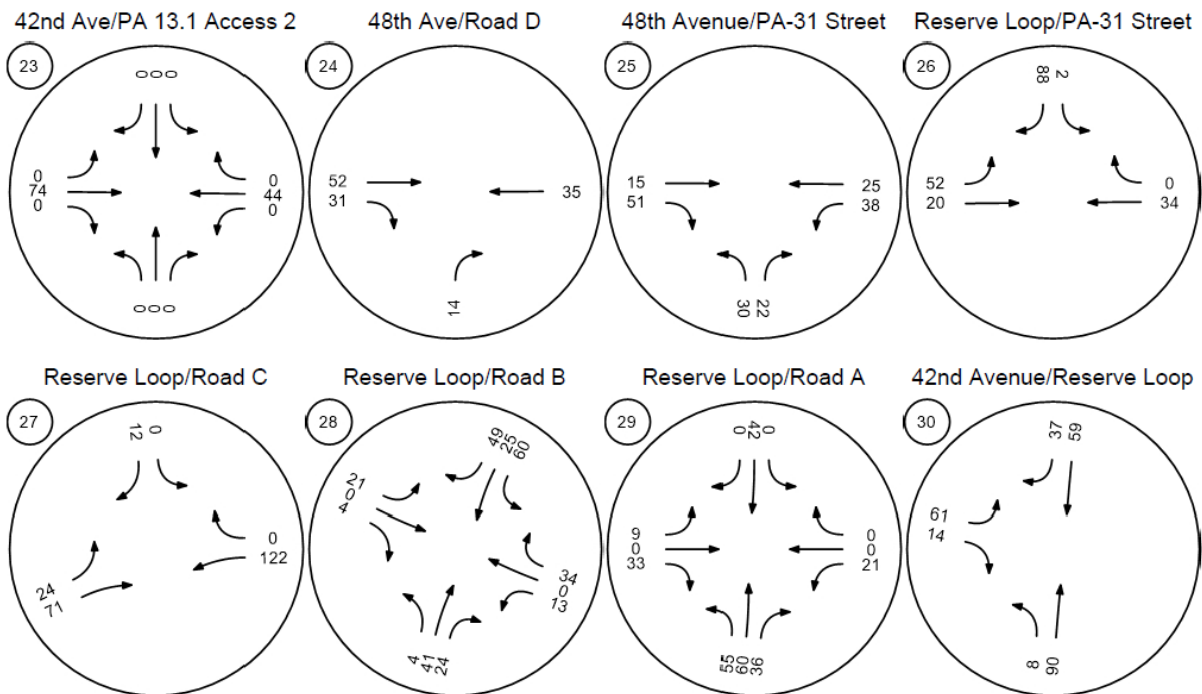


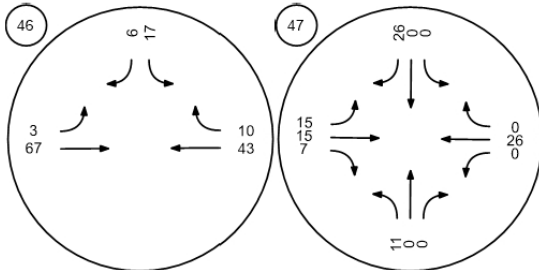
Figure 5. The Aurora Highlands North, Area B Project Trips (PM Peak)



The Aurora Highlands North, Area B Project Trips (PM Peak) Continued



48th Avenue/Harvest Road 48th Avenue/Powhatan Road



Appendix B – ITE Trip Generation Calculations

PROJECT DETAILS			
Project Name:	TAH - Area C	Type of Project:	
Project No:		City:	
Country:		Built-up Area(Sq.ft):	
Analyst Name:	Scott Barnhart	Clients Name:	
Date:	10/1/2022	ZIP/Postal Code:	
State/Province:		No. of Scenarios:	3
Analysis Region:			
SCENARIO SUMMARY			

Scenarios	Name	No. of Land Uses	Phases of Development	No. of Years to Project Traffic	User Group	Estimated New Vehicle Trips		
						Entry	Exit	Total
Scenario - 1	AM Peak Hour	4	1	0		142	426	568
Scenario - 2	PM Peak Hour	4	1	0		489	287	776
Scenario - 3	Weekday	4	1	0		3875	3875	7750

Scenario - 1

Scenario Name: AM Peak Hour

User Group:

Dev. phase: 1

No. of Years to Project 0

Traffic :

Analyst Note:

Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
210 - Single-Family Detached Housing	General	Dwelling Units	278	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	47	142	189
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.91\ln(X) + 0.12$	25%	75%	
210(1) - Single-Family Detached Housing	General	Dwelling Units	74	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	14	42	56
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.91\ln(X) + 0.12$	25%	75%	
210(2) - Single-Family Detached Housing	General	Dwelling Units	249	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	43	128	171
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.91\ln(X) + 0.12$	25%	75%	
210(3) - Single-Family Detached Housing	General	Dwelling Units	218	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	38	114	152
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.91\ln(X) + 0.12$	25%	75%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	25	75
210(1) - Single-Family Detached Housing	100	100	1	1	25	75
210(2) - Single-Family Detached Housing	100	100	1	1	25	75
210(3) - Single-Family Detached Housing	100	100	1	1	25	75

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	47	142	0	0	47	142
	189		0		189	
210(1) - Single-Family Detached Housing	14	42	0	0	14	42
	56		0		56	
210(2) - Single-Family Detached Housing	43	128	0	0	43	128
	171		0		171	
210(3) - Single-Family Detached Housing	38	114	0	0	38	114
	152		0		152	

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	47	142	189
210(1) - Single-Family Detached Housing	14	42	56
210(2) - Single-Family Detached Housing	43	128	171
210(3) - Single-Family Detached Housing	38	114	152

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	142	426	568
External Vehicle Trips	142	426	568
New Vehicle Trips	142	426	568

Scenario - 2

Scenario Name: PM Peak Hour

User Group:

Dev. phase: 1

No. of Years to Project 0

Traffic :

Analyst Note:

Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
210 - Single-Family Detached Housing	General	Dwelling Units	278	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	164	96	260
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.94\ln(X) + 0.27$	63%	37%	
210(1) - Single-Family Detached Housing	General	Dwelling Units	74	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	47	28	75
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.94\ln(X) + 0.27$	63%	37%	
210(2) - Single-Family Detached Housing	General	Dwelling Units	249	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	148	87	235
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.94\ln(X) + 0.27$	63%	37%	
210(3) - Single-Family Detached Housing	General	Dwelling Units	218	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	130	76	206
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.94\ln(X) + 0.27$	63%	37%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	63	37
210(1) - Single-Family Detached Housing	100	100	1	1	63	37
210(2) - Single-Family Detached Housing	100	100	1	1	63	37
210(3) - Single-Family Detached Housing	100	100	1	1	63	37

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	164	96	0	0	164	96
	260		0		260	
210(1) - Single-Family Detached Housing	47	28	0	0	47	28
	75		0		75	
210(2) - Single-Family Detached Housing	148	87	0	0	148	87
	235		0		235	
210(3) - Single-Family Detached Housing	130	76	0	0	130	76
	206		0		206	

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	164	96	260
210(1) - Single-Family Detached Housing	47	28	75
210(2) - Single-Family Detached Housing	148	87	235
210(3) - Single-Family Detached Housing	130	76	206

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	489	287	776
External Vehicle Trips	489	287	776
New Vehicle Trips	489	287	776

Scenario - 3

Scenario Name: Weekday

Dev. phase: 1

Analyst Note:

User Group:

No. of Years to Project 0

Traffic :

Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
210 - Single-Family Detached Housing	General	Dwelling Units	278	Weekday	Best Fit (LOG)	1292	1292	2584
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.92\ln(X) + 2.68$	50%	50%	
210(1) - Single-Family Detached Housing	General	Dwelling Units	74	Weekday	Best Fit (LOG)	382	382	764
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.92\ln(X) + 2.68$	50%	50%	
210(2) - Single-Family Detached Housing	General	Dwelling Units	249	Weekday	Best Fit (LOG)	1168	1168	2336
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.92\ln(X) + 2.68$	50%	50%	
210(3) - Single-Family Detached Housing	General	Dwelling Units	218	Weekday	Best Fit (LOG)	1033	1033	2066
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.92\ln(X) + 2.68$	50%	50%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	50	50
210(1) - Single-Family Detached Housing	100	100	1	1	50	50
210(2) - Single-Family Detached Housing	100	100	1	1	50	50
210(3) - Single-Family Detached Housing	100	100	1	1	50	50

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	1292	1292	0	0	1292	1292
	2584		0		2584	
210(1) - Single-Family Detached Housing	382	382	0	0	382	382
	764		0		764	
210(2) - Single-Family Detached Housing	1168	1168	0	0	1168	1168
	2336		0		2336	
210(3) - Single-Family Detached Housing	1033	1033	0	0	1033	1033
	2066		0		2066	

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	1292	1292	2584
210(1) - Single-Family Detached Housing	382	382	764
210(2) - Single-Family Detached Housing	1168	1168	2336
210(3) - Single-Family Detached Housing	1033	1033	2066

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	3875	3875	7750
External Vehicle Trips	3875	3875	7750
New Vehicle Trips	3875	3875	7750

Appendix C – Horizon Without Project Analyses



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Intersection Level Of Service Report
Intersection 25: 48th Avenue/PA-31 Street

Control Type:	Two-way stop	Delay (sec / veh):	19.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.228

Intersection Setup

Name	PA-31 Street		48th Avenue		48th Avenue	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵↵		↵↵	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	PA-31 Street		48th Avenue		48th Avenue	
Base Volume Input [veh/h]	20	71	445	0	0	370
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	1	2	49	6	1	17
Other Volume [veh/h]	45	32	22	16	12	11
Total Hourly Volume [veh/h]	66	105	516	22	13	398
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	29	140	6	4	108
Total Analysis Volume [veh/h]	72	114	561	24	14	433
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.16	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	19.76	10.97	0.00	0.00	8.70	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.86	0.56	0.00	0.00	0.04	0.00
95th-Percentile Queue Length [ft/ln]	21.58	14.08	0.00	0.00	1.08	0.00
d_A, Approach Delay [s/veh]	14.37		0.00		0.27	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.30					
Intersection LOS	C					



Intersection Level Of Service Report

Intersection 42: The Aurora Highlands Parkway/38th Parkway

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.411

Intersection Setup

Name	38th Parkway			38th Parkway			Th Au			TAH Parkway (W)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	38th Parkway			38th Parkway			Th Au			TAH Parkway (W)		
Base Volume Input [veh/h]	0	296	0	0	55	55	0	0	0	0	50	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	73	0	0	0	0	0	0	26
Other Volume [veh/h]	0	0	0	0	57	0	0	0	0	0	0	21
Total Hourly Volume [veh/h]	0	296	0	0	185	55	0	0	0	0	50	47
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	80	0	0	50	15	0	0	0	0	14	13
Total Analysis Volume [veh/h]	0	322	0	0	201	60	0	0	0	0	54	51
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.41	0.00	0.00	0.25	0.06	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.11	12.75	0.00	0.00	10.90	8.81	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B	B			B	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	2.02	0.00	0.00	0.98	0.19	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	50.48	0.00	0.00	24.44	4.76	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.75			10.42			0.00			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.92											
Intersection LOS	B											



Intersection Level Of Service Report

Intersection 43: The Aurora Highlands Parkway/38th Parkway

Control Type:	Two-way stop	Delay (sec / veh):	33.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.651

Intersection Setup

Name				38th Parkway			TAH Parkway (E)					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				38th Parkway			TAH Parkway (E)					
Base Volume Input [veh/h]	0	5	5	70	0	0	296	50	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	73	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	57	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	5	200	0	0	296	50	0	0	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	54	0	0	80	14	0	0	0	0
Total Analysis Volume [veh/h]	0	5	5	217	0	0	322	54	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	15.08	8.58	33.88	14.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS		C	A	D	B		A	A				
95th-Percentile Queue Length [veh/ln]	0.00	0.06	0.06	4.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	1.42	1.42	107.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.83			33.88			0.00			0.00		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	12.39											
Intersection LOS	D											



Intersection Level Of Service Report
Intersection 47: 48th Avenue/Aerotropolis Pkwy

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.344

Intersection Setup

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			48th Avenue			48th Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	3	0	0	2	0	1	2	0	0	2	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	200.00	100.00	100.00	200.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			48th Avenue			48th Avenue		
Base Volume Input [veh/h]	200	1100	100	10	700	90	200	200	45	60	80	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	8	21	28	2	0	10	0
Other Volume [veh/h]	7	0	0	0	0	8	22	22	10	0	8	0
Right Turn on Red Volume [veh/h]	0	0	50	0	0	53	0	0	57	0	0	20
Total Hourly Volume [veh/h]	207	1100	50	10	700	53	243	250	0	60	98	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	299	14	3	190	14	66	68	0	16	27	5
Total Analysis Volume [veh/h]	225	1196	54	11	761	58	264	272	0	65	107	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	27	0	0	30	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	38	0	20	41	0	14	43	0	9	38	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	73	73	1	65	65	10	16	16	4	10	10
g / C, Green / Cycle	0.08	0.66	0.66	0.01	0.59	0.59	0.09	0.14	0.14	0.04	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.07	0.23	0.03	0.00	0.15	0.04	0.08	0.08	0.00	0.02	0.03	0.01
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	290	3363	1049	47	3004	937	314	504	225	136	320	143
d1, Uniform Delay [s]	49.36	8.30	6.58	53.70	10.89	9.61	49.21	43.87	0.00	51.74	46.96	46.18
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.42	0.30	0.09	2.55	0.20	0.13	5.98	0.90	0.00	2.60	0.61	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.36	0.05	0.24	0.25	0.06	0.84	0.54	0.00	0.48	0.33	0.15
d, Delay for Lane Group [s/veh]	53.78	8.60	6.67	56.25	11.09	9.74	55.19	44.77	0.00	54.35	47.56	46.68
Lane Group LOS	D	A	A	E	B	A	E	D	A	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.20	3.99	0.45	0.17	2.93	0.61	3.82	3.50	0.00	0.93	1.40	0.58
50th-Percentile Queue Length [ft/ln]	79.98	99.72	11.13	4.17	73.28	15.33	95.47	87.55	0.00	23.15	35.06	14.40
95th-Percentile Queue Length [veh/ln]	5.76	7.18	0.80	0.30	5.28	1.10	6.87	6.30	0.00	1.67	2.52	1.04
95th-Percentile Queue Length [ft/ln]	143.96	179.49	20.03	7.51	131.90	27.60	171.84	157.59	0.00	41.67	63.11	25.91

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	53.78	8.60	6.67	56.25	11.09	9.74	55.19	44.77	0.00	54.35	47.56	46.68
Movement LOS	D	A	A	E	B	A	E	D	A	D	D	D
d_A, Approach Delay [s/veh]	15.42			11.59			49.90			49.74		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.66											
Intersection LOS	C											
Intersection V/C	0.344											

Emissions

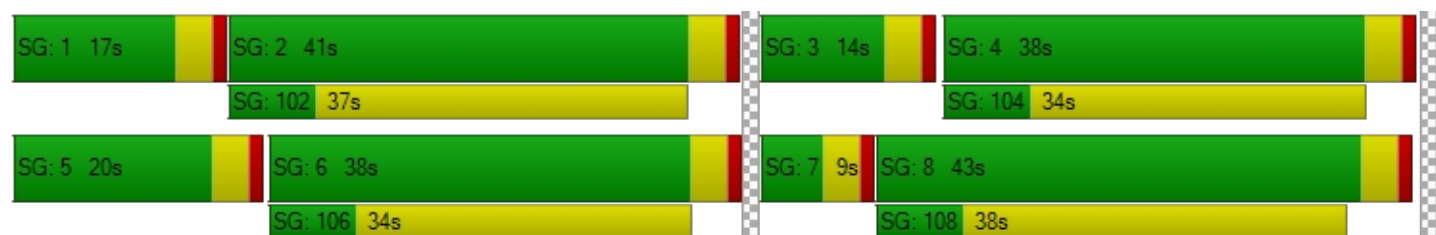
Vehicle Miles Traveled [mph]	211.01	1121.65	50.64	3.34	231.40	17.64	161.10	165.98	0.00	4.49	7.40	1.52
Stops [stops/h]	209.40	391.61	14.57	10.93	287.79	20.07	249.95	229.22	0.00	60.61	91.79	18.85
Fuel consumption [US gal/h]	12.31	50.43	2.24	0.32	12.83	0.95	10.98	10.58	0.00	1.24	1.85	0.38
CO [g/h]	860.16	3525.09	156.48	22.65	897.06	66.53	767.34	739.34	0.00	86.58	129.12	26.26
NOx [g/h]	167.36	685.85	30.44	4.41	174.53	12.95	149.30	143.85	0.00	16.85	25.12	5.11
VOC [g/h]	199.35	816.97	36.27	5.25	207.90	15.42	177.84	171.35	0.00	20.07	29.93	6.09

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersectio	3.205			3.193			2.924			2.716		
Crosswalk LOS	C			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	618			673			709			618		
d_b, Bicycle Delay [s]	26.25			24.22			22.91			26.25		
I_b,int, Bicycle LOS Score for Intersection	2.398			2.045			2.049			1.736		
Bicycle LOS	B			B			B			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Intersection Level Of Service Report
Intersection 48: 38th Parkway/Aerotropolis Pkwy

Control Type:	Signalized	Delay (sec / veh):	19.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.380

Intersection Setup

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			38th Parkway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	200.00	100.00	200.00	200.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			38th Parkway					
Base Volume Input [veh/h]	73	974	614	64	711	30	20	113	132	151	31	406
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	31	0	0	0	2	0	0	0	83	0	0	0
Other Volume [veh/h]	17	7	0	0	10	0	0	0	58	0	0	0
Right Turn on Red Volume [veh/h]	0	0	307	0	0	15	0	0	137	0	0	203
Total Hourly Volume [veh/h]	121	981	307	64	723	15	20	113	136	151	31	203
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	267	83	17	196	4	5	31	37	41	8	55
Total Analysis Volume [veh/h]	132	1066	334	70	786	16	22	123	148	164	34	221
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	14	0	0	27	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	9	30	0	9	30	0	9	48	0	13	52	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	69	61	61	4	61	61	23	12	12	7	16	16
g / C, Green / Cycle	0.69	0.61	0.61	0.04	0.61	0.61	0.23	0.12	0.12	0.07	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.17	0.21	0.21	0.02	0.15	0.01	0.02	0.07	0.09	0.05	0.02	0.14
s, saturation flow rate [veh/h]	788	5094	1589	3459	5094	1589	1250	1870	1589	3459	1870	1589
c, Capacity [veh/h]	598	3113	971	148	3083	962	377	223	189	231	305	259
d1, Uniform Delay [s]	5.48	9.56	9.57	46.75	9.21	7.87	30.34	41.52	42.78	45.71	35.69	40.70
k, delay calibration	0.13	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.22	0.30	0.97	2.32	0.20	0.03	0.06	2.13	6.86	4.00	0.16	7.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.22	0.34	0.34	0.47	0.25	0.02	0.06	0.55	0.78	0.71	0.11	0.85
d, Delay for Lane Group [s/veh]	5.70	9.86	10.54	49.07	9.41	7.90	30.40	43.65	49.63	49.71	35.85	48.52
Lane Group LOS	A	A	B	D	A	A	C	D	D	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.83	3.64	3.60	0.89	2.55	0.14	0.42	2.98	3.89	2.11	0.72	5.80
50th-Percentile Queue Length [ft/ln]	20.84	90.91	90.03	22.36	63.87	3.47	10.54	74.39	97.14	52.79	17.99	144.88
95th-Percentile Queue Length [veh/ln]	1.50	6.55	6.48	1.61	4.60	0.25	0.76	5.36	6.99	3.80	1.30	9.74
95th-Percentile Queue Length [ft/ln]	37.52	163.63	162.05	40.25	114.96	6.24	18.98	133.89	174.86	95.02	32.38	243.58

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	5.70	9.86	10.54	49.07	9.41	7.90	30.40	43.65	49.63	49.71	35.85	48.52
Movement LOS	A	A	B	D	A	A	C	D	D	D	D	D
d_A, Approach Delay [s/veh]	9.65			12.57			45.68			47.96		
Approach LOS	A			B			D			D		
d_I, Intersection Delay [s/veh]	19.01											
Intersection LOS	B											
Intersection V/C	0.380											

Emissions

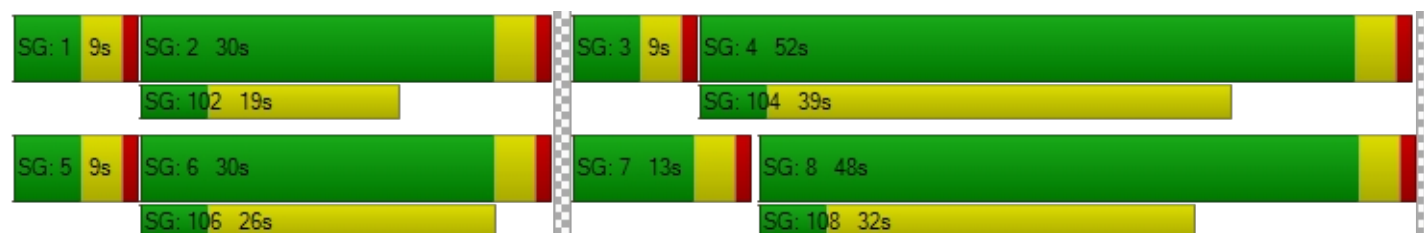
Vehicle Miles Traveled [mph]	25.47	205.72	64.46	65.65	737.14	15.01	11.01	61.54	74.05	14.10	2.92	19.00
Stops [stops/h]	30.02	392.71	129.64	64.40	275.90	5.00	15.18	107.12	139.88	152.04	25.90	208.63
Fuel consumption [US gal/h]	1.37	12.78	4.09	3.76	33.38	0.67	0.67	4.22	5.32	3.08	0.51	4.12
CO [g/h]	95.59	893.21	285.63	262.63	2332.92	46.91	47.05	294.81	371.57	215.25	35.75	287.78
NOx [g/h]	18.60	173.79	55.57	51.10	453.90	9.13	9.15	57.36	72.29	41.88	6.96	55.99
VOC [g/h]	22.16	207.01	66.20	60.87	540.68	10.87	10.90	68.33	86.12	49.89	8.29	66.70

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	41.41			41.41			41.41			41.41		
I_p,int, Pedestrian LOS Score for Intersectio	3.543			3.324			2.603			2.985		
Crosswalk LOS	D			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	520			520			880			960		
d_b, Bicycle Delay [s]	27.38			27.38			15.68			13.52		
I_b,int, Bicycle LOS Score for Intersection	2.571			2.047			2.269			2.586		
Bicycle LOS	B			B			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Signal Warrants Report For Intersection 25: 48th Avenue/PA-31 Street

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	411	538	171
2	399	522	166
3	390	511	162
4	366	479	152
5	325	425	135
6	321	420	133
7	316	414	132
8	288	377	120
9	284	371	118
10	279	366	116
11	242	317	101
12	226	296	94
13	222	291	92
14	164	215	68
15	164	215	68
16	115	151	48
17	66	86	27
18	66	86	27
19	37	48	15
20	21	27	9
21	12	16	5
22	4	5	2
23	4	5	2
24	4	5	2



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	949	2	171	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
2	3	921	2	166	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
3	3	901	2	162	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
4	3	845	2	152	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
5	3	750	2	135	No	No	No	Yes	No	Yes	Yes	Yes	No	No
6	3	741	2	133	No	No	No	Yes	No	Yes	Yes	Yes	No	No
7	3	730	2	132	No	No	No	Yes	No	Yes	Yes	Yes	No	No
8	3	665	2	120	No	No	No	Yes	No	No	Yes	Yes	No	No
9	3	655	2	118	No	No	No	Yes	No	No	Yes	Yes	No	No
10	3	645	2	116	No	No	No	Yes	No	No	Yes	Yes	No	No
11	3	559	2	101	No	No	No	No	No	No	No	Yes	No	No
12	3	522	2	94	No	No	No	No	No	No	No	Yes	No	No
13	3	513	2	92	No	No	No	No	No	No	No	Yes	No	No
14	3	379	2	68	No	No	No	No	No	No	No	No	No	No
15	3	379	2	68	No	No	No	No	No	No	No	No	No	No
16	3	266	2	48	No	No	No	No	No	No	No	No	No	No
17	3	152	2	27	No	No	No	No	No	No	No	No	No	No
18	3	152	2	27	No	No	No	No	No	No	No	No	No	No
19	3	85	2	15	No	No	No	No	No	No	No	No	No	No
20	3	48	2	9	No	No	No	No	No	No	No	No	No	No
21	3	28	2	5	No	No	No	No	No	No	No	No	No	No
22	3	9	2	2	No	No	No	No	No	No	No	No	No	No
23	3	9	2	2	No	No	No	No	No	No	No	No	No	No
24	3	9	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	3	4	10	3	7	10	13	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.4
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:40
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	171
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1120
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 42: The Aurora Highlands Parkway/38th Parkway

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets	
		N	S
1	97	240	296
2	94	233	287
3	92	228	281
4	86	214	263
5	77	190	234
6	76	187	231
7	75	185	228
8	68	168	207
9	67	166	204
10	66	163	201
11	57	142	175
12	53	132	163
13	52	130	160
14	39	96	118
15	39	96	118
16	27	67	83
17	16	38	47
18	16	38	47
19	9	22	27
20	5	12	15
21	3	7	9
22	1	2	3
23	1	2	3
24	1	2	3



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	97	2	296	No	No	No	No	No	No	No	No	No	No
2	2	94	2	287	No	No	No	No	No	No	No	No	No	No
3	2	92	2	281	No	No	No	No	No	No	No	No	No	No
4	2	86	2	263	No	No	No	No	No	No	No	No	No	No
5	2	77	2	234	No	No	No	No	No	No	No	No	No	No
6	2	76	2	231	No	No	No	No	No	No	No	No	No	No
7	2	75	2	228	No	No	No	No	No	No	No	No	No	No
8	2	68	2	207	No	No	No	No	No	No	No	No	No	No
9	2	67	2	204	No	No	No	No	No	No	No	No	No	No
10	2	66	2	201	No	No	No	No	No	No	No	No	No	No
11	2	57	2	175	No	No	No	No	No	No	No	No	No	No
12	2	53	2	163	No	No	No	No	No	No	No	No	No	No
13	2	52	2	160	No	No	No	No	No	No	No	No	No	No
14	2	39	2	118	No	No	No	No	No	No	No	No	No	No
15	2	39	2	118	No	No	No	No	No	No	No	No	No	No
16	2	27	2	83	No	No	No	No	No	No	No	No	No	No
17	2	16	2	47	No	No	No	No	No	No	No	No	No	No
18	2	16	2	47	No	No	No	No	No	No	No	No	No	No
19	2	9	2	27	No	No	No	No	No	No	No	No	No	No
20	2	5	2	15	No	No	No	No	No	No	No	No	No	No
21	2	3	2	9	No	No	No	No	No	No	No	No	No	No
22	2	1	2	3	No	No	No	No	No	No	No	No	No	No
23	2	1	2	3	No	No	No	No	No	No	No	No	No	No
24	2	1	2	3	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.4	12.8
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:41	1:02
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	240	296
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	633	633
Number of Approaches on Intersection	3	3
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 43: The Aurora Highlands Parkway/38th Parkway

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets	
		N	S
1	346	200	10
2	336	194	10
3	329	190	10
4	308	178	9
5	273	158	8
6	270	156	8
7	266	154	8
8	242	140	7
9	239	138	7
10	235	136	7
11	204	118	6
12	190	110	6
13	187	108	5
14	138	80	4
15	138	80	4
16	97	56	3
17	55	32	2
18	55	32	2
19	31	18	1
20	17	10	1
21	10	6	0
22	3	2	0
23	3	2	0
24	3	2	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	346	2	200	No	No	No	Yes	No	No	No	No	No	No
2	3	336	2	194	No	No	No	Yes	No	No	No	No	No	No
3	3	329	2	190	No	No	No	No	No	No	No	No	No	No
4	3	308	2	178	No	No	No	No	No	No	No	No	No	No
5	3	273	2	158	No	No	No	No	No	No	No	No	No	No
6	3	270	2	156	No	No	No	No	No	No	No	No	No	No
7	3	266	2	154	No	No	No	No	No	No	No	No	No	No
8	3	242	2	140	No	No	No	No	No	No	No	No	No	No
9	3	239	2	138	No	No	No	No	No	No	No	No	No	No
10	3	235	2	136	No	No	No	No	No	No	No	No	No	No
11	3	204	2	118	No	No	No	No	No	No	No	No	No	No
12	3	190	2	110	No	No	No	No	No	No	No	No	No	No
13	3	187	2	108	No	No	No	No	No	No	No	No	No	No
14	3	138	2	80	No	No	No	No	No	No	No	No	No	No
15	3	138	2	80	No	No	No	No	No	No	No	No	No	No
16	3	97	2	56	No	No	No	No	No	No	No	No	No	No
17	3	55	2	32	No	No	No	No	No	No	No	No	No	No
18	3	55	2	32	No	No	No	No	No	No	No	No	No	No
19	3	31	2	18	No	No	No	No	No	No	No	No	No	No
20	3	17	2	10	No	No	No	No	No	No	No	No	No	No
21	3	10	2	6	No	No	No	No	No	No	No	No	No	No
22	3	3	2	2	No	No	No	No	No	No	No	No	No	No
23	3	3	2	2	No	No	No	No	No	No	No	No	No	No
24	3	3	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	2	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	33.9	11.8
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1:52	0:01
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	200	10
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	556	556
Number of Approaches on Intersection	3	3
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



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Intersection Level Of Service Report
Intersection 25: 48th Avenue/PA-31 Street

Control Type:	Two-way stop	Delay (sec / veh):	21.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.223

Intersection Setup

Name	PA-31 Street		48th Avenue		48th Avenue	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵↵		↵↵	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	PA-31 Street		48th Avenue		48th Avenue	
Base Volume Input [veh/h]	20	73	445	0	0	370
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	7	2	32	5	3	52
Other Volume [veh/h]	30	22	15	51	38	25
Total Hourly Volume [veh/h]	57	97	492	56	41	447
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	26	134	15	11	121
Total Analysis Volume [veh/h]	62	105	535	61	45	486
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.14	0.01	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	21.61	10.75	0.00	0.00	8.86	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.83	0.50	0.00	0.00	0.14	0.00
95th-Percentile Queue Length [ft/ln]	20.86	12.51	0.00	0.00	3.62	0.00
d_A, Approach Delay [s/veh]	14.78		0.00		0.75	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.22					
Intersection LOS	C					



Intersection Level Of Service Report

Intersection 42: The Aurora Highlands Parkway/38th Parkway

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.301

Intersection Setup

Name	38th Parkway			38th Parkway			Th Au			TAH Parkway (W)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	38th Parkway			38th Parkway			Th Au			TAH Parkway (W)		
Base Volume Input [veh/h]	0	189	0	0	137	130	0	0	0	0	50	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	47	0	0	0	0	0	0	82
Other Volume [veh/h]	0	0	0	0	38	0	0	0	0	0	0	66
Total Hourly Volume [veh/h]	0	189	0	0	222	130	0	0	0	0	50	148
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	51	0	0	60	35	0	0	0	0	14	40
Total Analysis Volume [veh/h]	0	205	0	0	241	141	0	0	0	0	54	161
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.30	0.00	0.00	0.29	0.14	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.25	12.54	0.00	0.00	11.04	8.99	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B	B			B	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	1.26	0.00	0.00	1.19	0.47	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	31.59	0.00	0.00	29.87	11.69	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.54			10.28			0.00			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	8.10											
Intersection LOS	B											



Intersection Level Of Service Report

Intersection 43: The Aurora Highlands Parkway/38th Parkway

Control Type:	Two-way stop	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.524

Intersection Setup

Name				38th Parkway			TAH Parkway (E)					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				38th Parkway			TAH Parkway (E)					
Base Volume Input [veh/h]	0	5	5	152	0	0	189	50	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	47	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	38	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	5	237	0	0	189	50	0	0	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	64	0	0	51	14	0	0	0	0
Total Analysis Volume [veh/h]	0	5	5	258	0	0	205	54	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.39	8.54	20.06	12.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS		B	A	C	B		A	A				
95th-Percentile Queue Length [veh/ln]	0.00	0.05	0.05	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	1.14	1.14	74.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.46			20.06			0.00			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	10.02											
Intersection LOS	C											



Intersection Level Of Service Report
Intersection 47: 48th Avenue/Aerotropolis Pkwy

Control Type:	Signalized	Delay (sec / veh):	22.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

Intersection Setup

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			48th Avenue			48th Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	3	0	0	2	0	1	2	0	0	2	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	200.00	100.00	100.00	200.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			48th Avenue			48th Avenue		
Base Volume Input [veh/h]	200	1100	100	10	700	90	200	200	45	60	80	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	23	14	20	0	0	32	0
Other Volume [veh/h]	11	0	0	0	0	26	15	15	7	0	26	0
Right Turn on Red Volume [veh/h]	0	0	50	0	0	70	0	0	52	0	0	20
Total Hourly Volume [veh/h]	211	1100	50	10	700	69	229	235	0	60	138	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	299	14	3	190	19	62	64	0	16	38	5
Total Analysis Volume [veh/h]	229	1196	54	11	761	75	249	255	0	65	150	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	27	0	0	30	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	38	0	20	41	0	14	43	0	9	38	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	73	73	1	65	65	10	15	15	4	10	10
g / C, Green / Cycle	0.09	0.66	0.66	0.01	0.59	0.59	0.09	0.14	0.14	0.04	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.07	0.23	0.03	0.00	0.15	0.05	0.07	0.07	0.00	0.02	0.04	0.01
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	294	3366	1050	47	3001	936	308	502	224	136	325	145
d1, Uniform Delay [s]	49.30	8.27	6.55	53.70	10.91	9.74	49.19	43.71	0.00	51.74	47.41	46.05
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.43	0.29	0.09	2.55	0.20	0.17	5.06	0.80	0.00	2.60	1.02	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.36	0.05	0.24	0.25	0.08	0.81	0.51	0.00	0.48	0.46	0.15
d, Delay for Lane Group [s/veh]	53.74	8.57	6.64	56.25	11.12	9.91	54.25	44.51	0.00	54.35	48.44	46.53
Lane Group LOS	D	A	A	E	B	A	D	D	A	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.26	3.98	0.44	0.17	2.94	0.80	3.56	3.27	0.00	0.93	2.00	0.57
50th-Percentile Queue Length [ft/ln]	81.39	99.46	11.10	4.17	73.39	20.09	89.09	81.64	0.00	23.15	49.88	14.37
95th-Percentile Queue Length [veh/ln]	5.86	7.16	0.80	0.30	5.28	1.45	6.41	5.88	0.00	1.67	3.59	1.03
95th-Percentile Queue Length [ft/ln]	146.50	179.02	19.98	7.51	132.11	36.16	160.37	146.96	0.00	41.67	89.79	25.86

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	53.74	8.57	6.64	56.25	11.12	9.91	54.25	44.51	0.00	54.35	48.44	46.53
Movement LOS	D	A	A	E	B	A	D	D	A	D	D	D
d_A, Approach Delay [s/veh]	15.49			11.60			49.32			49.88		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.63											
Intersection LOS	C											
Intersection V/C	0.352											

Emissions

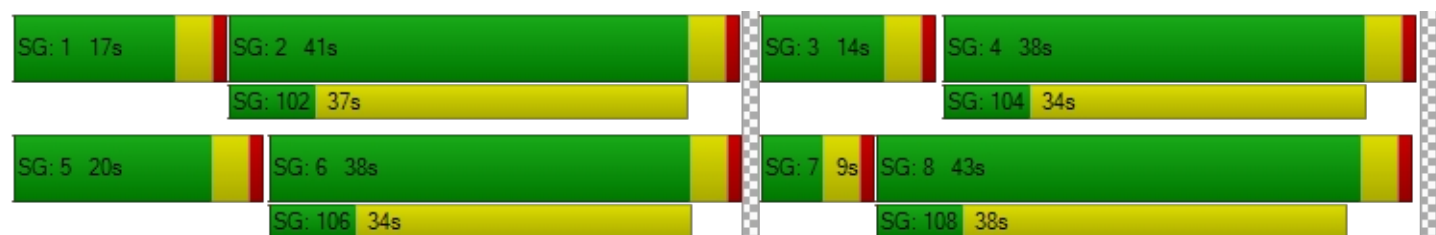
Vehicle Miles Traveled [mph]	214.76	1121.65	50.64	3.34	231.40	22.81	151.95	155.61	0.00	4.49	10.37	1.52
Stops [stops/h]	213.09	390.59	14.53	10.93	288.24	26.30	233.27	213.76	0.00	60.61	130.60	18.81
Fuel consumption [US gal/h]	12.52	50.42	2.24	0.32	12.84	1.24	10.29	9.90	0.00	1.24	2.63	0.37
CO [g/h]	875.31	3524.15	156.44	22.65	897.52	86.35	719.43	691.74	0.00	86.58	183.62	26.20
NOx [g/h]	170.30	685.67	30.44	4.41	174.62	16.80	139.98	134.59	0.00	16.85	35.73	5.10
VOC [g/h]	202.86	816.76	36.26	5.25	208.01	20.01	166.74	160.32	0.00	20.07	42.55	6.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersectio	3.205			3.219			3.044			2.719		
Crosswalk LOS	C			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	618			673			709			618		
d_b, Bicycle Delay [s]	26.25			24.22			22.91			26.25		
I_b,int, Bicycle LOS Score for Intersection	2.401			2.064			2.018			1.772		
Bicycle LOS	B			B			B			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Intersection Level Of Service Report
Intersection 48: 38th Parkway/Aerotropolis Pkwy

Control Type:	Signalized	Delay (sec / veh):	26.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.510

Intersection Setup

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			38th Parkway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	200.00	100.00	200.00	200.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			38th Parkway					
Base Volume Input [veh/h]	152	974	168	64	711	30	20	78	83	597	111	406
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	95	0	0	0	0	0	0	0	58	0	0	0
Other Volume [veh/h]	67	11	0	0	7	0	0	0	39	0	0	0
Right Turn on Red Volume [veh/h]	0	0	84	0	0	15	0	0	90	0	0	203
Total Hourly Volume [veh/h]	314	985	84	64	718	15	20	78	90	597	111	203
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	268	23	17	195	4	5	21	24	162	30	55
Total Analysis Volume [veh/h]	341	1071	91	70	780	16	22	85	98	649	121	221
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	14	0	0	27	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	17	30	0	10	23	0	9	36	0	24	51	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	58	50	50	4	42	42	34	10	10	20	28	28
g / C, Green / Cycle	0.58	0.50	0.50	0.04	0.42	0.42	0.34	0.10	0.10	0.20	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.36	0.21	0.06	0.02	0.15	0.01	0.02	0.05	0.06	0.19	0.06	0.14
s, saturation flow rate [veh/h]	951	5094	1589	3459	5094	1589	1132	1870	1589	3459	1870	1589
c, Capacity [veh/h]	583	2531	790	148	2130	665	444	187	159	692	518	441
d1, Uniform Delay [s]	12.16	16.03	13.43	46.75	19.99	17.10	22.15	42.41	43.14	39.39	27.92	30.33
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.26	0.52	0.30	2.32	0.49	0.07	0.05	1.71	3.82	6.85	0.23	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.42	0.12	0.47	0.37	0.02	0.05	0.45	0.62	0.94	0.23	0.50
d, Delay for Lane Group [s/veh]	16.43	16.55	13.72	49.06	20.48	17.17	22.19	44.12	46.95	46.24	28.15	31.22
Lane Group LOS	B	B	B	D	C	B	C	D	D	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.39	5.13	1.13	0.89	4.16	0.23	0.35	2.06	2.48	8.38	2.26	4.52
50th-Percentile Queue Length [ft/ln]	109.79	128.26	28.36	22.36	104.12	5.66	8.75	51.47	61.98	209.58	56.46	113.10
95th-Percentile Queue Length [veh/ln]	7.83	8.85	2.04	1.61	7.50	0.41	0.63	3.71	4.46	13.13	4.06	8.01
95th-Percentile Queue Length [ft/ln]	195.71	221.13	51.05	40.25	187.42	10.19	15.74	92.65	111.56	328.29	101.62	200.30

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	16.43	16.55	13.72	49.06	20.48	17.17	22.19	44.12	46.95	46.24	28.15	31.22
Movement LOS	B	B	B	D	C	B	C	D	D	D	C	C
d_A, Approach Delay [s/veh]	16.35			22.73			43.12			40.68		
Approach LOS	B			C			D			D		
d_I, Intersection Delay [s/veh]	26.20											
Intersection LOS	C											
Intersection V/C	0.510											

Emissions

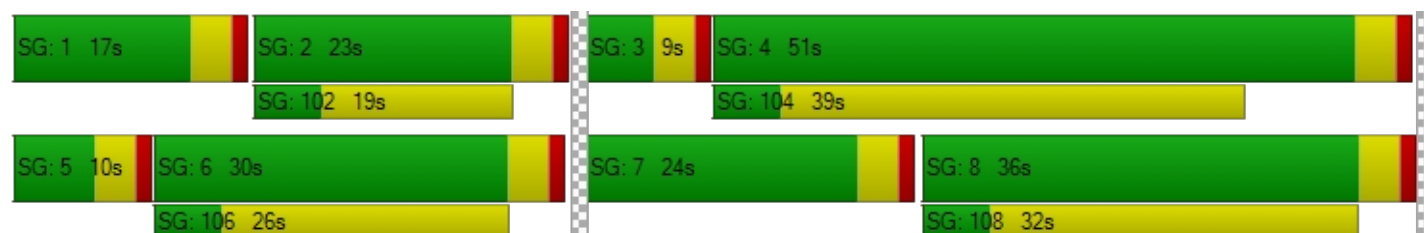
Vehicle Miles Traveled [mph]	65.81	206.69	17.56	65.65	731.51	15.01	11.01	42.53	49.03	55.81	10.41	19.00
Stops [stops/h]	158.10	554.09	40.84	64.40	449.81	8.16	12.60	74.12	89.25	603.58	81.30	162.86
Fuel consumption [US gal/h]	4.72	15.18	1.20	3.76	35.85	0.72	0.62	2.92	3.45	11.74	1.57	3.09
CO [g/h]	330.11	1060.86	84.07	262.63	2505.86	50.24	43.48	204.33	241.01	820.58	109.79	215.72
NOx [g/h]	64.23	206.41	16.36	51.10	487.55	9.77	8.46	39.76	46.89	159.66	21.36	41.97
VOC [g/h]	76.51	245.87	19.48	60.87	580.76	11.64	10.08	47.36	55.86	190.18	25.45	49.99

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	41.41			41.41			41.41			41.41		
I_p,int, Pedestrian LOS Score for Intersectio	3.242			3.328			2.671			2.996		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	520			380			640			940		
d_b, Bicycle Delay [s]	27.38			32.81			23.12			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.432			2.044			2.046			3.530		
Bicycle LOS	B			B			B			D		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Signal Warrants Report For Intersection 25: 48th Avenue/PA-31 Street

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	488	548	154
2	473	532	149
3	464	521	146
4	434	488	137
5	386	433	122
6	381	427	120
7	376	422	119
8	342	384	108
9	337	378	106
10	332	373	105
11	288	323	91
12	268	301	85
13	264	296	83
14	195	219	62
15	195	219	62
16	137	153	43
17	78	88	25
18	78	88	25
19	44	49	14
20	24	27	8
21	15	16	5
22	5	5	2
23	5	5	2
24	5	5	2



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1036	2	154	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
2	3	1005	2	149	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
3	3	985	2	146	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
4	3	922	2	137	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No
5	3	819	2	122	No	No	No	Yes	No	Yes	Yes	Yes	No	No
6	3	808	2	120	No	No	No	Yes	No	Yes	Yes	Yes	No	No
7	3	798	2	119	No	No	No	Yes	No	Yes	Yes	Yes	No	No
8	3	726	2	108	No	No	No	No	No	Yes	Yes	Yes	No	No
9	3	715	2	106	No	No	No	No	No	No	Yes	Yes	No	No
10	3	705	2	105	No	No	No	No	No	No	Yes	Yes	No	No
11	3	611	2	91	No	No	No	No	No	No	No	Yes	No	No
12	3	569	2	85	No	No	No	No	No	No	No	Yes	No	No
13	3	560	2	83	No	No	No	No	No	No	No	Yes	No	No
14	3	414	2	62	No	No	No	No	No	No	No	No	No	No
15	3	414	2	62	No	No	No	No	No	No	No	No	No	No
16	3	290	2	43	No	No	No	No	No	No	No	No	No	No
17	3	166	2	25	No	No	No	No	No	No	No	No	No	No
18	3	166	2	25	No	No	No	No	No	No	No	No	No	No
19	3	93	2	14	No	No	No	No	No	No	No	No	No	No
20	3	51	2	8	No	No	No	No	No	No	No	No	No	No
21	3	31	2	5	No	No	No	No	No	No	No	No	No	No
22	3	10	2	2	No	No	No	No	No	No	No	No	No	No
23	3	10	2	2	No	No	No	No	No	No	No	No	No	No
24	3	10	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	3	7	4	8	10	13	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.8
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:37
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	154
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1190
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 42: The Aurora Highlands Parkway/38th Parkway

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets	
	E	N	S
1	198	352	189
2	192	341	183
3	188	334	180
4	176	313	168
5	156	278	149
6	154	275	147
7	152	271	146
8	139	246	132
9	137	243	130
10	135	239	129
11	117	208	112
12	109	194	104
13	107	190	102
14	79	141	76
15	79	141	76
16	55	99	53
17	32	56	30
18	32	56	30
19	18	32	17
20	10	18	9
21	6	11	6
22	2	4	2
23	2	4	2
24	2	4	2



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	198	2	352	No	No	No	No	No	No	No	No	No	No
2	3	192	2	341	No	No	No	No	No	No	No	No	No	No
3	3	188	2	334	No	No	No	No	No	No	No	No	No	No
4	3	176	2	313	No	No	No	No	No	No	No	No	No	No
5	3	156	2	278	No	No	No	No	No	No	No	No	No	No
6	3	154	2	275	No	No	No	No	No	No	No	No	No	No
7	3	152	2	271	No	No	No	No	No	No	No	No	No	No
8	3	139	2	246	No	No	No	No	No	No	No	No	No	No
9	3	137	2	243	No	No	No	No	No	No	No	No	No	No
10	3	135	2	239	No	No	No	No	No	No	No	No	No	No
11	3	117	2	208	No	No	No	No	No	No	No	No	No	No
12	3	109	2	194	No	No	No	No	No	No	No	No	No	No
13	3	107	2	190	No	No	No	No	No	No	No	No	No	No
14	3	79	2	141	No	No	No	No	No	No	No	No	No	No
15	3	79	2	141	No	No	No	No	No	No	No	No	No	No
16	3	55	2	99	No	No	No	No	No	No	No	No	No	No
17	3	32	2	56	No	No	No	No	No	No	No	No	No	No
18	3	32	2	56	No	No	No	No	No	No	No	No	No	No
19	3	18	2	32	No	No	No	No	No	No	No	No	No	No
20	3	10	2	18	No	No	No	No	No	No	No	No	No	No
21	3	6	2	11	No	No	No	No	No	No	No	No	No	No
22	3	2	2	4	No	No	No	No	No	No	No	No	No	No
23	3	2	2	4	No	No	No	No	No	No	No	No	No	No
24	3	2	2	4	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.3	12.5
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1:00	0:39
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	352	189
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	739	739
Number of Approaches on Intersection	3	3
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 43: The Aurora Highlands Parkway/38th Parkway

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets	
		N	S
1	239	237	10
2	232	230	10
3	227	225	10
4	213	211	9
5	189	187	8
6	186	185	8
7	184	182	8
8	167	166	7
9	165	164	7
10	163	161	7
11	141	140	6
12	131	130	6
13	129	128	5
14	96	95	4
15	96	95	4
16	67	66	3
17	38	38	2
18	38	38	2
19	22	21	1
20	12	12	1
21	7	7	0
22	2	2	0
23	2	2	0
24	2	2	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	239	2	237	No	No	No	No	No	No	No	No	No	No
2	3	232	2	230	No	No	No	No	No	No	No	No	No	No
3	3	227	2	225	No	No	No	No	No	No	No	No	No	No
4	3	213	2	211	No	No	No	No	No	No	No	No	No	No
5	3	189	2	187	No	No	No	No	No	No	No	No	No	No
6	3	186	2	185	No	No	No	No	No	No	No	No	No	No
7	3	184	2	182	No	No	No	No	No	No	No	No	No	No
8	3	167	2	166	No	No	No	No	No	No	No	No	No	No
9	3	165	2	164	No	No	No	No	No	No	No	No	No	No
10	3	163	2	161	No	No	No	No	No	No	No	No	No	No
11	3	141	2	140	No	No	No	No	No	No	No	No	No	No
12	3	131	2	130	No	No	No	No	No	No	No	No	No	No
13	3	129	2	128	No	No	No	No	No	No	No	No	No	No
14	3	96	2	95	No	No	No	No	No	No	No	No	No	No
15	3	96	2	95	No	No	No	No	No	No	No	No	No	No
16	3	67	2	66	No	No	No	No	No	No	No	No	No	No
17	3	38	2	38	No	No	No	No	No	No	No	No	No	No
18	3	38	2	38	No	No	No	No	No	No	No	No	No	No
19	3	22	2	21	No	No	No	No	No	No	No	No	No	No
20	3	12	2	12	No	No	No	No	No	No	No	No	No	No
21	3	7	2	7	No	No	No	No	No	No	No	No	No	No
22	3	2	2	2	No	No	No	No	No	No	No	No	No	No
23	3	2	2	2	No	No	No	No	No	No	No	No	No	No
24	3	2	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	20.1	10.5
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1:19	0:01
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	237	10
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	486	486
Number of Approaches on Intersection	3	3
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	

Appendix D – Horizon With Project Analyses



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Intersection Level Of Service Report
Intersection 25: 48th Avenue/PA-31 Street

Control Type:	Two-way stop	Delay (sec / veh):	24.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.396

Intersection Setup

Name	PA-31 Street		48th Avenue		48th Avenue	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵↵		↵↵	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	PA-31 Street		48th Avenue		48th Avenue	
Base Volume Input [veh/h]	20	71	445	0	0	370
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	47	13	0	15	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	1	2	49	6	1	17
Other Volume [veh/h]	45	32	22	16	12	11
Total Hourly Volume [veh/h]	113	118	516	37	17	398
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	32	140	10	5	108
Total Analysis Volume [veh/h]	123	128	561	40	18	433
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.40	0.18	0.01	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	24.02	11.11	0.00	0.00	8.77	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.83	0.65	0.00	0.00	0.06	0.00
95th-Percentile Queue Length [ft/ln]	45.70	16.17	0.00	0.00	1.41	0.00
d_A, Approach Delay [s/veh]	17.44		0.00		0.35	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.48					
Intersection LOS	C					



Intersection Level Of Service Report
Intersection 26: Reserve Bl/PA-31 Street

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	PA-31 Street		Reserve Loop		Reserve Loop	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	PA-31 Street		Reserve Loop		Reserve Loop	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	3	12	0	0	48
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	4	3	2	0	0	1
Other Volume [veh/h]	0	28	77	24	6	0
Total Hourly Volume [veh/h]	20	34	91	24	6	49
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	9	25	7	2	13
Total Analysis Volume [veh/h]	22	37	99	26	7	53
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results




V/C, Movement V/C Ratio	0.03	0.04	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.44	8.59	7.49	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.11	0.21	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.49	2.76	5.13	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.28		5.93		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.28					
Intersection LOS	B					



Intersection Level Of Service Report
Intersection 31: Reserve Bl/PA-40.1 Acc1

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Reserve Loop		Reserve Loop		Eastbound	
Approach	Northbound		Southbound			
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Reserve Loop		Reserve Loop			
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	34	12	5	14	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	1	0	0	0	0
Other Volume [veh/h]	0	7	24	0	0	0
Total Hourly Volume [veh/h]	5	42	36	5	14	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	11	10	1	4	4
Total Analysis Volume [veh/h]	5	46	39	5	15	15
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results




V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	7.31	0.00	0.00	0.00	9.13	8.62
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.21	0.21	0.00	0.00	2.42	2.42
d_A, Approach Delay [s/veh]	0.72		0.00		8.87	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.42					
Intersection LOS	A					



Intersection Level Of Service Report
Intersection 32: Reserve BI/PA-40.1 Acc2

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Reserve Loop		Reserve Loop		Eastbound	
Approach	Northbound		Southbound			
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Reserve Loop		Reserve Loop			
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	24	21	5	14	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	1	0	0	0	0
Other Volume [veh/h]	0	7	24	0	0	0
Total Hourly Volume [veh/h]	5	32	45	5	14	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	9	12	1	4	4
Total Analysis Volume [veh/h]	5	35	49	5	15	15
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results




V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	7.33	0.00	0.00	0.00	9.12	8.66
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.21	0.21	0.00	0.00	2.43	2.43
d_A, Approach Delay [s/veh]	0.92		0.00		8.89	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.45					
Intersection LOS	A					



Intersection Level Of Service Report
Intersection 33: Reserve BI/PA-40.2 Acc1

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Reserve Loop		Reserve Loop		Eastbound	
Approach	Northbound		Southbound			
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Reserve Loop		Reserve Loop			
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	19	32	4	11	11
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	1	0	0	0	0
Other Volume [veh/h]	0	7	24	0	0	0
Total Hourly Volume [veh/h]	4	27	56	4	11	11
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	15	1	3	3
Total Analysis Volume [veh/h]	4	29	61	4	12	12
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results




V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	0.00	9.12	8.69
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.17	0.17	0.00	0.00	1.95	1.95
d_A, Approach Delay [s/veh]	0.89		0.00		8.90	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.99					
Intersection LOS	A					



Intersection Level Of Service Report
Intersection 34: 38th Parkway/Reserve BI (E)

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.134

Intersection Setup

Name	Reserve Loop		38th Parkway		38th Parkway	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Reserve Loop		38th Parkway		38th Parkway	
Base Volume Input [veh/h]	0	0	0	293	128	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	26	17	103	33	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	4	0	0	79	30	1
Other Volume [veh/h]	20	4	2	38	12	5
Total Hourly Volume [veh/h]	41	30	19	513	203	12
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	8	5	139	55	3
Total Analysis Volume [veh/h]	45	33	21	558	221	13
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.04	0.02	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	17.37	9.62	7.74	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.46	0.13	0.05	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.46	3.17	1.20	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.09		0.28		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.42					
Intersection LOS	C					



Intersection Level Of Service Report

Intersection 35: 38th Pkwy/PA-40.2 Acc2/PA-46.2 Acc1/PA-46.1 Acc4

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name							38th Parkway			38th Parkway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name							38th Parkway			38th Parkway		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	293	0	0	128	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	9	9	0	13	5	101	5	3	53	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	79	0	0	30	0
Other Volume [veh/h]	0	0	0	0	0	0	0	40	0	0	16	0
Total Hourly Volume [veh/h]	13	0	9	9	0	13	5	513	5	3	227	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	2	2	0	4	1	139	1	1	62	1
Total Analysis Volume [veh/h]	14	0	10	10	0	14	5	558	5	3	247	3
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.02	0.04	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	18.55	17.56	12.58	18.22	17.27	10.00	7.75	0.00	0.00	8.58	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.22	0.17	0.17	0.17	0.01	0.00	0.00	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.50	5.50	5.50	4.20	4.20	4.20	0.29	0.00	0.00	0.22	0.00	0.00
d_A, Approach Delay [s/veh]	16.07			13.43			0.07			0.10		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	0.89											
Intersection LOS	C											



Intersection Level Of Service Report
Intersection 36: 38th Pkwy/PA-40.1 Acc3/PA-46.2 Acc2

Control Type:	Two-way stop	Delay (sec / veh):	18.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name							38th Parkway			38th Parkway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+T			+T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name							38th Parkway			38th Parkway		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	293	0	0	128	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	9	12	0	17	5	90	5	3	72	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	79	0	0	30	0
Other Volume [veh/h]	0	0	0	0	0	0	0	40	0	0	16	0
Total Hourly Volume [veh/h]	13	0	9	12	0	17	5	502	5	3	246	4
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	2	3	0	5	1	136	1	1	67	1
Total Analysis Volume [veh/h]	14	0	10	13	0	18	5	546	5	3	267	4
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.02	0.05	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	18.86	17.73	12.50	18.55	17.57	10.29	7.80	0.00	0.00	8.54	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.22	0.23	0.23	0.23	0.01	0.00	0.00	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.57	5.57	5.57	5.63	5.63	5.63	0.29	0.00	0.00	0.22	0.00	0.00
d_A, Approach Delay [s/veh]	16.21			13.75			0.07			0.09		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	0.99											
Intersection LOS	C											



Intersection Level Of Service Report
Intersection 37: 38th Pkwy/PA-40.1 Acc4/PA 46.2 Acc3

Control Type:	Two-way stop	Delay (sec / veh):	19.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.052

Intersection Setup

Name							38th Parkway			38th Parkway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name							38th Parkway			38th Parkway		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	293	0	0	128	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	9	12	0	17	5	79	5	2	95	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	79	0	0	30	0
Other Volume [veh/h]	0	0	0	0	0	0	0	40	0	0	16	0
Total Hourly Volume [veh/h]	13	0	9	12	0	17	5	491	5	2	269	4
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	2	3	0	5	1	133	1	1	73	1
Total Analysis Volume [veh/h]	14	0	10	13	0	18	5	534	5	2	292	4
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.02	0.05	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	19.10	17.90	12.41	18.78	17.76	10.47	7.86	0.00	0.00	8.50	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.22	0.23	0.23	0.23	0.01	0.00	0.00	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.62	5.62	5.62	5.76	5.76	5.76	0.30	0.00	0.00	0.15	0.00	0.00
d_A, Approach Delay [s/veh]	16.31			13.96			0.07			0.06		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	0.98											
Intersection LOS	C											



Intersection Level Of Service Report
Intersection 38: 38th Pkwy/PA-40.1 Acc5

Control Type:	Two-way stop	Delay (sec / veh):	19.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.061

Intersection Setup

Name							38th Parkway			38th Parkway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name							38th Parkway			38th Parkway		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	293	0	0	128	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	19	10	0	18	6	60	6	6	116	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	79	0	0	30	0
Other Volume [veh/h]	0	0	0	0	0	0	0	40	0	0	16	0
Total Hourly Volume [veh/h]	15	0	19	10	0	18	6	472	6	6	290	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	5	3	0	5	2	128	2	2	79	1
Total Analysis Volume [veh/h]	16	0	21	11	0	20	7	513	7	7	315	3
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.04	0.04	0.00	0.03	0.01	0.01	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	19.86	18.51	12.50	19.58	18.11	10.59	7.91	0.00	0.00	8.46	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.33	0.33	0.33	0.23	0.23	0.23	0.02	0.00	0.00	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.17	8.17	8.17	5.65	5.65	5.65	0.43	0.00	0.00	0.51	0.00	0.00
d_A, Approach Delay [s/veh]	15.68			13.78			0.11			0.18		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	1.22											
Intersection LOS	C											



Intersection Level Of Service Report
Intersection 39: 38th Pkwy/PA-46.2 Acc4/PA-46.1 Acc1

Control Type:	Two-way stop	Delay (sec / veh):	17.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.128

Intersection Setup

Name			38th Parkway		38th Parkway	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵↵		↵↵	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name			38th Parkway		38th Parkway	
Base Volume Input [veh/h]	0	0	293	0	0	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	38	6	66	17	3	146
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	79	0	0	30
Other Volume [veh/h]	0	0	40	0	0	16
Total Hourly Volume [veh/h]	38	6	478	17	3	320
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	2	130	5	1	87
Total Analysis Volume [veh/h]	41	7	520	18	3	348
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	17.93	11.56	0.00	0.00	8.50	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.44	0.04	0.00	0.00	0.01	0.00
95th-Percentile Queue Length [ft/ln]	10.91	0.96	0.00	0.00	0.22	0.00
d_A, Approach Delay [s/veh]	17.00		0.00		0.07	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.90					
Intersection LOS	C					

**Intersection Level Of Service Report**
Intersection 40: 38th Parkway/Reserve Bl (W)

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.324

Intersection Setup

Name				Reserve Loop			38th Parkway			38th Parkway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name				Reserve Loop			38th Parkway			38th Parkway		
Base Volume Input [veh/h]	0	0	0	56	0	56	74	237	0	0	54	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	12	11	34	7	0	23	38	5	4	97	82
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	79	0	73	26	0	0	0	0	30
Other Volume [veh/h]	0	0	0	38	0	53	20	2	0	0	4	12
Right Turn on Red Volume [veh/h]	0	0	6	0	0	91	0	0	3	0	0	99
Total Hourly Volume [veh/h]	7	12	5	207	7	91	143	277	2	4	155	99
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	3	1	56	2	25	39	75	1	1	42	27
Total Analysis Volume [veh/h]	8	13	5	225	8	99	155	301	2	4	168	108
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	24	0	0	24	0	0	28	0	0	28	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	7	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	37	0	0	23	0	0	23	0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	12	12	12	40	40	40	40	40
g / C, Green / Cycle	0.20	0.20	0.20	0.20	0.67	0.67	0.67	0.67	0.67
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.00	0.06	0.14	0.16	0.00	0.09	0.07
s, saturation flow rate [veh/h]	1665	1394	1870	1589	1103	1868	1076	1870	1589
c, Capacity [veh/h]	415	353	378	321	763	1241	710	1243	1056
d1, Uniform Delay [s]	19.38	22.86	19.18	20.37	6.07	4.03	6.13	3.71	3.62
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	1.92	0.02	0.54	0.60	0.47	0.01	0.23	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.64	0.02	0.31	0.20	0.24	0.01	0.14	0.10
d, Delay for Lane Group [s/veh]	19.44	24.79	19.21	20.91	6.67	4.50	6.15	3.93	3.81
Lane Group LOS	B	C	B	C	A	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.28	2.99	0.09	1.15	0.86	1.14	0.02	0.58	0.37
50th-Percentile Queue Length [ft/ln]	7.06	74.82	2.15	28.72	21.47	28.40	0.54	14.39	9.23
95th-Percentile Queue Length [veh/ln]	0.51	5.39	0.15	2.07	1.55	2.04	0.04	1.04	0.66
95th-Percentile Queue Length [ft/ln]	12.70	134.68	3.87	51.69	38.65	51.12	0.96	25.90	16.61

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	19.44	19.44	19.44	24.79	19.21	20.91	6.67	4.50	4.50	6.15	3.93	3.81
Movement LOS	B	B	B	C	B	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	19.44			23.50			5.23			3.92		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	10.77											
Intersection LOS	B											
Intersection V/C	0.324											

Emissions

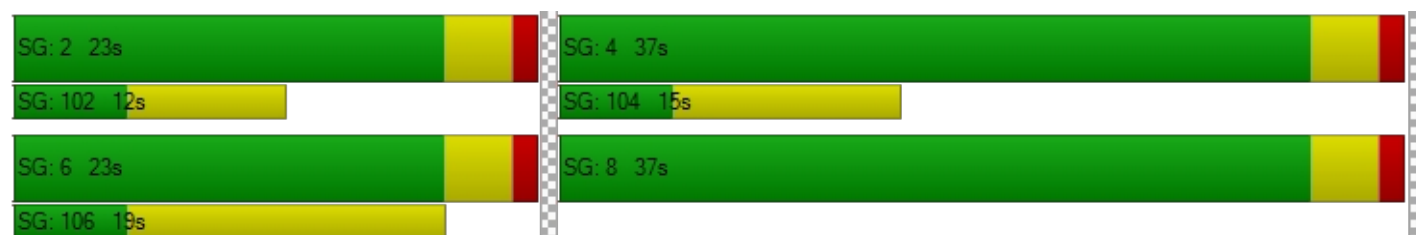
Vehicle Miles Traveled [mph]	0.68	28.30	1.01	12.45	10.20	19.93	0.30	12.58	8.09
Stops [stops/h]	16.93	179.57	5.17	68.92	51.53	68.16	1.28	34.53	22.15
Fuel consumption [US gal/h]	0.22	3.29	0.10	1.31	0.91	1.47	0.02	0.84	0.54
CO [g/h]	15.70	230.11	7.08	91.90	63.96	103.05	1.71	58.95	37.69
NOx [g/h]	3.05	44.77	1.38	17.88	12.44	20.05	0.33	11.47	7.33
VOC [g/h]	3.64	53.33	1.64	21.30	14.82	23.88	0.40	13.66	8.74

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.734	2.656	2.205	0.000
Crosswalk LOS	A	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1100	1100	633	633
d_b, Bicycle Delay [s]	6.08	6.08	14.01	14.01
I_b,int, Bicycle LOS Score for Intersection	1.612	2.258	2.320	2.185
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Intersection Level Of Service Report

Intersection 42: The Aurora Highlands Parkway/38th Parkway

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	38th Parkway			38th Parkway			Th Au			TAH Parkway (W)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	38th Parkway			38th Parkway			Th Au			TAH Parkway (W)		
Base Volume Input [veh/h]	5	296	0	0	55	55	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	0	0	66	39	0	0	0	32	6	42
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	50	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	73	0	0	0	0	0	0	26
Other Volume [veh/h]	0	0	0	0	57	0	0	0	0	0	0	21
Total Hourly Volume [veh/h]	5	320	0	0	301	94	0	0	0	32	6	89
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	87	0	0	82	26	0	0	0	9	2	24
Total Analysis Volume [veh/h]	5	348	0	0	327	102	0	0	0	35	7	97
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.48	0.00	0.00	0.40	0.09	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.67	14.64	0.00	0.00	12.39	8.69	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B	B			B	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	2.67	0.00	0.00	1.96	0.31	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.01	66.69	0.00	0.00	48.96	7.81	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.64			11.51			0.00			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	10.97											
Intersection LOS	B											



Intersection Level Of Service Report

Intersection 43: The Aurora Highlands Parkway/38th Parkway

Control Type:	All-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

Intersection Setup

Name				38th Parkway			TAH Parkway (E)					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				38th Parkway			TAH Parkway (E)					
Base Volume Input [veh/h]	0	5	5	70	0	0	296	50	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	68	30	0	16	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	73	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	57	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	13	5	268	30	0	312	50	0	0	0	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	1	73	8	0	85	14	0	0	0	0
Total Analysis Volume [veh/h]	0	14	5	291	33	0	339	54	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	854	714	792	614	671	671	
Degree of Utilization, x	0.02	0.41	0.04	0.55	0.04	0.04	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.07	1.99	0.13	3.37	0.13	0.13	
95th-Percentile Queue Length [ft]	1.71	49.78	3.26	84.28	3.14	3.14	
Approach Delay [s/veh]	7.31	10.80		14.56		0.00	
Approach LOS	A	B		B		A	
Intersection Delay [s/veh]	12.72						
Intersection LOS	B						



Intersection Level Of Service Report
Intersection 47: 48th Avenue/Aerotropolis Pkwy

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

Intersection Setup

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			48th Avenue			48th Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	3	0	0	2	0	1	2	0	0	2	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	200.00	100.00	100.00	200.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			48th Avenue			48th Avenue		
Base Volume Input [veh/h]	200	1100	100	10	700	90	200	200	45	60	80	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	20	0	8	2	7	6	0	7	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	8	21	28	2	0	10	0
Other Volume [veh/h]	7	0	0	0	0	8	22	22	10	0	8	0
Right Turn on Red Volume [veh/h]	0	0	60	0	0	54	0	0	57	0	0	20
Total Hourly Volume [veh/h]	207	1123	60	10	708	54	250	256	0	67	100	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	305	16	3	192	15	68	70	0	18	27	5
Total Analysis Volume [veh/h]	225	1221	65	11	770	59	272	278	0	73	109	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	27	0	0	30	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	38	0	19	41	0	15	44	0	9	38	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	72	72	1	64	64	11	16	16	4	10	10
g / C, Green / Cycle	0.08	0.66	0.66	0.01	0.59	0.59	0.10	0.14	0.14	0.04	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.07	0.24	0.04	0.00	0.15	0.04	0.08	0.08	0.00	0.02	0.03	0.01
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	289	3338	1041	47	2981	930	331	517	231	140	321	143
d1, Uniform Delay [s]	49.41	8.60	6.82	53.70	11.15	9.83	48.81	43.58	0.00	51.72	46.97	46.17
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.53	0.31	0.12	2.57	0.21	0.13	5.07	0.87	0.00	2.96	0.62	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.37	0.06	0.24	0.26	0.06	0.82	0.54	0.00	0.52	0.34	0.15
d, Delay for Lane Group [s/veh]	53.94	8.91	6.93	56.27	11.36	9.96	53.88	44.45	0.00	54.68	47.60	46.67
Lane Group LOS	D	A	A	E	B	A	D	D	A	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.20	4.18	0.55	0.17	3.01	0.63	3.89	3.57	0.00	1.04	1.43	0.58
50th-Percentile Queue Length [ft/ln]	80.11	104.52	13.76	4.18	75.37	15.82	97.15	89.18	0.00	26.08	35.73	14.39
95th-Percentile Queue Length [veh/ln]	5.77	7.53	0.99	0.30	5.43	1.14	6.99	6.42	0.00	1.88	2.57	1.04
95th-Percentile Queue Length [ft/ln]	144.20	188.13	24.77	7.52	135.66	28.48	174.87	160.52	0.00	46.95	64.32	25.91

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	53.94	8.91	6.93	56.27	11.36	9.96	53.88	44.45	0.00	54.68	47.60	46.67
Movement LOS	D	A	A	E	B	A	D	D	A	D	D	D
d_A, Approach Delay [s/veh]	15.53			11.85			49.12			50.03		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.75											
Intersection LOS	C											
Intersection V/C	0.352											

Emissions

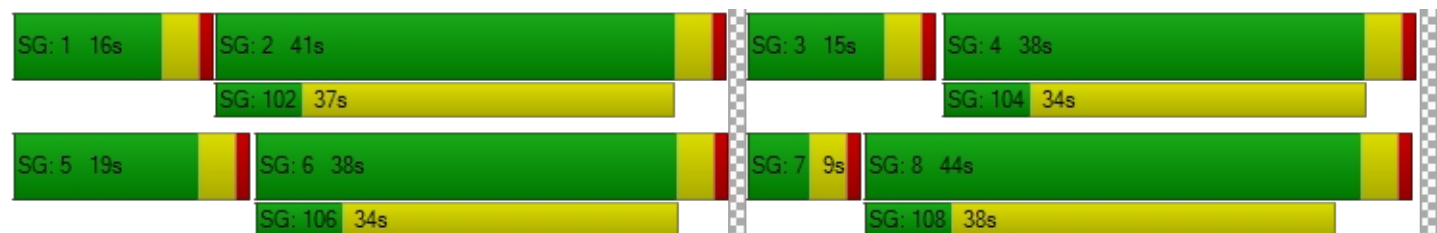
Vehicle Miles Traveled [mph]	211.01	1145.09	60.96	3.34	234.14	17.94	165.98	169.64	0.00	5.05	7.54	1.52
Stops [stops/h]	209.75	410.46	18.01	10.93	295.98	20.72	254.36	233.49	0.00	68.29	93.56	18.84
Fuel consumption [US gal/h]	12.31	51.62	2.70	0.32	13.05	0.97	11.22	10.79	0.00	1.40	1.88	0.38
CO [g/h]	860.82	3608.33	188.78	22.65	912.49	67.99	784.30	754.09	0.00	97.67	131.61	26.26
NOx [g/h]	167.48	702.05	36.73	4.41	177.54	13.23	152.60	146.72	0.00	19.00	25.61	5.11
VOC [g/h]	199.50	836.26	43.75	5.25	211.48	15.76	181.77	174.77	0.00	22.64	30.50	6.09

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersectio	3.221			3.199			3.050			2.721		
Crosswalk LOS	C			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	618			673			727			618		
d_b, Bicycle Delay [s]	26.25			24.22			22.27			26.25		
I_b,int, Bicycle LOS Score for Intersection	2.424			2.051			2.060			1.744		
Bicycle LOS	B			B			B			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Intersection Level Of Service Report
Intersection 48: 38th Parkway/Aerotropolis Pkwy

Control Type:	Signalized	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.400

Intersection Setup

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			38th Parkway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	200.00	100.00	200.00	200.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			38th Parkway					
Base Volume Input [veh/h]	73	974	614	64	711	30	20	113	132	151	31	406
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	14	43	0	76	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	31	0	0	0	2	0	0	0	83	0	0	0
Other Volume [veh/h]	17	7	0	0	10	0	0	0	58	0	0	0
Right Turn on Red Volume [veh/h]	0	0	307	0	0	22	0	0	175	0	0	203
Total Hourly Volume [veh/h]	145	981	307	64	723	22	63	113	174	151	31	203
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	267	83	17	196	6	17	31	47	41	8	55
Total Analysis Volume [veh/h]	158	1066	334	70	786	24	68	123	189	164	34	221
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	14	0	0	27	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	30	0	12	26	0	10	36	0	22	48	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	67	58	58	4	57	57	25	14	14	7	17	17
g / C, Green / Cycle	0.67	0.58	0.58	0.04	0.57	0.57	0.25	0.14	0.14	0.07	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.20	0.21	0.21	0.02	0.15	0.02	0.05	0.07	0.12	0.05	0.02	0.14
s, saturation flow rate [veh/h]	797	5094	1589	3459	5094	1589	1286	1870	1589	3459	1870	1589
c, Capacity [veh/h]	581	2971	927	149	2913	909	419	271	230	238	320	272
d1, Uniform Delay [s]	6.59	10.99	11.00	46.74	10.84	9.31	28.95	39.14	41.50	45.50	34.97	39.88
k, delay calibration	0.20	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.34	1.09	2.30	0.23	0.05	0.18	1.19	7.11	3.50	0.14	5.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.36	0.36	0.47	0.27	0.03	0.16	0.45	0.82	0.69	0.11	0.81
d, Delay for Lane Group [s/veh]	7.06	11.32	12.09	49.04	11.07	9.36	29.13	40.32	48.61	49.00	35.12	45.64
Lane Group LOS	A	B	B	D	B	A	C	D	D	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.18	4.00	3.95	0.89	2.85	0.23	1.28	2.84	4.93	2.09	0.71	5.61
50th-Percentile Queue Length [ft/ln]	29.54	99.89	98.82	22.36	71.17	5.82	32.07	70.94	123.30	52.36	17.76	140.15
95th-Percentile Queue Length [veh/ln]	2.13	7.19	7.12	1.61	5.12	0.42	2.31	5.11	8.57	3.77	1.28	9.49
95th-Percentile Queue Length [ft/ln]	53.17	179.81	177.88	40.24	128.11	10.47	57.73	127.69	214.35	94.25	31.96	237.22

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	7.06	11.32	12.09	49.04	11.07	9.36	29.13	40.32	48.61	49.00	35.12	45.64
Movement LOS	A	B	B	D	B	A	C	D	D	D	D	D
d_A, Approach Delay [s/veh]	11.06			14.04			42.44			46.10		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	20.09											
Intersection LOS	C											
Intersection V/C	0.400											

Emissions

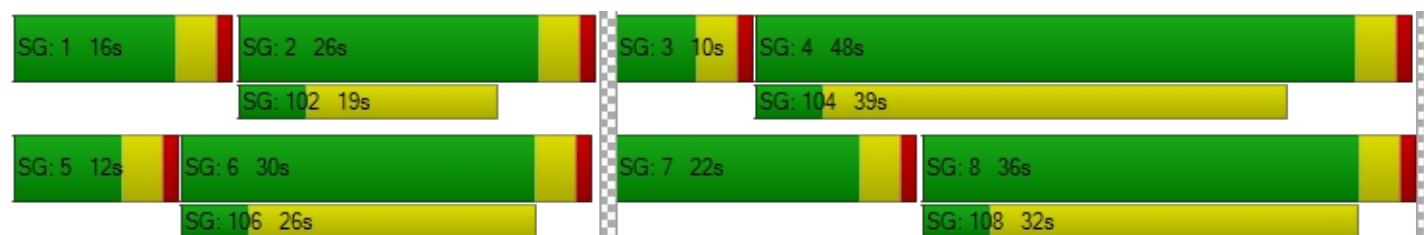
Vehicle Miles Traveled [mph]	30.49	205.72	64.46	65.65	737.14	22.51	34.02	61.54	94.56	14.10	2.92	19.00
Stops [stops/h]	42.54	431.54	142.30	64.39	307.46	8.38	46.19	102.15	177.55	150.80	25.57	201.81
Fuel consumption [US gal/h]	1.72	13.31	4.26	3.76	33.81	1.02	2.06	4.11	6.74	3.05	0.50	3.95
CO [g/h]	120.04	930.36	297.87	262.60	2363.62	71.20	143.91	287.08	471.33	213.13	35.27	276.10
NOx [g/h]	23.35	181.01	57.95	51.09	459.87	13.85	28.00	55.86	91.70	41.47	6.86	53.72
VOC [g/h]	27.82	215.62	69.03	60.86	547.79	16.50	33.35	66.53	109.24	49.39	8.17	63.99

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	41.41			41.41			41.41			41.41		
I_p,int, Pedestrian LOS Score for Intersectio	3.556			3.353			2.713			2.985		
Crosswalk LOS	D			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	520			440			640			880		
d_b, Bicycle Delay [s]	27.38			30.42			23.12			15.68		
I_b,int, Bicycle LOS Score for Intersection	2.585			2.056			2.475			2.586		
Bicycle LOS	B			B			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Intersection Level Of Service Report
Intersection 82: TAH Pkwy/PA-46.1 Acc3

Control Type: Two-way stop
Analysis Method: HCM 7th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 8.7
Level Of Service: A
Volume to Capacity (v/c): 0.037

Intersection Setup

Name			The Aurora Highlands Parkway		The Aurora Highlands Parkway	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↱				↱	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	435.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			The Aurora Highlands Parkway		The Aurora Highlands Parkway	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	0	0	19	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	26	0
Other Volume [veh/h]	0	0	0	0	21	0
Total Hourly Volume [veh/h]	0	35	0	0	66	6
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	0	0	18	2
Total Analysis Volume [veh/h]	0	38	0	0	72	7
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.65	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.12	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	2.89	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.65		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.81					
Intersection LOS	A					



Intersection Level Of Service Report
Intersection 83: TAH Pkwy/PA46.1 Access 4

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.033

Intersection Setup

Name			TAH Parkway (W)		The Aurora Highlands Parkway	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↱				↱↲	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			TAH Parkway (W)		The Aurora Highlands Parkway	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	30	0	0	49	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	26	0
Other Volume [veh/h]	0	0	0	0	21	0
Total Hourly Volume [veh/h]	0	30	0	0	96	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	0	0	26	1
Total Analysis Volume [veh/h]	0	33	0	0	104	5
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.72	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.10	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	2.55	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.72		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.03					
Intersection LOS	A					



Signal Warrants Report For Intersection 25: 48th Avenue/PA-31 Street

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	415	553	231
2	403	536	224
3	394	525	219
4	369	492	206
5	328	437	182
6	324	431	180
7	320	426	178
8	291	387	162
9	286	382	159
10	282	376	157
11	245	326	136
12	228	304	127
13	224	299	125
14	166	221	92
15	166	221	92
16	116	155	65
17	66	88	37
18	66	88	37
19	37	50	21
20	21	28	12
21	12	17	7
22	4	6	2
23	4	6	2
24	4	6	2



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	968	2	231	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	3	939	2	224	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	3	919	2	219	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
4	3	861	2	206	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
5	3	765	2	182	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
6	3	755	2	180	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
7	3	746	2	178	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
8	3	678	2	162	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No
9	3	668	2	159	No	No	Yes	Yes	No	No	Yes	Yes	No	No
10	3	658	2	157	No	No	Yes	Yes	No	No	Yes	Yes	No	No
11	3	571	2	136	No	No	No	Yes	No	No	No	Yes	No	No
12	3	532	2	127	No	No	No	Yes	No	No	No	Yes	No	No
13	3	523	2	125	No	No	No	Yes	No	No	No	Yes	No	No
14	3	387	2	92	No	No	No	No	No	No	No	No	No	No
15	3	387	2	92	No	No	No	No	No	No	No	No	No	No
16	3	271	2	65	No	No	No	No	No	No	No	No	No	No
17	3	154	2	37	No	No	No	No	No	No	No	No	No	No
18	3	154	2	37	No	No	No	No	No	No	No	No	No	No
19	3	87	2	21	No	No	No	No	No	No	No	No	No	No
20	3	49	2	12	No	No	No	No	No	No	No	No	No	No
21	3	29	2	7	No	No	No	No	No	No	No	No	No	No
22	3	10	2	2	No	No	No	No	No	No	No	No	No	No
23	3	10	2	2	No	No	No	No	No	No	No	No	No	No
24	3	10	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	8	10	13	3	7	10	13	2	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.4
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]:mm)	1:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	231
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1199
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 26: Reserve Bl/PA-31 Street

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	N
1	55	115	54
2	53	112	52
3	52	109	51
4	49	102	48
5	43	91	43
6	43	90	42
7	42	89	42
8	39	81	38
9	38	79	37
10	37	78	37
11	32	68	32
12	30	63	30
13	30	62	29
14	22	46	22
15	22	46	22
16	15	32	15
17	9	18	9
18	9	18	9
19	5	10	5
20	3	6	3
21	2	3	2
22	1	1	1
23	1	1	1
24	1	1	1



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	170	2	54	No	No	No	No	No	No	No	No	No	No
2	2	165	2	52	No	No	No	No	No	No	No	No	No	No
3	2	161	2	51	No	No	No	No	No	No	No	No	No	No
4	2	151	2	48	No	No	No	No	No	No	No	No	No	No
5	2	134	2	43	No	No	No	No	No	No	No	No	No	No
6	2	133	2	42	No	No	No	No	No	No	No	No	No	No
7	2	131	2	42	No	No	No	No	No	No	No	No	No	No
8	2	120	2	38	No	No	No	No	No	No	No	No	No	No
9	2	117	2	37	No	No	No	No	No	No	No	No	No	No
10	2	115	2	37	No	No	No	No	No	No	No	No	No	No
11	2	100	2	32	No	No	No	No	No	No	No	No	No	No
12	2	93	2	30	No	No	No	No	No	No	No	No	No	No
13	2	92	2	29	No	No	No	No	No	No	No	No	No	No
14	2	68	2	22	No	No	No	No	No	No	No	No	No	No
15	2	68	2	22	No	No	No	No	No	No	No	No	No	No
16	2	47	2	15	No	No	No	No	No	No	No	No	No	No
17	2	27	2	9	No	No	No	No	No	No	No	No	No	No
18	2	27	2	9	No	No	No	No	No	No	No	No	No	No
19	2	15	2	5	No	No	No	No	No	No	No	No	No	No
20	2	9	2	3	No	No	No	No	No	No	No	No	No	No
21	2	5	2	2	No	No	No	No	No	No	No	No	No	No
22	2	2	2	1	No	No	No	No	No	No	No	No	No	No
23	2	2	2	1	No	No	No	No	No	No	No	No	No	No
24	2	2	2	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.3
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:08
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	54
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	224
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 31: Reserve Bl/PA-40.1 Acc1

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	47	41	28
2	46	40	27
3	45	39	27
4	42	36	25
5	37	32	22
6	37	32	22
7	36	32	22
8	33	29	20
9	32	28	19
10	32	28	19
11	28	24	17
12	26	23	15
13	25	22	15
14	19	16	11
15	19	16	11
16	13	11	8
17	8	7	4
18	8	7	4
19	4	4	3
20	2	2	1
21	1	1	1
22	0	0	0
23	0	0	0
24	0	0	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	88	1	28	No	No	No	No	No	No	No	No	No	No
2	1	86	1	27	No	No	No	No	No	No	No	No	No	No
3	1	84	1	27	No	No	No	No	No	No	No	No	No	No
4	1	78	1	25	No	No	No	No	No	No	No	No	No	No
5	1	69	1	22	No	No	No	No	No	No	No	No	No	No
6	1	69	1	22	No	No	No	No	No	No	No	No	No	No
7	1	68	1	22	No	No	No	No	No	No	No	No	No	No
8	1	62	1	20	No	No	No	No	No	No	No	No	No	No
9	1	60	1	19	No	No	No	No	No	No	No	No	No	No
10	1	60	1	19	No	No	No	No	No	No	No	No	No	No
11	1	52	1	17	No	No	No	No	No	No	No	No	No	No
12	1	49	1	15	No	No	No	No	No	No	No	No	No	No
13	1	47	1	15	No	No	No	No	No	No	No	No	No	No
14	1	35	1	11	No	No	No	No	No	No	No	No	No	No
15	1	35	1	11	No	No	No	No	No	No	No	No	No	No
16	1	24	1	8	No	No	No	No	No	No	No	No	No	No
17	1	15	1	4	No	No	No	No	No	No	No	No	No	No
18	1	15	1	4	No	No	No	No	No	No	No	No	No	No
19	1	8	1	3	No	No	No	No	No	No	No	No	No	No
20	1	4	1	1	No	No	No	No	No	No	No	No	No	No
21	1	2	1	1	No	No	No	No	No	No	No	No	No	No
22	1	0	1	0	No	No	No	No	No	No	No	No	No	No
23	1	0	1	0	No	No	No	No	No	No	No	No	No	No
24	1	0	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:04
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	28
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	116
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 32: Reserve Bl/PA-40.1 Acc2

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	37	50	28
2	36	49	27
3	35	48	27
4	33	45	25
5	29	40	22
6	29	39	22
7	28	39	22
8	26	35	20
9	26	35	19
10	25	34	19
11	22	30	17
12	20	28	15
13	20	27	15
14	15	20	11
15	15	20	11
16	10	14	8
17	6	8	4
18	6	8	4
19	3	5	3
20	2	3	1
21	1	2	1
22	0	1	0
23	0	1	0
24	0	1	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	87	1	28	No	No	No	No	No	No	No	No	No	No
2	1	85	1	27	No	No	No	No	No	No	No	No	No	No
3	1	83	1	27	No	No	No	No	No	No	No	No	No	No
4	1	78	1	25	No	No	No	No	No	No	No	No	No	No
5	1	69	1	22	No	No	No	No	No	No	No	No	No	No
6	1	68	1	22	No	No	No	No	No	No	No	No	No	No
7	1	67	1	22	No	No	No	No	No	No	No	No	No	No
8	1	61	1	20	No	No	No	No	No	No	No	No	No	No
9	1	61	1	19	No	No	No	No	No	No	No	No	No	No
10	1	59	1	19	No	No	No	No	No	No	No	No	No	No
11	1	52	1	17	No	No	No	No	No	No	No	No	No	No
12	1	48	1	15	No	No	No	No	No	No	No	No	No	No
13	1	47	1	15	No	No	No	No	No	No	No	No	No	No
14	1	35	1	11	No	No	No	No	No	No	No	No	No	No
15	1	35	1	11	No	No	No	No	No	No	No	No	No	No
16	1	24	1	8	No	No	No	No	No	No	No	No	No	No
17	1	14	1	4	No	No	No	No	No	No	No	No	No	No
18	1	14	1	4	No	No	No	No	No	No	No	No	No	No
19	1	8	1	3	No	No	No	No	No	No	No	No	No	No
20	1	5	1	1	No	No	No	No	No	No	No	No	No	No
21	1	3	1	1	No	No	No	No	No	No	No	No	No	No
22	1	1	1	0	No	No	No	No	No	No	No	No	No	No
23	1	1	1	0	No	No	No	No	No	No	No	No	No	No
24	1	1	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:04
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	28
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	115
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 33: Reserve Bl/PA-40.2 Acc1

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	60	31	22
2	58	30	21
3	57	29	21
4	53	28	20
5	47	24	17
6	47	24	17
7	46	24	17
8	42	22	15
9	41	21	15
10	41	21	15
11	35	18	13
12	33	17	12
13	32	17	12
14	24	12	9
15	24	12	9
16	17	9	6
17	10	5	4
18	10	5	4
19	5	3	2
20	3	2	1
21	2	1	1
22	1	0	0
23	1	0	0
24	1	0	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	91	1	22	No	No	No	No	No	No	No	No	No	No
2	1	88	1	21	No	No	No	No	No	No	No	No	No	No
3	1	86	1	21	No	No	No	No	No	No	No	No	No	No
4	1	81	1	20	No	No	No	No	No	No	No	No	No	No
5	1	71	1	17	No	No	No	No	No	No	No	No	No	No
6	1	71	1	17	No	No	No	No	No	No	No	No	No	No
7	1	70	1	17	No	No	No	No	No	No	No	No	No	No
8	1	64	1	15	No	No	No	No	No	No	No	No	No	No
9	1	62	1	15	No	No	No	No	No	No	No	No	No	No
10	1	62	1	15	No	No	No	No	No	No	No	No	No	No
11	1	53	1	13	No	No	No	No	No	No	No	No	No	No
12	1	50	1	12	No	No	No	No	No	No	No	No	No	No
13	1	49	1	12	No	No	No	No	No	No	No	No	No	No
14	1	36	1	9	No	No	No	No	No	No	No	No	No	No
15	1	36	1	9	No	No	No	No	No	No	No	No	No	No
16	1	26	1	6	No	No	No	No	No	No	No	No	No	No
17	1	15	1	4	No	No	No	No	No	No	No	No	No	No
18	1	15	1	4	No	No	No	No	No	No	No	No	No	No
19	1	8	1	2	No	No	No	No	No	No	No	No	No	No
20	1	5	1	1	No	No	No	No	No	No	No	No	No	No
21	1	3	1	1	No	No	No	No	No	No	No	No	No	No
22	1	1	1	0	No	No	No	No	No	No	No	No	No	No
23	1	1	1	0	No	No	No	No	No	No	No	No	No	No
24	1	1	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:03
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	22
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	113
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 34: 38th Parkway/Reserve BI (E)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	N
1	215	532	71
2	209	516	69
3	204	505	67
4	191	473	63
5	170	420	56
6	168	415	55
7	166	410	55
8	151	372	50
9	148	367	49
10	146	362	48
11	127	314	42
12	118	293	39
13	116	287	38
14	86	213	28
15	86	213	28
16	60	149	20
17	34	85	11
18	34	85	11
19	19	48	6
20	11	27	4
21	6	16	2
22	2	5	1
23	2	5	1
24	2	5	1



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	747	2	71	No	No	No	No	No	No	Yes	Yes	No	No
2	2	725	2	69	No	No	No	No	No	No	No	Yes	No	No
3	2	709	2	67	No	No	No	No	No	No	No	Yes	No	No
4	2	664	2	63	No	No	No	No	No	No	No	Yes	No	No
5	2	590	2	56	No	No	No	No	No	No	No	Yes	No	No
6	2	583	2	55	No	No	No	No	No	No	No	No	No	No
7	2	576	2	55	No	No	No	No	No	No	No	No	No	No
8	2	523	2	50	No	No	No	No	No	No	No	No	No	No
9	2	515	2	49	No	No	No	No	No	No	No	No	No	No
10	2	508	2	48	No	No	No	No	No	No	No	No	No	No
11	2	441	2	42	No	No	No	No	No	No	No	No	No	No
12	2	411	2	39	No	No	No	No	No	No	No	No	No	No
13	2	403	2	38	No	No	No	No	No	No	No	No	No	No
14	2	299	2	28	No	No	No	No	No	No	No	No	No	No
15	2	299	2	28	No	No	No	No	No	No	No	No	No	No
16	2	209	2	20	No	No	No	No	No	No	No	No	No	No
17	2	119	2	11	No	No	No	No	No	No	No	No	No	No
18	2	119	2	11	No	No	No	No	No	No	No	No	No	No
19	2	67	2	6	No	No	No	No	No	No	No	No	No	No
20	2	38	2	4	No	No	No	No	No	No	No	No	No	No
21	2	22	2	2	No	No	No	No	No	No	No	No	No	No
22	2	7	2	1	No	No	No	No	No	No	No	No	No	No
23	2	7	2	1	No	No	No	No	No	No	No	No	No	No
24	2	7	2	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	1	5	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.1
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:16
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	71
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	818
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 35: 38th Pkwy/PA-40.2 Acc2/PA-46.2 Acc1/PA-46.1 Acc4

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	N	S
1	233	523	22	22
2	226	507	21	21
3	221	497	21	21
4	207	465	20	20
5	184	413	17	17
6	182	408	17	17
7	179	403	17	17
8	163	366	15	15
9	161	361	15	15
10	158	356	15	15
11	137	309	13	13
12	128	288	12	12
13	126	282	12	12
14	93	209	9	9
15	93	209	9	9
16	65	146	6	6
17	37	84	4	4
18	37	84	4	4
19	21	47	2	2
20	12	26	1	1
21	7	16	1	1
22	2	5	0	0
23	2	5	0	0
24	2	5	0	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	756	1	22	No	No	No	No	No	No	No	No	No	No
2	2	733	1	21	No	No	No	No	No	No	No	No	No	No
3	2	718	1	21	No	No	No	No	No	No	No	No	No	No
4	2	672	1	20	No	No	No	No	No	No	No	No	No	No
5	2	597	1	17	No	No	No	No	No	No	No	No	No	No
6	2	590	1	17	No	No	No	No	No	No	No	No	No	No
7	2	582	1	17	No	No	No	No	No	No	No	No	No	No
8	2	529	1	15	No	No	No	No	No	No	No	No	No	No
9	2	522	1	15	No	No	No	No	No	No	No	No	No	No
10	2	514	1	15	No	No	No	No	No	No	No	No	No	No
11	2	446	1	13	No	No	No	No	No	No	No	No	No	No
12	2	416	1	12	No	No	No	No	No	No	No	No	No	No
13	2	408	1	12	No	No	No	No	No	No	No	No	No	No
14	2	302	1	9	No	No	No	No	No	No	No	No	No	No
15	2	302	1	9	No	No	No	No	No	No	No	No	No	No
16	2	211	1	6	No	No	No	No	No	No	No	No	No	No
17	2	121	1	4	No	No	No	No	No	No	No	No	No	No
18	2	121	1	4	No	No	No	No	No	No	No	No	No	No
19	2	68	1	2	No	No	No	No	No	No	No	No	No	No
20	2	38	1	1	No	No	No	No	No	No	No	No	No	No
21	2	23	1	1	No	No	No	No	No	No	No	No	No	No
22	2	7	1	0	No	No	No	No	No	No	No	No	No	No
23	2	7	1	0	No	No	No	No	No	No	No	No	No	No
24	2	7	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	13.4	16.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:04	0:05
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	22	22
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	800	800
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 36: 38th Pkwy/PA-40.1 Acc3/PA-46.2 Acc2

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	253	512	22	29
2	245	497	21	28
3	240	486	21	28
4	225	456	20	26
5	200	404	17	23
6	197	399	17	23
7	195	394	17	22
8	177	358	15	20
9	175	353	15	20
10	172	348	15	20
11	149	302	13	17
12	139	282	12	16
13	137	276	12	16
14	101	205	9	12
15	101	205	9	12
16	71	143	6	8
17	40	82	4	5
18	40	82	4	5
19	23	46	2	3
20	13	26	1	1
21	8	15	1	1
22	3	5	0	0
23	3	5	0	0
24	3	5	0	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	765	1	29	No	No	No	No	No	No	No	No	No	No
2	2	742	1	28	No	No	No	No	No	No	No	No	No	No
3	2	726	1	28	No	No	No	No	No	No	No	No	No	No
4	2	681	1	26	No	No	No	No	No	No	No	No	No	No
5	2	604	1	23	No	No	No	No	No	No	No	No	No	No
6	2	596	1	23	No	No	No	No	No	No	No	No	No	No
7	2	589	1	22	No	No	No	No	No	No	No	No	No	No
8	2	535	1	20	No	No	No	No	No	No	No	No	No	No
9	2	528	1	20	No	No	No	No	No	No	No	No	No	No
10	2	520	1	20	No	No	No	No	No	No	No	No	No	No
11	2	451	1	17	No	No	No	No	No	No	No	No	No	No
12	2	421	1	16	No	No	No	No	No	No	No	No	No	No
13	2	413	1	16	No	No	No	No	No	No	No	No	No	No
14	2	306	1	12	No	No	No	No	No	No	No	No	No	No
15	2	306	1	12	No	No	No	No	No	No	No	No	No	No
16	2	214	1	8	No	No	No	No	No	No	No	No	No	No
17	2	122	1	5	No	No	No	No	No	No	No	No	No	No
18	2	122	1	5	No	No	No	No	No	No	No	No	No	No
19	2	69	1	3	No	No	No	No	No	No	No	No	No	No
20	2	39	1	1	No	No	No	No	No	No	No	No	No	No
21	2	23	1	1	No	No	No	No	No	No	No	No	No	No
22	2	8	1	0	No	No	No	No	No	No	No	No	No	No
23	2	8	1	0	No	No	No	No	No	No	No	No	No	No
24	2	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.2	13.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:05	0:06
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	22	29
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	816	816
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 37: 38th Pkwy/PA-40.1 Acc4/PA 46.2 Acc3

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	275	501	22	29
2	267	486	21	28
3	261	476	21	28
4	245	446	20	26
5	217	396	17	23
6	215	391	17	23
7	212	386	17	22
8	193	351	15	20
9	190	346	15	20
10	187	341	15	20
11	162	296	13	17
12	151	276	12	16
13	149	271	12	16
14	110	200	9	12
15	110	200	9	12
16	77	140	6	8
17	44	80	4	5
18	44	80	4	5
19	25	45	2	3
20	14	25	1	1
21	8	15	1	1
22	3	5	0	0
23	3	5	0	0
24	3	5	0	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	776	1	29	No	No	No	No	No	No	No	No	No	No
2	2	753	1	28	No	No	No	No	No	No	No	No	No	No
3	2	737	1	28	No	No	No	No	No	No	No	No	No	No
4	2	691	1	26	No	No	No	No	No	No	No	No	No	No
5	2	613	1	23	No	No	No	No	No	No	No	No	No	No
6	2	606	1	23	No	No	No	No	No	No	No	No	No	No
7	2	598	1	22	No	No	No	No	No	No	No	No	No	No
8	2	544	1	20	No	No	No	No	No	No	No	No	No	No
9	2	536	1	20	No	No	No	No	No	No	No	No	No	No
10	2	528	1	20	No	No	No	No	No	No	No	No	No	No
11	2	458	1	17	No	No	No	No	No	No	No	No	No	No
12	2	427	1	16	No	No	No	No	No	No	No	No	No	No
13	2	420	1	16	No	No	No	No	No	No	No	No	No	No
14	2	310	1	12	No	No	No	No	No	No	No	No	No	No
15	2	310	1	12	No	No	No	No	No	No	No	No	No	No
16	2	217	1	8	No	No	No	No	No	No	No	No	No	No
17	2	124	1	5	No	No	No	No	No	No	No	No	No	No
18	2	124	1	5	No	No	No	No	No	No	No	No	No	No
19	2	70	1	3	No	No	No	No	No	No	No	No	No	No
20	2	39	1	1	No	No	No	No	No	No	No	No	No	No
21	2	23	1	1	No	No	No	No	No	No	No	No	No	No
22	2	8	1	0	No	No	No	No	No	No	No	No	No	No
23	2	8	1	0	No	No	No	No	No	No	No	No	No	No
24	2	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	16.3	14
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:05	0:06
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	22	29
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	827	827
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 38: 38th Pkwy/PA-40.1 Acc5

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	299	484	34	28
2	290	469	33	27
3	284	460	32	27
4	266	431	30	25
5	236	382	27	22
6	233	378	27	22
7	230	373	26	22
8	209	339	24	20
9	206	334	23	19
10	203	329	23	19
11	176	286	20	17
12	164	266	19	15
13	161	261	18	15
14	120	194	14	11
15	120	194	14	11
16	84	136	10	8
17	48	77	5	4
18	48	77	5	4
19	27	44	3	3
20	15	24	2	1
21	9	15	1	1
22	3	5	0	0
23	3	5	0	0
24	3	5	0	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	783	1	34	No	No	No	No	No	No	No	No	No	No
2	2	759	1	33	No	No	No	No	No	No	No	No	No	No
3	2	744	1	32	No	No	No	No	No	No	No	No	No	No
4	2	697	1	30	No	No	No	No	No	No	No	No	No	No
5	2	618	1	27	No	No	No	No	No	No	No	No	No	No
6	2	611	1	27	No	No	No	No	No	No	No	No	No	No
7	2	603	1	26	No	No	No	No	No	No	No	No	No	No
8	2	548	1	24	No	No	No	No	No	No	No	No	No	No
9	2	540	1	23	No	No	No	No	No	No	No	No	No	No
10	2	532	1	23	No	No	No	No	No	No	No	No	No	No
11	2	462	1	20	No	No	No	No	No	No	No	No	No	No
12	2	430	1	19	No	No	No	No	No	No	No	No	No	No
13	2	422	1	18	No	No	No	No	No	No	No	No	No	No
14	2	314	1	14	No	No	No	No	No	No	No	No	No	No
15	2	314	1	14	No	No	No	No	No	No	No	No	No	No
16	2	220	1	10	No	No	No	No	No	No	No	No	No	No
17	2	125	1	5	No	No	No	No	No	No	No	No	No	No
18	2	125	1	5	No	No	No	No	No	No	No	No	No	No
19	2	71	1	3	No	No	No	No	No	No	No	No	No	No
20	2	39	1	2	No	No	No	No	No	No	No	No	No	No
21	2	24	1	1	No	No	No	No	No	No	No	No	No	No
22	2	8	1	0	No	No	No	No	No	No	No	No	No	No
23	2	8	1	0	No	No	No	No	No	No	No	No	No	No
24	2	8	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	15.7	13.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:08	0:06
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	34	28
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	845	845
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 39: 38th Pkwy/PA-46.2 Acc4/PA-46.1 Acc1

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	323	495	44
2	313	480	43
3	307	470	42
4	287	441	39
5	255	391	35
6	252	386	34
7	249	381	34
8	226	347	31
9	223	342	30
10	220	337	30
11	191	292	26
12	178	272	24
13	174	267	24
14	129	198	18
15	129	198	18
16	90	139	12
17	52	79	7
18	52	79	7
19	29	45	4
20	16	25	2
21	10	15	1
22	3	5	0
23	3	5	0
24	3	5	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	818	2	44	No	No	No	No	No	No	No	No	No	No
2	2	793	2	43	No	No	No	No	No	No	No	No	No	No
3	2	777	2	42	No	No	No	No	No	No	No	No	No	No
4	2	728	2	39	No	No	No	No	No	No	No	No	No	No
5	2	646	2	35	No	No	No	No	No	No	No	No	No	No
6	2	638	2	34	No	No	No	No	No	No	No	No	No	No
7	2	630	2	34	No	No	No	No	No	No	No	No	No	No
8	2	573	2	31	No	No	No	No	No	No	No	No	No	No
9	2	565	2	30	No	No	No	No	No	No	No	No	No	No
10	2	557	2	30	No	No	No	No	No	No	No	No	No	No
11	2	483	2	26	No	No	No	No	No	No	No	No	No	No
12	2	450	2	24	No	No	No	No	No	No	No	No	No	No
13	2	441	2	24	No	No	No	No	No	No	No	No	No	No
14	2	327	2	18	No	No	No	No	No	No	No	No	No	No
15	2	327	2	18	No	No	No	No	No	No	No	No	No	No
16	2	229	2	12	No	No	No	No	No	No	No	No	No	No
17	2	131	2	7	No	No	No	No	No	No	No	No	No	No
18	2	131	2	7	No	No	No	No	No	No	No	No	No	No
19	2	74	2	4	No	No	No	No	No	No	No	No	No	No
20	2	41	2	2	No	No	No	No	No	No	No	No	No	No
21	2	25	2	1	No	No	No	No	No	No	No	No	No	No
22	2	8	2	0	No	No	No	No	No	No	No	No	No	No
23	2	8	2	0	No	No	No	No	No	No	No	No	No	No
24	2	8	2	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	17
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:12
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	44
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	862
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 42: The Aurora Highlands Parkway/38th Parkway

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets	
	E	N	S
1	127	395	325
2	123	383	315
3	121	375	309
4	113	352	289
5	100	312	257
6	99	308	254
7	98	304	250
8	89	277	227
9	88	273	224
10	86	269	221
11	75	233	192
12	70	217	179
13	69	213	176
14	51	158	130
15	51	158	130
16	36	111	91
17	20	63	52
18	20	63	52
19	11	36	29
20	6	20	16
21	4	12	10
22	1	4	3
23	1	4	3
24	1	4	3



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	4	127	2	395	No	No	No	No	No	No	No	No	No	No
2	4	123	2	383	No	No	No	No	No	No	No	No	No	No
3	4	121	2	375	No	No	No	No	No	No	No	No	No	No
4	4	113	2	352	No	No	No	No	No	No	No	No	No	No
5	4	100	2	312	No	No	No	No	No	No	No	No	No	No
6	4	99	2	308	No	No	No	No	No	No	No	No	No	No
7	4	98	2	304	No	No	No	No	No	No	No	No	No	No
8	4	89	2	277	No	No	No	No	No	No	No	No	No	No
9	4	88	2	273	No	No	No	No	No	No	No	No	No	No
10	4	86	2	269	No	No	No	No	No	No	No	No	No	No
11	4	75	2	233	No	No	No	No	No	No	No	No	No	No
12	4	70	2	217	No	No	No	No	No	No	No	No	No	No
13	4	69	2	213	No	No	No	No	No	No	No	No	No	No
14	4	51	2	158	No	No	No	No	No	No	No	No	No	No
15	4	51	2	158	No	No	No	No	No	No	No	No	No	No
16	4	36	2	111	No	No	No	No	No	No	No	No	No	No
17	4	20	2	63	No	No	No	No	No	No	No	No	No	No
18	4	20	2	63	No	No	No	No	No	No	No	No	No	No
19	4	11	2	36	No	No	No	No	No	No	No	No	No	No
20	4	6	2	20	No	No	No	No	No	No	No	No	No	No
21	4	4	2	12	No	No	No	No	No	No	No	No	No	No
22	4	1	2	4	No	No	No	No	No	No	No	No	No	No
23	4	1	2	4	No	No	No	No	No	No	No	No	No	No
24	4	1	2	4	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	11.5	14.6
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1:15	1:19
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	395	325
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	847	847
Number of Approaches on Intersection	3	3
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 43: The Aurora Highlands Parkway/38th Parkway

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets	
	W	N	S
1	362	298	18
2	351	289	17
3	344	283	17
4	322	265	16
5	286	235	14
6	282	232	14
7	279	229	14
8	253	209	13
9	250	206	12
10	246	203	12
11	214	176	11
12	199	164	10
13	195	161	10
14	145	119	7
15	145	119	7
16	101	83	5
17	58	48	3
18	58	48	3
19	33	27	2
20	18	15	1
21	11	9	1
22	4	3	0
23	4	3	0
24	4	3	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	362	2	298	No	No	No	Yes	No	No	No	No	No	No
2	3	351	2	289	No	No	No	Yes	No	No	No	No	No	No
3	3	344	2	283	No	No	No	Yes	No	No	No	No	No	No
4	3	322	2	265	No	No	No	No	No	No	No	No	No	No
5	3	286	2	235	No	No	No	No	No	No	No	No	No	No
6	3	282	2	232	No	No	No	No	No	No	No	No	No	No
7	3	279	2	229	No	No	No	No	No	No	No	No	No	No
8	3	253	2	209	No	No	No	No	No	No	No	No	No	No
9	3	250	2	206	No	No	No	No	No	No	No	No	No	No
10	3	246	2	203	No	No	No	No	No	No	No	No	No	No
11	3	214	2	176	No	No	No	No	No	No	No	No	No	No
12	3	199	2	164	No	No	No	No	No	No	No	No	No	No
13	3	195	2	161	No	No	No	No	No	No	No	No	No	No
14	3	145	2	119	No	No	No	No	No	No	No	No	No	No
15	3	145	2	119	No	No	No	No	No	No	No	No	No	No
16	3	101	2	83	No	No	No	No	No	No	No	No	No	No
17	3	58	2	48	No	No	No	No	No	No	No	No	No	No
18	3	58	2	48	No	No	No	No	No	No	No	No	No	No
19	3	33	2	27	No	No	No	No	No	No	No	No	No	No
20	3	18	2	15	No	No	No	No	No	No	No	No	No	No
21	3	11	2	9	No	No	No	No	No	No	No	No	No	No
22	3	4	2	3	No	No	No	No	No	No	No	No	No	No
23	3	4	2	3	No	No	No	No	No	No	No	No	No	No
24	3	4	2	3	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	3	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.8	7.3
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:53	0:02
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	298	18
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	678	678
Number of Approaches on Intersection	3	3
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 82: TAH Pkwy/PA-46.1 Acc3

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets
	E	N
1	72	35
2	70	34
3	68	33
4	64	31
5	57	28
6	56	27
7	55	27
8	50	25
9	50	24
10	49	24
11	42	21
12	40	19
13	39	19
14	29	14
15	29	14
16	20	10
17	12	6
18	12	6
19	6	3
20	4	2
21	2	1
22	1	0
23	1	0
24	1	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	72	1	35	No	No	No	No	No	No	No	No	No	No
2	2	70	1	34	No	No	No	No	No	No	No	No	No	No
3	2	68	1	33	No	No	No	No	No	No	No	No	No	No
4	2	64	1	31	No	No	No	No	No	No	No	No	No	No
5	2	57	1	28	No	No	No	No	No	No	No	No	No	No
6	2	56	1	27	No	No	No	No	No	No	No	No	No	No
7	2	55	1	27	No	No	No	No	No	No	No	No	No	No
8	2	50	1	25	No	No	No	No	No	No	No	No	No	No
9	2	50	1	24	No	No	No	No	No	No	No	No	No	No
10	2	49	1	24	No	No	No	No	No	No	No	No	No	No
11	2	42	1	21	No	No	No	No	No	No	No	No	No	No
12	2	40	1	19	No	No	No	No	No	No	No	No	No	No
13	2	39	1	19	No	No	No	No	No	No	No	No	No	No
14	2	29	1	14	No	No	No	No	No	No	No	No	No	No
15	2	29	1	14	No	No	No	No	No	No	No	No	No	No
16	2	20	1	10	No	No	No	No	No	No	No	No	No	No
17	2	12	1	6	No	No	No	No	No	No	No	No	No	No
18	2	12	1	6	No	No	No	No	No	No	No	No	No	No
19	2	6	1	3	No	No	No	No	No	No	No	No	No	No
20	2	4	1	2	No	No	No	No	No	No	No	No	No	No
21	2	2	1	1	No	No	No	No	No	No	No	No	No	No
22	2	1	1	0	No	No	No	No	No	No	No	No	No	No
23	2	1	1	0	No	No	No	No	No	No	No	No	No	No
24	2	1	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:05
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	35
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	107
Number of Approaches on Intersection	2
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 83: TAH Pkwy/PA46.1 Access 4

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E
Minor Approaches	N
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets
	E	N
1	101	30
2	98	29
3	96	29
4	90	27
5	80	24
6	79	23
7	78	23
8	71	21
9	70	21
10	69	20
11	60	18
12	56	17
13	55	16
14	40	12
15	40	12
16	28	8
17	16	5
18	16	5
19	9	3
20	5	2
21	3	1
22	1	0
23	1	0
24	1	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	101	1	30	No	No	No	No	No	No	No	No	No	No
2	2	98	1	29	No	No	No	No	No	No	No	No	No	No
3	2	96	1	29	No	No	No	No	No	No	No	No	No	No
4	2	90	1	27	No	No	No	No	No	No	No	No	No	No
5	2	80	1	24	No	No	No	No	No	No	No	No	No	No
6	2	79	1	23	No	No	No	No	No	No	No	No	No	No
7	2	78	1	23	No	No	No	No	No	No	No	No	No	No
8	2	71	1	21	No	No	No	No	No	No	No	No	No	No
9	2	70	1	21	No	No	No	No	No	No	No	No	No	No
10	2	69	1	20	No	No	No	No	No	No	No	No	No	No
11	2	60	1	18	No	No	No	No	No	No	No	No	No	No
12	2	56	1	17	No	No	No	No	No	No	No	No	No	No
13	2	55	1	16	No	No	No	No	No	No	No	No	No	No
14	2	40	1	12	No	No	No	No	No	No	No	No	No	No
15	2	40	1	12	No	No	No	No	No	No	No	No	No	No
16	2	28	1	8	No	No	No	No	No	No	No	No	No	No
17	2	16	1	5	No	No	No	No	No	No	No	No	No	No
18	2	16	1	5	No	No	No	No	No	No	No	No	No	No
19	2	9	1	3	No	No	No	No	No	No	No	No	No	No
20	2	5	1	2	No	No	No	No	No	No	No	No	No	No
21	2	3	1	1	No	No	No	No	No	No	No	No	No	No
22	2	1	1	0	No	No	No	No	No	No	No	No	No	No
23	2	1	1	0	No	No	No	No	No	No	No	No	No	No
24	2	1	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.7
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:04
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	30
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	131
Number of Approaches on Intersection	2
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



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Intersection Level Of Service Report
Intersection 25: 48th Avenue/PA-31 Street

Control Type:	Two-way stop	Delay (sec / veh):	26.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.380

Intersection Setup

Name	PA-31 Street		48th Avenue		48th Avenue	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵↵		↵↵	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	PA-31 Street		48th Avenue		48th Avenue	
Base Volume Input [veh/h]	20	73	445	0	0	370
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	7	0	55	12	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	7	2	32	5	3	52
Other Volume [veh/h]	30	22	15	51	38	25
Total Hourly Volume [veh/h]	92	104	492	111	53	447
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	28	134	30	14	121
Total Analysis Volume [veh/h]	100	113	535	121	58	486
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.38	0.15	0.01	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	26.84	10.83	0.00	0.00	9.14	0.00
Movement LOS	D	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.70	0.55	0.00	0.00	0.20	0.00
95th-Percentile Queue Length [ft/ln]	42.45	13.63	0.00	0.00	5.00	0.00
d_A, Approach Delay [s/veh]	18.34		0.00		0.97	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.14					
Intersection LOS	D					



Intersection Level Of Service Report
Intersection 26: Reserve Bl/PA-31 Street

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name	PA-31 Street		Reserve Loop		Reserve Loop	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	PA-31 Street		Reserve Loop		Reserve Loop	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	55	12	9	0	0	33
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	4	4	2	0	0	7
Other Volume [veh/h]	2	88	52	20	34	0
Total Hourly Volume [veh/h]	61	104	63	20	34	40
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	28	17	5	9	11
Total Analysis Volume [veh/h]	66	113	68	22	37	43
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results




V/C, Movement V/C Ratio	0.09	0.11	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.36	9.02	7.48	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.38	0.14	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.35	9.44	3.51	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.52		5.65		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.34					
Intersection LOS	B					



Intersection Level Of Service Report
Intersection 31: Reserve Bl/PA-40.1 Acc1

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Reserve Loop		Reserve Loop		Eastbound	
Approach	Northbound		Southbound			
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Reserve Loop		Reserve Loop			
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	23	39	16	10	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	7	0	0	0	0
Other Volume [veh/h]	0	34	21	0	0	0
Total Hourly Volume [veh/h]	16	64	60	16	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	17	16	4	3	3
Total Analysis Volume [veh/h]	17	70	65	17	11	11
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.39	0.00	0.00	0.00	9.59	8.75
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.71	0.71	0.00	0.00	1.91	1.91
d_A, Approach Delay [s/veh]	1.44		0.00		9.17	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.71					
Intersection LOS	A					



Intersection Level Of Service Report
Intersection 32: Reserve Bl/PA-40.1 Acc2

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Reserve Loop		Reserve Loop		Eastbound	
Approach	Northbound		Southbound			
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Reserve Loop		Reserve Loop			
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	30	32	16	10	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	7	0	0	0	0
Other Volume [veh/h]	0	34	21	0	0	0
Total Hourly Volume [veh/h]	16	71	53	16	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	19	14	4	3	3
Total Analysis Volume [veh/h]	17	77	58	17	11	11
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results




V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.38	0.00	0.00	0.00	9.59	8.71
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.71	0.71	0.00	0.00	1.90	1.90
d_A, Approach Delay [s/veh]	1.33		0.00		9.15	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.71					
Intersection LOS	A					



Intersection Level Of Service Report
Intersection 33: Reserve BI/PA-40.2 Acc1

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Reserve Loop		Reserve Loop		Eastbound	
Approach	Northbound		Southbound			
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Reserve Loop		Reserve Loop			
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	40	31	11	7	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	7	0	0	0	0
Other Volume [veh/h]	0	34	21	0	0	0
Total Hourly Volume [veh/h]	12	81	52	11	7	7
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	22	14	3	2	2
Total Analysis Volume [veh/h]	13	88	57	12	8	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results




V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.36	0.00	0.00	0.00	9.54	8.67
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.55	0.55	0.00	0.00	1.37	1.37
d_A, Approach Delay [s/veh]	0.95		0.00		9.11	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.30					
Intersection LOS	A					



Intersection Level Of Service Report
Intersection 34: 38th Parkway/Reserve BI (E)

Control Type:	Two-way stop	Delay (sec / veh):	22.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.128

Intersection Setup

Name	Reserve Loop		38th Parkway		38th Parkway	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Reserve Loop		38th Parkway		38th Parkway	
Base Volume Input [veh/h]	0	0	0	185	293	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	27	33	67	107	19
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	4	0	0	54	88	7
Other Volume [veh/h]	13	8	11	26	44	23
Total Hourly Volume [veh/h]	28	35	44	332	532	49
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	10	12	90	145	13
Total Analysis Volume [veh/h]	30	38	48	361	578	53
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.08	0.05	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	22.54	12.83	8.98	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.43	0.25	0.16	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	10.79	6.17	3.98	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.11		1.05		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.44					
Intersection LOS	C					



Intersection Level Of Service Report

Intersection 35: 38th Pkwy/PA-40.2 Acc2/PA-46.2 Acc1/PA-46.1 Acc4

Control Type:	Two-way stop	Delay (sec / veh):	24.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.052

Intersection Setup

Name							38th Parkway			38th Parkway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+T			+T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name							38th Parkway			38th Parkway		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	185	0	0	293	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	6	6	0	9	14	88	11	9	115	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	54	0	0	88	0
Other Volume [veh/h]	0	0	0	0	0	0	0	37	0	0	52	0
Total Hourly Volume [veh/h]	9	0	6	6	0	9	14	364	11	9	548	9
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	2	2	0	2	4	99	3	2	149	2
Total Analysis Volume [veh/h]	10	0	7	7	0	10	15	396	12	10	596	10
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.01	0.04	0.00	0.02	0.02	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	24.46	22.29	11.43	24.06	22.13	12.89	8.76	0.00	0.00	8.16	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.20	0.18	0.18	0.18	0.05	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.96	4.96	4.96	4.40	4.40	4.40	1.17	0.00	0.00	0.66	0.00	0.00
d_A, Approach Delay [s/veh]	19.09			17.49			0.31			0.13		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.78											
Intersection LOS	C											



Intersection Level Of Service Report
Intersection 36: 38th Pkwy/PA-40.1 Acc3/PA-46.2 Acc2

Control Type:	Two-way stop	Delay (sec / veh):	25.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.054

Intersection Setup

Name							38th Parkway			38th Parkway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+T			+T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name							38th Parkway			38th Parkway		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	185	0	0	293	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	6	8	0	11	20	99	16	9	110	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	54	0	0	88	0
Other Volume [veh/h]	0	0	0	0	0	0	0	37	0	0	52	0
Total Hourly Volume [veh/h]	9	0	6	8	0	11	20	375	16	9	543	13
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	2	2	0	3	5	102	4	2	148	4
Total Analysis Volume [veh/h]	10	0	7	9	0	12	22	408	17	10	590	14
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.01	0.05	0.00	0.02	0.02	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	25.53	23.11	11.62	25.18	23.13	13.11	8.78	0.00	0.00	8.20	0.00	0.00
Movement LOS	D	C	B	D	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.21	0.21	0.21	0.23	0.23	0.23	0.07	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.21	5.21	5.21	5.77	5.77	5.77	1.73	0.00	0.00	0.67	0.00	0.00
d_A, Approach Delay [s/veh]	19.80			18.29			0.43			0.13		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.91											
Intersection LOS	D											



Intersection Level Of Service Report
Intersection 37: 38th Pkwy/PA-40.1 Acc4/PA 46.2 Acc3

Control Type:	Two-way stop	Delay (sec / veh):	26.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.056

Intersection Setup

Name							38th Parkway			38th Parkway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+T			+T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name							38th Parkway			38th Parkway		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	185	0	0	293	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	6	8	0	11	20	120	18	9	109	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	54	0	0	88	0
Other Volume [veh/h]	0	0	0	0	0	0	0	37	0	0	52	0
Total Hourly Volume [veh/h]	9	0	6	8	0	11	20	396	18	9	542	13
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	2	2	0	3	5	108	5	2	147	4
Total Analysis Volume [veh/h]	10	0	7	9	0	12	22	430	20	10	589	14
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.01	0.05	0.00	0.02	0.02	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	26.31	23.72	11.87	25.94	23.76	13.15	8.78	0.00	0.00	8.27	0.00	0.00
Movement LOS	D	C	B	D	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.22	0.24	0.24	0.24	0.07	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.40	5.40	5.40	5.92	5.92	5.92	1.73	0.00	0.00	0.68	0.00	0.00
d_A, Approach Delay [s/veh]	20.36			18.63			0.41			0.13		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.90											
Intersection LOS	D											



Intersection Level Of Service Report
Intersection 38: 38th Pkwy/PA-40.1 Acc5

Control Type:	Two-way stop	Delay (sec / veh):	28.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.080

Intersection Setup

Name							38th Parkway			38th Parkway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+T			+T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name							38th Parkway			38th Parkway		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	185	0	0	293	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	12	6	0	13	22	140	27	23	96	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	54	0	0	88	0
Other Volume [veh/h]	0	0	0	0	0	0	0	37	0	0	52	0
Total Hourly Volume [veh/h]	12	0	12	6	0	13	22	416	27	23	529	11
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	3	2	0	4	6	113	7	6	144	3
Total Analysis Volume [veh/h]	13	0	13	7	0	14	24	452	29	25	575	12
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.04	0.00	0.03	0.02	0.00	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	28.85	25.70	12.64	28.01	25.23	12.92	8.73	0.00	0.00	8.41	0.00	0.00
Movement LOS	D	D	B	D	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.34	0.34	0.34	0.23	0.23	0.23	0.07	0.00	0.00	0.07	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.43	8.43	8.43	5.63	5.63	5.63	1.87	0.00	0.00	1.77	0.00	0.00
d_A, Approach Delay [s/veh]	20.74			17.95			0.42			0.34		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	1.15											
Intersection LOS	D											



Intersection Level Of Service Report
Intersection 39: 38th Pkwy/PA-46.2 Acc4/PA-46.1 Acc1

Control Type:	Two-way stop	Delay (sec / veh):	22.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.113

Intersection Setup

Name			38th Parkway		38th Parkway	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name			38th Parkway		38th Parkway	
Base Volume Input [veh/h]	0	0	185	0	0	293
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	4	185	54	6	114
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	54	0	0	88
Other Volume [veh/h]	0	0	37	0	0	52
Total Hourly Volume [veh/h]	24	4	461	54	6	547
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	1	125	15	2	149
Total Analysis Volume [veh/h]	26	4	501	59	7	595
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.01	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	22.64	11.36	0.00	0.00	8.59	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.38	0.02	0.00	0.00	0.02	0.00
95th-Percentile Queue Length [ft/ln]	9.42	0.53	0.00	0.00	0.52	0.00
d_A, Approach Delay [s/veh]	21.13		0.00		0.10	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.58					
Intersection LOS	C					

**Intersection Level Of Service Report**
Intersection 40: 38th Parkway/Reserve Bl (W)

Control Type:	Signalized	Delay (sec / veh):	11.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name				Reserve Loop			38th Parkway			38th Parkway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name				Reserve Loop			38th Parkway			38th Parkway		
Base Volume Input [veh/h]	0	0	0	54	0	54	73	131	0	0	220	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	8	7	120	21	0	17	113	15	15	64	59
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	54	0	47	82	0	0	0	0	88
Other Volume [veh/h]	0	0	0	26	0	32	55	11	0	46	7	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	67	0	0	8	0	0	110
Total Hourly Volume [veh/h]	6	8	3	254	21	66	227	255	7	61	291	110
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	1	69	6	18	62	69	2	17	79	30
Total Analysis Volume [veh/h]	7	9	3	276	23	72	247	277	8	66	316	120
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	21	0	0	21	0	0	31	0	0	31	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	7	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	37	0	0	23	0	0	23	0
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	R	L	C	L	C	R
C, Calculated Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	14	14	14	38	38	38	38	38
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.63	0.63	0.63	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.01	0.20	0.01	0.05	0.26	0.15	0.06	0.17	0.08
s, saturation flow rate [veh/h]	1630	1402	1870	1589	952	1861	1094	1870	1589
c, Capacity [veh/h]	469	414	444	378	590	1171	670	1176	1000
d1, Uniform Delay [s]	17.62	21.78	17.66	18.27	10.39	4.87	7.89	4.97	4.46
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	1.86	0.05	0.24	2.18	0.49	0.29	0.56	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.04	0.67	0.05	0.19	0.42	0.24	0.10	0.27	0.12
d, Delay for Lane Group [s/veh]	17.66	23.64	17.70	18.51	12.56	5.37	8.18	5.53	4.71
Lane Group LOS	B	C	B	B	B	A	A	A	A
Critical Lane Group	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.19	3.60	0.24	0.77	2.20	1.26	0.43	1.43	0.49
50th-Percentile Queue Length [ft/ln]	4.84	90.08	5.88	19.19	55.09	31.60	10.82	35.75	12.34
95th-Percentile Queue Length [veh/ln]	0.35	6.49	0.42	1.38	3.97	2.28	0.78	2.57	0.89
95th-Percentile Queue Length [ft/ln]	8.71	162.15	10.58	34.55	99.15	56.88	19.47	64.35	22.22

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	17.66	17.66	17.66	23.64	17.70	18.51	12.56	5.37	5.37	8.18	5.53	4.71
Movement LOS	B	B	B	C	B	B	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	17.66			22.28			8.71			5.68		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	11.30											
Intersection LOS	B											
Intersection V/C	0.456											

Emissions

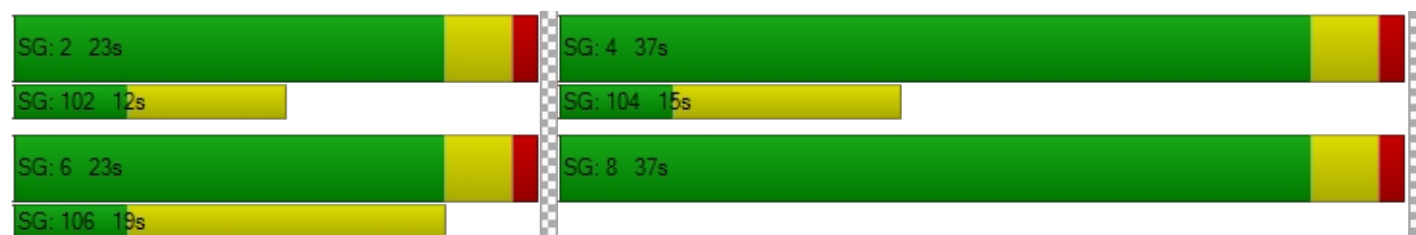
Vehicle Miles Traveled [mph]	0.50	34.72	2.89	9.06	16.25	18.75	4.94	23.67	8.99
Stops [stops/h]	11.61	216.20	14.11	46.06	132.21	75.84	25.96	85.80	29.62
Fuel consumption [US gal/h]	0.15	3.95	0.28	0.90	2.03	1.50	0.46	1.80	0.65
CO [g/h]	10.70	276.21	19.56	62.81	141.96	105.00	31.93	126.09	45.34
NOx [g/h]	2.08	53.74	3.81	12.22	27.62	20.43	6.21	24.53	8.82
VOC [g/h]	2.48	64.01	4.53	14.56	32.90	24.33	7.40	29.22	10.51

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.857	2.784	2.268	0.000
Crosswalk LOS	A	C	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1100	1100	633	633
d_b, Bicycle Delay [s]	6.08	6.08	14.01	14.01
I_b,int, Bicycle LOS Score for Intersection	1.598	2.282	2.451	2.569
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Intersection Level Of Service Report

Intersection 42: The Aurora Highlands Parkway/38th Parkway

Control Type:	Two-way stop	Delay (sec / veh):	17.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.480

Intersection Setup

Name	38th Parkway			38th Parkway			Th Au			TAH Parkway (W)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	38th Parkway			38th Parkway			Th Au			TAH Parkway (W)		
Base Volume Input [veh/h]	5	189	0	0	137	130	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	64	2	0	42	27	0	0	0	19	5	80
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	50	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	47	0	0	0	0	0	0	82
Other Volume [veh/h]	0	0	0	0	38	0	0	0	0	0	0	66
Total Hourly Volume [veh/h]	5	253	2	0	264	157	0	0	0	19	55	228
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	69	1	0	72	43	0	0	0	5	15	62
Total Analysis Volume [veh/h]	5	275	2	0	287	171	0	0	0	21	60	248
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.48	0.00	0.00	0.36	0.16	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.52	16.95	0.00	0.00	12.18	9.15	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B	C			B	A				A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	2.59	0.00	0.00	1.68	0.59	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.99	64.76	0.00	0.00	41.92	14.72	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.91			11.05			0.00			0.00		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	9.18											
Intersection LOS	C											



Intersection Level Of Service Report

Intersection 43: The Aurora Highlands Parkway/38th Parkway

Control Type:	All-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.429

Intersection Setup

Name				38th Parkway			TAH Parkway (E)					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				38th Parkway			TAH Parkway (E)					
Base Volume Input [veh/h]	0	5	5	152	0	0	189	50	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	0	37	24	0	53	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	47	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	38	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	16	5	274	24	0	242	50	0	0	0	2
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	1	74	7	0	66	14	0	0	0	1
Total Analysis Volume [veh/h]	0	17	5	298	26	0	263	54	0	0	0	2
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	848	713	792	613	671	671	
Degree of Utilization, x	0.03	0.42	0.03	0.43	0.04	0.04	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.08	2.07	0.10	2.15	0.13	0.13	
95th-Percentile Queue Length [ft]	2.00	51.77	2.54	53.71	3.14	3.14	
Approach Delay [s/veh]	7.36	11.01		12.12		0.00	
Approach LOS	A	B		B		A	
Intersection Delay [s/veh]	11.42						
Intersection LOS	B						



Intersection Level Of Service Report
Intersection 47: 48th Avenue/Aerotropolis Pkwy

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.357

Intersection Setup

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			48th Avenue			48th Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	3	0	0	2	0	1	2	0	0	2	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	200.00	100.00	100.00	200.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			48th Avenue			48th Avenue		
Base Volume Input [veh/h]	200	1100	100	10	700	90	200	200	45	60	80	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	16	0	16	6	3	4	0	27	6	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	23	14	20	0	0	32	0
Other Volume [veh/h]	11	0	0	0	0	26	15	15	7	0	26	0
Right Turn on Red Volume [veh/h]	0	0	58	0	0	73	0	0	52	0	0	20
Total Hourly Volume [veh/h]	211	1111	58	10	716	72	232	239	0	87	144	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	302	16	3	195	20	63	65	0	24	39	5
Total Analysis Volume [veh/h]	229	1208	63	11	778	78	252	260	0	95	157	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	27	0	0	30	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	16	38	0	19	41	0	15	42	0	11	38	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	73	73	1	65	65	10	15	15	5	10	10
g / C, Green / Cycle	0.08	0.66	0.66	0.01	0.59	0.59	0.09	0.14	0.14	0.04	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.07	0.24	0.04	0.00	0.15	0.05	0.07	0.07	0.00	0.03	0.04	0.01
s, saturation flow rate [veh/h]	3459	5094	1589	3459	5094	1589	3459	3560	1589	3459	3560	1589
c, Capacity [veh/h]	293	3358	1048	47	2996	935	313	494	221	149	325	145
d1, Uniform Delay [s]	49.35	8.37	6.65	53.70	11.02	9.81	49.08	44.01	0.00	51.78	47.50	46.04
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.56	0.30	0.11	2.57	0.21	0.18	4.88	0.87	0.00	4.47	1.11	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.36	0.06	0.24	0.26	0.08	0.81	0.53	0.00	0.64	0.48	0.15
d, Delay for Lane Group [s/veh]	53.90	8.67	6.76	56.27	11.23	9.99	53.96	44.88	0.00	56.25	48.61	46.52
Lane Group LOS	D	A	A	E	B	A	D	D	A	E	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.26	4.06	0.52	0.17	3.02	0.84	3.60	3.35	0.00	1.38	2.09	0.57
50th-Percentile Queue Length [ft/ln]	81.53	101.39	13.11	4.18	75.60	21.00	89.93	83.69	0.00	34.49	52.36	14.36
95th-Percentile Queue Length [veh/ln]	5.87	7.30	0.94	0.30	5.44	1.51	6.47	6.03	0.00	2.48	3.77	1.03
95th-Percentile Queue Length [ft/ln]	146.75	182.51	23.60	7.52	136.08	37.81	161.87	150.65	0.00	62.09	94.24	25.86

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	53.90	8.67	6.76	56.27	11.23	9.99	53.96	44.88	0.00	56.25	48.61	46.52
Movement LOS	D	A	A	E	B	A	D	D	A	E	D	D
d_A, Approach Delay [s/veh]	15.50			11.69			49.35			51.09		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	23.04											
Intersection LOS	C											
Intersection V/C	0.357											

Emissions

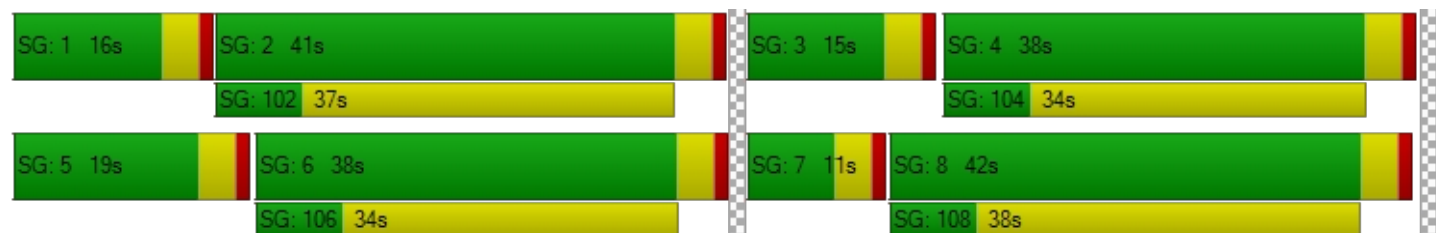
Vehicle Miles Traveled [mph]	211.33	1114.77	58.14	3.34	236.57	23.72	153.90	158.79	0.00	6.57	10.86	1.52
Stops [stops/h]	213.46	398.20	17.16	10.93	296.89	27.50	235.45	219.12	0.00	90.31	137.08	18.80
Fuel consumption [US gal/h]	12.39	50.22	2.57	0.32	13.16	1.29	10.40	10.12	0.00	1.86	2.76	0.37
CO [g/h]	866.11	3510.57	179.98	22.65	919.63	89.95	727.19	707.52	0.00	129.78	192.73	26.20
NOx [g/h]	168.51	683.03	35.02	4.41	178.93	17.50	141.48	137.66	0.00	25.25	37.50	5.10
VOC [g/h]	200.73	813.61	41.71	5.25	213.13	20.85	168.53	163.98	0.00	30.08	44.67	6.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	44.55			44.55			44.55			44.55		
I_p,int, Pedestrian LOS Score for Intersectio	3.219			3.227			3.045			2.727		
Crosswalk LOS	C			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	618			673			691			618		
d_b, Bicycle Delay [s]	26.25			24.22			23.56			26.25		
I_b,int, Bicycle LOS Score for Intersection	2.417			2.077			2.025			1.802		
Bicycle LOS	B			B			B			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Intersection Level Of Service Report

Intersection 48: 38th Parkway/Aerotropolis Pkwy

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

Intersection Setup

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			38th Parkway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	2	0	1	1	0	1	2	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	200.00	100.00	200.00	200.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	2	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Aerotropolis Pkwy			Aerotropolis Pkwy			38th Parkway					
Base Volume Input [veh/h]	152	974	168	64	711	30	20	78	83	597	111	406
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	0	0	0	0	43	27	0	51	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	95	0	0	0	0	0	0	0	58	0	0	0
Other Volume [veh/h]	67	11	0	0	7	0	0	0	39	0	0	0
Right Turn on Red Volume [veh/h]	0	0	84	0	0	37	0	0	116	0	0	203
Total Hourly Volume [veh/h]	396	985	84	64	718	36	47	78	115	597	111	203
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	108	268	23	17	195	10	13	21	31	162	30	55
Total Analysis Volume [veh/h]	430	1071	91	70	780	39	51	85	125	649	121	221
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	14	0	0	27	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	15	30	0	9	24	0	9	37	0	24	52	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Calculated Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	58	49	49	4	43	43	34	10	10	20	26	26
g / C, Green / Cycle	0.58	0.49	0.49	0.04	0.43	0.43	0.34	0.10	0.10	0.20	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.47	0.21	0.06	0.02	0.15	0.02	0.04	0.05	0.08	0.19	0.06	0.14
s, saturation flow rate [veh/h]	919	5094	1589	3459	5094	1589	1164	1870	1589	3459	1870	1589
c, Capacity [veh/h]	563	2515	785	148	2173	678	460	193	164	692	496	422
d1, Uniform Delay [s]	14.05	16.23	13.60	46.75	19.41	16.85	22.30	42.11	43.62	39.39	28.84	31.34
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.51	0.53	0.30	2.32	0.46	0.16	0.11	1.57	7.05	6.85	0.25	1.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, 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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.43	0.12	0.47	0.36	0.06	0.11	0.44	0.76	0.94	0.24	0.52
d, Delay for Lane Group [s/veh]	23.56	16.76	13.90	49.07	19.88	17.02	22.40	43.67	50.67	46.24	29.10	32.34
Lane Group LOS	C	B	B	D	B	B	C	D	D	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.51	5.17	1.14	0.89	4.09	0.55	0.82	2.05	3.31	8.38	2.30	4.62
50th-Percentile Queue Length [ft/ln]	162.71	129.23	28.57	22.36	102.31	13.78	20.51	51.17	82.80	209.58	57.59	115.49
95th-Percentile Queue Length [veh/ln]	10.69	8.90	2.06	1.61	7.37	0.99	1.48	3.68	5.96	13.13	4.15	8.14
95th-Percentile Queue Length [ft/ln]	267.31	222.44	51.43	40.25	184.16	24.81	36.92	92.10	149.03	328.29	103.66	203.61

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	23.56	16.76	13.90	49.07	19.88	17.02	22.40	43.67	50.67	46.24	29.10	32.34
Movement LOS	C	B	B	D	B	B	C	D	D	D	C	C
d_A, Approach Delay [s/veh]	18.43			22.05			42.87			41.05		
Approach LOS	B			C			D			D		
d_I, Intersection Delay [s/veh]	27.01											
Intersection LOS	C											
Intersection V/C	0.553											

Emissions

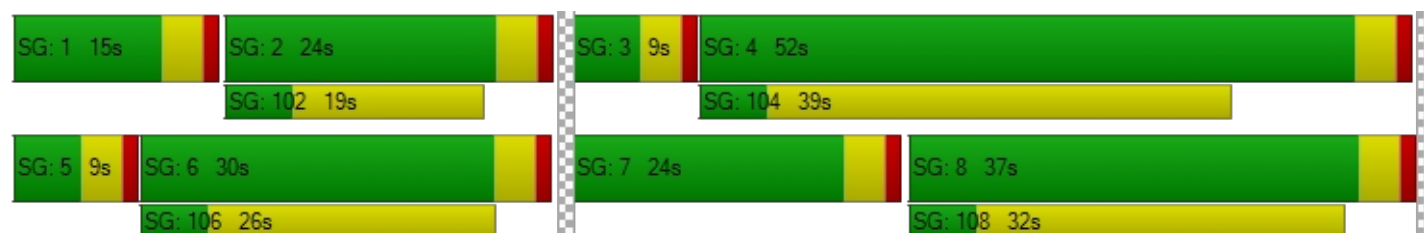
Vehicle Miles Traveled [mph]	82.98	206.69	17.56	64.60	719.80	35.99	25.52	42.53	62.54	55.81	10.41	19.00
Stops [stops/h]	234.30	558.27	41.15	64.40	441.99	19.85	29.54	73.68	119.23	603.58	82.92	166.31
Fuel consumption [US gal/h]	6.77	15.25	1.21	3.71	35.23	1.73	1.45	2.91	4.52	11.74	1.60	3.16
CO [g/h]	473.36	1065.69	84.41	259.61	2462.47	120.67	101.08	203.63	316.10	820.58	112.05	220.59
NOx [g/h]	92.10	207.35	16.42	50.51	479.11	23.48	19.67	39.62	61.50	159.66	21.80	42.92
VOC [g/h]	109.71	246.98	19.56	60.17	570.70	27.97	23.43	47.19	73.26	190.18	25.97	51.12

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	41.41			41.41			41.41			41.41		
I_p,int, Pedestrian LOS Score for Intersectio	3.259			3.377			2.821			2.996		
Crosswalk LOS	C			C			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	520			400			660			960		
d_b, Bicycle Delay [s]	27.38			32.00			22.45			13.52		
I_b,int, Bicycle LOS Score for Intersection	2.481			2.069			2.182			3.530		
Bicycle LOS	B			B			B			D		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-







Intersection Level Of Service Report
Intersection 82: TAH Pkwy/PA-46.1 Acc3

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	The Aurora Highlands Parkway		The Aurora Highlands Parkway	
Approach	Southbound		Westbound	
Lane Configuration				
Turning Movement	Left	Right	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	435.00
No. of Lanes in Exit Pocket	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00
Speed [mph]	30.00		40.00	
Grade [%]	0.00		0.00	
Crosswalk	Yes		Yes	

Volumes

Name	The Aurora Highlands Parkway		The Aurora Highlands Parkway	
Base Volume Input [veh/h]	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0
Site-Generated Trips [veh/h]	0	24	2	73
Diverted Trips [veh/h]	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	82
Other Volume [veh/h]	0	0	0	66
Total Hourly Volume [veh/h]	0	24	2	221
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	7	1	60
Total Analysis Volume [veh/h]	0	26	2	240
Pedestrian Volume [ped/h]	0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	9.16	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.09	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	2.25	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.16		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.82					
Intersection LOS	A					



Intersection Level Of Service Report
Intersection 83: TAH Pkwy/PA46.1 Access 4

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name			TAH Parkway (W)		The Aurora Highlands Parkway	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↱				↱↲	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			TAH Parkway (W)		The Aurora Highlands Parkway	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	21	0	2	82	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	82	0
Other Volume [veh/h]	0	0	0	0	66	0
Total Hourly Volume [veh/h]	0	21	0	2	230	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	0	1	63	4
Total Analysis Volume [veh/h]	0	23	0	2	250	15
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	9.14	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.08	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	1.98	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.14		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.73					
Intersection LOS	A					



Signal Warrants Report For Intersection 25: 48th Avenue/PA-31 Street

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	500	603	196
2	485	585	190
3	475	573	186
4	445	537	174
5	395	476	155
6	390	470	153
7	385	464	151
8	350	422	137
9	345	416	135
10	340	410	133
11	295	356	116
12	275	332	108
13	270	326	106
14	200	241	78
15	200	241	78
16	140	169	55
17	80	96	31
18	80	96	31
19	45	54	18
20	25	30	10
21	15	18	6
22	5	6	2
23	5	6	2
24	5	6	2



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1103	2	196	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
2	3	1070	2	190	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
3	3	1048	2	186	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
4	3	982	2	174	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
5	3	871	2	155	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
6	3	860	2	153	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
7	3	849	2	151	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
8	3	772	2	137	No	No	No	Yes	No	Yes	Yes	Yes	No	No
9	3	761	2	135	No	No	No	Yes	No	Yes	Yes	Yes	No	No
10	3	750	2	133	No	No	No	Yes	No	Yes	Yes	Yes	No	No
11	3	651	2	116	No	No	No	Yes	No	No	Yes	Yes	No	No
12	3	607	2	108	No	No	No	No	No	No	No	Yes	No	No
13	3	596	2	106	No	No	No	No	No	No	No	Yes	No	No
14	3	441	2	78	No	No	No	No	No	No	No	No	No	No
15	3	441	2	78	No	No	No	No	No	No	No	No	No	No
16	3	309	2	55	No	No	No	No	No	No	No	No	No	No
17	3	176	2	31	No	No	No	No	No	No	No	No	No	No
18	3	176	2	31	No	No	No	No	No	No	No	No	No	No
19	3	99	2	18	No	No	No	No	No	No	No	No	No	No
20	3	55	2	10	No	No	No	No	No	No	No	No	No	No
21	3	33	2	6	No	No	No	No	No	No	No	No	No	No
22	3	11	2	2	No	No	No	No	No	No	No	No	No	No
23	3	11	2	2	No	No	No	No	No	No	No	No	No	No
24	3	11	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	4	7	11	4	10	11	13	3	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	18.3
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:59
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	196
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1299
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 26: Reserve Bl/PA-31 Street

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	N
1	74	83	165
2	72	81	160
3	70	79	157
4	66	74	147
5	58	66	130
6	58	65	129
7	57	64	127
8	52	58	115
9	51	57	114
10	50	56	112
11	44	49	97
12	41	46	91
13	40	45	89
14	30	33	66
15	30	33	66
16	21	23	46
17	12	13	26
18	12	13	26
19	7	7	15
20	4	4	8
21	2	2	5
22	1	1	2
23	1	1	2
24	1	1	2



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	157	2	165	No	No	No	No	No	No	No	No	No	No
2	2	153	2	160	No	No	No	No	No	No	No	No	No	No
3	2	149	2	157	No	No	No	No	No	No	No	No	No	No
4	2	140	2	147	No	No	No	No	No	No	No	No	No	No
5	2	124	2	130	No	No	No	No	No	No	No	No	No	No
6	2	123	2	129	No	No	No	No	No	No	No	No	No	No
7	2	121	2	127	No	No	No	No	No	No	No	No	No	No
8	2	110	2	115	No	No	No	No	No	No	No	No	No	No
9	2	108	2	114	No	No	No	No	No	No	No	No	No	No
10	2	106	2	112	No	No	No	No	No	No	No	No	No	No
11	2	93	2	97	No	No	No	No	No	No	No	No	No	No
12	2	87	2	91	No	No	No	No	No	No	No	No	No	No
13	2	85	2	89	No	No	No	No	No	No	No	No	No	No
14	2	63	2	66	No	No	No	No	No	No	No	No	No	No
15	2	63	2	66	No	No	No	No	No	No	No	No	No	No
16	2	44	2	46	No	No	No	No	No	No	No	No	No	No
17	2	25	2	26	No	No	No	No	No	No	No	No	No	No
18	2	25	2	26	No	No	No	No	No	No	No	No	No	No
19	2	14	2	15	No	No	No	No	No	No	No	No	No	No
20	2	8	2	8	No	No	No	No	No	No	No	No	No	No
21	2	4	2	5	No	No	No	No	No	No	No	No	No	No
22	2	2	2	2	No	No	No	No	No	No	No	No	No	No
23	2	2	2	2	No	No	No	No	No	No	No	No	No	No
24	2	2	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.5
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:26
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	165
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	322
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 31: Reserve Bl/PA-40.1 Acc1

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	80	76	20
2	78	74	19
3	76	72	19
4	71	68	18
5	63	60	16
6	62	59	16
7	62	59	15
8	56	53	14
9	55	52	14
10	54	52	14
11	47	45	12
12	44	42	11
13	43	41	11
14	32	30	8
15	32	30	8
16	22	21	6
17	13	12	3
18	13	12	3
19	7	7	2
20	4	4	1
21	2	2	1
22	1	1	0
23	1	1	0
24	1	1	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	156	1	20	No	No	No	No	No	No	No	No	No	No
2	1	152	1	19	No	No	No	No	No	No	No	No	No	No
3	1	148	1	19	No	No	No	No	No	No	No	No	No	No
4	1	139	1	18	No	No	No	No	No	No	No	No	No	No
5	1	123	1	16	No	No	No	No	No	No	No	No	No	No
6	1	121	1	16	No	No	No	No	No	No	No	No	No	No
7	1	121	1	15	No	No	No	No	No	No	No	No	No	No
8	1	109	1	14	No	No	No	No	No	No	No	No	No	No
9	1	107	1	14	No	No	No	No	No	No	No	No	No	No
10	1	106	1	14	No	No	No	No	No	No	No	No	No	No
11	1	92	1	12	No	No	No	No	No	No	No	No	No	No
12	1	86	1	11	No	No	No	No	No	No	No	No	No	No
13	1	84	1	11	No	No	No	No	No	No	No	No	No	No
14	1	62	1	8	No	No	No	No	No	No	No	No	No	No
15	1	62	1	8	No	No	No	No	No	No	No	No	No	No
16	1	43	1	6	No	No	No	No	No	No	No	No	No	No
17	1	25	1	3	No	No	No	No	No	No	No	No	No	No
18	1	25	1	3	No	No	No	No	No	No	No	No	No	No
19	1	14	1	2	No	No	No	No	No	No	No	No	No	No
20	1	8	1	1	No	No	No	No	No	No	No	No	No	No
21	1	4	1	1	No	No	No	No	No	No	No	No	No	No
22	1	2	1	0	No	No	No	No	No	No	No	No	No	No
23	1	2	1	0	No	No	No	No	No	No	No	No	No	No
24	1	2	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:03
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	20
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	176
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 32: Reserve Bl/PA-40.1 Acc2

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	87	69	20
2	84	67	19
3	83	66	19
4	77	61	18
5	69	55	16
6	68	54	16
7	67	53	15
8	61	48	14
9	60	48	14
10	59	47	14
11	51	41	12
12	48	38	11
13	47	37	11
14	35	28	8
15	35	28	8
16	24	19	6
17	14	11	3
18	14	11	3
19	8	6	2
20	4	3	1
21	3	2	1
22	1	1	0
23	1	1	0
24	1	1	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	156	1	20	No	No	No	No	No	No	No	No	No	No
2	1	151	1	19	No	No	No	No	No	No	No	No	No	No
3	1	149	1	19	No	No	No	No	No	No	No	No	No	No
4	1	138	1	18	No	No	No	No	No	No	No	No	No	No
5	1	124	1	16	No	No	No	No	No	No	No	No	No	No
6	1	122	1	16	No	No	No	No	No	No	No	No	No	No
7	1	120	1	15	No	No	No	No	No	No	No	No	No	No
8	1	109	1	14	No	No	No	No	No	No	No	No	No	No
9	1	108	1	14	No	No	No	No	No	No	No	No	No	No
10	1	106	1	14	No	No	No	No	No	No	No	No	No	No
11	1	92	1	12	No	No	No	No	No	No	No	No	No	No
12	1	86	1	11	No	No	No	No	No	No	No	No	No	No
13	1	84	1	11	No	No	No	No	No	No	No	No	No	No
14	1	63	1	8	No	No	No	No	No	No	No	No	No	No
15	1	63	1	8	No	No	No	No	No	No	No	No	No	No
16	1	43	1	6	No	No	No	No	No	No	No	No	No	No
17	1	25	1	3	No	No	No	No	No	No	No	No	No	No
18	1	25	1	3	No	No	No	No	No	No	No	No	No	No
19	1	14	1	2	No	No	No	No	No	No	No	No	No	No
20	1	7	1	1	No	No	No	No	No	No	No	No	No	No
21	1	5	1	1	No	No	No	No	No	No	No	No	No	No
22	1	2	1	0	No	No	No	No	No	No	No	No	No	No
23	1	2	1	0	No	No	No	No	No	No	No	No	No	No
24	1	2	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:03
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	20
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	176
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 33: Reserve Bl/PA-40.2 Acc1

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	63	93	14
2	61	90	14
3	60	88	13
4	56	83	12
5	50	73	11
6	49	73	11
7	49	72	11
8	44	65	10
9	43	64	10
10	43	63	10
11	37	55	8
12	35	51	8
13	34	50	8
14	25	37	6
15	25	37	6
16	18	26	4
17	10	15	2
18	10	15	2
19	6	8	1
20	3	5	1
21	2	3	0
22	1	1	0
23	1	1	0
24	1	1	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	1	156	1	14	No	No	No	No	No	No	No	No	No	No
2	1	151	1	14	No	No	No	No	No	No	No	No	No	No
3	1	148	1	13	No	No	No	No	No	No	No	No	No	No
4	1	139	1	12	No	No	No	No	No	No	No	No	No	No
5	1	123	1	11	No	No	No	No	No	No	No	No	No	No
6	1	122	1	11	No	No	No	No	No	No	No	No	No	No
7	1	121	1	11	No	No	No	No	No	No	No	No	No	No
8	1	109	1	10	No	No	No	No	No	No	No	No	No	No
9	1	107	1	10	No	No	No	No	No	No	No	No	No	No
10	1	106	1	10	No	No	No	No	No	No	No	No	No	No
11	1	92	1	8	No	No	No	No	No	No	No	No	No	No
12	1	86	1	8	No	No	No	No	No	No	No	No	No	No
13	1	84	1	8	No	No	No	No	No	No	No	No	No	No
14	1	62	1	6	No	No	No	No	No	No	No	No	No	No
15	1	62	1	6	No	No	No	No	No	No	No	No	No	No
16	1	44	1	4	No	No	No	No	No	No	No	No	No	No
17	1	25	1	2	No	No	No	No	No	No	No	No	No	No
18	1	25	1	2	No	No	No	No	No	No	No	No	No	No
19	1	14	1	1	No	No	No	No	No	No	No	No	No	No
20	1	8	1	1	No	No	No	No	No	No	No	No	No	No
21	1	5	1	0	No	No	No	No	No	No	No	No	No	No
22	1	2	1	0	No	No	No	No	No	No	No	No	No	No
23	1	2	1	0	No	No	No	No	No	No	No	No	No	No
24	1	2	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:02
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	14
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	170
Number of Approaches on Intersection	3
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 34: 38th Parkway/Reserve BI (E)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	N
1	581	376	63
2	564	365	61
3	552	357	60
4	517	335	56
5	459	297	50
6	453	293	49
7	447	290	49
8	407	263	44
9	401	259	43
10	395	256	43
11	343	222	37
12	320	207	35
13	314	203	34
14	232	150	25
15	232	150	25
16	163	105	18
17	93	60	10
18	93	60	10
19	52	34	6
20	29	19	3
21	17	11	2
22	6	4	1
23	6	4	1
24	6	4	1



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	957	2	63	No	No	No	No	No	No	No	Yes	No	No
2	2	929	2	61	No	No	No	No	No	No	No	Yes	No	No
3	2	909	2	60	No	No	No	No	No	No	No	Yes	No	No
4	2	852	2	56	No	No	No	No	No	No	No	Yes	No	No
5	2	756	2	50	No	No	No	No	No	No	No	No	No	No
6	2	746	2	49	No	No	No	No	No	No	No	No	No	No
7	2	737	2	49	No	No	No	No	No	No	No	No	No	No
8	2	670	2	44	No	No	No	No	No	No	No	No	No	No
9	2	660	2	43	No	No	No	No	No	No	No	No	No	No
10	2	651	2	43	No	No	No	No	No	No	No	No	No	No
11	2	565	2	37	No	No	No	No	No	No	No	No	No	No
12	2	527	2	35	No	No	No	No	No	No	No	No	No	No
13	2	517	2	34	No	No	No	No	No	No	No	No	No	No
14	2	382	2	25	No	No	No	No	No	No	No	No	No	No
15	2	382	2	25	No	No	No	No	No	No	No	No	No	No
16	2	268	2	18	No	No	No	No	No	No	No	No	No	No
17	2	153	2	10	No	No	No	No	No	No	No	No	No	No
18	2	153	2	10	No	No	No	No	No	No	No	No	No	No
19	2	86	2	6	No	No	No	No	No	No	No	No	No	No
20	2	48	2	3	No	No	No	No	No	No	No	No	No	No
21	2	28	2	2	No	No	No	No	No	No	No	No	No	No
22	2	10	2	1	No	No	No	No	No	No	No	No	No	No
23	2	10	2	1	No	No	No	No	No	No	No	No	No	No
24	2	10	2	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	4	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.1
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:17
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	63
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1020
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 35: 38th Pkwy/PA-40.2 Acc2/PA-46.2 Acc1/PA-46.1 Acc4

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	N	S
1	566	389	15	15
2	549	377	15	15
3	538	370	14	14
4	504	346	13	13
5	447	307	12	12
6	441	303	12	12
7	436	300	12	12
8	396	272	11	11
9	391	268	10	10
10	385	265	10	10
11	334	230	9	9
12	311	214	8	8
13	306	210	8	8
14	226	156	6	6
15	226	156	6	6
16	158	109	4	4
17	91	62	2	2
18	91	62	2	2
19	51	35	1	1
20	28	19	1	1
21	17	12	0	0
22	6	4	0	0
23	6	4	0	0
24	6	4	0	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	955	1	15	No	No	No	No	No	No	No	No	No	No
2	2	926	1	15	No	No	No	No	No	No	No	No	No	No
3	2	908	1	14	No	No	No	No	No	No	No	No	No	No
4	2	850	1	13	No	No	No	No	No	No	No	No	No	No
5	2	754	1	12	No	No	No	No	No	No	No	No	No	No
6	2	744	1	12	No	No	No	No	No	No	No	No	No	No
7	2	736	1	12	No	No	No	No	No	No	No	No	No	No
8	2	668	1	11	No	No	No	No	No	No	No	No	No	No
9	2	659	1	10	No	No	No	No	No	No	No	No	No	No
10	2	650	1	10	No	No	No	No	No	No	No	No	No	No
11	2	564	1	9	No	No	No	No	No	No	No	No	No	No
12	2	525	1	8	No	No	No	No	No	No	No	No	No	No
13	2	516	1	8	No	No	No	No	No	No	No	No	No	No
14	2	382	1	6	No	No	No	No	No	No	No	No	No	No
15	2	382	1	6	No	No	No	No	No	No	No	No	No	No
16	2	267	1	4	No	No	No	No	No	No	No	No	No	No
17	2	153	1	2	No	No	No	No	No	No	No	No	No	No
18	2	153	1	2	No	No	No	No	No	No	No	No	No	No
19	2	86	1	1	No	No	No	No	No	No	No	No	No	No
20	2	47	1	1	No	No	No	No	No	No	No	No	No	No
21	2	29	1	0	No	No	No	No	No	No	No	No	No	No
22	2	10	1	0	No	No	No	No	No	No	No	No	No	No
23	2	10	1	0	No	No	No	No	No	No	No	No	No	No
24	2	10	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.5	19.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:04	0:04
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	15	15
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	985	985
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 36: 38th Pkwy/PA-40.1 Acc3/PA-46.2 Acc2

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	565	411	15	19
2	548	399	15	18
3	537	390	14	18
4	503	366	13	17
5	446	325	12	15
6	441	321	12	15
7	435	316	12	15
8	396	288	11	13
9	390	284	10	13
10	384	279	10	13
11	333	242	9	11
12	311	226	8	10
13	305	222	8	10
14	226	164	6	8
15	226	164	6	8
16	158	115	4	5
17	90	66	2	3
18	90	66	2	3
19	51	37	1	2
20	28	21	1	1
21	17	12	0	1
22	6	4	0	0
23	6	4	0	0
24	6	4	0	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	976	1	19	No	No	No	No	No	No	No	No	No	No
2	2	947	1	18	No	No	No	No	No	No	No	No	No	No
3	2	927	1	18	No	No	No	No	No	No	No	No	No	No
4	2	869	1	17	No	No	No	No	No	No	No	No	No	No
5	2	771	1	15	No	No	No	No	No	No	No	No	No	No
6	2	762	1	15	No	No	No	No	No	No	No	No	No	No
7	2	751	1	15	No	No	No	No	No	No	No	No	No	No
8	2	684	1	13	No	No	No	No	No	No	No	No	No	No
9	2	674	1	13	No	No	No	No	No	No	No	No	No	No
10	2	663	1	13	No	No	No	No	No	No	No	No	No	No
11	2	575	1	11	No	No	No	No	No	No	No	No	No	No
12	2	537	1	10	No	No	No	No	No	No	No	No	No	No
13	2	527	1	10	No	No	No	No	No	No	No	No	No	No
14	2	390	1	8	No	No	No	No	No	No	No	No	No	No
15	2	390	1	8	No	No	No	No	No	No	No	No	No	No
16	2	273	1	5	No	No	No	No	No	No	No	No	No	No
17	2	156	1	3	No	No	No	No	No	No	No	No	No	No
18	2	156	1	3	No	No	No	No	No	No	No	No	No	No
19	2	88	1	2	No	No	No	No	No	No	No	No	No	No
20	2	49	1	1	No	No	No	No	No	No	No	No	No	No
21	2	29	1	1	No	No	No	No	No	No	No	No	No	No
22	2	10	1	0	No	No	No	No	No	No	No	No	No	No
23	2	10	1	0	No	No	No	No	No	No	No	No	No	No
24	2	10	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	19.8	18.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:04	0:05
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	15	19
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1010	1010
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 37: 38th Pkwy/PA-40.1 Acc4/PA 46.2 Acc3

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	564	434	15	19
2	547	421	15	18
3	536	412	14	18
4	502	386	13	17
5	446	343	12	15
6	440	339	12	15
7	434	334	12	15
8	395	304	11	13
9	389	299	10	13
10	384	295	10	13
11	333	256	9	11
12	310	239	8	10
13	305	234	8	10
14	226	174	6	8
15	226	174	6	8
16	158	122	4	5
17	90	69	2	3
18	90	69	2	3
19	51	39	1	2
20	28	22	1	1
21	17	13	0	1
22	6	4	0	0
23	6	4	0	0
24	6	4	0	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	998	1	19	No	No	No	No	No	No	No	No	No	No
2	2	968	1	18	No	No	No	No	No	No	No	No	No	No
3	2	948	1	18	No	No	No	No	No	No	No	No	No	No
4	2	888	1	17	No	No	No	No	No	No	No	No	No	No
5	2	789	1	15	No	No	No	No	No	No	No	No	No	No
6	2	779	1	15	No	No	No	No	No	No	No	No	No	No
7	2	768	1	15	No	No	No	No	No	No	No	No	No	No
8	2	699	1	13	No	No	No	No	No	No	No	No	No	No
9	2	688	1	13	No	No	No	No	No	No	No	No	No	No
10	2	679	1	13	No	No	No	No	No	No	No	No	No	No
11	2	589	1	11	No	No	No	No	No	No	No	No	No	No
12	2	549	1	10	No	No	No	No	No	No	No	No	No	No
13	2	539	1	10	No	No	No	No	No	No	No	No	No	No
14	2	400	1	8	No	No	No	No	No	No	No	No	No	No
15	2	400	1	8	No	No	No	No	No	No	No	No	No	No
16	2	280	1	5	No	No	No	No	No	No	No	No	No	No
17	2	159	1	3	No	No	No	No	No	No	No	No	No	No
18	2	159	1	3	No	No	No	No	No	No	No	No	No	No
19	2	90	1	2	No	No	No	No	No	No	No	No	No	No
20	2	50	1	1	No	No	No	No	No	No	No	No	No	No
21	2	30	1	1	No	No	No	No	No	No	No	No	No	No
22	2	10	1	0	No	No	No	No	No	No	No	No	No	No
23	2	10	1	0	No	No	No	No	No	No	No	No	No	No
24	2	10	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	20.4	18.6
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:05	0:05
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	15	19
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1032	1032
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 38: 38th Pkwy/PA-40.1 Acc5

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	563	465	24	19
2	546	451	23	18
3	535	442	23	18
4	501	414	21	17
5	445	367	19	15
6	439	363	19	15
7	434	358	18	15
8	394	326	17	13
9	388	321	17	13
10	383	316	16	13
11	332	274	14	11
12	310	256	13	10
13	304	251	13	10
14	225	186	10	8
15	225	186	10	8
16	158	130	7	5
17	90	74	4	3
18	90	74	4	3
19	51	42	2	2
20	28	23	1	1
21	17	14	1	1
22	6	5	0	0
23	6	5	0	0
24	6	5	0	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1028	1	24	No	No	No	No	No	No	No	No	No	No
2	2	997	1	23	No	No	No	No	No	No	No	No	No	No
3	2	977	1	23	No	No	No	No	No	No	No	No	No	No
4	2	915	1	21	No	No	No	No	No	No	No	No	No	No
5	2	812	1	19	No	No	No	No	No	No	No	No	No	No
6	2	802	1	19	No	No	No	No	No	No	No	No	No	No
7	2	792	1	18	No	No	No	No	No	No	No	No	No	No
8	2	720	1	17	No	No	No	No	No	No	No	No	No	No
9	2	709	1	17	No	No	No	No	No	No	No	No	No	No
10	2	699	1	16	No	No	No	No	No	No	No	No	No	No
11	2	606	1	14	No	No	No	No	No	No	No	No	No	No
12	2	566	1	13	No	No	No	No	No	No	No	No	No	No
13	2	555	1	13	No	No	No	No	No	No	No	No	No	No
14	2	411	1	10	No	No	No	No	No	No	No	No	No	No
15	2	411	1	10	No	No	No	No	No	No	No	No	No	No
16	2	288	1	7	No	No	No	No	No	No	No	No	No	No
17	2	164	1	4	No	No	No	No	No	No	No	No	No	No
18	2	164	1	4	No	No	No	No	No	No	No	No	No	No
19	2	93	1	2	No	No	No	No	No	No	No	No	No	No
20	2	51	1	1	No	No	No	No	No	No	No	No	No	No
21	2	31	1	1	No	No	No	No	No	No	No	No	No	No
22	2	11	1	0	No	No	No	No	No	No	No	No	No	No
23	2	11	1	0	No	No	No	No	No	No	No	No	No	No
24	2	11	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	20.7	17.9
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:08	0:05
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	24	19
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1071	1071
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 39: 38th Pkwy/PA-46.2 Acc4/PA-46.1 Acc1

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	553	515	28
2	536	500	27
3	525	489	27
4	492	458	25
5	437	407	22
6	431	402	22
7	426	397	22
8	387	361	20
9	382	355	19
10	376	350	19
11	326	304	17
12	304	283	15
13	299	278	15
14	221	206	11
15	221	206	11
16	155	144	8
17	88	82	4
18	88	82	4
19	50	46	3
20	28	26	1
21	17	15	1
22	6	5	0
23	6	5	0
24	6	5	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	1068	2	28	No	No	No	No	No	No	No	No	No	No
2	2	1036	2	27	No	No	No	No	No	No	No	No	No	No
3	2	1014	2	27	No	No	No	No	No	No	No	No	No	No
4	2	950	2	25	No	No	No	No	No	No	No	No	No	No
5	2	844	2	22	No	No	No	No	No	No	No	No	No	No
6	2	833	2	22	No	No	No	No	No	No	No	No	No	No
7	2	823	2	22	No	No	No	No	No	No	No	No	No	No
8	2	748	2	20	No	No	No	No	No	No	No	No	No	No
9	2	737	2	19	No	No	No	No	No	No	No	No	No	No
10	2	726	2	19	No	No	No	No	No	No	No	No	No	No
11	2	630	2	17	No	No	No	No	No	No	No	No	No	No
12	2	587	2	15	No	No	No	No	No	No	No	No	No	No
13	2	577	2	15	No	No	No	No	No	No	No	No	No	No
14	2	427	2	11	No	No	No	No	No	No	No	No	No	No
15	2	427	2	11	No	No	No	No	No	No	No	No	No	No
16	2	299	2	8	No	No	No	No	No	No	No	No	No	No
17	2	170	2	4	No	No	No	No	No	No	No	No	No	No
18	2	170	2	4	No	No	No	No	No	No	No	No	No	No
19	2	96	2	3	No	No	No	No	No	No	No	No	No	No
20	2	54	2	1	No	No	No	No	No	No	No	No	No	No
21	2	32	2	1	No	No	No	No	No	No	No	No	No	No
22	2	11	2	0	No	No	No	No	No	No	No	No	No	No
23	2	11	2	0	No	No	No	No	No	No	No	No	No	No
24	2	11	2	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	21.1
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:09
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	28
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1096
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 42: The Aurora Highlands Parkway/38th Parkway

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets	
	E	N	S
1	302	421	258
2	293	408	250
3	287	400	245
4	269	375	230
5	239	333	204
6	236	328	201
7	233	324	199
8	211	295	181
9	208	290	178
10	205	286	175
11	178	248	152
12	166	232	142
13	163	227	139
14	121	168	103
15	121	168	103
16	85	118	72
17	48	67	41
18	48	67	41
19	27	38	23
20	15	21	13
21	9	13	8
22	3	4	3
23	3	4	3
24	3	4	3



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	4	302	2	421	No	No	No	No	No	No	No	No	No	No
2	4	293	2	408	No	No	No	No	No	No	No	No	No	No
3	4	287	2	400	No	No	No	No	No	No	No	No	No	No
4	4	269	2	375	No	No	No	No	No	No	No	No	No	No
5	4	239	2	333	No	No	No	No	No	No	No	No	No	No
6	4	236	2	328	No	No	No	No	No	No	No	No	No	No
7	4	233	2	324	No	No	No	No	No	No	No	No	No	No
8	4	211	2	295	No	No	No	No	No	No	No	No	No	No
9	4	208	2	290	No	No	No	No	No	No	No	No	No	No
10	4	205	2	286	No	No	No	No	No	No	No	No	No	No
11	4	178	2	248	No	No	No	No	No	No	No	No	No	No
12	4	166	2	232	No	No	No	No	No	No	No	No	No	No
13	4	163	2	227	No	No	No	No	No	No	No	No	No	No
14	4	121	2	168	No	No	No	No	No	No	No	No	No	No
15	4	121	2	168	No	No	No	No	No	No	No	No	No	No
16	4	85	2	118	No	No	No	No	No	No	No	No	No	No
17	4	48	2	67	No	No	No	No	No	No	No	No	No	No
18	4	48	2	67	No	No	No	No	No	No	No	No	No	No
19	4	27	2	38	No	No	No	No	No	No	No	No	No	No
20	4	15	2	21	No	No	No	No	No	No	No	No	No	No
21	4	9	2	13	No	No	No	No	No	No	No	No	No	No
22	4	3	2	4	No	No	No	No	No	No	No	No	No	No
23	4	3	2	4	No	No	No	No	No	No	No	No	No	No
24	4	3	2	4	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	11	16.9
Number of Lanes on Minor Street Approach	2	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1:17	1:12
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	421	258
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	981	981
Number of Approaches on Intersection	3	3
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 43: The Aurora Highlands Parkway/38th Parkway

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	W
Minor Approaches	N, S
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets	
	W	N	S
1	292	298	21
2	283	289	20
3	277	283	20
4	260	265	19
5	231	235	17
6	228	232	16
7	225	229	16
8	204	209	15
9	201	206	14
10	199	203	14
11	172	176	12
12	161	164	12
13	158	161	11
14	117	119	8
15	117	119	8
16	82	83	6
17	47	48	3
18	47	48	3
19	26	27	2
20	15	15	1
21	9	9	1
22	3	3	0
23	3	3	0
24	3	3	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	292	2	298	No	No	No	No	No	No	No	No	No	No
2	3	283	2	289	No	No	No	No	No	No	No	No	No	No
3	3	277	2	283	No	No	No	No	No	No	No	No	No	No
4	3	260	2	265	No	No	No	No	No	No	No	No	No	No
5	3	231	2	235	No	No	No	No	No	No	No	No	No	No
6	3	228	2	232	No	No	No	No	No	No	No	No	No	No
7	3	225	2	229	No	No	No	No	No	No	No	No	No	No
8	3	204	2	209	No	No	No	No	No	No	No	No	No	No
9	3	201	2	206	No	No	No	No	No	No	No	No	No	No
10	3	199	2	203	No	No	No	No	No	No	No	No	No	No
11	3	172	2	176	No	No	No	No	No	No	No	No	No	No
12	3	161	2	164	No	No	No	No	No	No	No	No	No	No
13	3	158	2	161	No	No	No	No	No	No	No	No	No	No
14	3	117	2	119	No	No	No	No	No	No	No	No	No	No
15	3	117	2	119	No	No	No	No	No	No	No	No	No	No
16	3	82	2	83	No	No	No	No	No	No	No	No	No	No
17	3	47	2	48	No	No	No	No	No	No	No	No	No	No
18	3	47	2	48	No	No	No	No	No	No	No	No	No	No
19	3	26	2	27	No	No	No	No	No	No	No	No	No	No
20	3	15	2	15	No	No	No	No	No	No	No	No	No	No
21	3	9	2	9	No	No	No	No	No	No	No	No	No	No
22	3	3	2	3	No	No	No	No	No	No	No	No	No	No
23	3	3	2	3	No	No	No	No	No	No	No	No	No	No
24	3	3	2	3	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	11	7.4
Number of Lanes on Minor Street Approach	2	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:54	0:02
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	298	21
High Minor Volume Condition Met	Yes	No
Total Entering Volume on All Approaches During Same Hour	611	611
Number of Approaches on Intersection	3	3
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
Warrant Met for Intersection	No	



Signal Warrants Report For Intersection 82: TAH Pkwy/PA-46.1 Acc3

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets
	E	N
1	244	24
2	237	23
3	232	23
4	217	21
5	193	19
6	190	19
7	188	18
8	171	17
9	168	17
10	166	16
11	144	14
12	134	13
13	132	13
14	98	10
15	98	10
16	68	7
17	39	4
18	39	4
19	22	2
20	12	1
21	7	1
22	2	0
23	2	0
24	2	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	244	1	24	No	No	No	No	No	No	No	No	No	No
2	2	237	1	23	No	No	No	No	No	No	No	No	No	No
3	2	232	1	23	No	No	No	No	No	No	No	No	No	No
4	2	217	1	21	No	No	No	No	No	No	No	No	No	No
5	2	193	1	19	No	No	No	No	No	No	No	No	No	No
6	2	190	1	19	No	No	No	No	No	No	No	No	No	No
7	2	188	1	18	No	No	No	No	No	No	No	No	No	No
8	2	171	1	17	No	No	No	No	No	No	No	No	No	No
9	2	168	1	17	No	No	No	No	No	No	No	No	No	No
10	2	166	1	16	No	No	No	No	No	No	No	No	No	No
11	2	144	1	14	No	No	No	No	No	No	No	No	No	No
12	2	134	1	13	No	No	No	No	No	No	No	No	No	No
13	2	132	1	13	No	No	No	No	No	No	No	No	No	No
14	2	98	1	10	No	No	No	No	No	No	No	No	No	No
15	2	98	1	10	No	No	No	No	No	No	No	No	No	No
16	2	68	1	7	No	No	No	No	No	No	No	No	No	No
17	2	39	1	4	No	No	No	No	No	No	No	No	No	No
18	2	39	1	4	No	No	No	No	No	No	No	No	No	No
19	2	22	1	2	No	No	No	No	No	No	No	No	No	No
20	2	12	1	1	No	No	No	No	No	No	No	No	No	No
21	2	7	1	1	No	No	No	No	No	No	No	No	No	No
22	2	2	1	0	No	No	No	No	No	No	No	No	No	No
23	2	2	1	0	No	No	No	No	No	No	No	No	No	No
24	2	2	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:03
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	24
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	268
Number of Approaches on Intersection	2
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 83: TAH Pkwy/PA46.1 Access 4

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets	Minor Streets
	E	N
1	244	21
2	237	20
3	232	20
4	217	19
5	193	17
6	190	16
7	188	16
8	171	15
9	168	14
10	166	14
11	144	12
12	134	12
13	132	11
14	98	8
15	98	8
16	68	6
17	39	3
18	39	3
19	22	2
20	12	1
21	7	1
22	2	0
23	2	0
24	2	0



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	244	1	21	No	No	No	No	No	No	No	No	No	No
2	2	237	1	20	No	No	No	No	No	No	No	No	No	No
3	2	232	1	20	No	No	No	No	No	No	No	No	No	No
4	2	217	1	19	No	No	No	No	No	No	No	No	No	No
5	2	193	1	17	No	No	No	No	No	No	No	No	No	No
6	2	190	1	16	No	No	No	No	No	No	No	No	No	No
7	2	188	1	16	No	No	No	No	No	No	No	No	No	No
8	2	171	1	15	No	No	No	No	No	No	No	No	No	No
9	2	168	1	14	No	No	No	No	No	No	No	No	No	No
10	2	166	1	14	No	No	No	No	No	No	No	No	No	No
11	2	144	1	12	No	No	No	No	No	No	No	No	No	No
12	2	134	1	12	No	No	No	No	No	No	No	No	No	No
13	2	132	1	11	No	No	No	No	No	No	No	No	No	No
14	2	98	1	8	No	No	No	No	No	No	No	No	No	No
15	2	98	1	8	No	No	No	No	No	No	No	No	No	No
16	2	68	1	6	No	No	No	No	No	No	No	No	No	No
17	2	39	1	3	No	No	No	No	No	No	No	No	No	No
18	2	39	1	3	No	No	No	No	No	No	No	No	No	No
19	2	22	1	2	No	No	No	No	No	No	No	No	No	No
20	2	12	1	1	No	No	No	No	No	No	No	No	No	No
21	2	7	1	1	No	No	No	No	No	No	No	No	No	No
22	2	2	1	0	No	No	No	No	No	No	No	No	No	No
23	2	2	1	0	No	No	No	No	No	No	No	No	No	No
24	2	2	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	9.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:03
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	21
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	265
Number of Approaches on Intersection	2
Total Volume Condition Met	No
Warrant Met for Approach	No
Warrant Met for Intersection	No



Signal Warrants Report For Intersection 40: 38th Parkway/Reserve BI (W)

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S, N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	E	W	S	N
1	572	497	21	408
2	555	482	20	396
3	543	472	20	388
4	509	442	19	363
5	452	393	17	322
6	446	388	16	318
7	440	383	16	314
8	400	348	15	286
9	395	343	14	282
10	389	338	14	277
11	337	293	12	241
12	315	273	12	224
13	309	268	11	220
14	229	199	8	163
15	229	199	8	163
16	160	139	6	114
17	92	80	3	65
18	92	80	3	65
19	51	45	2	37
20	29	25	1	20
21	17	15	1	12
22	6	5	0	4
23	6	5	0	4
24	6	5	0	4



Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	1069	3	408	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	1037	3	396	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	1015	3	388	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	951	3	363	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
5	3	845	3	322	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
6	3	834	3	318	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
7	3	823	3	314	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
8	3	748	3	286	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
9	3	738	3	282	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
10	3	727	3	277	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
11	3	630	3	241	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
12	3	588	3	224	No	Yes	Yes	Yes	No	No	No	Yes	No	No
13	3	577	3	220	No	Yes	Yes	Yes	No	No	No	Yes	No	No
14	3	428	3	163	No	No	Yes	Yes	No	No	No	No	No	No
15	3	428	3	163	No	No	Yes	Yes	No	No	No	No	No	No
16	3	299	3	114	No	No	No	No	No	No	No	No	No	No
17	3	172	3	65	No	No	No	No	No	No	No	No	No	No
18	3	172	3	65	No	No	No	No	No	No	No	No	No	No
19	3	96	3	37	No	No	No	No	No	No	No	No	No	No
20	3	54	3	20	No	No	No	No	No	No	No	No	No	No
21	3	32	3	12	No	No	No	No	No	No	No	No	No	No
22	3	11	3	4	No	No	No	No	No	No	No	No	No	No
23	3	11	3	4	No	No	No	No	No	No	No	No	No	No
24	3	11	3	4	No	No	No	No	No	No	No	No	No	No
Hours Met					11	13	15	15	4	10	11	13	7	3

Warrant 3 Condition A

Orientation	S	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	50.7	550.1
Number of Lanes on Minor Street Approach	1	3
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:17	62:20
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	21	408
High Minor Volume Condition Met	No	Yes
Total Entering Volume on All Approaches During Same Hour	1498	1498
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	Yes	