



Public Works Traffic Analysis Comments

Date: 8-14-2024

Subject: Hyatt House – Trip Generation

Permit: PLAN-2312-0066

Date Submitted: 8-12-2024

6th Review

Results of the Review:

Traffic Approval Recommended

Doral Public Works Department has completed its review of the Trip Generation Letter prepared by TrafTech Engineering, Inc. for the proposed 126-room hotel (Hyatt House) located on the south side of NW 19th St and NW 102nd Ave in Doral, Florida. At this time, the applicant is proposing 126-room hotel (LUC 310). The existing land use is vacant. The Public Works Department recommends approval. Advisory comments below are necessary during site plan review process and implementation of the project:

- Please note that if there is any change in the approved Land Use during building permit application, a traffic analysis/trip generation comparison may be required for review.
- Approval is subject to review from City of Doral Public Works Department - Plans Review.
- Compliance with the applicable sections of the City's Land Development Code Chapter 77.
- Implementation of the proposed project dealing with roadway construction work, installation of signage, pavement markings and other needed items shall conform to all applicable requirements, standards and regulations of the latest version of the Manual on Uniform Traffic Control Devices (MUTCD), City of Doral, Miami-Dade County Department of Transportation and Public Works, and Miami-Dade Fire Rescue Department.

Date: Tuesday, August 6, 2024
Subject: DR 2024003541
Applicant Name: Hyatt House

PROJECT DESCRIPTION

The proposed development consists of a 126-room hotel (Hyatt House). The project site is currently vacant. Access to the site is provided via one existing right-turn in/right-turn out driveway off of NW 19th Street. The Hyatt Hotel will share the driveway with an existing hotel (Residence Inn) located immediately west of the Hyatt Hotel site. The project is anticipated to be built and occupied in the year 2026.

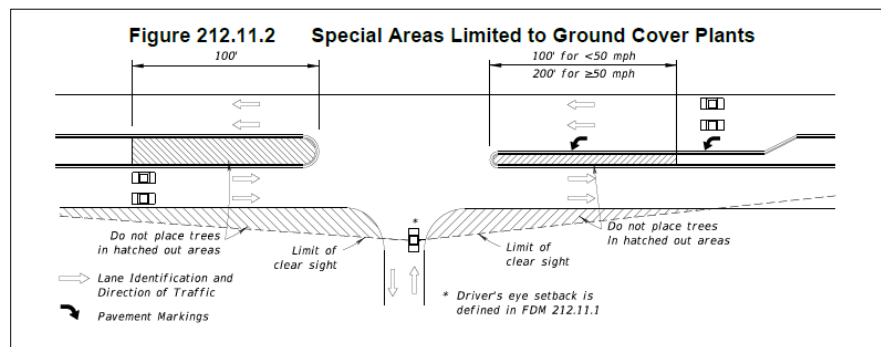
PROJECT LOCATION

The proposed development will be located on the southwest corner of the intersection of NW 19th Street and NW 102nd Avenue in the City of Doral.

COMMENTS/RECOMMENDATION

Miami-Dade County Department of Transportation and Public Works (DTPW) Traffic Engineering Division has reviewed the subject application and has no objections to this application, subject to the following condition:

1. According to the latest FDOT FDM manual Section 212.11.6, trees may not be placed within the hatched-out areas of the sight triangles, as illustrated in the figure below.



If you have any questions concerning the comments, or wish to discuss this matter further, please contact Leanne Garcia Fernandez at (305) 439-6491.



Hyatt House

Southwest Corner – NW 102nd Avenue & NW 19th
Street
Doral, Florida

prepared for:

Baywood Hotels

traffic study

TRAFTECH
ENGINEERING, INC.

Revised July 2024

July 10, 2024

Mr. Larry Rojas
Senior Director of Development
Baywood Hotels
3785 NW 82nd Avenue, Suite #204
Miami, Florida 33166

**Re: Hyatt House - Doral, Florida
Traffic Engineering Study Level One**

Dear Larry:

Traf Tech Engineering, Inc. is pleased to provide you with the results of the traffic evaluation in connection with a proposed 126-room hotel (Hyatt House) development planned to be located on the south side of NW 19th Street just west of NW 102nd Avenue in the City of Doral, Miami-Dade County, Florida. Figure 1 shows the location of the project site and the surrounding street system.

Project Description and Access

The project site is currently vacant (the site does not require to plat). The following land use and intensity is proposed for the site:

- Hotel: 126 rooms

Access to the site is provided via one existing right-turn in/right-turn out driveway off of NW 19th Street. The Hyatt Hotel will share the driveway with an existing hotel (Residence Inn) located immediately west of the Hyatt Hotel site. A copy of the site plan is contained in Attachment A. The drop-off area shown on the site plan is for UBER, LYFT or for the temporary drop-off/pick up of passengers (not for valet purposes). For purposes of this traffic evaluation, the project is anticipated to be built and occupied in the year 2026. The following tasks were undertaken as part of this evaluation:

- o Documented the existing lane geometry of the study area. A total of five intersections including the project driveway were evaluated as part of this evaluation. Figure 2 depicts the existing lane geometry of the study intersections.

- Collected intersection turning movement counts during the critical peak periods (7:00 AM to 9:00 AM) and (4:00 PM to 6:00 PM) at the following locations:
 - NW 107th Avenue & NW 19th Street (signalized)
 - NW 19th Street & Full median opening (stop controlled)
 - NW 19th Street & project driveway (stop controlled)
 - NW 19th Street & NW 102nd Avenue (stop controlled)
 - NW 97th Avenue & NW 17th Street (signalized)

The above traffic counts were recorded on Wednesday, January 24, 2024. The traffic counts were adjusted by utilizing a peak season factor of 1.04 based on FDOT's peak season adjustment factors. Figure 3 shows the results of the AM and PM peak hour traffic counts. These traffic counts are included in Attachment B.

- Obtained the signal timing plan from Miami-Dade County Traffic Engineering Division. Attachment B contains the signal timing plan for the signalized intersection located within the study area.
- Determined the trip generation of the proposed land use intensity using the trip generation equations/rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition). Tables 1 documents the trip generation associated with the proposed hotel.

TABLE 1 Trip Generation Summary Hyatt House								
Land Use	Size	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total Trips	Inbound	Outbound	Total Trips	Inbound	Outbound
Hotel (LUC 310)	126 rooms	942	56	31	25	65	33	32
Net External Trips		942	56	31	25	65	33	32

Source: ITE Trip Generation Manual (11th Edition)

ITE Land Use Code 310 - Hotel

Daily Trips: $T = 10.84 (X) - 423.51$, X = number of rooms
 AM Peak: $T = 0.50 (X) - 7.45$ (56% inbound and 44% outbound), X = number of rooms
 PM Peak: $T = 0.74 (X) - 27.89$ (51% inbound and 49% outbound), X = number of rooms

ITE Land Use Code 822 - Retail (<40k)

Daily Trips: $T = 54.45 (X)$, X = 1,000 sf
 AM Peak: $T = 2.36 (X)$ (60% inbound and 40% outbound), X = 1,000 sf
 PM Peak: $T = 6.59 (X)$ (50% inbound and 50% outbound), X = 1,000 sf

- As indicated in Table 1, the 126-room hotel development is projected to generate approximately 942 daily trips, approximately 56 AM peak hour

trips (31 inbound and 25 outbound) and approximately 65 trips during the typical afternoon peak hour (33 inbound and 32 outbound).

- o The project's peak-hour trips documented in Table 2 were distributed and assigned to the study area based on Miami-Dade County's Cardinal Distribution information for the study area. Table 2 summarizes the County's cardinal distribution data for Traffic Analysis Zone 828, which is applicable to the project site from the latest SERPM data published by Miami-Dade County.

TABLE 2 Project Trip Distribution TAZ # 828 Hyatt Place								
Year	Movement							
	NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW
2015	14.3%	16.4%	14.7%	13.0%	18.3%	9.4%	5.1%	9.0%
2045	14.9%	18.3%	14.2%	12.2%	17.3%	8.2%	6.7%	8.2%
2026*	14.5%	17.1%	14.5%	12.7%	17.9%	9.0%	5.7%	8.7%

Note: * Interpolated Values

Source: Miami-Dade County (2015 & 2045 SERPM)

Project traffic was distributed as follows:

- 15% from the north via NW 107th Avenue
- 27% to the south via NW 107th Avenue
- 14% to the north via NW 102nd Avenue
- 17% to the north via NW 97th Avenue
- 27% to the south via NW 97th Avenue

Figure 4 documents the project traffic assignment based on the above traffic percentages.

- o Figures 5 and 6 present the future traffic volumes for the study area. Figure 5 includes background traffic only (without the proposed project) and Figure 6 includes the additional traffic anticipated to be generated by the proposed development.

- o The background traffic includes peak season adjustment factor, traffic growth based on historical traffic data (from 2013 to 2022) within the study area. The future traffic projections for the study intersections are presented in tabular format in Attachment D.
- o In order to determine the impacts created by the proposed hotel to the study intersections and project driveway, capacity/level of service analyses were undertaken using the SYNCHRO software. The results of the capacity/level of service analyses are presented in Table 3. The SYNCHRO outputs are contained in Attachment E.

TABLE 3 Level of Service Analyses Hyatt House											
Intersection	Time Period	EASTBOUND		WESTBOUND		NORTHBOUND		SOUTHBOUND		Intersection LOS	Intersection Delay (sec)
		Approach		Approach		Approach		Approach			
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay		
101: NW 107th Avenue & NW 19th Street	AM			F/F/F (E)	188.8/210.1/222.3 (75.7)	B/B/B (C)	17.5/18.6/18.7 (31.4)	C/D/D (C)	32.8/42.0/45.2 (24.7)	D/D/D (C)	40.0/45.6/48.4 (34.2)
	PM			F/F/F (F)	354.7/388.2/405.7 (148.5)	A/A/A (B)	8.5/8.8/8.8 (13.7)	A/A/A (A)	4.4/4.7/4.8 (8.1)	E/E/E (C)	61.8/67.4/71.3 (32.9)
102: Full Median Opening & NW 19th Street	AM			WBL	A/9.4- A/9.5- A/9.7	B/B/B	11.0/11.2/11.4	B/B/B	11.8/12.1/12.5		
	PM				A/9.0- A/9.2- A/9.4	B/B/B	10.3/10.5/10.7	B/B/B	10.9/11.1/11.4		
103: Driveway & NW 19th Street	AM					A/A/A	9.1/9.3/9.4				
	PM					A/A/A	8.9/8.9/9.2				
104: NW 102nd Avenue & NW 19th Street/NW 17th Street	AM	D/E/E	31.9/36.3/41.6	F/F/F	53.6/69.0/76.5	B/B/B	14.3/14.8/15.0	C/D/D	23.7/26.2/27.3	E/E/F	37.5/45.3/50.4
	PM	C/D/D	22.4/25.7/28.2	C/C/D	20.5/23.0/25.2	B/C/C	14.4/15.1/15.5	C/C/C	20.1/22.4/23.8	C/C/D	20.6/23.2/25.3
105: NW 97th Avenue & NW 17th Street	AM	D/D/D	50.3/52.7/53.9			A/A/A	7.7/8.8/9.3	B/B/B	13.9/14.6/14.8	B/B/B	16.8/18.1/18.7
	PM	F/F/F (F)	319.2/341.3/345.0 (258.0)			A/A/A (A)	4.2/5.9/6.9 (9.2)	A/B/B (B)	9.1/10.3/10.6 (14.4)	E/E/F (E)	72.6/78.4/80.6 (64.6)

SOURCE: SYNCHRO. LEGEND: 2024 Existing /2026 Background/2026 Future Total (2026 Future with imp)

In summary, and as presented in Table 3, in the year 2026 with the proposed project in place, all the study intersections are expected to operate at acceptable levels of services, except for three intersections.

NW 107th Avenue & NW 19th Street is expected to fail during the PM peak hours, NW 102nd Avenue & NW 19th Street is expected to fail during the AM peak hour, and NW 97th Avenue & NW 17th Street is expected to fail during the PM peak hour. These three intersections are expected to operate deficiently without the project in place (i.e., background failures). Furthermore, the increase in delay due to the project trips is than five seconds.

However, the implementation of a westbound right-turn overlap and signal optimization is recommended for the intersection of NW 107th Avenue & NW 19th Street to reduce the increase in delay due to the project trips. The optimized timings are contained in Attachment E.

Also, minor signal timing improvements are recommended for the intersection of NW 97th Avenue and NW 17th Street. Refer to Attachment E for details of the signal timing improvements.

The project driveway is expected to operate at acceptable levels of services as proposed.

Table 4 summarizes the 95th percentile vehicle queue at the turning bays affected by the proposed project trips.

TABLE 4 Hyatt House 95th Percentile Queues									
Intersection	Time Period	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
		L		L		L		L	
		Storage (ft)	95th percentile (ft)	Storage (ft)	95th percentile (ft)	Storage (ft)	95th percentile (ft)	Storage (ft)	95th percentile (ft)
101: NW 107th Avenue & NW 19th Street	AM			150	#531/#590/#606(425) *				
	PM				70/74/85 (131)				
102: Full Median Opening & NW 19th Street	AM							125	4/4/6
	PM								10/12/14
104: NW 102nd Avenue & NW 19th Street/NW 17th Street	AM					150	166/184/210 *		
	PM						14/16/22		
105: NW 97th Avenue & NW 17th Street	AM	100	#151/#196/#213 *						
	PM		#249/#268/#286 *						

*Queues extend beyond the storage bay
95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal

LEGEND: 2024 Existing /2026 Background/2026 Future Total (2026 Future with imp)

Turn Lane Evaluation

A turn lane analysis was performed following the guidelines included in the City of Doral Code of Ordinances, Chapter 77, Section 77-46 Turn Lane Analysis.

- **Left turn lanes:** A left turn lane with a minimum of this Land Development Code 150 feet of storage and 100 feet of transition shall be provided at each access point with an average daily trip end (volume) of 1,000 vehicles or more, and/or an average peak hour inbound left turn volume of 25 vehicles or more. Increased storage and transition lengths may be required by the city to provide for all deceleration outside the through lane.
- **Right turn deceleration lanes:** A right turn deceleration lane with a minimum of 150 feet of storage and 100 feet of transition shall be required at each access point when the speed limit equals or exceeds 35 miles per hour or if

the development will generate 100 or more right turn movements during the peak hour. Increased storage and transition lengths may be required by the city to provide for all deceleration outside the through lane.

Based on the anticipated peak hour trips for the driveway at build-out conditions (refer to Figure 6), a dedicated right-turn lane is not warranted at the shared access driveway since the maximum right-turning volume anticipated is 42 vehicles in a one-hour period. Additionally, even though the speed limit is 35 miles per hour, traffic volumes are low on NW 19th Street for a four-lane roadway.

Pedestrian Features and Transit Routes

In reviewing the immediate area within the subject hotel site, the following pedestrian features are found:

- Existing sidewalks along the north and south sides of NW 19th Street. However, there is a missing piece of sidewalk around the northeast corner of the Hyatt Hotel site. The missing sidewalk should be incorporated into the site plan.
- Pedestrian crosswalks to cross all legs are provided at the all-way stop control intersection of NW 19th Street and NW 102nd Avenue.
- Pedestrian crosswalks on the east leg with pedestrian ramps are provided at the signalized intersection of NW 107th Avenue and NW 19th Street.

Miami-Dade County Transit Route 36 travels north and south along NW 107th Avenue. The closest bus stop from the Hyatt Hotel is located approximately one-half mile from the project site (at the intersection of NW 107th Avenue and NW 19th Street. Figures 7a and 7b show the pedestrian features and nearby bus stops near the hotel site.

Summary of Proposed Improvements

Based on the results of this traffic evaluation the following improvements are recommended:

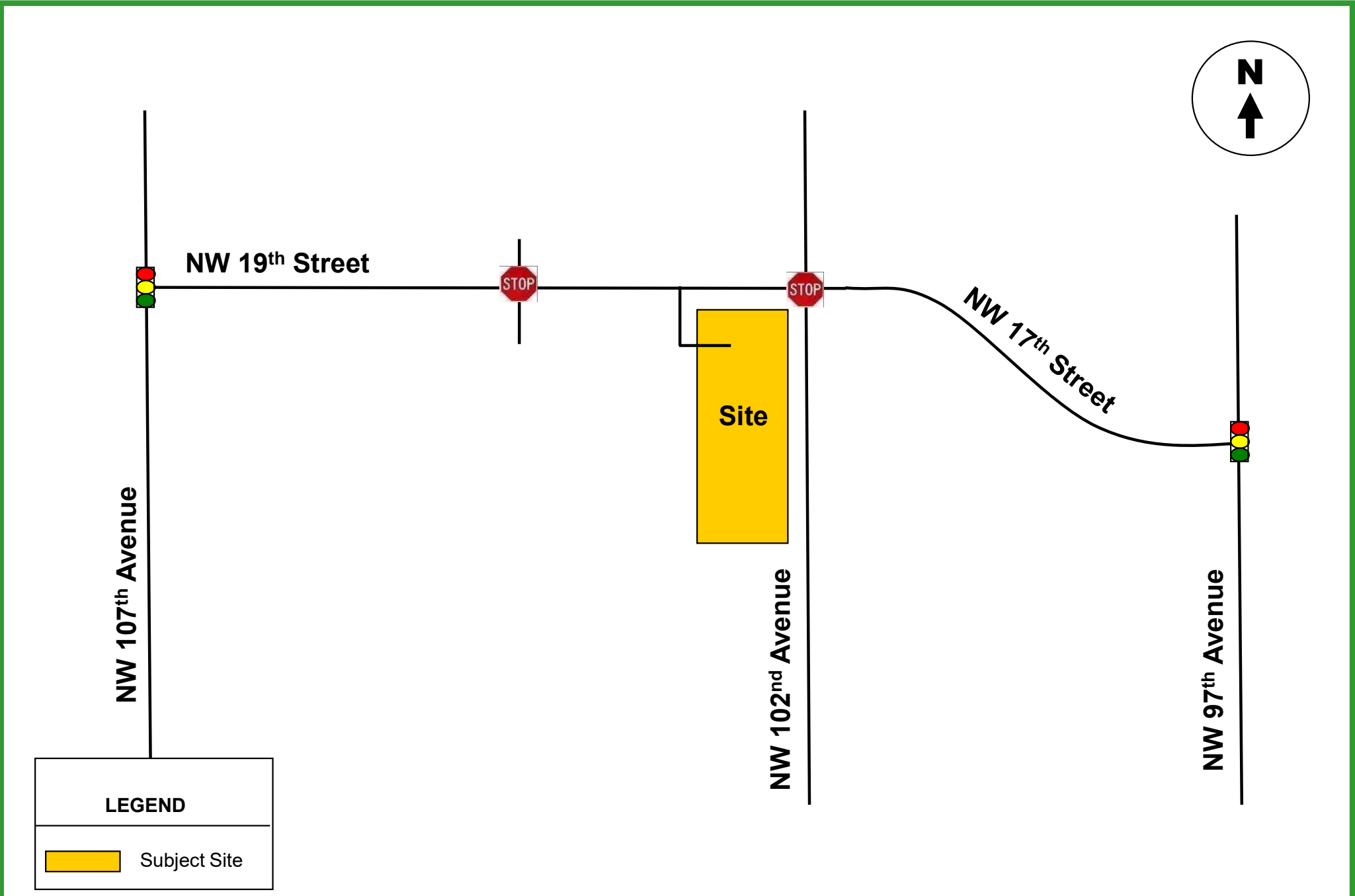
- Implementation of a westbound right-turn overlap is recommended for the intersection of NW 107th Avenue & NW 19th Street.
- Minor signal timing improvements are recommended for the intersection of NW 97th Avenue and NW 17th Street.

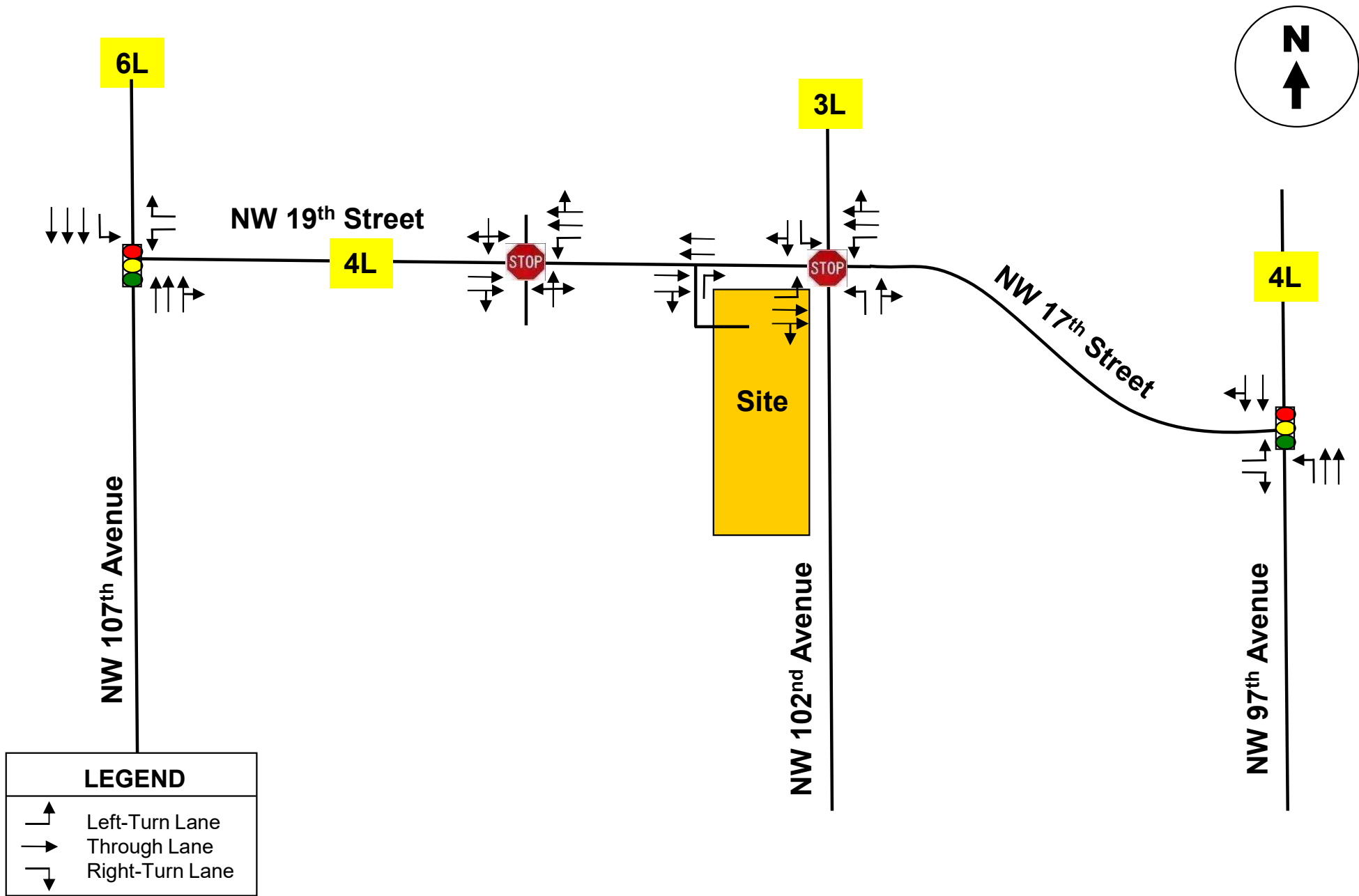
Please give me a call if you have any questions.

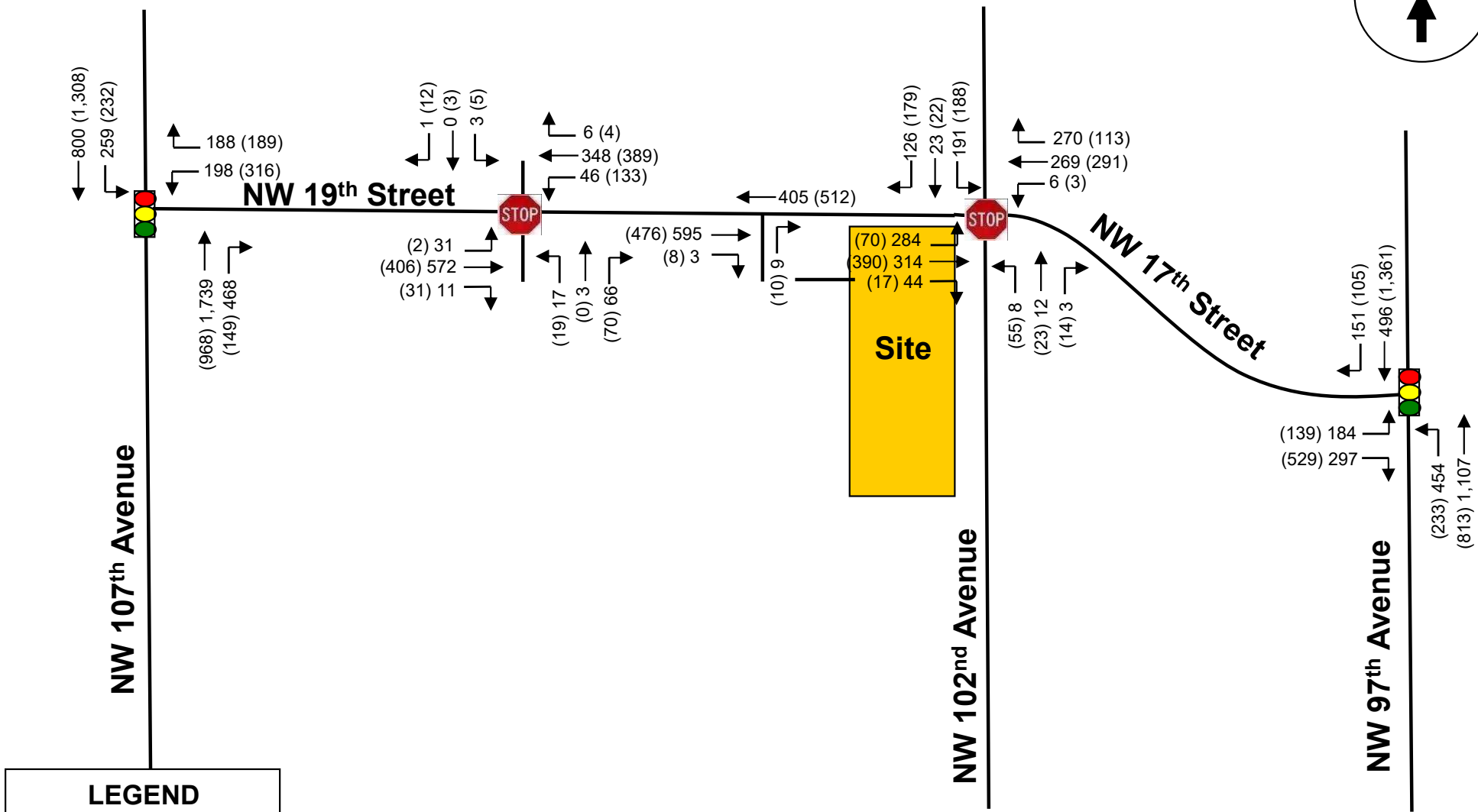
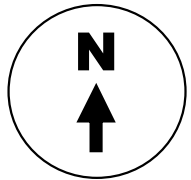
Sincerely,

TRAF TECH ENGINEERING, INC.

Joaquin E. Vargas, P.E.
Senior Transportation Engineer



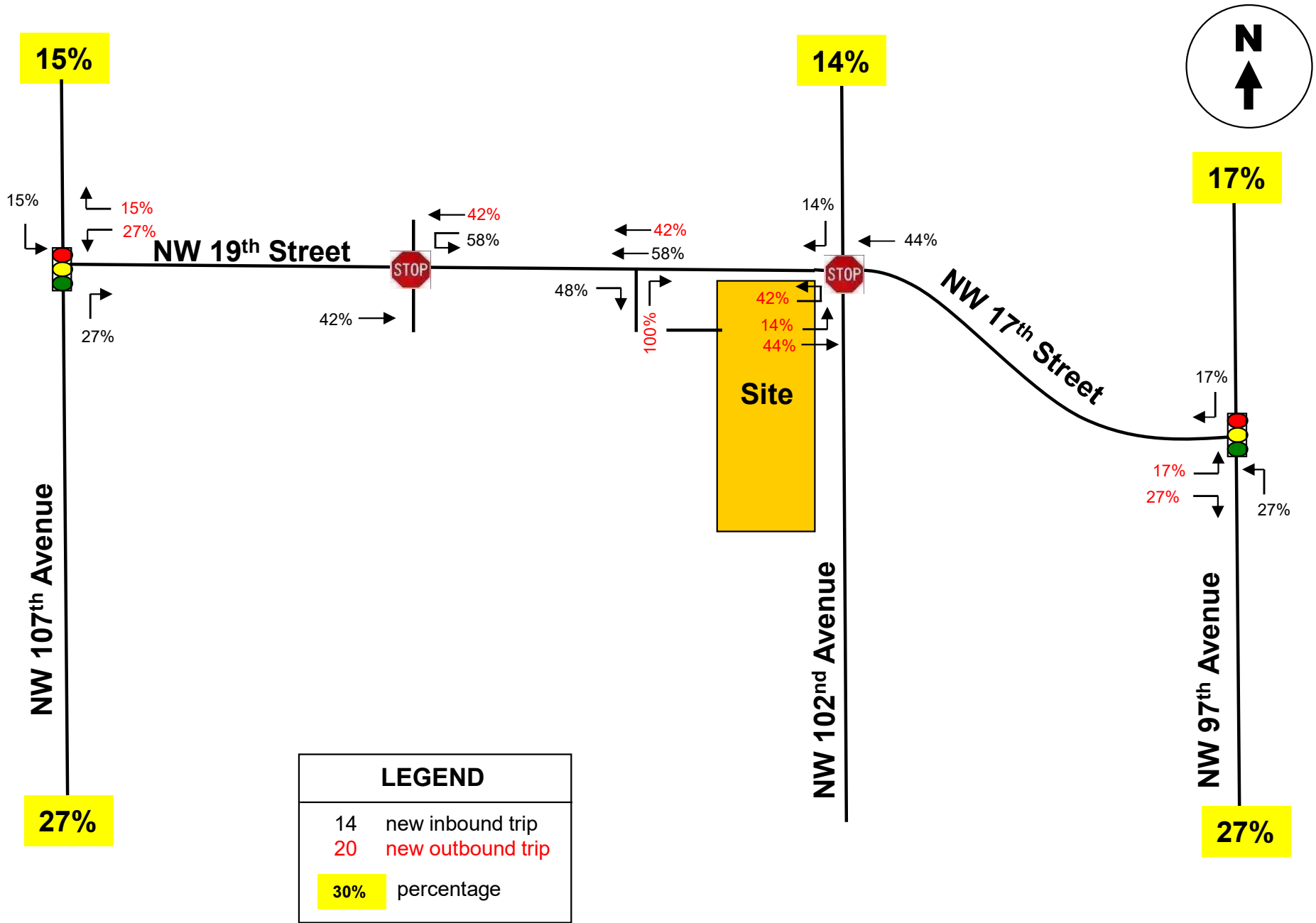




EXISTING TRAFFIC COUNTS – AM & (PM) Peak Hour

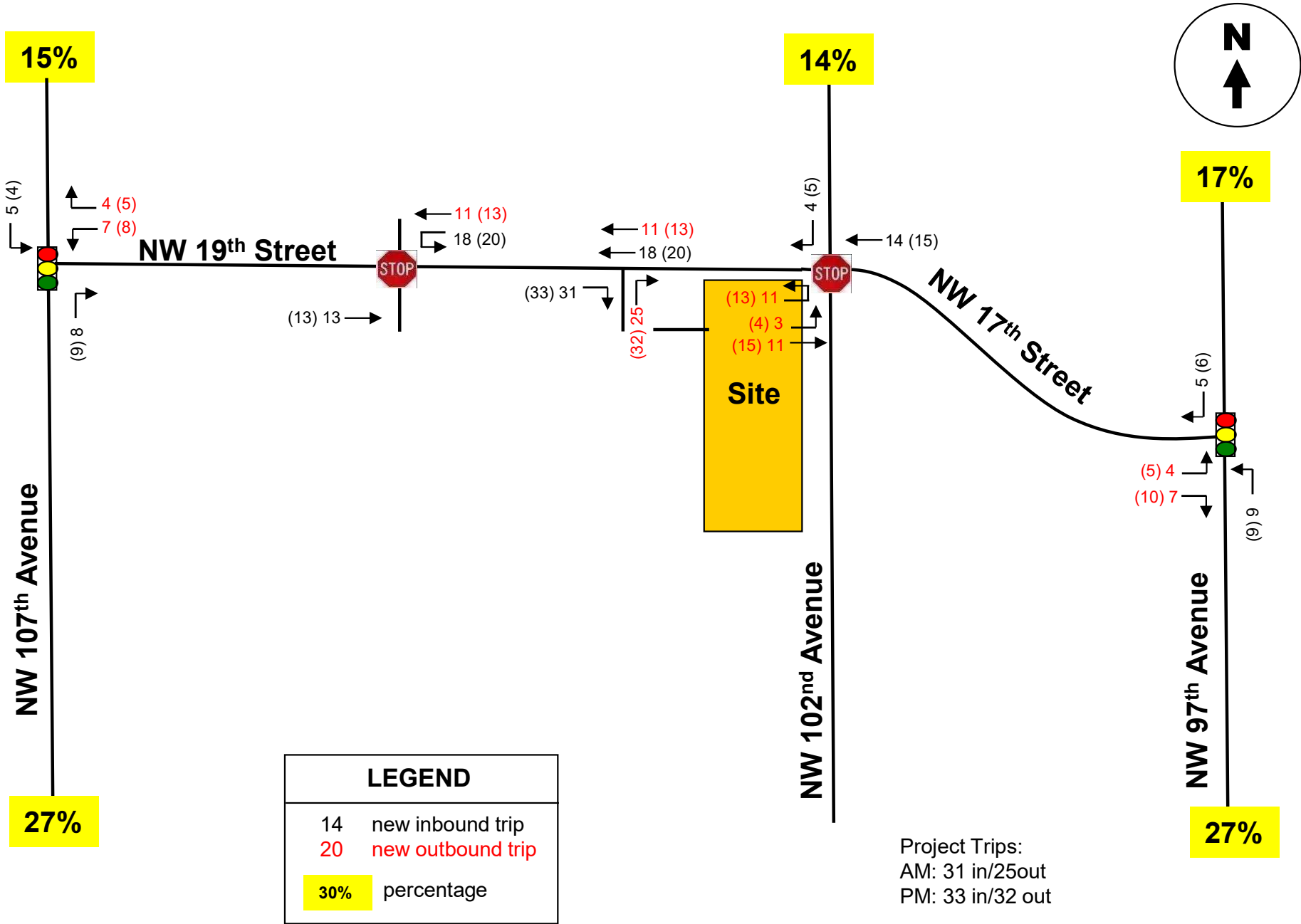
FIGURE 3
 Hyatt House
 Doral, Florida

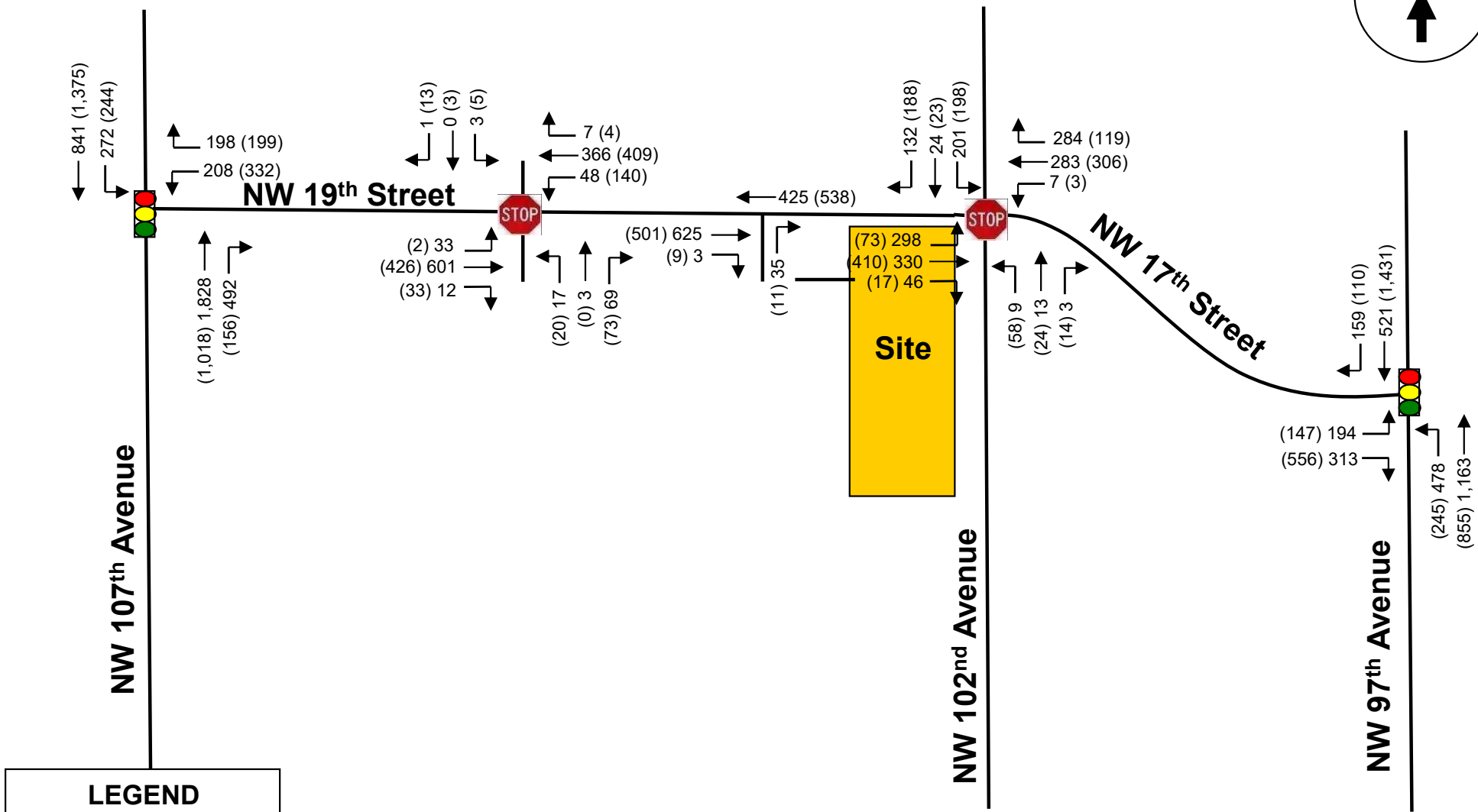
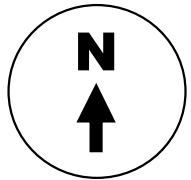




NEW PROJECT TRAFFIC DISTRIBUTION
Weekday New Peak Hour Trips AM & (PM)

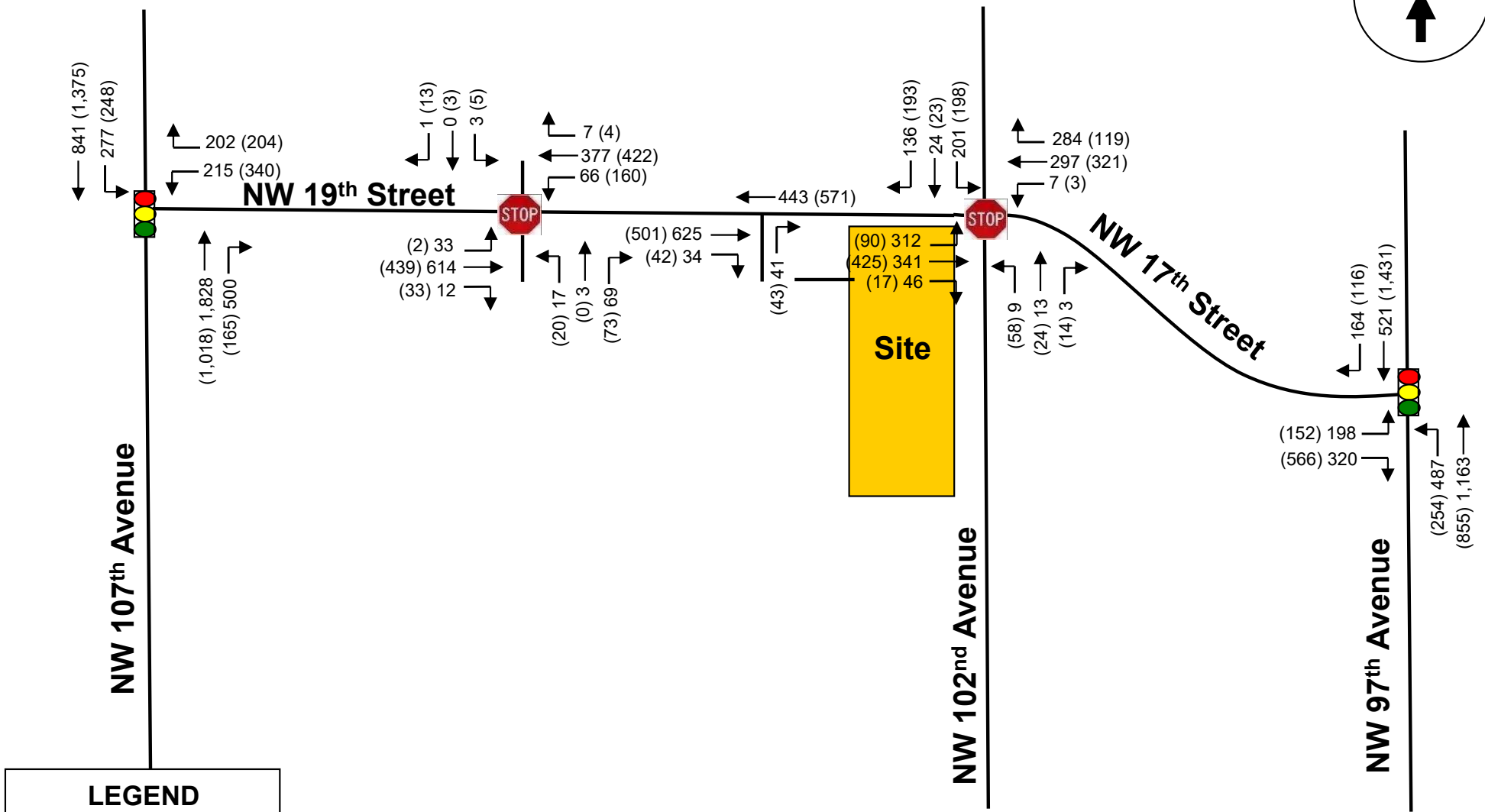
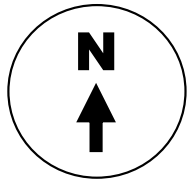
FIGURE 4A
 Hyatt House
 Doral, Florida

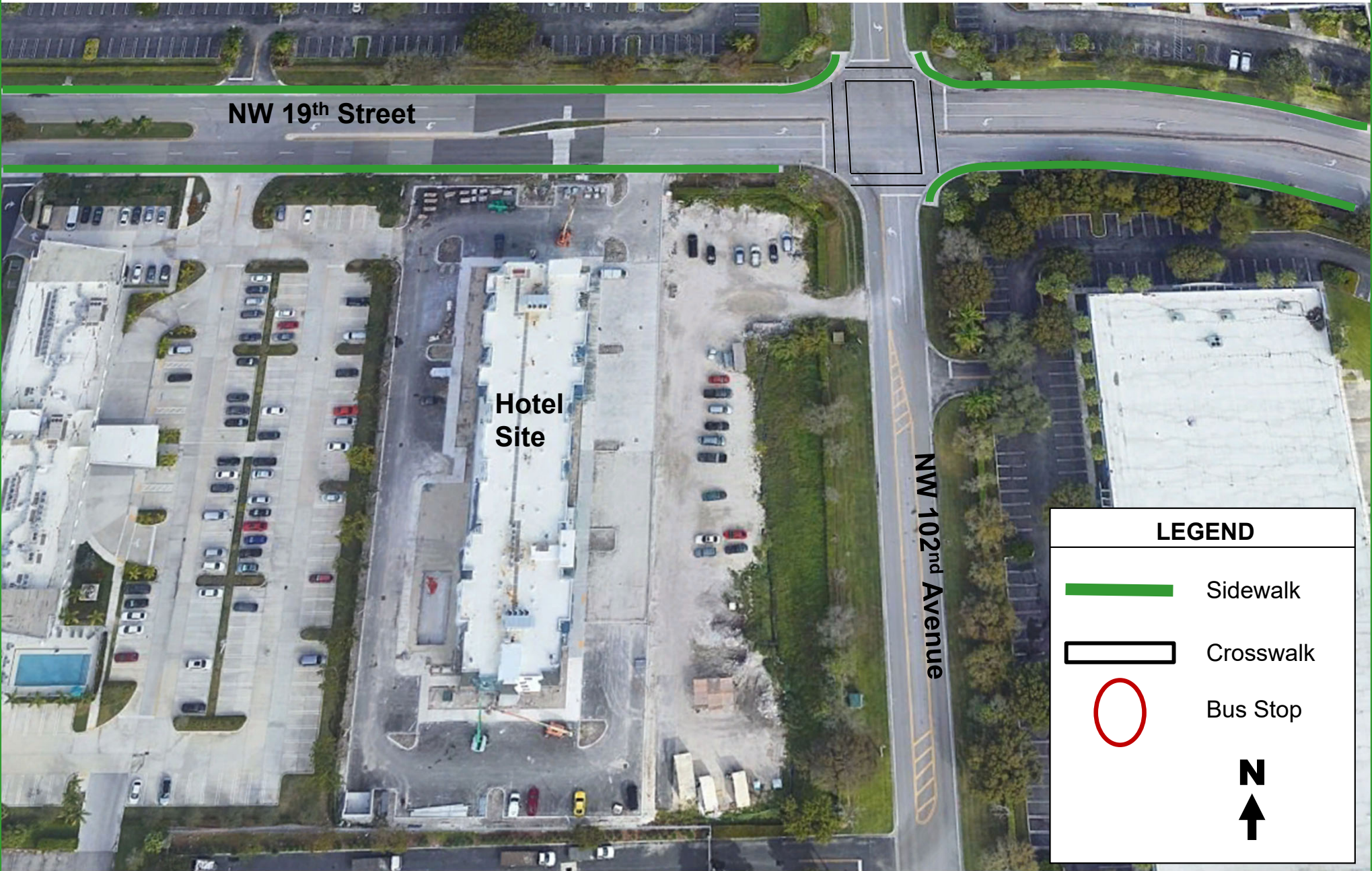


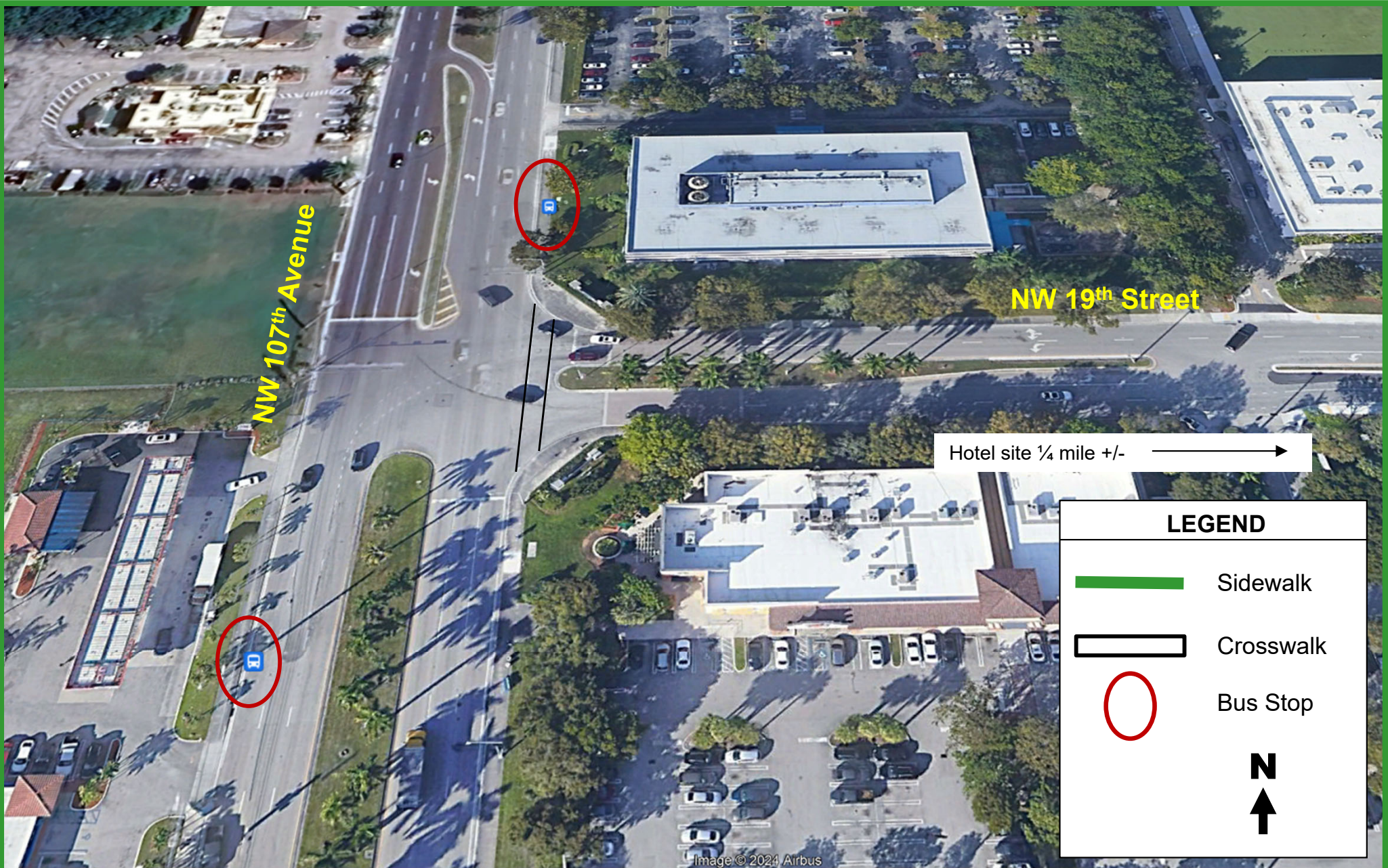


2026 BACKGROUND TRAFFIC – AM & (PM) Peak Hour

FIGURE 5
 Hyatt House
 Doral, Florida

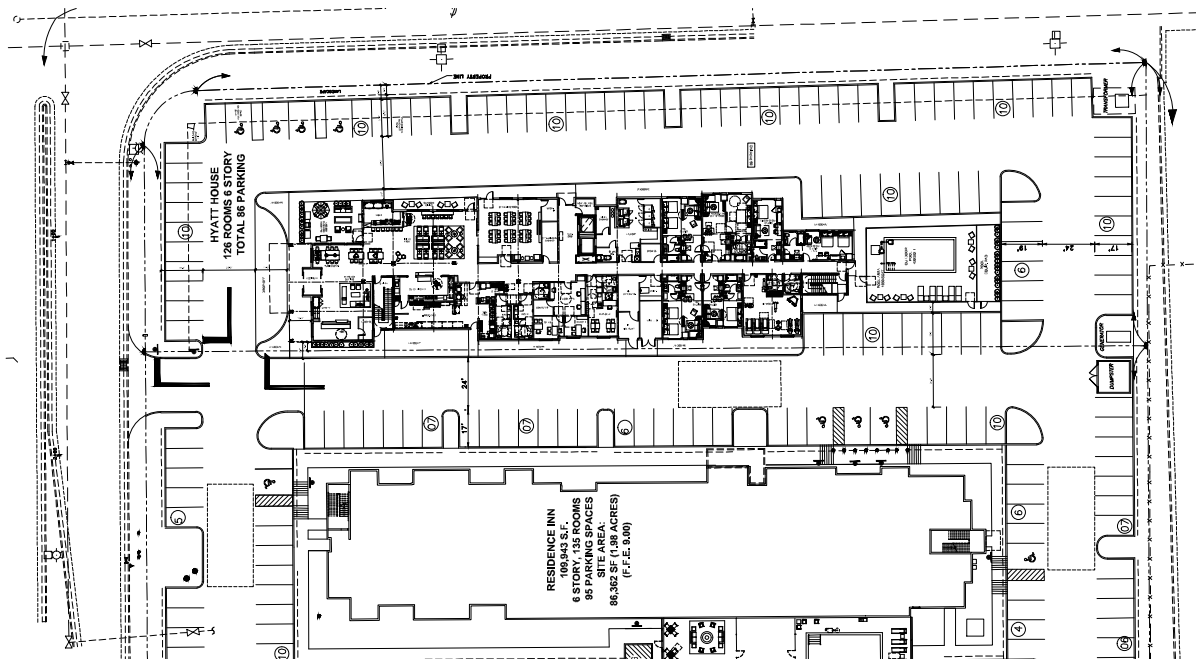






Attachement A

**Site Plan
Hyatt House**



Attachement B

Traffic Counts and Signal Timing

Traff Tech Engineering Inc.

File Name : 5- NW 97th Ave & NW 17th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 1

Groups Printed- Autos - Heavy Vehicles

Start Time	NW 97th Ave From North					NW 17th Street From East					NW 97th Ave From South					NW 17th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
07:00	22	88	0	0	110	0	0	0	0	0	0	291	91	0	382	37	0	24	0	61	553
07:15	28	107	0	0	135	0	0	0	0	0	0	244	75	0	319	51	0	37	0	88	542
07:30	32	93	0	0	125	0	0	0	0	0	0	310	89	0	399	56	0	40	1	97	621
07:45	35	95	0	0	130	0	0	0	0	0	0	256	127	1	384	69	0	33	0	102	616
Total	117	383	0	0	500	0	0	0	0	0	0	1101	382	1	1484	213	0	134	1	348	2332
08:00	40	123	0	0	163	0	0	0	0	0	1	243	136	0	380	79	0	55	0	134	677
08:15	38	166	0	0	204	0	0	0	0	0	0	255	84	0	339	82	0	48	0	130	673
08:30	42	119	0	0	161	0	0	0	0	0	0	241	72	0	313	71	0	37	0	108	582
08:45	29	124	0	0	153	0	0	0	0	0	1	212	76	0	289	44	0	28	0	72	514
Total	149	532	0	0	681	0	0	0	0	0	2	951	368	0	1321	276	0	168	0	444	2446
*** BREAK ***																					
16:00	29	266	0	0	295	0	0	0	0	0	0	175	42	1	218	109	0	51	0	160	673
16:15	32	249	0	0	281	0	0	0	0	0	0	163	46	0	209	98	0	44	2	144	634
16:30	30	303	0	0	333	0	0	0	0	0	0	211	56	1	268	110	0	38	1	149	750
16:45	21	286	0	0	307	0	0	0	0	0	0	177	43	0	220	109	0	39	1	149	676
Total	112	1104	0	0	1216	0	0	0	0	0	0	726	187	2	915	426	0	172	4	602	2733
17:00	24	343	0	0	367	0	0	0	0	0	0	206	60	0	266	150	0	42	2	194	827
17:15	22	324	0	0	346	0	0	0	0	0	0	206	60	0	266	129	0	30	1	160	772
17:30	25	341	0	0	366	0	0	0	0	0	0	191	50	0	241	137	0	34	0	171	778
17:45	30	301	0	0	331	0	0	0	0	0	0	179	54	0	233	93	0	25	0	118	682
Total	101	1309	0	0	1410	0	0	0	0	0	0	782	224	0	1006	509	0	131	3	643	3059
Grand Total	479	3328	0	0	3807	0	0	0	0	0	2	3560	1161	3	4726	1424	0	605	8	2037	10570
Apprch %	12.6	87.4	0	0		0	0	0	0	0	0	75.3	24.6	0.1		69.9	0	29.7	0.4		
Total %	4.5	31.5	0	0	36	0	0	0	0	0	0	33.7	11	0	44.7	13.5	0	5.7	0.1	19.3	
Autos	440	3284										3518	1142			1404					10349
% Autos	91.9	98.7	0	0	97.8	0	0	0	0	0	100	98.8	98.4	100	98.7	98.6	0	90.6	100	96.2	97.9
Heavy Vehicles																					
% Heavy Vehicles	8.1	1.3	0	0	2.2	0	0	0	0	0	0	1.2	1.6	0	1.3	1.4	0	9.4	0	3.8	2.1

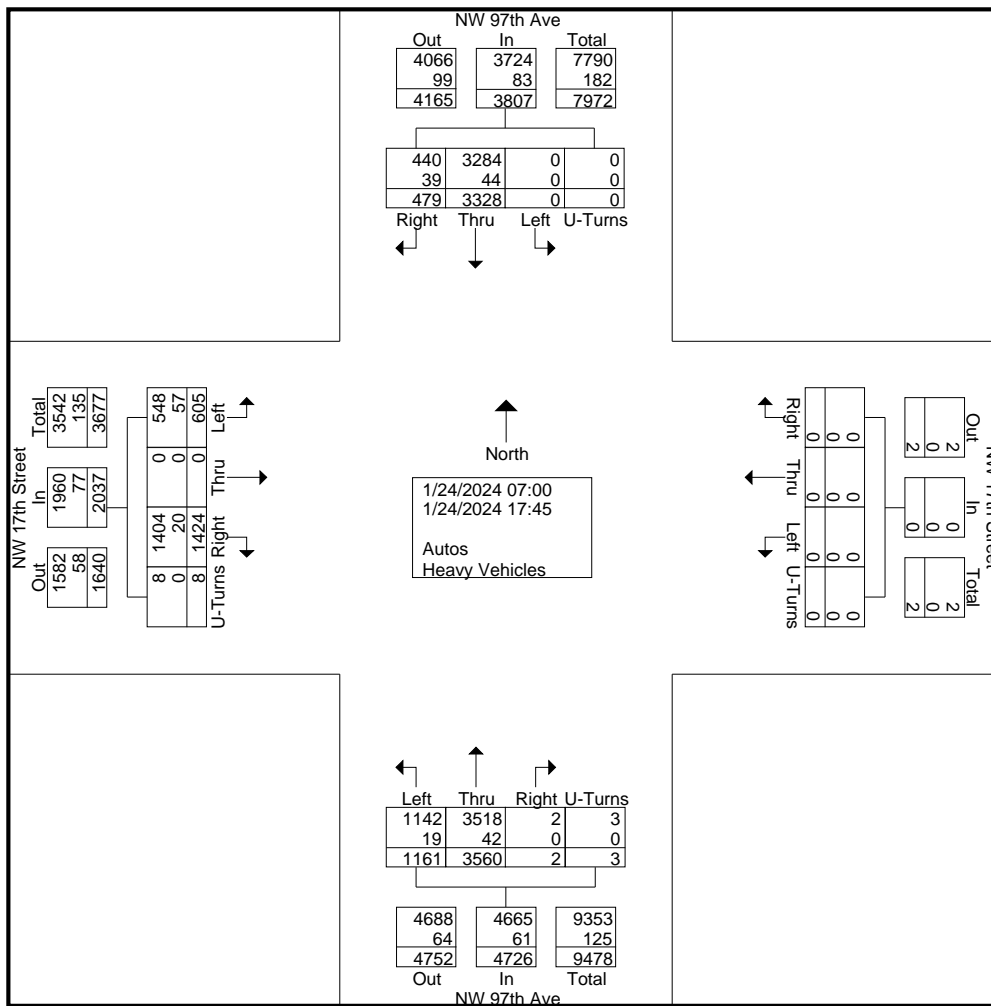
Traff Tech Engineering Inc.

File Name : 5- NW 97th Ave & NW 17th St

Site Code : 00000000

Start Date : 1/24/2024

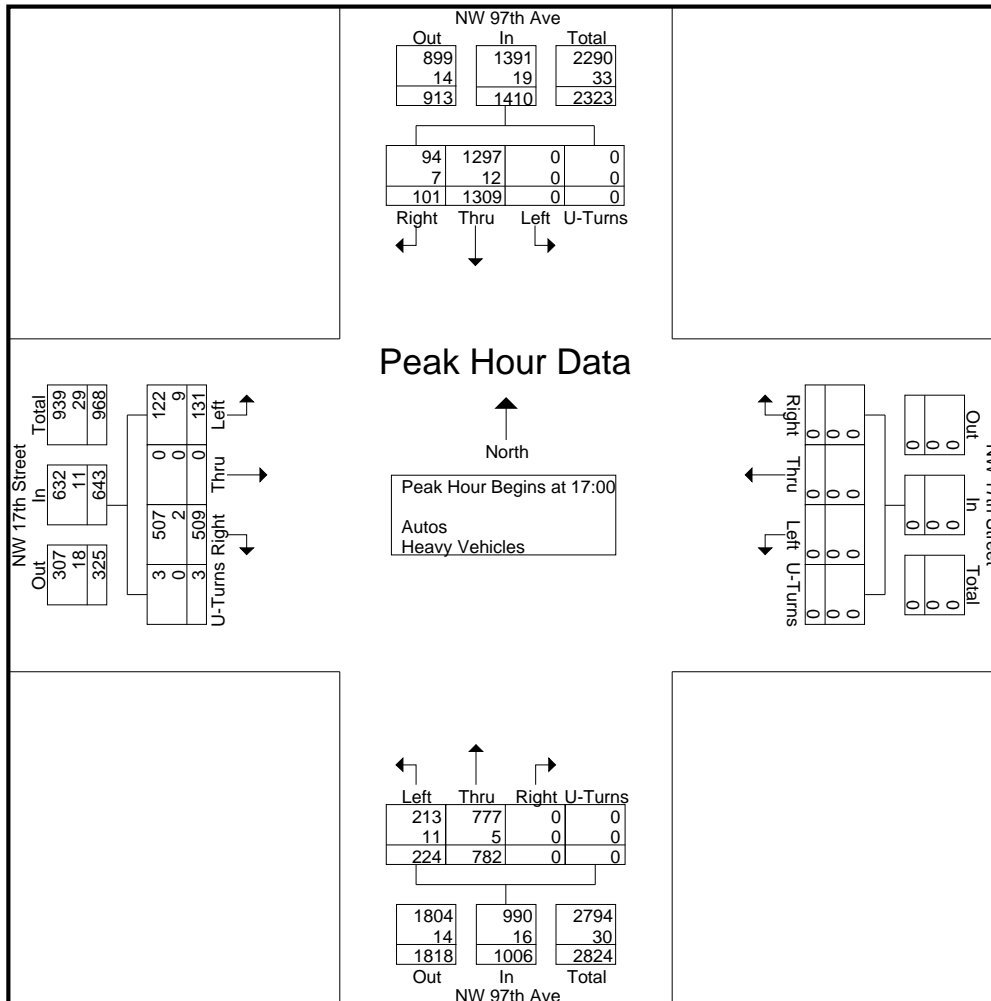
Page No : 2



Traff Tech Engineering Inc.

File Name : 5- NW 97th Ave & NW 17th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 3

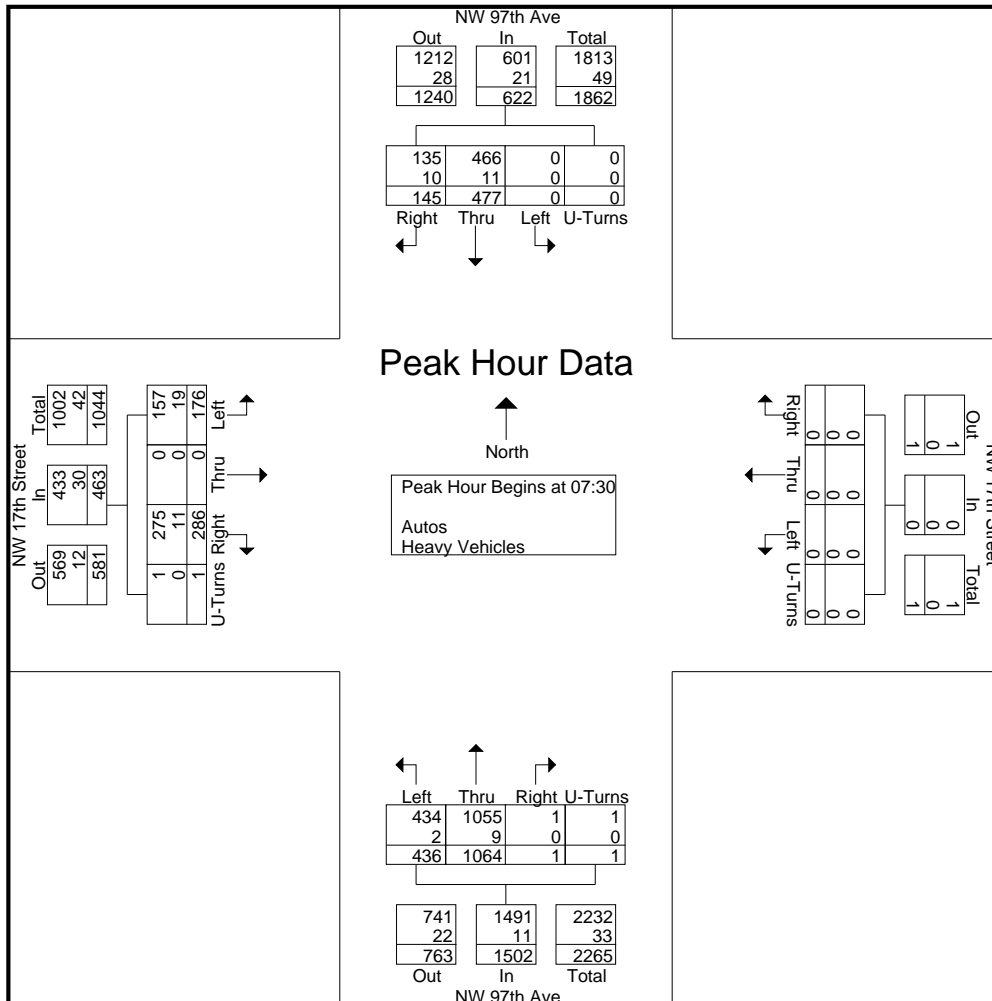
Start Time	NW 97th Ave From North					NW 17th Street From East					NW 97th Ave From South					NW 17th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 07:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	24	343	0	0	367	0	0	0	0	0	0	206	60	0	266	150	0	42	2	194	827
17:15	22	324	0	0	346	0	0	0	0	0	0	206	60	0	266	129	0	30	1	160	772
17:30	25	341	0	0	366	0	0	0	0	0	0	191	50	0	241	137	0	34	0	171	778
17:45	30	301	0	0	331	0	0	0	0	0	0	179	54	0	233	93	0	25	0	118	682
Total Volume	101	1309	0	0	1410	0	0	0	0	0	0	782	224	0	1006	509	0	131	3	643	3059
% App. Total	7.2	92.8	0	0		0	0	0	0	0	0	77.7	22.3	0		79.2	0	20.4	0.5		
PHF	.842	.954	.000	.000	.960	.000	.000	.000	.000	.000	.000	.949	.933	.000	.945	.848	.000	.780	.375	.829	.925
Autos	94	1297																			
% Autos	93.1	99.1	0	0	98.7	0	0	0	0	0	0	99.4	95.1	0	98.4	99.6	0	93.1	100	98.3	98.5
Heavy Vehicles																					
% Heavy Vehicles	6.9	0.9	0	0	1.3	0	0	0	0	0	0	0.6	4.9	0	1.6	0.4	0	6.9	0	1.7	1.5



Traff Tech Engineering Inc.

File Name : 5- NW 97th Ave & NW 17th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 4

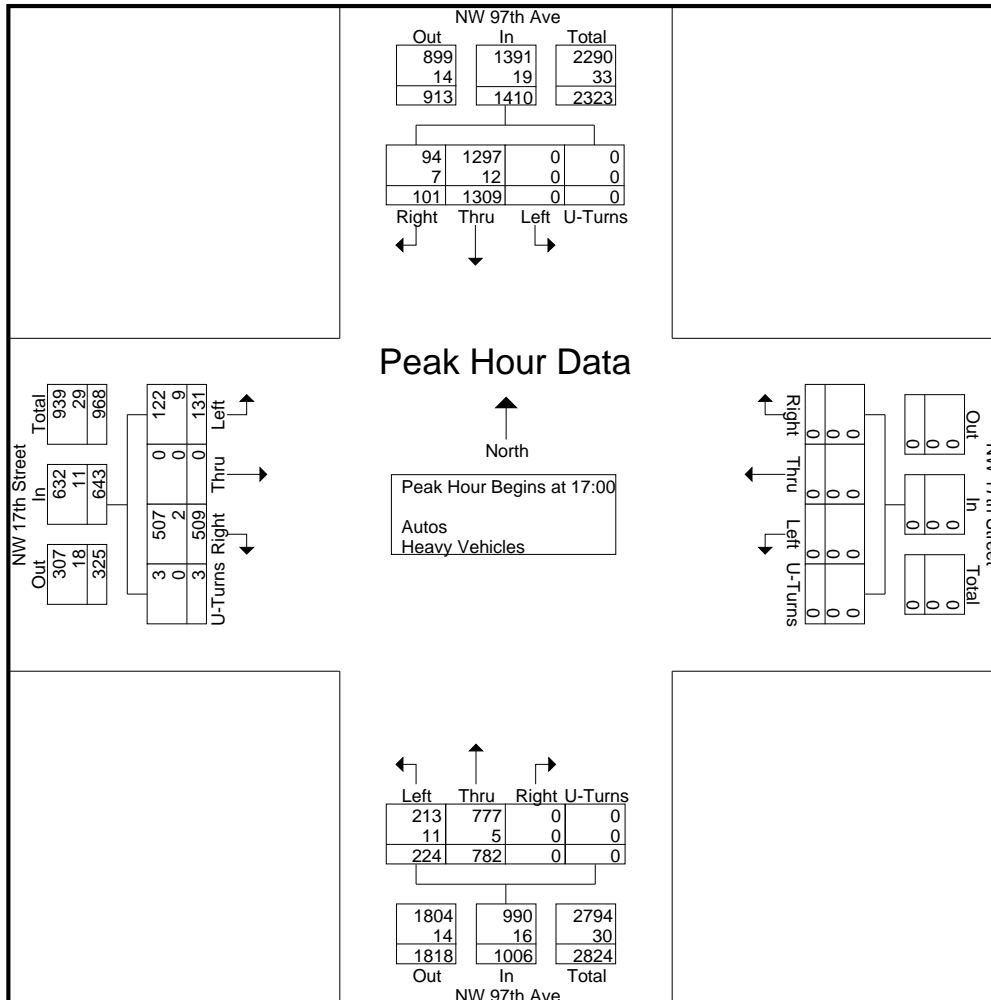
Start Time	NW 97th Ave From North					NW 17th Street From East					NW 97th Ave From South					NW 17th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	32	93	0	0	125	0	0	0	0	0	0	310	89	0	399	56	0	40	1	97	621
07:45	35	95	0	0	130	0	0	0	0	0	0	256	127	1	384	69	0	33	0	102	616
08:00	40	123	0	0	163	0	0	0	0	0	1	243	136	0	380	79	0	55	0	134	677
08:15	38	166	0	0	204	0	0	0	0	0	0	255	84	0	339	82	0	48	0	130	673
Total Volume	145	477	0	0	622	0	0	0	0	0	1	1064	436	1	1502	286	0	176	1	463	2587
% App. Total	23.3	76.7	0	0		0	0	0	0	0	0.1	70.8	29	0.1		61.8	0	38	0.2		
PHF	.906	.718	.000	.000	.762	.000	.000	.000	.000	.000	.250	.858	.801	.250	.941	.872	.000	.800	.250	.864	.955
Autos	135	466	0	0	601	0	0	0	0	0	1	1055									
% Autos	93.1	97.7	0	0	96.6	0	0	0	0	0	100	99.2	99.5	100	99.3	96.2	0	89.2	100	93.5	97.6
Heavy Vehicles																					
% Heavy Vehicles	6.9	2.3	0	0	3.4	0	0	0	0	0	0	0.8	0.5	0	0.7	3.8	0	10.8	0	6.5	2.4



Traff Tech Engineering Inc.

File Name : 5- NW 97th Ave & NW 17th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 5

Start Time	NW 97th Ave From North					NW 17th Street From East					NW 97th Ave From South					NW 17th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	24	343	0	0	367	0	0	0	0	0	0	206	60	0	266	150	0	42	2	194	827
17:15	22	324	0	0	346	0	0	0	0	0	0	206	60	0	266	129	0	30	1	160	772
17:30	25	341	0	0	366	0	0	0	0	0	0	191	50	0	241	137	0	34	0	171	778
17:45	30	301	0	0	331	0	0	0	0	0	0	179	54	0	233	93	0	25	0	118	682
Total Volume	101	1309	0	0	1410	0	0	0	0	0	0	782	224	0	1006	509	0	131	3	643	3059
% App. Total	7.2	92.8	0	0		0	0	0	0	0	0	77.7	22.3	0		79.2	0	20.4	0.5		
PHF	.842	.954	.000	.000	.960	.000	.000	.000	.000	.000	.000	.949	.933	.000	.945	.848	.000	.780	.375	.829	.925
Autos	94	1297																			
% Autos	93.1	99.1	0	0	98.7	0	0	0	0	0	0	99.4	95.1	0	98.4	99.6	0	93.1	100	98.3	98.5
Heavy Vehicles																					
% Heavy Vehicles	6.9	0.9	0	0	1.3	0	0	0	0	0	0	0.6	4.9	0	1.6	0.4	0	6.9	0	1.7	1.5



Traff Tech Engineering Inc.

File Name : 4- NW 102nd Ave & NW 19th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 1

Groups Printed- Peds & Bikes

Start Time	NW 102nd Ave From North				NW 19th Street From East				NW 102nd Ave From South				NW 19th Street From West				Int. Total
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds	
07:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
07:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
07:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	1	5
*** BREAK ***																	
08:45	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
Total	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
*** BREAK ***																	
16:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
*** BREAK ***																	
16:45	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
Total	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3
17:00	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	4
17:15	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	1	4
*** BREAK ***																	
Total	1	0	0	1	0	0	0	0	2	0	0	1	1	0	0	2	8
Grand Total	1	0	0	3	1	0	0	1	5	0	0	2	2	0	0	3	18
Apprch %	25	0	0	75	50	0	0	50	71.4	0	0	28.6	40	0	0	60	
Total %	5.6	0	0	16.7	5.6	0	0	5.6	27.8	0	0	11.1	11.1	0	0	16.7	

Traff Tech Engineering Inc.

File Name : 4- NW 102nd Ave & NW 19th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 1

Groups Printed- Autos - Heavy Vehicles

Start Time	NW 102nd Ave From North					NW 19th Street From East					NW 102nd Ave From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
07:00	5	1	7	0	13	27	60	2	0	89	1	1	1	0	3	4	48	20	0	72	177
07:15	6	1	6	0	13	32	48	1	0	81	1	5	3	0	9	2	73	39	1	115	218
07:30	17	3	30	0	50	55	59	0	0	114	1	2	1	0	4	1	64	41	0	106	274
07:45	23	3	35	0	61	67	58	1	0	126	3	2	1	0	6	6	58	53	0	117	310
Total	51	8	78	0	137	181	225	4	0	410	6	10	6	0	22	13	243	153	1	410	979
08:00	34	5	58	0	97	84	72	4	0	160	0	4	2	0	6	9	88	87	0	184	447
08:15	43	11	55	0	109	63	69	0	0	132	0	2	3	0	5	9	90	78	0	177	423
08:30	21	3	36	0	60	46	60	1	0	107	0	4	2	0	6	18	66	55	0	139	312
08:45	15	5	15	0	35	34	60	3	0	97	3	2	2	0	7	17	48	32	0	97	236
Total	113	24	164	0	301	227	261	8	0	496	3	12	9	0	24	53	292	252	0	597	1418
*** BREAK ***																					
16:00	35	3	46	0	84	28	66	1	0	95	2	1	5	0	8	5	68	19	0	92	279
16:15	29	1	26	0	56	25	63	1	0	89	1	2	9	0	12	2	62	13	0	77	234
16:30	39	8	41	0	88	29	85	1	1	116	1	5	10	0	16	2	71	18	0	91	311
16:45	36	5	33	0	74	19	65	0	1	85	3	6	7	0	16	3	83	19	0	105	280
Total	139	17	146	0	302	101	279	3	2	385	7	14	31	0	52	12	284	69	0	365	1104
17:00	50	6	49	0	105	30	78	2	0	110	3	5	26	0	34	2	108	18	0	128	377
17:15	38	5	44	0	87	29	60	0	0	89	3	7	8	0	18	4	83	17	0	104	298
17:30	48	5	55	0	108	31	77	0	0	108	4	4	12	0	20	7	101	13	0	121	357
17:45	31	5	22	0	58	19	70	1	0	90	7	4	6	0	17	6	69	18	0	93	258
Total	167	21	170	0	358	109	285	3	0	397	17	20	52	0	89	19	361	66	0	446	1290
Grand Total	470	70	558	0	1098	618	1050	18	2	1688	33	56	98	0	187	97	1180	540	1	1818	4791
Apprch %	42.8	6.4	50.8	0		36.6	62.2	1.1	0.1		17.6	29.9	52.4	0		5.3	64.9	29.7	0.1		
Total %	9.8	1.5	11.6	0	22.9	12.9	21.9	0.4	0	35.2	0.7	1.2	2	0	3.9	2	24.6	11.3	0	37.9	
Autos	450	59	532	0	1041	581	1025									1158					
% Autos	95.7	84.3	95.3	0	94.8	94	97.6	94.4	100	96.3	93.9	83.9	94.9	0	91.4	99	98.1	96.3	100	97.6	96.3
Heavy Vehicles																					
% Heavy Vehicles	4.3	15.7	4.7	0	5.2	6	2.4	5.6	0	3.7	6.1	16.1	5.1	0	8.6	1	1.9	3.7	0	2.4	3.7

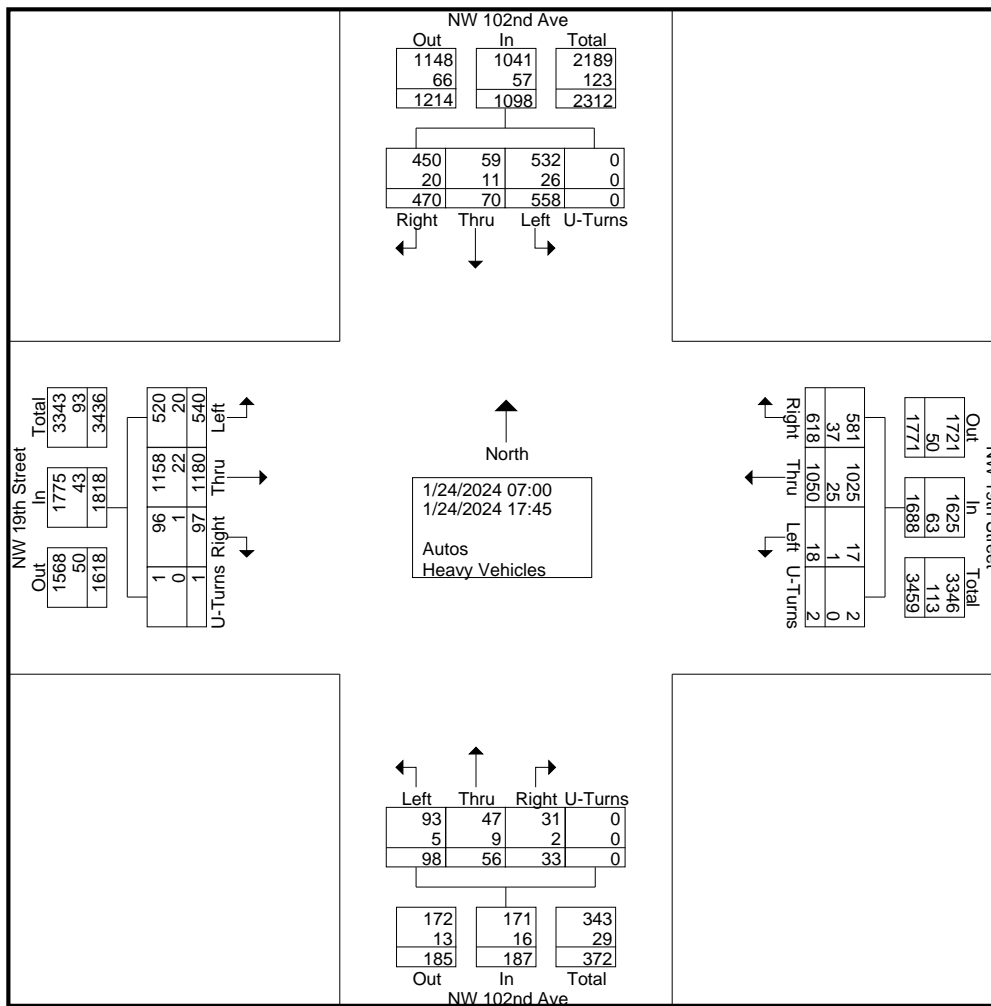
Traff Tech Engineering Inc.

File Name : 4- NW 102nd Ave & NW 19th St

Site Code : 00000000

Start Date : 1/24/2024

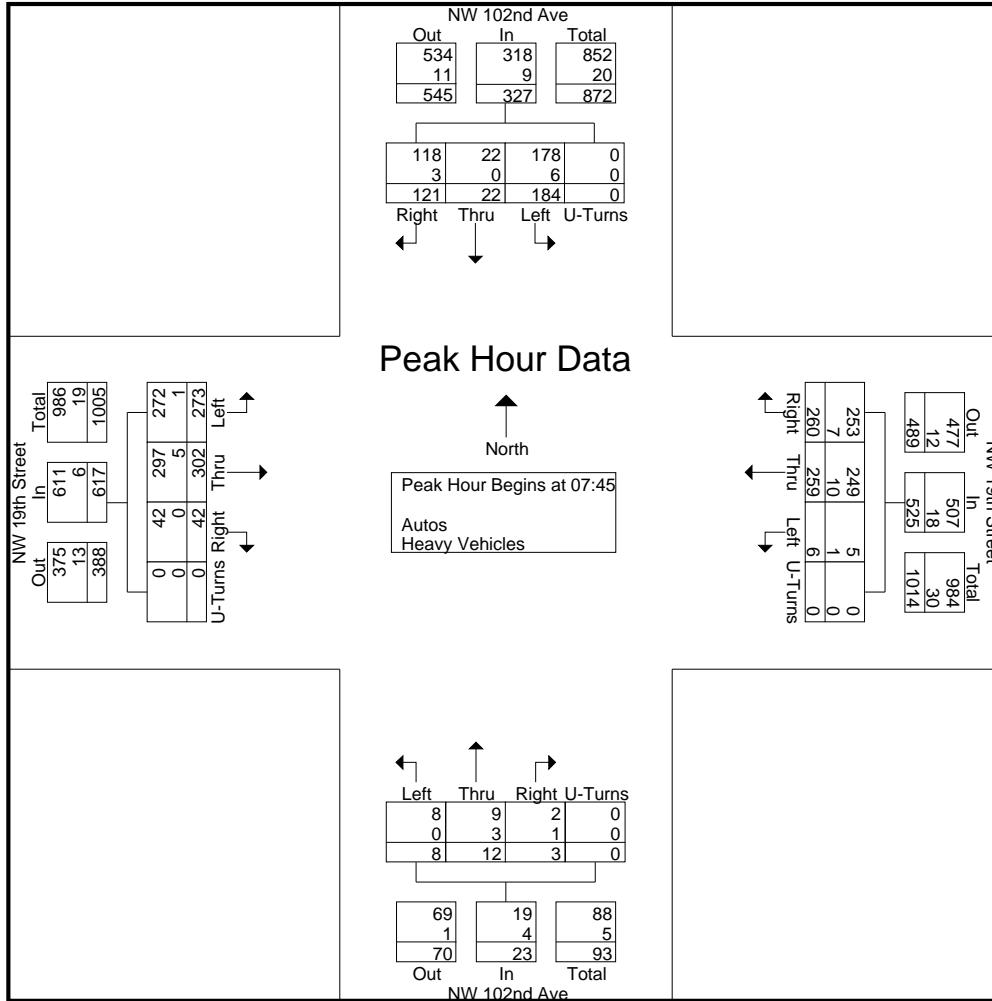
Page No : 2



Traff Tech Engineering Inc.

File Name : 4- NW 102nd Ave & NW 19th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 3

Start Time	NW 102nd Ave From North					NW 19th Street From East					NW 102nd Ave From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 07:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	23	3	35	0	61	67	58	1	0	126	3	2	1	0	6	6	58	53	0	117	310
08:00	34	5	58	0	97	84	72	4	0	160	0	4	2	0	6	9	88	87	0	184	447
08:15	43	11	55	0	109	63	69	0	0	132	0	2	3	0	5	9	90	78	0	177	423
08:30	21	3	36	0	60	46	60	1	0	107	0	4	2	0	6	18	66	55	0	139	312
Total Volume	121	22	184	0	327	260	259	6	0	525	3	12	8	0	23	42	302	273	0	617	1492
% App. Total	37	6.7	56.3	0		49.5	49.3	1.1	0		13	52.2	34.8	0		6.8	48.9	44.2	0		
PHF	.703	.500	.793	.000	.750	.774	.899	.375	.000	.820	.250	.750	.667	.000	.958	.583	.839	.784	.000	.838	.834
Autos	118	22	178	0	318	253	249	5	0	507	2	9	8	0	19	42	297	272	0	611	1455
% Autos	97.5	100	96.7	0	97.2	97.3	96.1	83.3	0	96.6	66.7	75.0	100	0	82.6	100	98.3	99.6	0	99.0	97.5
Heavy Vehicles																					
% Heavy Vehicles	2.5	0	3.3	0	2.8	2.7	3.9	16.7	0	3.4	33.3	25.0	0	0	17.4	0	1.7	0.4	0	1.0	2.5



Traff Tech Engineering Inc.

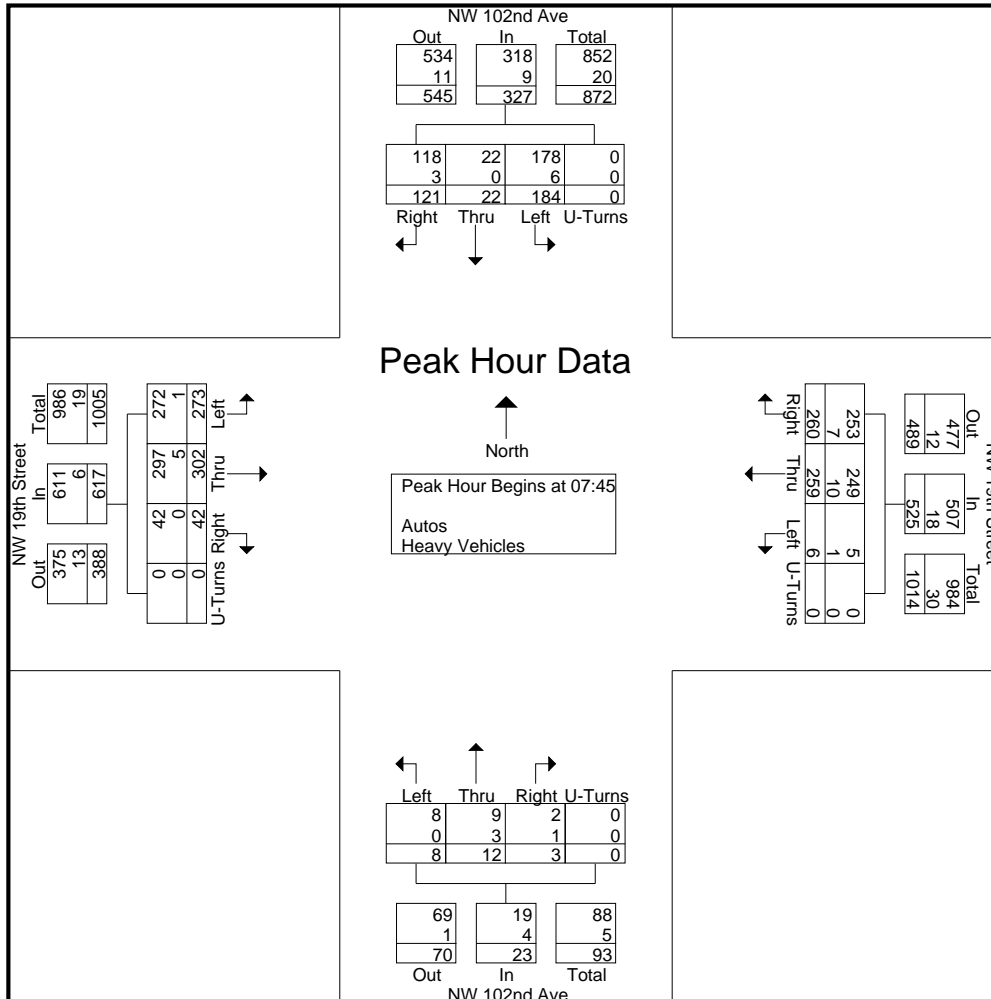
File Name : 4- NW 102nd Ave & NW 19th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 4

Start Time	NW 102nd Ave From North					NW 19th Street From East					NW 102nd Ave From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:45

07:45	23	3	35	0	61	67	58	1	0	126	3	2	1	0	6	6	58	53	0	117	310
08:00	34	5	58	0	97	84	72	4	0	160	0	4	2	0	6	9	88	87	0	184	447
08:15	43	11	55	0	109	63	69	0	0	132	0	2	3	0	5	9	90	78	0	177	423
08:30	21	3	36	0	60	46	60	1	0	107	0	4	2	0	6	18	66	55	0	139	312
Total Volume	121	22	184	0	327	260	259	6	0	525	3	12	8	0	23	42	302	273	0	617	1492
% App. Total	37	6.7	56.3	0		49.5	49.3	1.1	0		13	52.2	34.8	0		6.8	48.9	44.2	0		
PHF	.703	.500	.793	.000	.750	.774	.899	.375	.000	.820	.250	.750	.667	.000	.958	.583	.839	.784	.000	.838	.834
Autos	118	22	178	0	318	253	249	5	0	507	2	9	8	0	19	42	297	272	0	611	1455
% Autos	97.5	100	96.7	0	97.2	97.3	96.1	83.3	0	96.6	66.7	75.0	100	0	82.6	100	98.3	99.6	0	99.0	97.5
Heavy Vehicles																					
% Heavy Vehicles	2.5	0	3.3	0	2.8	2.7	3.9	16.7	0	3.4	33.3	25.0	0	0	17.4	0	1.7	0.4	0	1.0	2.5



Traff Tech Engineering Inc.

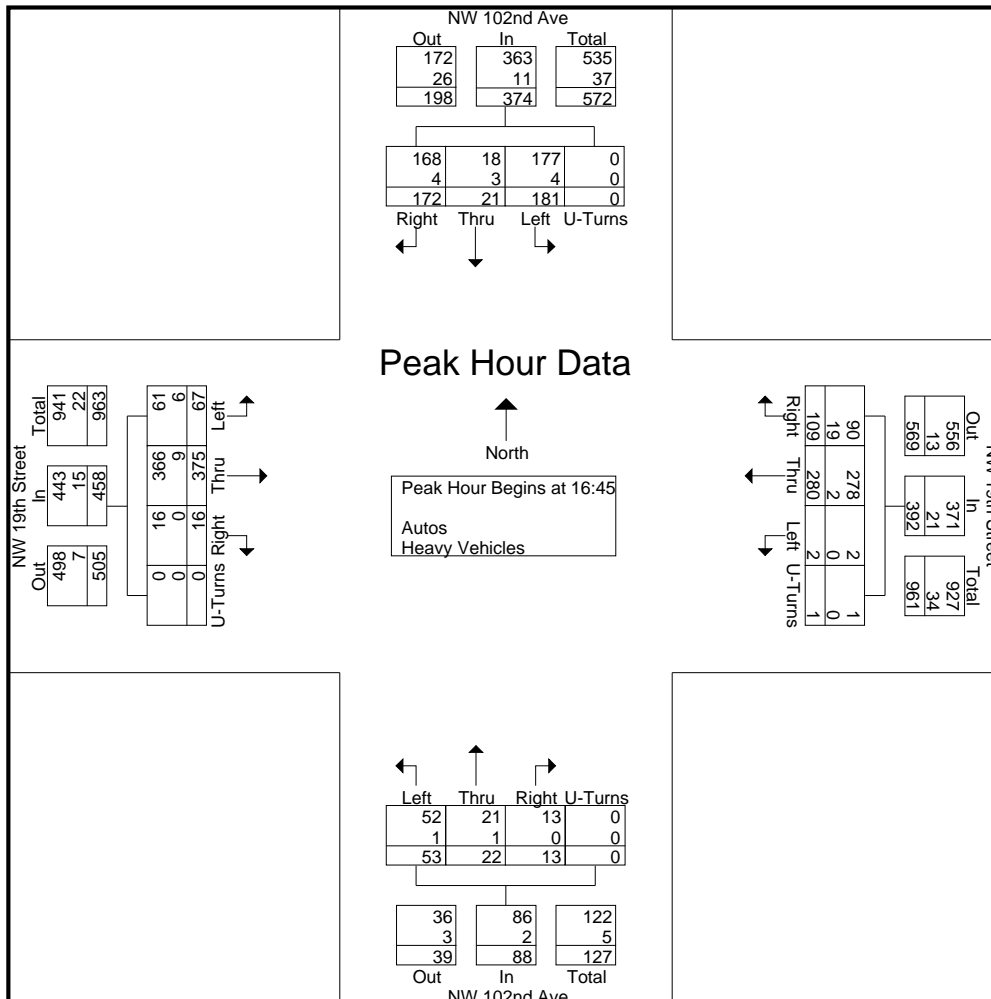
File Name : 4- NW 102nd Ave & NW 19th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 5

Start Time	NW 102nd Ave From North					NW 19th Street From East					NW 102nd Ave From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 16:45

16:45	36	5	33	0	74	19	65	0	1	85	3	6	7	0	16	3	83	19	0	105	280
17:00	50	6	49	0	105	30	78	2	0	110	3	5	26	0	34	2	108	18	0	128	377
17:15	38	5	44	0	87	29	60	0	0	89	3	7	8	0	18	4	83	17	0	104	298
17:30	48	5	55	0	108	31	77	0	0	108	4	4	12	0	20	7	101	13	0	121	357
Total Volume	172	21	181	0	374	109	280	2	1	392	13	22	53	0	88	16	375	67	0	458	1312
% App. Total	46	5.6	48.4	0		27.8	71.4	0.5	0.3		14.8	25	60.2	0		3.5	81.9	14.6	0		
PHF	.860	.875	.823	.000	.866	.879	.897	.250	.250	.891	.813	.786	.510	.000	.647	.571	.868	.882	.000	.895	.870
Autos	168	18	177	0	363	90	278	2	1	371	13	21	52	0	86	16	366	61	0	443	1263
% Autos	97.7	85.7	97.8	0	97.1	82.6	99.3	100	100	94.6	100	95.5	98.1	0	97.7	100	97.6	91.0	0	96.7	96.3
Heavy Vehicles																					
% Heavy Vehicles	2.3	14.3	2.2	0	2.9	17.4	0.7	0	0	5.4	0	4.5	1.9	0	2.3	0	2.4	9.0	0	3.3	3.7



Traff Tech Engineering Inc.

File Name : 5- NW 97th Ave & NW 17th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 1

Groups Printed- Peds & Bikes

Start Time	NW 97th Ave From North				NW 17th Street From East				NW 97th Ave From South				NW 17th Street From West				Int. Total
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
07:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
07:30	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4
07:45	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	3
Total	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	1	10
*** BREAK ***																	
08:15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
08:30	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
08:45	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6
*** BREAK ***																	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
16:15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
16:30	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
16:45	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8
*** BREAK ***																	
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
*** BREAK ***																	
17:45	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	3
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	2	27
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	92.6	0	0	7.4	
Total %	0	0	0	0	0	0	0	0	0	0	0	0	92.6	0	0	7.4	

Traff Tech Engineering Inc.

File Name : 3- NW 19th St & Driveway
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 1

Groups Printed- Autos - Heavy Vehicles

Start Time	Residence In by Marriott From North					NW 19th Street From East					Residence In by Marriott From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
07:00	0	0	0	0	0	1	68	0	0	69	2	0	0	0	2	0	73	1	0	74	145
07:15	0	0	0	0	0	0	58	0	0	58	2	0	0	0	2	1	108	0	0	109	169
07:30	0	0	0	0	0	0	76	0	0	76	10	0	0	0	10	0	93	2	0	95	181
07:45	0	0	0	0	0	0	82	0	0	82	2	0	0	0	2	2	126	0	0	128	212
Total	0	0	0	0	0	1	284	0	0	285	16	0	0	0	16	3	400	3	0	406	707
08:00	0	0	0	0	0	0	107	0	0	107	4	0	0	0	4	1	146	0	0	147	258
08:15	0	0	0	0	0	0	119	0	0	119	2	0	0	0	2	0	164	0	0	164	285
08:30	0	0	0	0	0	0	81	0	0	81	1	0	0	0	1	0	136	0	0	136	218
08:45	0	0	0	0	0	0	68	0	0	68	1	0	0	0	1	0	92	0	0	92	161
Total	0	0	0	0	0	0	375	0	0	375	8	0	0	0	8	1	538	0	0	539	922
*** BREAK ***																					
16:00	0	0	0	0	0	0	102	0	0	102	2	0	0	0	2	2	90	0	0	92	196
16:15	0	0	0	0	0	0	93	0	0	93	1	0	0	0	1	0	75	0	0	75	169
16:30	0	0	0	0	0	0	136	0	0	136	4	0	0	0	4	3	89	2	0	94	234
16:45	0	0	0	0	0	0	110	0	0	110	1	0	0	0	1	1	114	0	0	115	226
Total	0	0	0	0	0	0	441	0	0	441	8	0	0	0	8	6	368	2	0	376	825
17:00	0	0	0	0	0	0	151	0	0	151	6	0	0	0	6	2	132	0	0	134	291
17:15	0	0	0	0	0	0	101	0	0	101	2	0	0	0	2	2	95	0	0	97	200
17:30	0	0	0	0	0	0	130	0	0	130	1	0	0	0	1	3	117	0	0	120	251
17:45	0	0	0	0	0	0	108	0	0	108	2	0	0	0	2	2	86	0	0	88	198
Total	0	0	0	0	0	0	490	0	0	490	11	0	0	0	11	9	430	0	0	439	940
Grand Total	0	0	0	0	0	1	1590	0	0	1591	43	0	0	0	43	19	1736	5	0	1760	3394
Apprch %	0	0	0	0	0	0.1	99.9	0	0		100	0	0	0		1.1	98.6	0.3	0		
Total %	0	0	0	0	0	0	46.8	0	0	46.9	1.3	0	0	0	1.3	0.6	51.1	0.1	0	51.9	
Autos	0	0	0	0	0	1	1569									1717					
% Autos	0	0	0	0	0	100	98.7	0	0	98.7	100	0	0	0	100	100	98.9	100	0	98.9	98.8
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.3	0	0	1.3	0	0	0	0	0	0	1.1	0	0	1.1	1.2

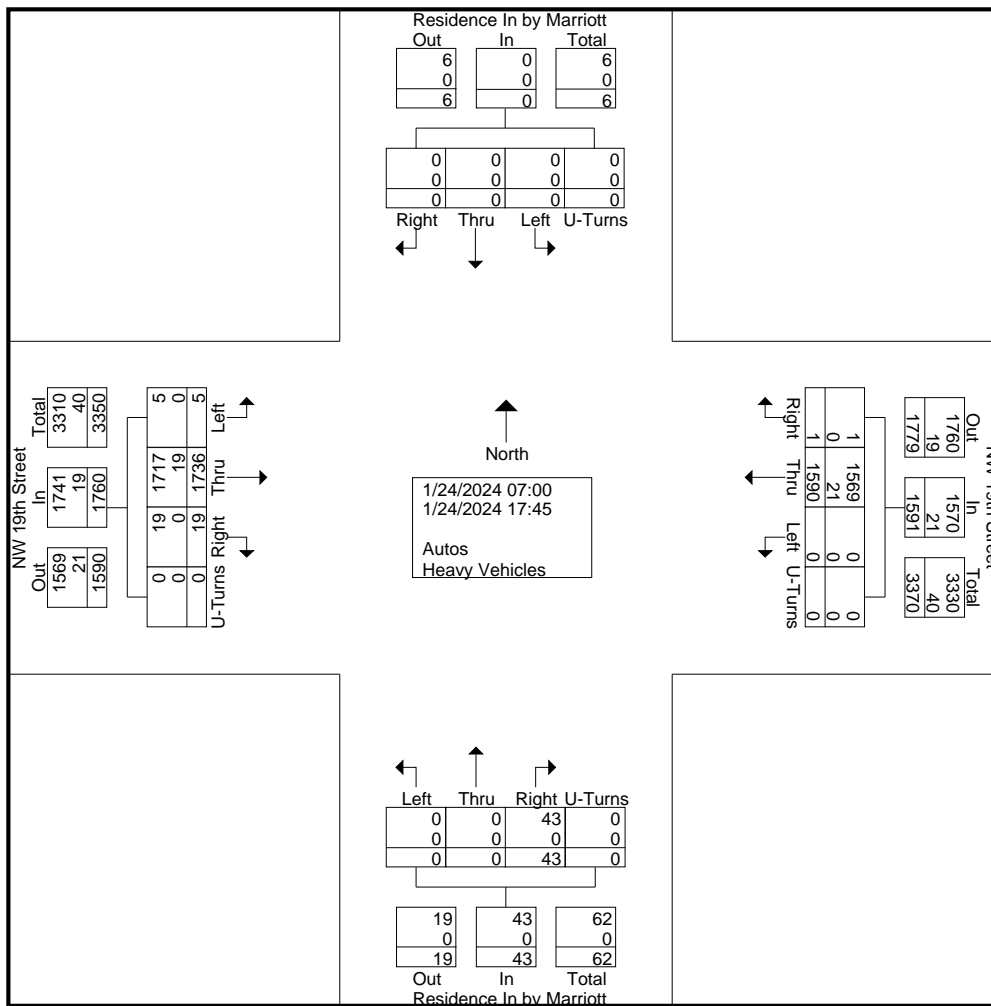
Traff Tech Engineering Inc.

File Name : 3- NW 19th St & Driveway

Site Code : 00000000

Start Date : 1/24/2024

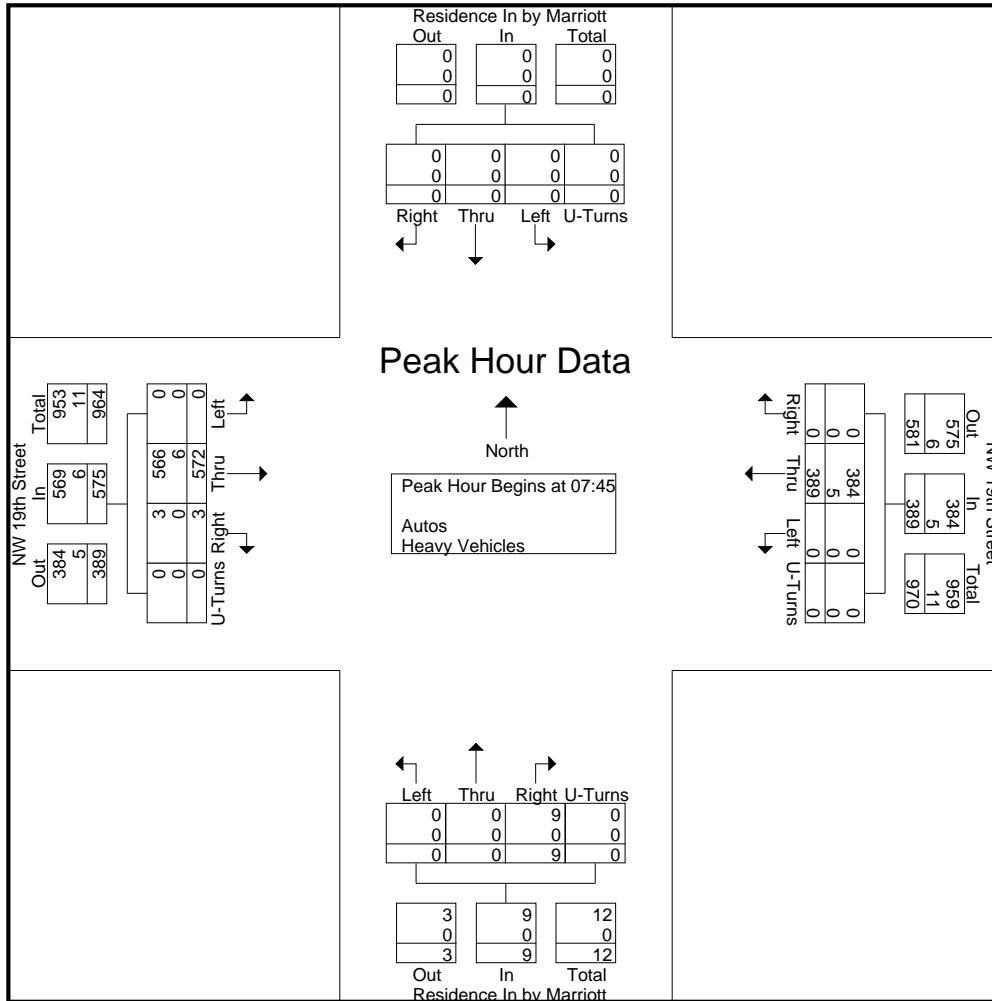
Page No : 2



Traff Tech Engineering Inc.

File Name : 3- NW 19th St & Driveway
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 3

Start Time	Residence In by Marriott From North					NW 19th Street From East					Residence In by Marriott From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 07:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	0	0	0	0	82	0	0	82	2	0	0	0	2	2	126	0	0	128	212
08:00	0	0	0	0	0	0	107	0	0	107	4	0	0	0	4	1	146	0	0	147	258
08:15	0	0	0	0	0	0	119	0	0	119	2	0	0	0	2	0	164	0	0	164	285
08:30	0	0	0	0	0	0	81	0	0	81	1	0	0	0	1	0	136	0	0	136	218
Total Volume	0	0	0	0	0	0	389	0	0	389	9	0	0	0	9	3	572	0	0	575	973
% App. Total	0	0	0	0	0	0	100	0	0	100	100	0	0	0	100	0.5	99.5	0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.817	.000	.000	.817	.563	.000	.000	.000	.563	.375	.872	.000	.000	.877	.854
Autos	0	0	0	0	0	0	384	0	0	384	9	0	0	0	9	3	566	0	0	569	962
% Autos	0	0	0	0	0	0	98.7	0	0	98.7	100	0	0	0	100	100	99.0	0	0	99.0	98.9
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.3	0	0	1.3	0	0	0	0	0	0	1.0	0	0	1.0	1.1



Traff Tech Engineering Inc.

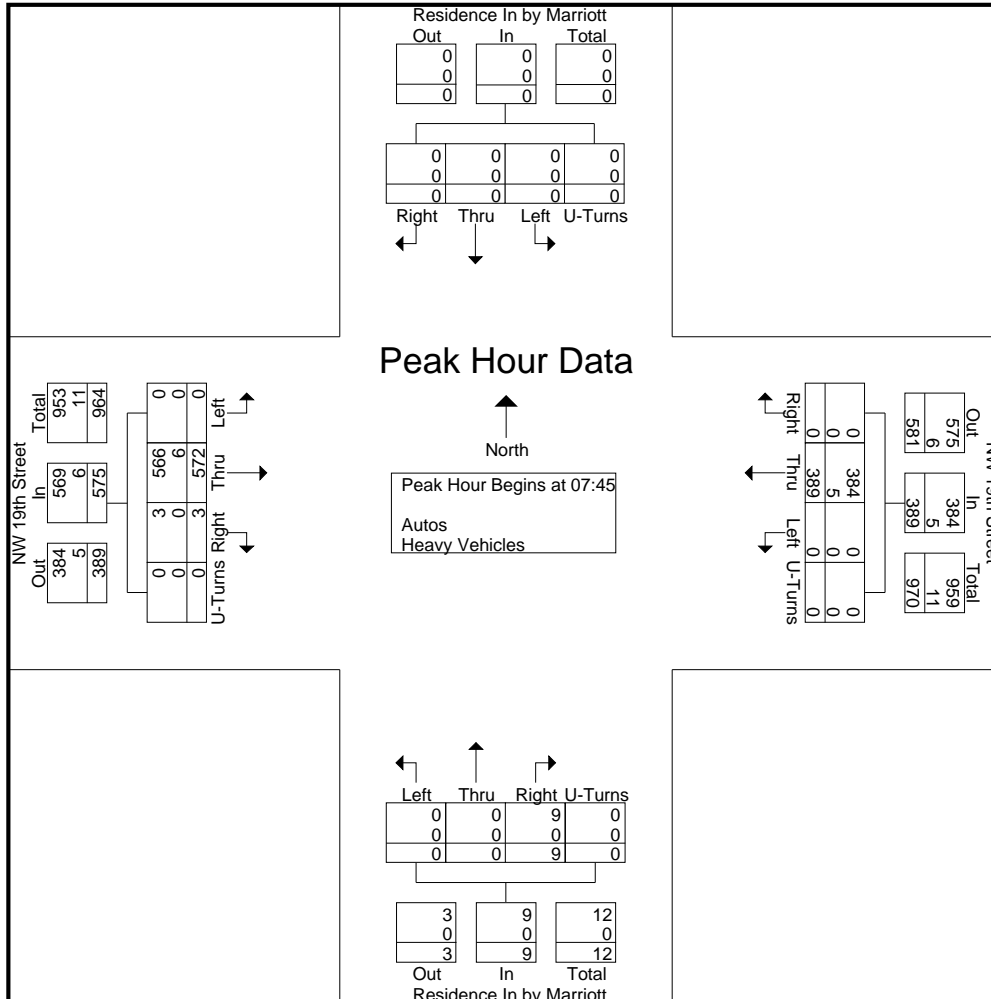
File Name : 3- NW 19th St & Driveway

Site Code : 00000000

Start Date : 1/24/2024

Page No : 4

Start Time	Residence In by Marriott From North					NW 19th Street From East					Residence In by Marriott From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	0	0	0	0	82	0	0	82	2	0	0	0	2	2	126	0	0	128	212
08:00	0	0	0	0	0	0	107	0	0	107	4	0	0	0	4	1	146	0	0	147	258
08:15	0	0	0	0	0	0	119	0	0	119	2	0	0	0	2	0	164	0	0	164	285
08:30	0	0	0	0	0	0	81	0	0	81	1	0	0	0	1	0	136	0	0	136	218
Total Volume	0	0	0	0	0	0	389	0	0	389	9	0	0	0	9	3	572	0	0	575	973
% App. Total	0	0	0	0	0	0	100	0	0	100	100	0	0	0	100	0.5	99.5	0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.817	.000	.000	.817	.563	.000	.000	.000	.563	.375	.872	.000	.000	.877	.854
Autos	0	0	0	0	0	0	384	0	0	384	9	0	0	0	9	3	566	0	0	569	962
% Autos	0	0	0	0	0	0	98.7	0	0	98.7	100	0	0	0	100	100	99.0	0	0	99.0	98.9
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.3	0	0	1.3	0	0	0	0	0	0	1.0	0	0	1.0	1.1



Traff Tech Engineering Inc.

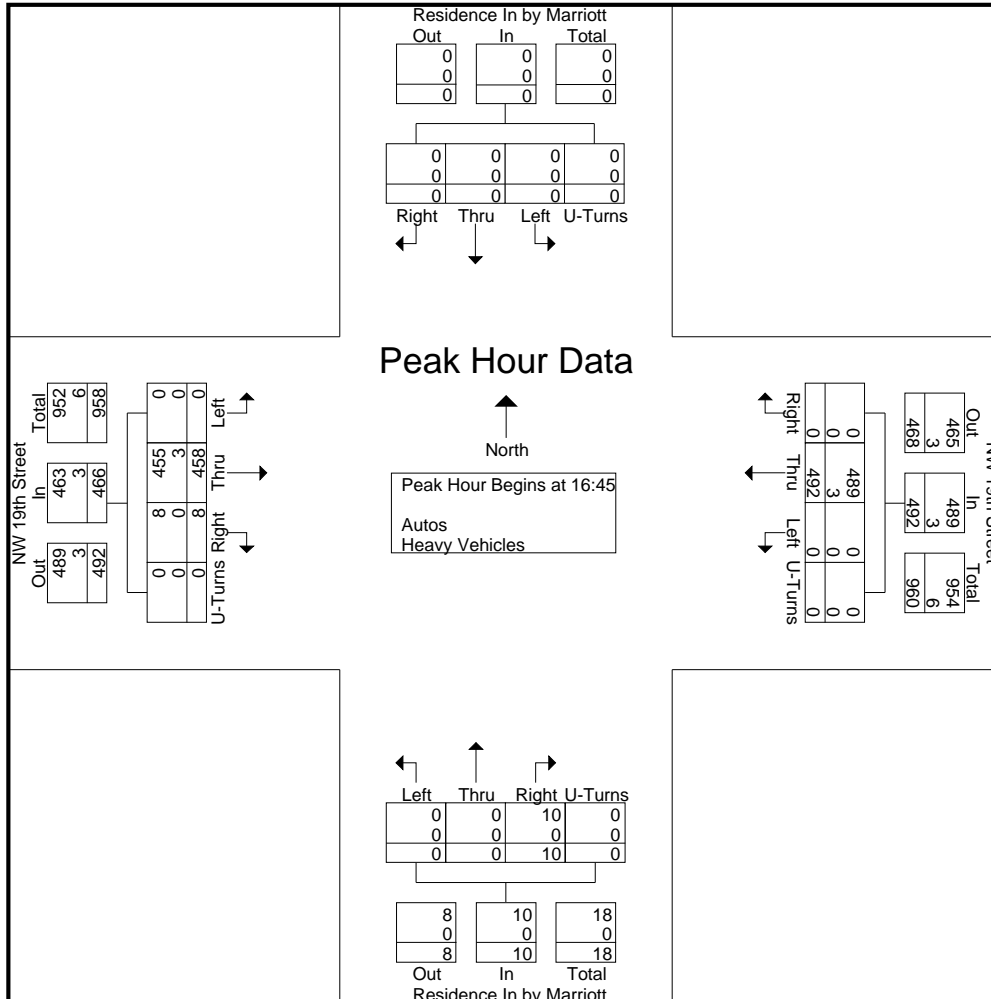
File Name : 3- NW 19th St & Driveway

Site Code : 00000000

Start Date : 1/24/2024

Page No : 5

Start Time	Residence In by Marriott From North					NW 19th Street From East					Residence In by Marriott From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	0	110	0	0	110	1	0	0	0	1	1	114	0	0	115	226
17:00	0	0	0	0	0	0	151	0	0	151	6	0	0	0	6	2	132	0	0	134	291
17:15	0	0	0	0	0	0	101	0	0	101	2	0	0	0	2	2	95	0	0	97	200
17:30	0	0	0	0	0	0	130	0	0	130	1	0	0	0	1	3	117	0	0	120	251
Total Volume	0	0	0	0	0	0	492	0	0	492	10	0	0	0	10	8	458	0	0	466	968
% App. Total	0	0	0	0	0	0	100	0	0	100	100	0	0	0	100	1.7	98.3	0	0	99.4	99.4
PHF	.000	.000	.000	.000	.000	.000	.815	.000	.000	.815	.417	.000	.000	.000	.417	.667	.867	.000	.000	.869	.832
Autos	0	0	0	0	0	0	489	0	0	489	10	0	0	0	10	8	455	0	0	463	962
% Autos	0	0	0	0	0	0	99.4	0	0	99.4	100	0	0	0	100	100	99.3	0	0	99.4	99.4
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	0.6	0	0	0.6	0	0	0	0	0	0	0.7	0	0	0.6	0.6



Traff Tech Engineering Inc.

File Name : 2- NW 19th St & Full Open Driveway

Site Code : 00000000

Start Date : 1/24/2024

Page No : 1

Groups Printed- Autos - Heavy Vehicles

Start Time	Driveway From North					NW 19th Street From East					Double Tree by Hilton From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
07:00	1	0	0	0	1	0	63	6	0	69	6	0	4	0	10	3	64	0	0	67	147
07:15	0	0	0	0	0	3	52	5	0	60	10	1	3	0	14	2	104	1	0	107	181
07:30	0	0	0	0	0	0	88	3	0	91	8	0	4	0	12	2	88	2	0	92	195
07:45	0	0	0	0	0	1	72	12	1	86	10	1	6	0	17	2	111	3	1	117	220
Total	1	0	0	0	1	4	275	26	1	306	34	2	17	0	53	9	367	6	1	383	743
08:00	0	0	0	0	0	1	101	6	0	108	14	0	3	0	17	2	174	8	1	185	310
08:15	1	0	1	0	2	2	109	13	1	125	25	2	5	0	32	3	157	12	0	172	331
08:30	0	0	2	0	2	2	73	11	0	86	14	0	2	0	16	4	108	2	1	115	219
08:45	0	1	1	0	2	4	67	5	0	76	7	0	3	0	10	5	87	3	0	95	183
Total	1	1	4	0	6	9	350	35	1	395	60	2	13	0	75	14	526	25	2	567	1043
*** BREAK ***																					
16:00	1	0	1	0	2	0	77	26	0	103	5	0	2	0	7	5	86	0	0	91	203
16:15	0	1	0	0	1	1	81	23	0	105	9	1	3	0	13	3	65	0	0	68	187
16:30	0	0	0	0	0	0	108	24	1	133	12	0	4	0	16	6	82	0	0	88	237
16:45	1	1	0	0	2	1	83	25	0	109	22	0	4	0	26	4	88	0	0	92	229
Total	2	2	1	0	5	2	349	98	1	450	48	1	13	0	62	18	321	0	0	339	856
17:00	1	2	0	0	3	1	120	35	1	157	13	0	3	0	16	4	120	0	1	125	301
17:15	2	0	0	0	2	0	75	35	1	111	10	0	8	0	18	6	87	1	0	94	225
17:30	8	0	5	0	13	2	96	30	1	129	22	0	3	0	25	16	95	0	0	111	278
17:45	3	1	0	0	4	0	90	21	0	111	11	0	8	0	19	5	74	0	0	79	213
Total	14	3	5	0	22	3	381	121	3	508	56	0	22	0	78	31	376	1	1	409	1017
Grand Total	18	6	10	0	34	18	1355	280	6	1659	198	5	65	0	268	72	1590	32	4	1698	3659
Apprch %	52.9	17.6	29.4	0		1.1	81.7	16.9	0.4		73.9	1.9	24.3	0		4.2	93.6	1.9	0.2		
Total %	0.5	0.2	0.3	0	0.9	0.5	37	7.7	0.2	45.3	5.4	0.1	1.8	0	7.3	2	43.5	0.9	0.1	46.4	
Autos	18	5	10	0	33	18	1336									1564					
% Autos	100	83.3	100	0	97.1	100	98.6	99.6	100	98.8	99	100	98.5	0	98.9	100	98.4	100	100	98.5	98.6
Heavy Vehicles																					
% Heavy Vehicles	0	16.7	0	0	2.9	0	1.4	0.4	0	1.2	1	0	1.5	0	1.1	0	1.6	0	0	1.5	1.4

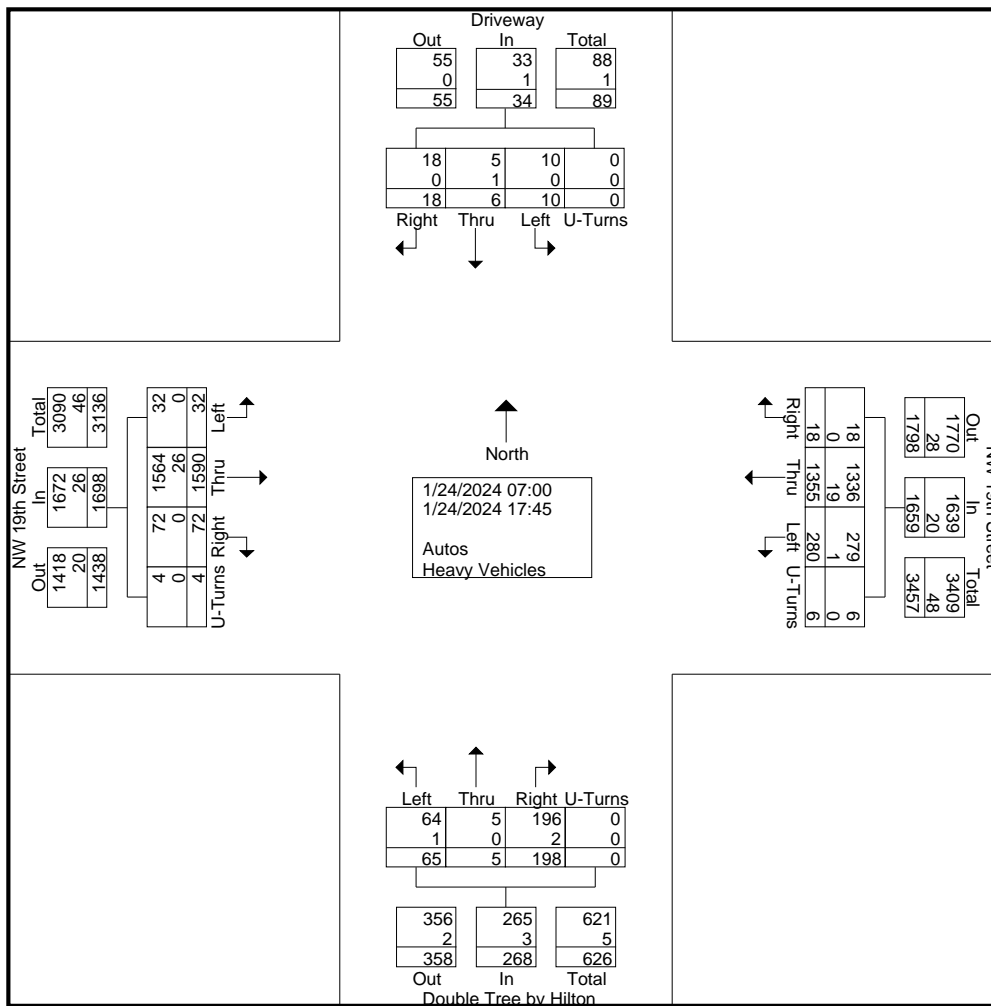
Traff Tech Engineering Inc.

File Name : 2- NW 19th St & Full Open Driveway

Site Code : 00000000

Start Date : 1/24/2024

Page No : 2



Traff Tech Engineering Inc.

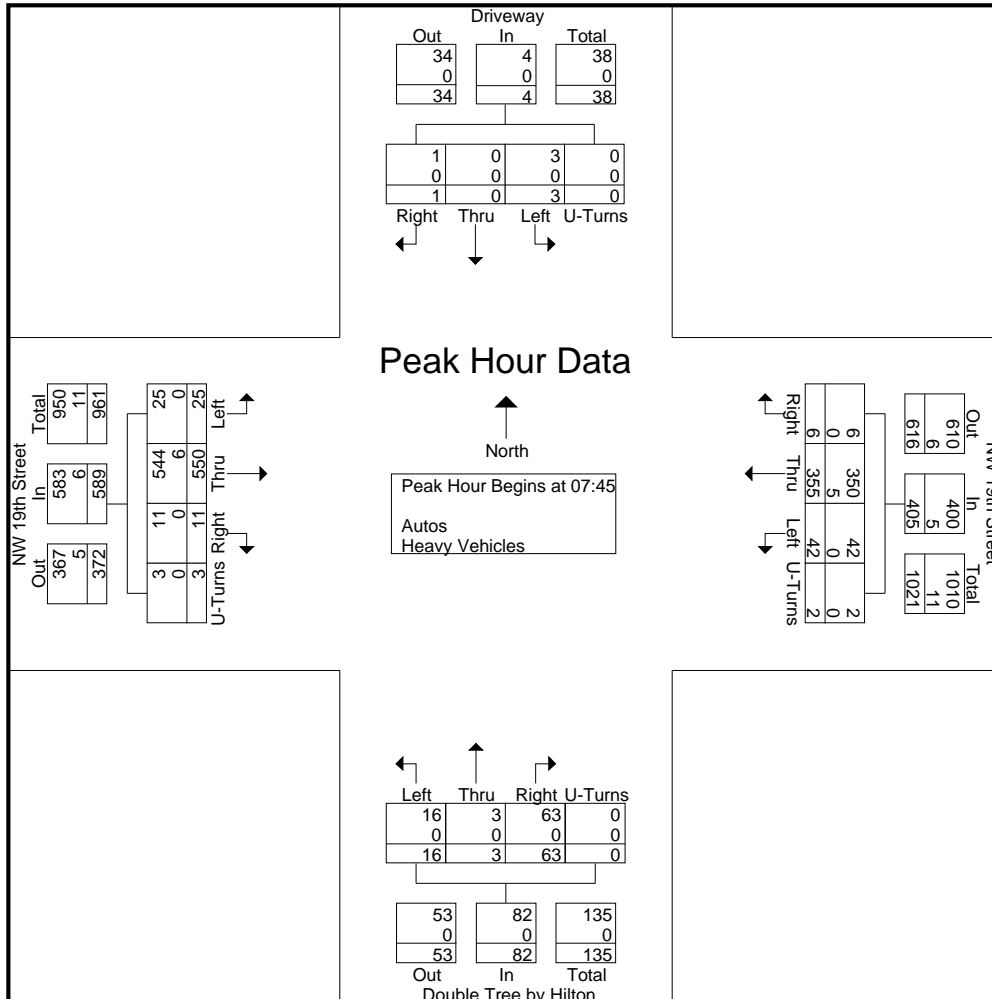
File Name : 2- NW 19th St & Full Open Driveway

Site Code : 00000000

Start Date : 1/24/2024

Page No : 3

Start Time	Driveway From North					NW 19th Street From East					Double Tree by Hilton From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 07:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	0	0	0	1	72	12	1	86	10	1	6	0	17	2	111	3	1	117	220
08:00	0	0	0	0	0	1	101	6	0	108	14	0	3	0	17	2	174	8	1	185	310
08:15	1	0	1	0	2	2	109	13	1	125	25	2	5	0	32	3	157	12	0	172	331
08:30	0	0	2	0	2	2	73	11	0	86	14	0	2	0	16	4	108	2	1	115	219
Total Volume	1	0	3	0	4	6	355	42	2	405	63	3	16	0	82	11	550	25	3	589	1080
% App. Total	25	0	75	0		1.5	87.7	10.4	0.5		76.8	3.7	19.5	0		1.9	93.4	4.2	0.5		
PHF	.250	.000	.375	.000	.500	.750	.814	.808	.500	.810	.630	.375	.667	.000	.641	.688	.790	.521	.750	.796	.816
Autos	1	0	3	0	4	6	350	42	2	400	63	3	16	0	82	11	544	25	3	583	1069
% Autos	100	0	100	0	100	100	98.6	100	100	98.8	100	100	100	0	100	100	98.9	100	100	99.0	99.0
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.4	0	0	1.2	0	0	0	0	0	0	1.1	0	0	1.0	1.0



Traff Tech Engineering Inc.

File Name : 2- NW 19th St & Full Open Driveway

Site Code : 00000000

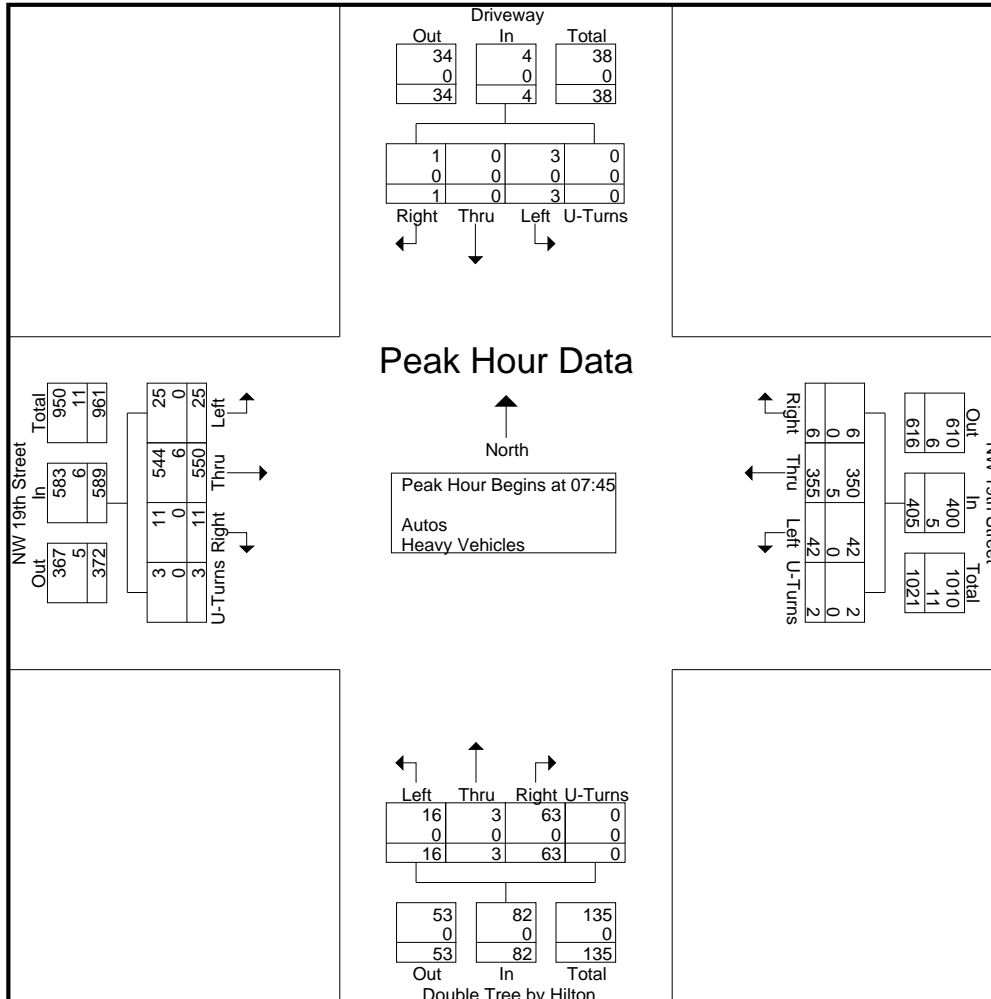
Start Date : 1/24/2024

Page No : 4

Start Time	Driveway From North					NW 19th Street From East					Double Tree by Hilton From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
07:45	0	0	0	0	0	1	72	12	1	86	10	1	6	0	17	2	111	3	1	117	220
08:00	0	0	0	0	0	1	101	6	0	108	14	0	3	0	17	2	174	8	1	185	310
08:15	1	0	1	0	2	2	109	13	1	125	25	2	5	0	32	3	157	12	0	172	331
08:30	0	0	2	0	2	2	73	11	0	86	14	0	2	0	16	4	108	2	1	115	219
Total Volume	1	0	3	0	4	6	355	42	2	405	63	3	16	0	82	11	550	25	3	589	1080
% App. Total	25	0	75	0		1.5	87.7	10.4	0.5		76.8	3.7	19.5	0		1.9	93.4	4.2	0.5		
PHF	.250	.000	.375	.000	.500	.750	.814	.808	.500	.810	.630	.375	.667	.000	.641	.688	.790	.521	.750	.796	.816
Autos	1	0	3	0	4	6	350	42	2	400	63	3	16	0	82	11	544	25	3	583	1069
% Autos	100	0	100	0	100	100	98.6	100	100	98.8	100	100	100	0	100	100	98.9	100	100	99.0	99.0
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.4	0	0	1.2	0	0	0	0	0	0	1.1	0	0	1.0	1.0

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:45



Traff Tech Engineering Inc.

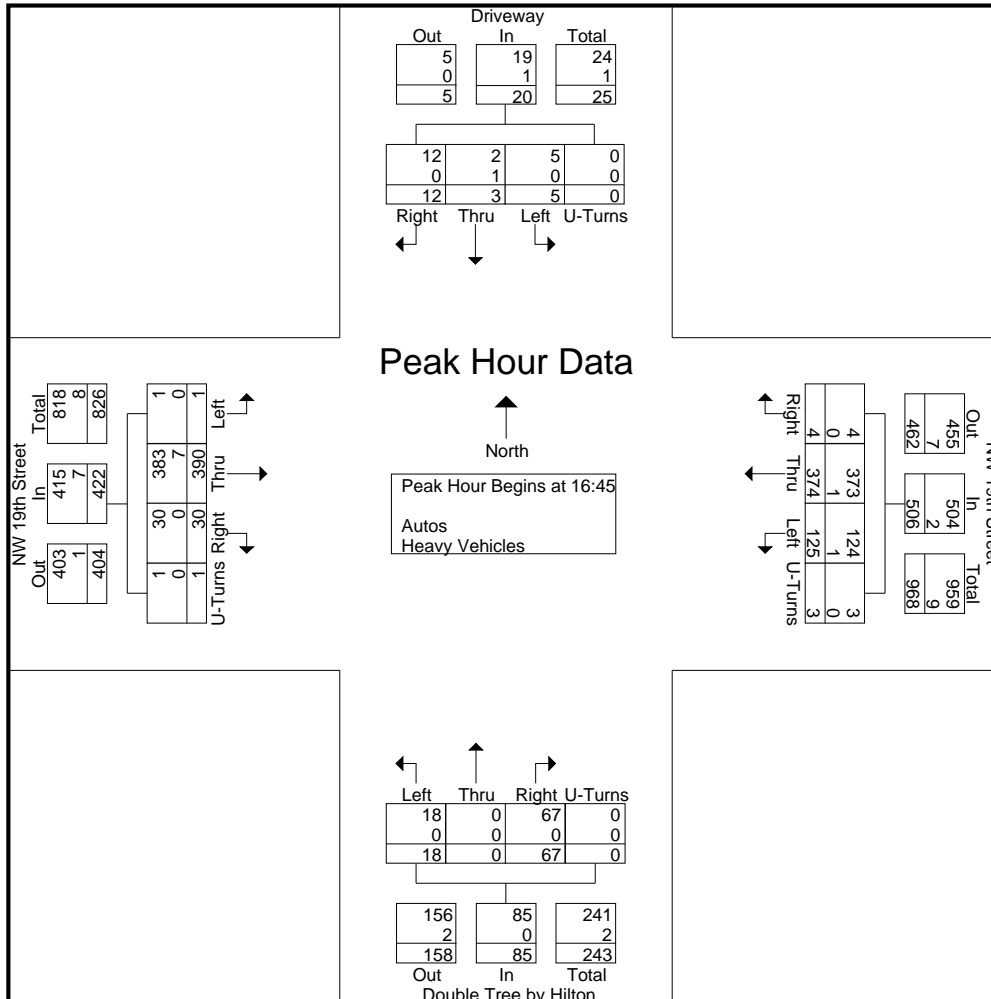
File Name : 2- NW 19th St & Full Open Driveway

Site Code : 00000000

Start Date : 1/24/2024

Page No : 5

Start Time	Driveway From North					NW 19th Street From East					Double Tree by Hilton From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	1	1	0	0	2	1	83	25	0	109	22	0	4	0	26	4	88	0	0	92	229
17:00	1	2	0	0	3	1	120	35	1	157	13	0	3	0	16	4	120	0	1	125	301
17:15	2	0	0	0	2	0	75	35	1	111	10	0	8	0	18	6	87	1	0	94	225
17:30	8	0	5	0	13	2	96	30	1	129	22	0	3	0	25	16	95	0	0	111	278
Total Volume	12	3	5	0	20	4	374	125	3	506	67	0	18	0	85	30	390	1	1	422	1033
% App. Total	60	15	25	0		0.8	73.9	24.7	0.6		78.8	0	21.2	0		7.1	92.4	0.2	0.2		
PHF	.375	.375	.250	.000	.385	.500	.779	.893	.750	.806	.761	.000	.563	.000	.817	.469	.813	.250	.250	.844	.858
Autos	12	2	5	0	19	4	373	124	3	504	67	0	18	0	85	30	383	1	1	415	1023
% Autos	100	66.7	100	0	95.0	100	99.7	99.2	100	99.6	100	0	100	0	100	100	98.2	100	100	98.3	99.0
Heavy Vehicles																					
% Heavy Vehicles	0	33.3	0	0	5.0	0	0.3	0.8	0	0.4	0	0	0	0	0	0	1.8	0	0	1.7	1.0



Traff Tech Engineering Inc.

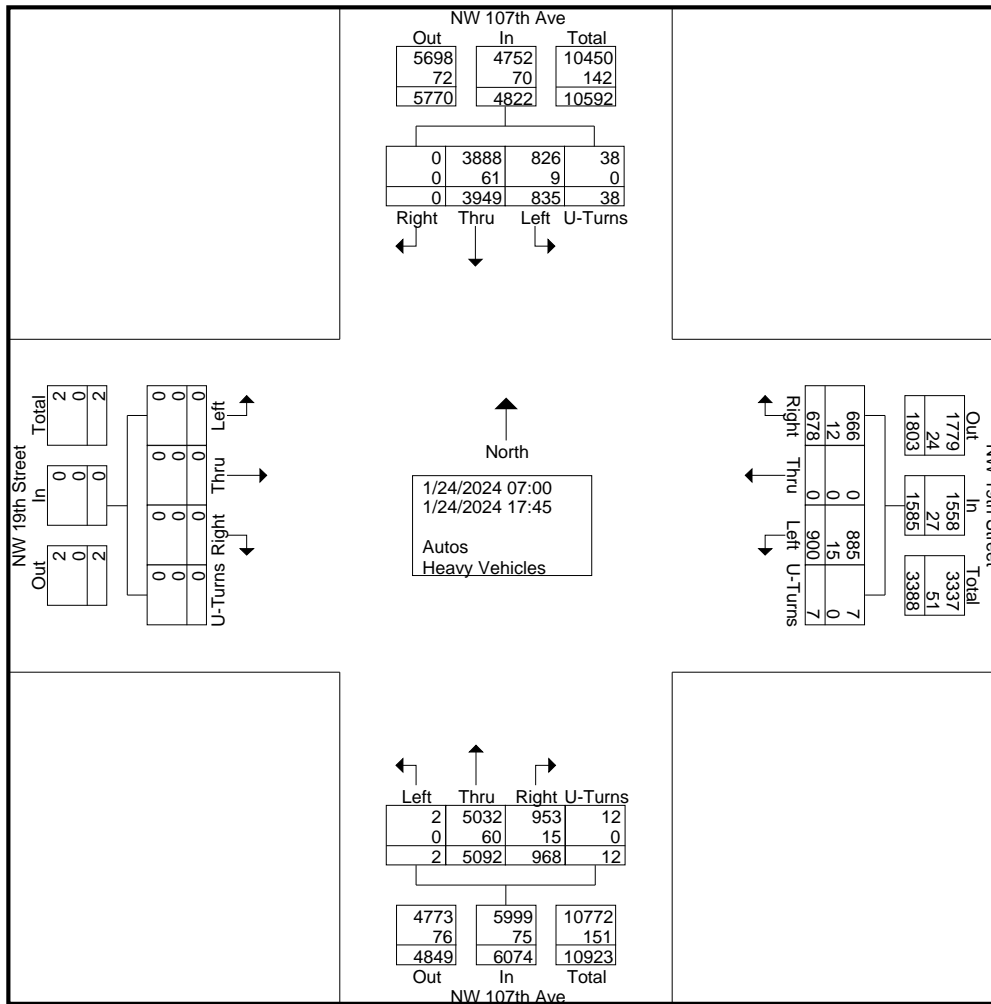
File Name : 1- NW 107th Ave & NW 19th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 1

Groups Printed- Autos - Heavy Vehicles

Start Time	NW 107th Ave From North					NW 19th Street From East					NW 107th Ave From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
07:00	0	140	41	0	181	39	0	22	0	61	45	389	0	2	436	0	0	0	0	0	678
07:15	0	166	46	2	214	50	0	17	0	67	87	427	0	0	514	0	0	0	0	0	795
07:30	0	175	49	2	226	37	0	27	0	64	61	444	0	1	506	0	0	0	0	0	796
07:45	0	171	45	4	220	38	0	32	0	70	83	466	0	1	550	0	0	0	0	0	840
Total	0	652	181	8	841	164	0	98	0	262	276	1726	0	4	2006	0	0	0	0	0	3109
08:00	0	221	72	7	300	65	0	55	0	120	138	375	0	0	513	0	0	0	0	0	933
08:15	0	197	62	4	263	34	0	49	0	83	138	415	0	0	553	0	0	0	0	0	899
08:30	0	180	55	0	235	44	0	54	1	99	91	416	0	1	508	0	0	0	0	0	842
08:45	0	207	43	4	254	35	0	26	0	61	65	377	0	0	442	0	0	0	0	0	757
Total	0	805	232	15	1052	178	0	184	1	363	432	1583	0	1	2016	0	0	0	0	0	3431
*** BREAK ***																					
16:00	0	336	40	2	378	50	0	99	0	149	41	242	0	2	285	0	0	0	0	0	812
16:15	0	335	46	2	383	26	0	61	0	87	23	173	0	1	197	0	0	0	0	0	667
16:30	0	320	44	2	366	40	0	80	0	120	32	241	0	2	275	0	0	0	0	0	761
16:45	0	294	49	0	343	38	0	69	0	107	35	223	0	1	259	0	0	0	0	0	709
Total	0	1285	179	6	1470	154	0	309	0	463	131	879	0	6	1016	0	0	0	0	0	2949
17:00	0	316	66	2	384	61	0	101	1	163	40	228	0	0	268	0	0	0	0	0	815
17:15	0	328	64	2	394	43	0	53	0	96	36	239	2	0	277	0	0	0	0	0	767
17:30	0	284	62	3	349	33	0	59	4	96	32	245	0	0	277	0	0	0	0	0	722
17:45	0	279	51	2	332	45	0	96	1	142	21	192	0	1	214	0	0	0	0	0	688
Total	0	1207	243	9	1459	182	0	309	6	497	129	904	2	1	1036	0	0	0	0	0	2992
Grand Total	0	3949	835	38	4822	678	0	900	7	1585	968	5092	2	12	6074	0	0	0	0	0	12481
Apprch %	0	81.9	17.3	0.8		42.8	0	56.8	0.4		15.9	83.8	0	0.2		0	0	0	0		
Total %	0	31.6	6.7	0.3	38.6	5.4	0	7.2	0.1	12.7	7.8	40.8	0	0.1	48.7	0	0	0	0	0	
Autos	0	3888										5032									12309
% Autos	0	98.5	98.9	100	98.5	98.2	0	98.3	100	98.3	98.5	98.8	100	100	98.8	0	0	0	0	0	98.6
Heavy Vehicles																					
% Heavy Vehicles	0	1.5	1.1	0	1.5	1.8	0	1.7	0	1.7	1.5	1.2	0	0	1.2	0	0	0	0	0	1.4

Traff Tech Engineering Inc.

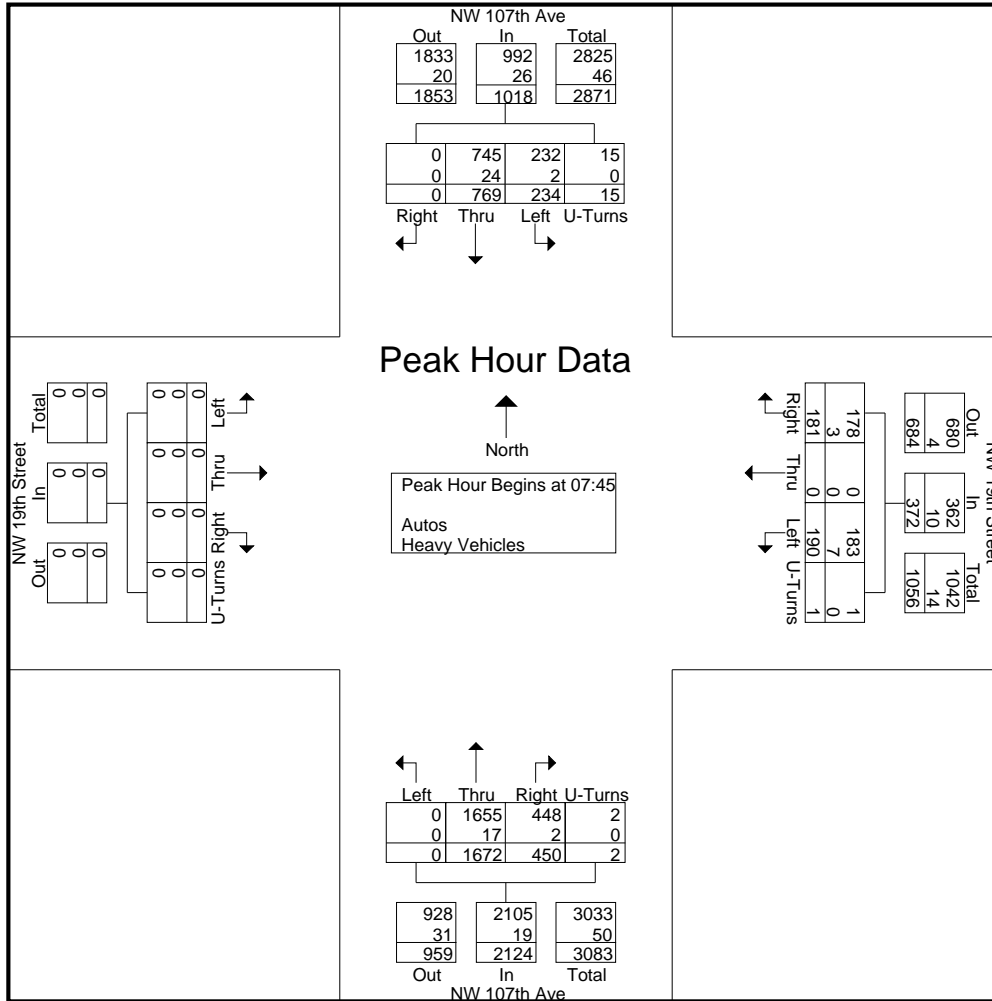
File Name : 1- NW 107th Ave & NW 19th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 2



Traff Tech Engineering Inc.

File Name : 1- NW 107th Ave & NW 19th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 3

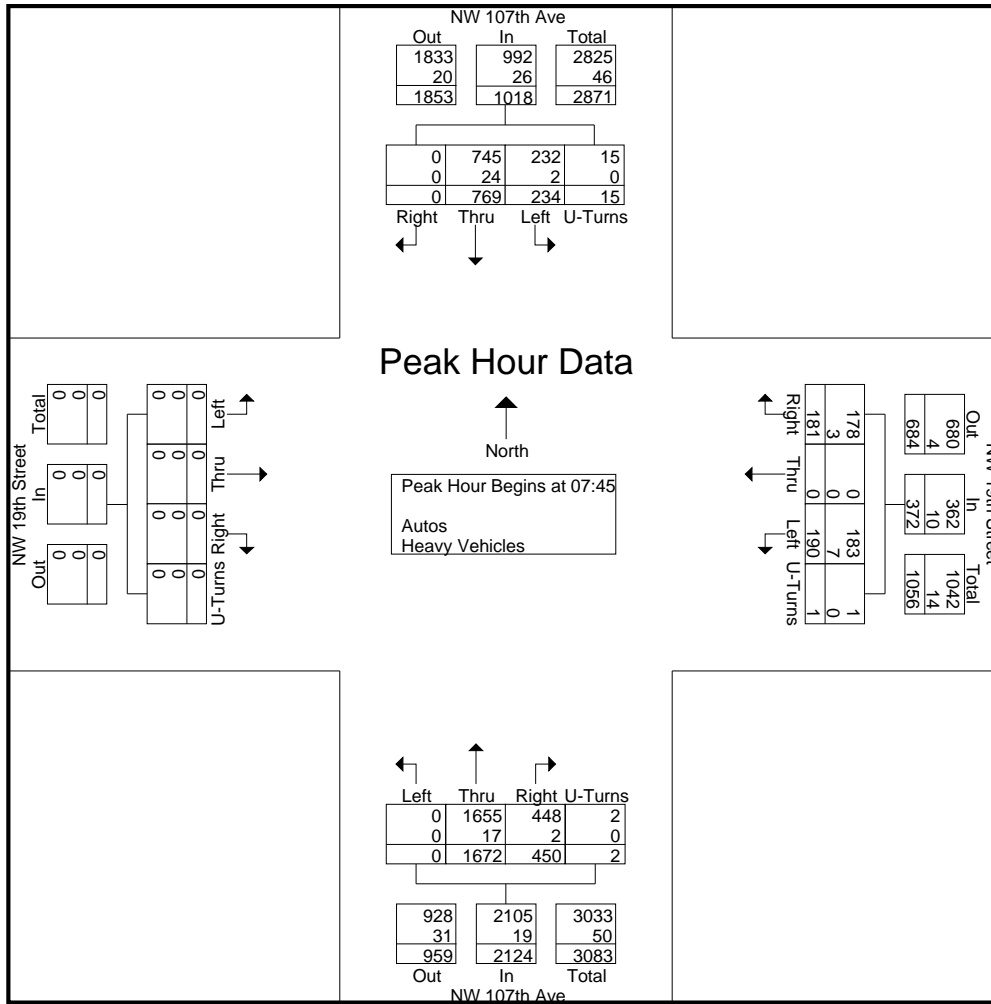
Start Time	NW 107th Ave From North					NW 19th Street From East					NW 107th Ave From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 07:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	171	45	4	220	38	0	32	0	70	83	466	0	1	550	0	0	0	0	0	840
08:00	0	221	72	7	300	65	0	55	0	120	138	375	0	0	513	0	0	0	0	0	933
08:15	0	197	62	4	263	34	0	49	0	83	138	415	0	0	553	0	0	0	0	0	899
08:30	0	180	55	0	235	44	0	54	1	99	91	416	0	1	508	0	0	0	0	0	842
Total Volume	0	769	234	15	1018	181	0	190	1	372	450	1672	0	2	2124	0	0	0	0	0	3514
% App. Total	0	75.5	23	1.5		48.7	0	51.1	0.3		21.2	78.7	0	0.1		0	0	0	0		
PHF	.000	.870	.813	.536	.848	.696	.000	.864	.250	.775	.815	.897	.000	.500	.960	.000	.000	.000	.000	.000	.942
Autos	0	745	232	15	992	178	0	183	1	362	448	1655									
% Autos	0	96.9	99.1	100	97.4	98.3	0	96.3	100	97.3	99.6	99.0	0	100	99.1	0	0	0	0	0	98.4
Heavy Vehicles																					
% Heavy Vehicles	0	3.1	0.9	0	2.6	1.7	0	3.7	0	2.7	0.4	1.0	0	0	0.9	0	0	0	0	0	1.6



Traff Tech Engineering Inc.

File Name : 1- NW 107th Ave & NW 19th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 4

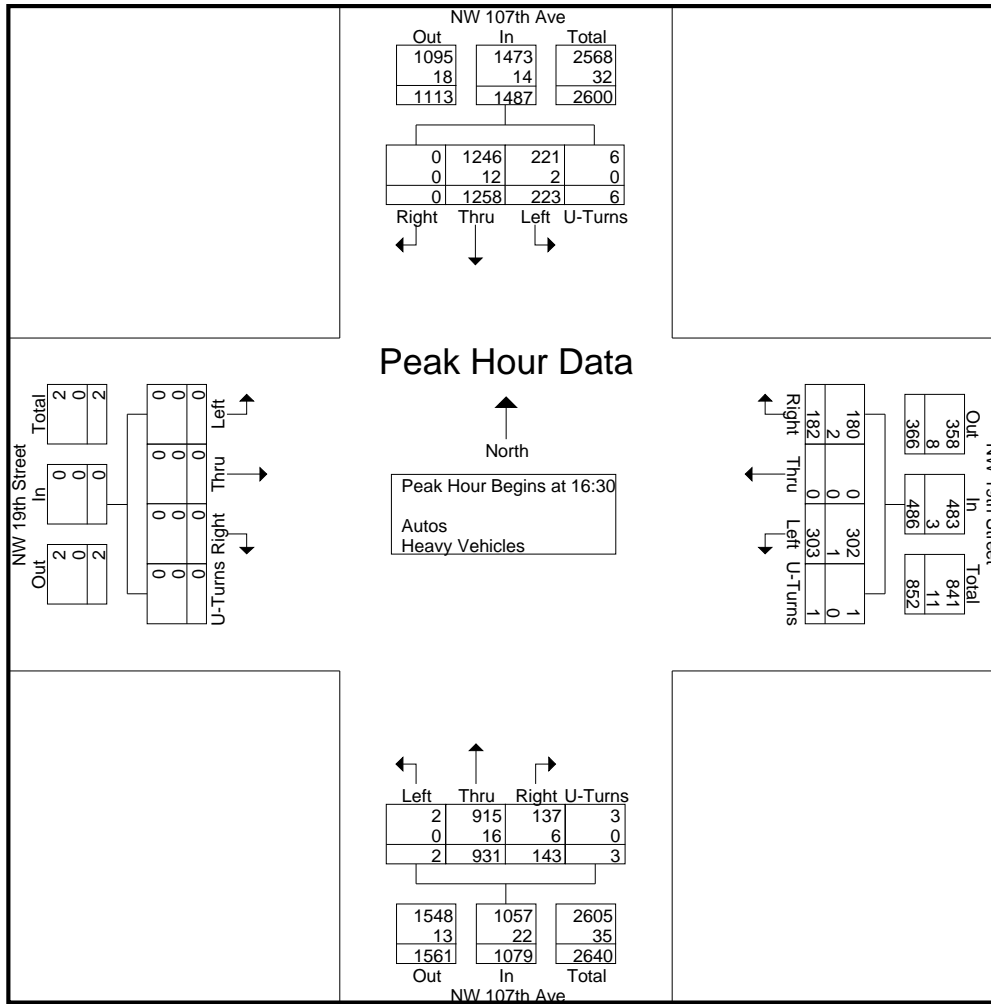
Start Time	NW 107th Ave From North					NW 19th Street From East					NW 107th Ave From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	171	45	4	220	38	0	32	0	70	83	466	0	1	550	0	0	0	0	0	840
08:00	0	221	72	7	300	65	0	55	0	120	138	375	0	0	513	0	0	0	0	0	933
08:15	0	197	62	4	263	34	0	49	0	83	138	415	0	0	553	0	0	0	0	0	899
08:30	0	180	55	0	235	44	0	54	1	99	91	416	0	1	508	0	0	0	0	0	842
Total Volume	0	769	234	15	1018	181	0	190	1	372	450	1672	0	2	2124	0	0	0	0	0	3514
% App. Total	0	75.5	23	1.5		48.7	0	51.1	0.3		21.2	78.7	0	0.1		0	0	0	0		
PHF	.000	.870	.813	.536	.848	.696	.000	.864	.250	.775	.815	.897	.000	.500	.960	.000	.000	.000	.000	.000	.942
Autos	0	745	232	15	992	178	0	183	1	362	448	1655	0	100	99.1	0	0	0	0	0	98.4
% Autos	0	96.9	99.1	100	97.4	98.3	0	96.3	100	97.3	99.6	99.0	0	100	99.1	0	0	0	0	0	98.4
Heavy Vehicles																					
% Heavy Vehicles	0	3.1	0.9	0	2.6	1.7	0	3.7	0	2.7	0.4	1.0	0	0	0.9	0	0	0	0	0	1.6



Traff Tech Engineering Inc.

File Name : 1- NW 107th Ave & NW 19th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 5

Start Time	NW 107th Ave From North					NW 19th Street From East					NW 107th Ave From South					NW 19th Street From West					Int. Total
	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	320	44	2	366	40	0	80	0	120	32	241	0	2	275	0	0	0	0	0	761
16:45	0	294	49	0	343	38	0	69	0	107	35	223	0	1	259	0	0	0	0	0	709
17:00	0	316	66	2	384	61	0	101	1	163	40	228	0	0	268	0	0	0	0	0	815
17:15	0	328	64	2	394	43	0	53	0	96	36	239	2	0	277	0	0	0	0	0	767
Total Volume	0	1258	223	6	1487	182	0	303	1	486	143	931	2	3	1079	0	0	0	0	0	3052
% App. Total	0	84.6	15	0.4		37.4	0	62.3	0.2		13.3	86.3	0.2	0.3		0	0	0	0		
PHF	.000	.959	.845	.750	.944	.746	.000	.750	.250	.745	.894	.966	.250	.375	.974	.000	.000	.000	.000	.000	.936
Autos	0	1246																			
% Autos	0	99.0	99.1	100	99.1	98.9	0	99.7	100	99.4	95.8	98.3	100	100	98.0	0	0	0	0	0	98.7
Heavy Vehicles																					
% Heavy Vehicles	0	1.0	0.9	0	0.9	1.1	0	0.3	0	0.6	4.2	1.7	0	0	2.0	0	0	0	0	0	1.3



Traff Tech Engineering Inc.

File Name : 2- NW 19th St & Full Open Driveway

Site Code : 00000000

Start Date : 1/24/2024

Page No : 1

Groups Printed- Peds & Bikes

Start Time	Driveway From North				NW 19th Street From East				Double Tree by Hilton From South				NW 19th Street From West				Int. Total		
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds			
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
07:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	
*** BREAK ***																			
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																			
Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4
*** BREAK ***																			
16:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																			
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
17:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																			
17:45	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
Grand Total	0	0	0	0	1	0	0	0	1	0	0	0	8	0	0	0	0	2	12
Apprch %	0	0	0	0	50	0	0	0	50	0	0	0	100	0	0	0	0	100	
Total %	0	0	0	0	8.3	0	0	0	8.3	0	0	0	66.7	0	0	0	0	16.7	

Traff Tech Engineering Inc.

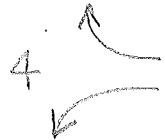
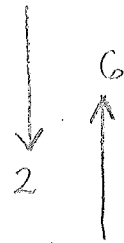
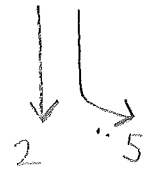
File Name : 1- NW 107th Ave & NW 19th St
 Site Code : 00000000
 Start Date : 1/24/2024
 Page No : 1

Groups Printed- Peds & Bikes

Start Time	NW 107th Ave From North				NW 19th Street From East				NW 107th Ave From South				NW 19th Street From West				Int. Total
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds	
*** BREAK ***																	
07:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
07:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
08:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
08:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2
*** BREAK ***																	
16:00	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3
*** BREAK ***																	
16:45	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
Total	1	0	0	0	3	0	0	1	0	0	0	0	0	0	0	0	5
17:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
17:30	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
17:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	1	0	0	1	2	0	0	1	0	0	0	0	0	0	0	0	5
Grand Total	2	0	0	1	7	0	0	3	0	0	0	1	0	0	0	0	14
Apprch %	66.7	0	0	33.3	70	0	0	30	0	0	0	100	0	0	0	0	
Total %	14.3	0	0	7.1	50	0	0	21.4	0	0	0	7.1	0	0	0	0	

SIGNAL OPERATING PLAN

		SIGNAL HEAD NUMBER									
PHASE ⌀ 2+5 SBL NW 107 AV (ACTUATED)	INT		2		4	5	6				
	R/W		G		R	R					
	PED. CL										
	TO		G		R	R					
	CLEAR										
	TO										
⌀ 2+6 N/S NW 107 AV (RECALL)	R/W		G		R	G	G				
	PED. CL										
	TO		4		Y	R	Y	Y			
	CLEAR										
	TO										
	CLEAR										
⌀ 4 WB NW 19 ST (ACTUATED)	R/W		R		G	R	R				
	PED. CL										
	TO		2+5		R	Y	R	R			
	CLEAR		2+6		R	Y	R	R			
	TO										
	CLEAR										
FLASH OPER. →	R/W										
	PED. CL										
	TO										
	CLEAR										
	TO										
	CLEAR										



Drown	Date	MIAMI-DADE COUNTY DEPARTMENT OF PUBLIC WORKS		
H. HERNANDEZ	8/31/88	ASSET NO. 5892		
Check	Date	NW 107 AV & 19 ST		
F. PRATS	5/6/99			
Division Engineer	Date	Placed in Service		Phasing Number
		Date: 4/12/99	By:	1

TOD Schedule Report
for 5892: NW 107 Av&NW 19 St

Print Date:
10/4/2021

Print Time:
8:48 PM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
5892	NW 107 Av&NW 19 St	DOW-2	TOD	[12] HEAVY PM PEAK	140	69	N/A	1	Max 2

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
-	SBT	-	WBT	SBL	NBT	-	-
0	107	0	20	6	94	0	0



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 SBT	0	0	0	0	0	0	16	16	40	2.5	-2.5	-2.5	40	45	40	0	0	0	4.4	2.4
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 WBT	0	0	0	0	0	0	7	7	7	3	-2.5	-2.5	8	8	15	32	0	32	4	2.1
5 SBL	0	0	0	0	0	0	5	5	5	2	-2	-2	7	5	7	18	0	9	4.4	2.4
6 NBT	0	0	0	0	0	0	16	16	40	2.5	-2.5	-2.5	40	45	40	0	0	0	4.4	2.4
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Last In Service Date: unknown

Permitted Phases	
	12345678
Default	-2-456--
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

TOD Schedule Report
for 5892: NW 107 Av&NW 19 St

Print Date:
10/4/2021

Print Time:
8:48 PM

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 -	2 SBT	3 -	4 WBT	5 SBL	6 NBT	7 -	8 -		
2		140	0	111	0	16	12	92	0	0	0	90
3		170	0	139	0	18	15	117	0	0	0	87
4		160	0	130	0	17	18	105	0	0	0	90
5		130	0	97	0	20	12	78	0	0	0	92
7		150	0	115	0	22	13	95	0	0	0	78
8		160	0	118	0	29	10	101	0	0	0	17
9		160	0	118	0	29	10	101	0	0	0	5
10		130	0	99	0	18	6	86	0	0	0	91
11		170	0	127	0	30	12	108	0	0	0	1
12		140	0	107	0	20	6	94	0	0	0	69
14		120	0	93	0	14	8	78	0	0	0	74
20		115	0	88	0	14	8	73	0	0	0	25
21		150	0	118	0	19	10	101	0	0	0	60
22		115	0	88	0	14	8	73	0	0	0	111
24		110	0	82	0	15	7	68	0	0	0	61
25		150	0	112	0	25	12	93	0	0	0	85
26		160	0	129	0	18	9	113	0	0	0	55
27		110	0	82	0	15	7	68	0	0	0	61

Local TOD Schedule		
Time	Plan	DOW
0000	Free	M T W Th F
0000	Free	
0000	Free	
0000	Free	Su S
0030	Flash	M T W Th F
0130	Flash	
0530	Free	
0545	2	M T W Th F
0545	4	
0630	3	M T W Th F
0700	24	Su S
0800	Free	
0900	20	
1000	7	M T W Th F
1000	25	Su S
1000	5	
1030	21	
1130	8	M T W Th F
1430	9	
1530	11	M T W Th F
1600	26	Su S
2000	10	
2000	12	M T W Th F
2100	27	Su S
2300	Free	
2300	Free	M T W Th F
2300	22	

TOD Schedule Report
for 5892: NW 107 Av&NW 19 St

Print Date:
10/4/2021

Print Time:
8:48 PM

Current Time of Day Function			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

Local Time of Day Function			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

* Settings
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

<i>No Calendar Defined/Enabled</i>

SIGNAL OPERATING PLAN



Timing Phases	Direction	NB		SB	EB		Ped Heads			Movements/Display/Actuation
	Head No.	1/6	6	2	8	8R				
(1 + 6) NW 97 AV NB (Actuated)	Dwell	G/<G	G	R	R	R/G>				
	Clearto (2+6)	G/<Y	G	R	R	R/Y>				
(2 + 6) NW 97 AV N/S (Recall)	Dwell	G	G	G	R	R				
	Clearto (8)	Y	Y	Y	R	R				
	Clearto (1+6)	G	G	Y	R	R				
(8) NW 17 ST EB (Actuated)	Dwell	R	R	R	G	G				
	Clearto (1+6)	R	R	R	Y	Y				
	Clearto (2+6)	R	R	R	R	R				
	Dwell									
	Clearto									
	Dwell									
	Clearto									
	Dwell									
	Clearto									

Flashing Operation FY FY FY FR FR Page 1 of 1

Miami-Dade County Public Works Department

Drawn by: <i>[Signature]</i> Diana I. Ospina	Date: 3/22/2011	NW 97 AVENUE & NW 17 STRET		
Checked by: <i>[Signature]</i> H. HEJANON	Date: 3/24/11	Placed in Service Date 06/08/2011	Phasing No. 1	Asset Number 6865

TOD Schedule Report
for 6865: NW 97 Av&NW 17 St

Print Date:
10/4/2021

Print Time:
9:56 PM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
6865	NW 97 Av&NW 17 St	DOW-2	TOD	Free	0	0	N/A	1	Max 1

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
NBL	SBT	-	-	-	NBT	-	EBT
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	<u>Phase Bank</u>																			
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 NBL	0	0	0	0	0	0	5	5	5	2	2	2	15	5	5	10	10	10	4.4	2
2 SBT	0	0	0	0	0	0	16	16	16	1	1	1	60	40	40	0	40	40	4.4	2
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 NBT	0	0	0	0	0	0	16	16	16	1	1	1	60	40	40	0	40	40	4.4	2
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 EBT	0	0	0	0	0	0	7	7	7	2.5	2.5	2.5	15	15	15	40	40	40	4	2

Last In Service Date: unknown

Permitted Phases	
	12345678
Default	12---6-8
External Permit 0	-----
External Permit 1	-2---6-8
External Permit 2	-2---6-8

<u>Current</u>	<u>Plan</u>	<u>Cycle</u>	1	2	3	4	5	6	7	8	<u>Ring Offset</u>	<u>Offset</u>
<u>TOD Schedule</u>			NBL	SBT	-	-	-	NBT	-	EBT		

Local TOD Schedule		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	Flash	Su M T W Th F S
0600	Free	M T W Th F
0700	Free	Su S

TOD Schedule Report
for 6865: NW 97 Av&NW 17 St

Print Date:
10/4/2021

Print Time:
9:56 PM

Current Time of Day Function			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0600	TOD OUTPUTS	---5----	M T W ThF
0700	TOD OUTPUTS	-----	M T W ThF
1930	TOD OUTPUTS	---5----	M T W ThF

Local Time of Day Function			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0600	TOD OUTPUTS	---5----	M T W ThF
0700	TOD OUTPUTS	---5----	Su S
0700	TOD OUTPUTS	-----	M T W ThF
1930	TOD OUTPUTS	---5----	M T W ThF

* Settings
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

<i>No Calendar Defined/Enabled</i>

Attachement C

PSCF, Historical Data, and Growth Rate

2022 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 8700 MIAMI-DADE NORTH

MOCF: 0.96

WEEK	DATES	SF	PSCF
1	01/01/2022 - 01/01/2022	1.06	1.10
2	01/02/2022 - 01/08/2022	1.04	1.08
3	01/09/2022 - 01/15/2022	1.02	1.06
4	01/16/2022 - 01/22/2022	1.01	1.05
5	01/23/2022 - 01/29/2022	1.00	1.04
6	01/30/2022 - 02/05/2022	0.98	1.02
7	02/06/2022 - 02/12/2022	0.97	1.01
* 8	02/13/2022 - 02/19/2022	0.96	1.00
* 9	02/20/2022 - 02/26/2022	0.96	1.00
*10	02/27/2022 - 03/05/2022	0.96	1.00
*11	03/06/2022 - 03/12/2022	0.96	1.00
*12	03/13/2022 - 03/19/2022	0.96	1.00
*13	03/20/2022 - 03/26/2022	0.96	1.00
*14	03/27/2022 - 04/02/2022	0.96	1.00
*15	04/03/2022 - 04/09/2022	0.96	1.00
*16	04/10/2022 - 04/16/2022	0.95	0.99
*17	04/17/2022 - 04/23/2022	0.96	1.00
*18	04/24/2022 - 04/30/2022	0.96	1.00
*19	05/01/2022 - 05/07/2022	0.97	1.01
*20	05/08/2022 - 05/14/2022	0.97	1.01
21	05/15/2022 - 05/21/2022	0.98	1.02
22	05/22/2022 - 05/28/2022	0.99	1.03
23	05/29/2022 - 06/04/2022	0.99	1.03
24	06/05/2022 - 06/11/2022	1.00	1.04
25	06/12/2022 - 06/18/2022	1.01	1.05
26	06/19/2022 - 06/25/2022	1.01	1.05
27	06/26/2022 - 07/02/2022	1.01	1.05
28	07/03/2022 - 07/09/2022	1.02	1.06
29	07/10/2022 - 07/16/2022	1.02	1.06
30	07/17/2022 - 07/23/2022	1.02	1.06
31	07/24/2022 - 07/30/2022	1.02	1.06
32	07/31/2022 - 08/06/2022	1.01	1.05
33	08/07/2022 - 08/13/2022	1.01	1.05
34	08/14/2022 - 08/20/2022	1.01	1.05
35	08/21/2022 - 08/27/2022	1.03	1.07
36	08/28/2022 - 09/03/2022	1.04	1.08
37	09/04/2022 - 09/10/2022	1.05	1.09
38	09/11/2022 - 09/17/2022	1.07	1.11
39	09/18/2022 - 09/24/2022	1.05	1.09
40	09/25/2022 - 10/01/2022	1.03	1.07
41	10/02/2022 - 10/08/2022	1.01	1.05
42	10/09/2022 - 10/15/2022	0.99	1.03
43	10/16/2022 - 10/22/2022	1.00	1.04
44	10/23/2022 - 10/29/2022	1.01	1.05
45	10/30/2022 - 11/05/2022	1.01	1.05
46	11/06/2022 - 11/12/2022	1.02	1.06
47	11/13/2022 - 11/19/2022	1.03	1.07
48	11/20/2022 - 11/26/2022	1.04	1.08
49	11/27/2022 - 12/03/2022	1.05	1.09
50	12/04/2022 - 12/10/2022	1.05	1.09
51	12/11/2022 - 12/17/2022	1.06	1.10
52	12/18/2022 - 12/24/2022	1.04	1.08
53	12/25/2022 - 12/31/2022	1.02	1.06

* PEAK SEASON

23-FEB-2023 09:11:23

830UPD

6_8700_PKSEASON.TXT

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2022 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8668 - NW 19 STREET 400' WEST OF NW 102 AVE

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
2022	8800	F	E	4200	W	4600	9.00	56.50	7.60
2021	8600	C	E	4100	W	4500	9.00	55.00	7.00
2020	5400	X		0		0	9.00	56.00	8.90
2019	6000	E					9.00	56.00	8.70
2018	5400	V	E	2700	W	2700	9.00	54.30	8.80
2017	6000	R	E	3000	W	3000	9.00	56.10	8.50
2016	6200	T	E	3100	W	3100	9.00	56.10	8.00
2015	6400	S	E	3200	W	3200	9.00	57.40	10.20
2014	6400	F	E	3200	W	3200	9.00	59.30	12.00
2013	6400	C	E	3200	W	3200	9.00	58.90	14.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2022 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8229 - NW 107TH AVE, 200' NORTH OF NW 12TH STREET

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2022	40500	F	N 21000		S 19500	9.00	54.70	7.60
2021	41500	C	N 21500		S 20000	9.00	54.30	7.00
2020	43500	T	N 22500		S 21000	9.00	54.20	8.90
2019	45500	S	N 23500		S 22000	9.00	54.60	8.70
2018	45500	F	N 23500		S 22000	9.00	54.30	8.80
2017	44500	C	N 23000		S 21500	9.00	55.00	8.50
2016	47000	T	N 25000		S 22000	9.00	54.50	8.00
2015	45000	S	N 24000		S 21000	9.00	54.70	10.20
2014	43500	F	N 23000		S 20500	9.00	54.50	12.00
2013	43500	C	N 23000		S 20500	9.00	52.40	16.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

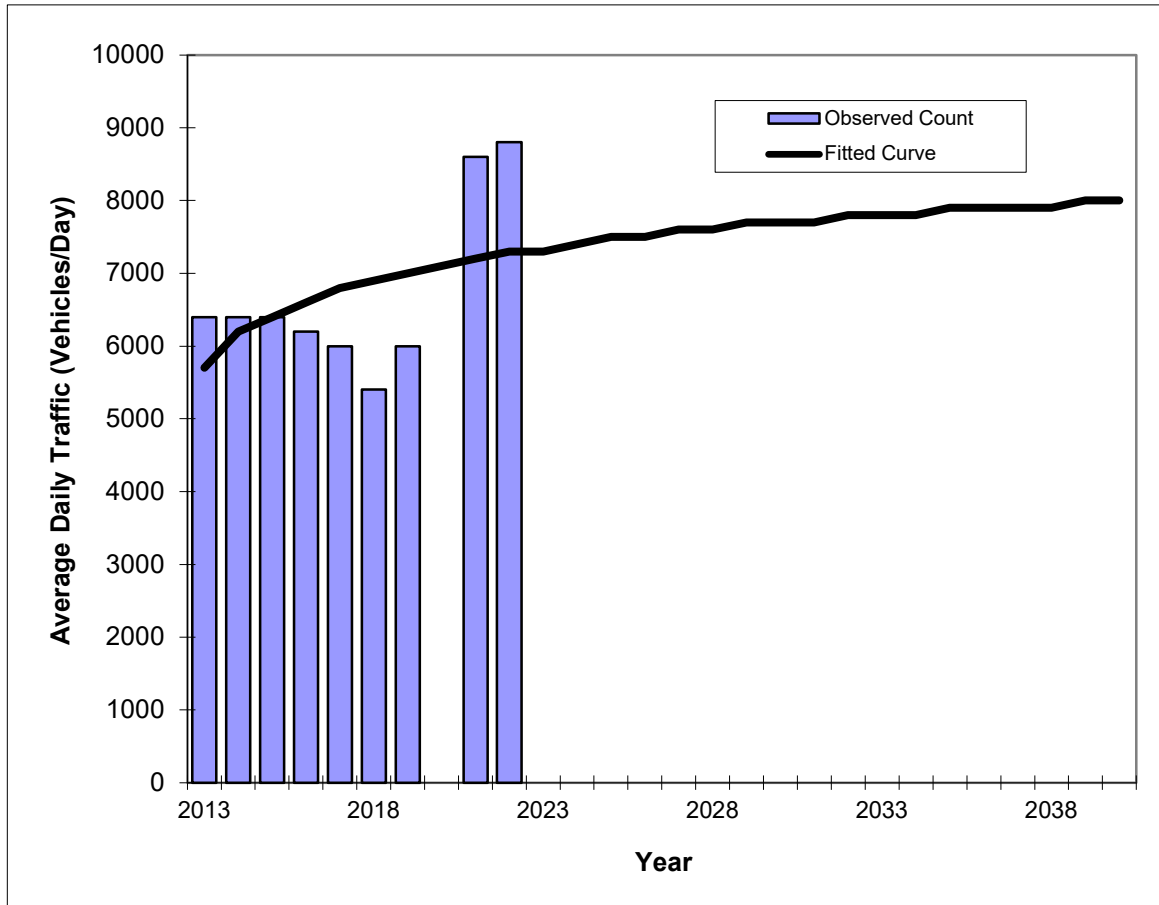
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V03.a

NW 19 STREET 400 -- WEST OF NW 102 AVE

FIN#	1234
Location	1

County:	Miami-Dade (87)
Station #:	8668
Highway:	NW 19 STREET 400



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	6400	5700
2014	6400	6200
2015	6400	6400
2016	6200	6600
2017	6000	6800
2018	5400	6900
2019	6000	7000
2020	N/A	N/A
2021	8600	7200
2022	8800	7300
2023 Opening Year Trend		
2023	N/A	7300
2024 Mid-Year Trend		
2024	N/A	7400
2026 Design Year Trend		
2026	N/A	7500
TRANPLAN Forecasts/Trends		

Trend R-squared:	36.26%
Compounded Annual Historic Growth Rate:	2.79%
Compounded Growth Rate (2022 to Design Year):	0.68%
Printed:	15-Feb-24
Exponential Growth Option	

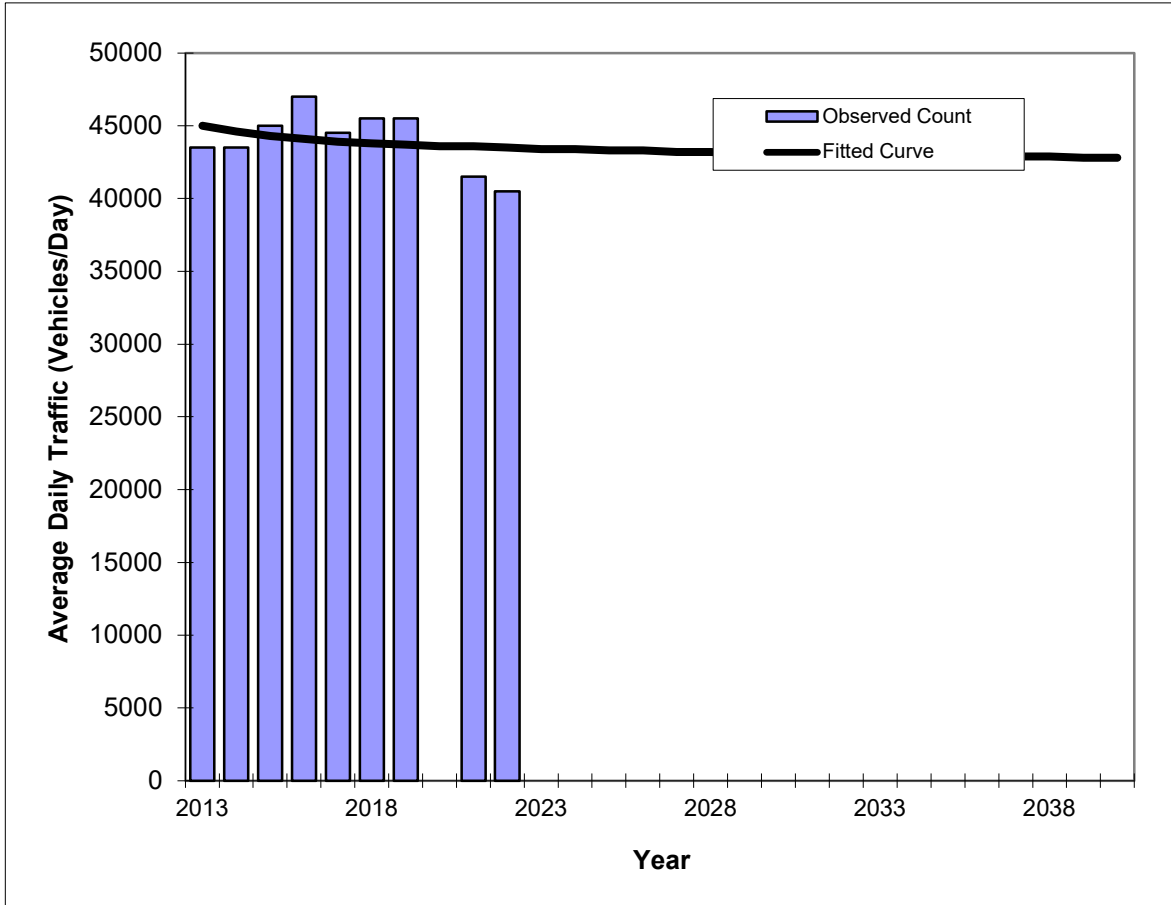
*Axle-Adjusted

Traffic Trends - V03.a

NW 107TH AVE -- 200' NORTH OF NW 12TH STREET

FIN#	1234
Location	3

County:	Miami-Dade (87)
Station #:	8229
Highway:	NW 107TH AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	43500	45000
2014	43500	44600
2015	45000	44300
2016	47000	44100
2017	44500	43900
2018	45500	43800
2019	45500	43700
2020	N/A	N/A
2021	41500	43600
2022	40500	43500
2023 Opening Year Trend		
2023	N/A	43400
2024 Mid-Year Trend		
2024	N/A	43400
2026 Design Year Trend		
2026	N/A	43300
TRANPLAN Forecasts/Trends		

Trend R-squared:	24.98%
Compounded Annual Historic Growth Rate:	-0.38%
Compounded Growth Rate (2022 to Design Year):	-0.12%
Printed:	15-Feb-24
Exponential Growth Option	

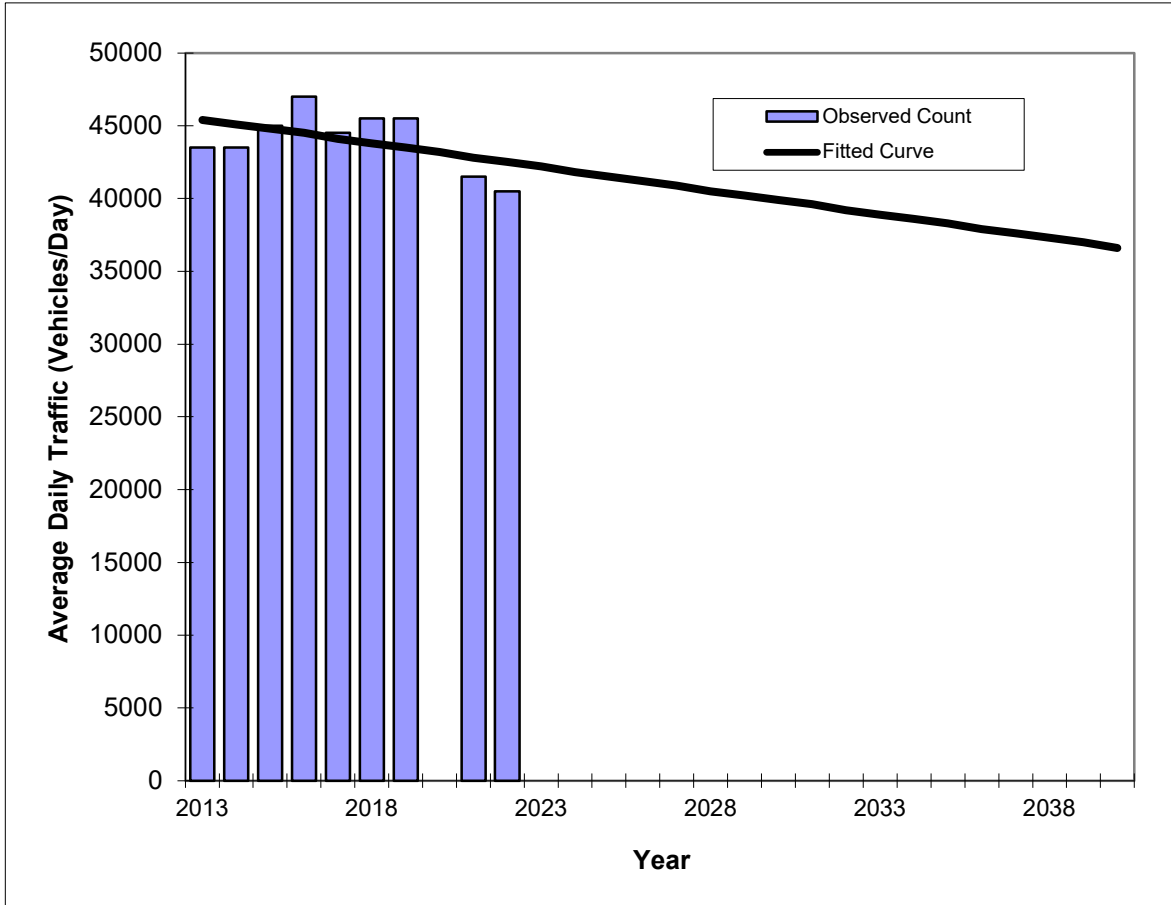
*Axle-Adjusted

Traffic Trends - V03.a

NW 107TH AVE -- 200' NORTH OF NW 12TH STREET

FIN#	1234
Location	3

County:	Miami-Dade (87)
Station #:	8229
Highway:	NW 107TH AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	43500	45400
2014	43500	45100
2015	45000	44800
2016	47000	44500
2017	44500	44100
2018	45500	43800
2019	45500	43500
2020	N/A	N/A
2021	41500	42800
2022	40500	42500
2023 Opening Year Trend		
2023	N/A	42200
2024 Mid-Year Trend		
2024	N/A	41800
2026 Design Year Trend		
2026	N/A	41200
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-326
Trend R-squared:	23.77%
Trend Annual Historic Growth Rate:	-0.71%
Trend Growth Rate (2022 to Design Year):	-0.76%
Printed:	15-Feb-24

Straight Line Growth Option

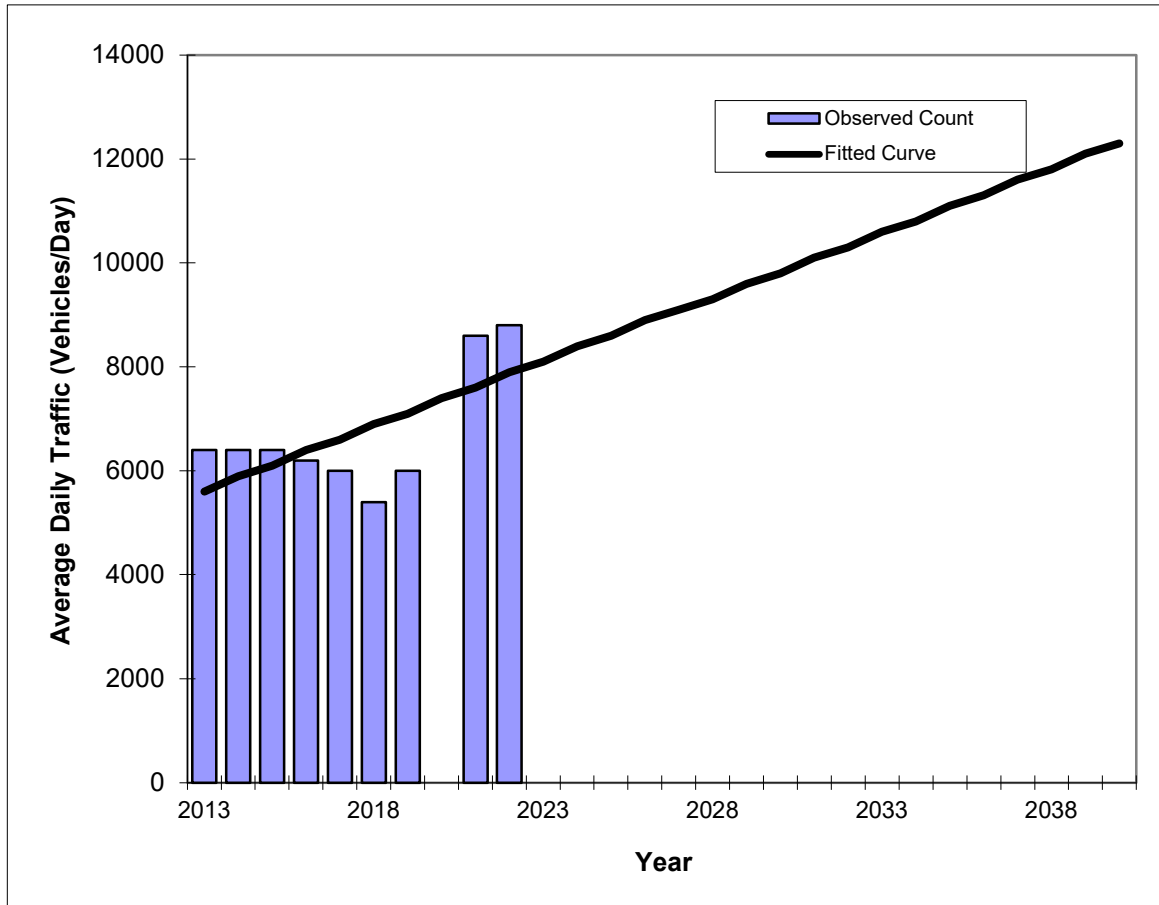
*Axle-Adjusted

Traffic Trends - V03.a

NW 19 STREET 400 -- WEST OF NW 102 AVE

FIN#	1234
Location	1

County:	Miami-Dade (87)
Station #:	8668
Highway:	NW 19 STREET 400



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	6400	5600
2014	6400	5900
2015	6400	6100
2016	6200	6400
2017	6000	6600
2018	5400	6900
2019	6000	7100
2020	N/A	N/A
2021	8600	7600
2022	8800	7900
2023 Opening Year Trend		
2023	N/A	8100
2024 Mid-Year Trend		
2024	N/A	8400
2026 Design Year Trend		
2026	N/A	8900
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	246
Trend R-squared:	40.95%
Trend Annual Historic Growth Rate:	4.56%
Trend Growth Rate (2022 to Design Year):	3.16%
Printed:	15-Feb-24
Straight Line Growth Option	

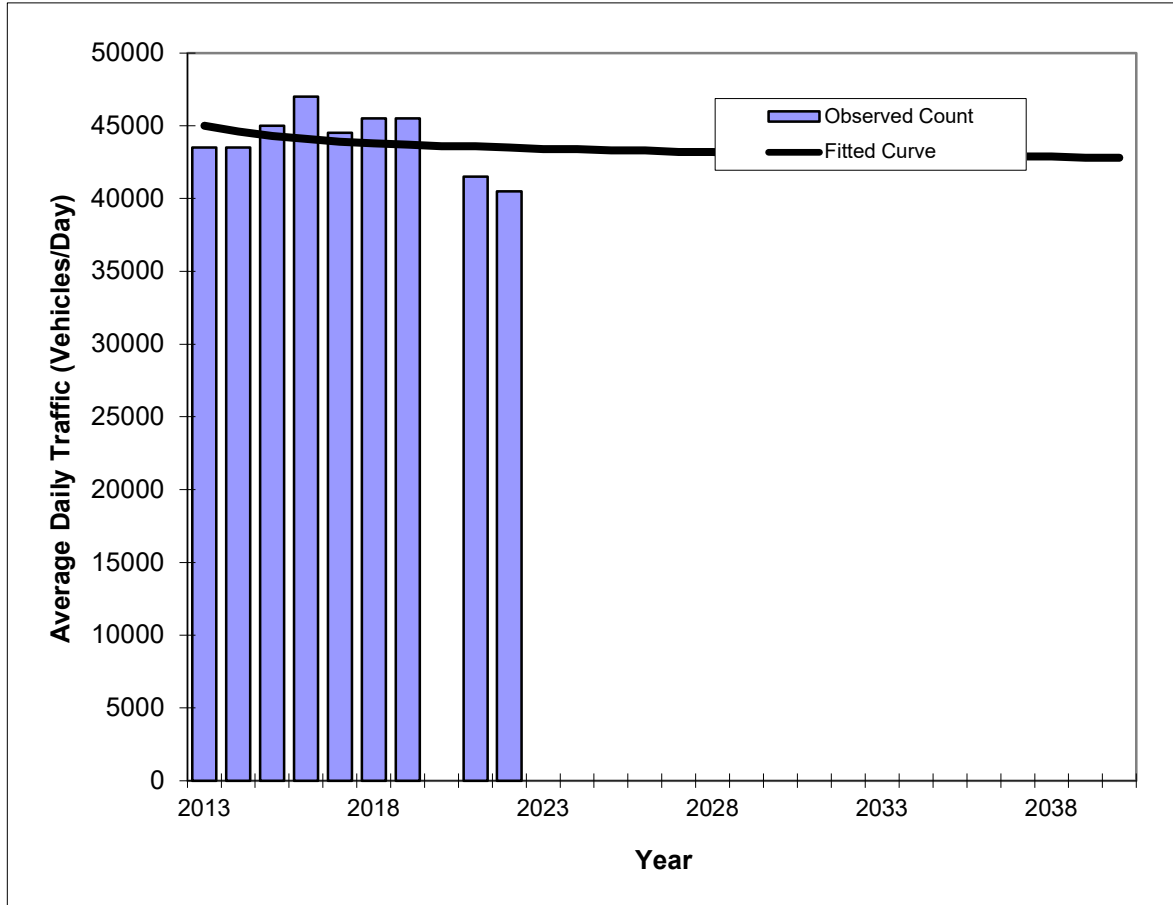
*Axle-Adjusted

Traffic Trends - V03.a

NW 107TH AVE -- 200' NORTH OF NW 12TH STREET

FIN#	1234
Location	3

County:	Miami-Dade (87)
Station #:	8229
Highway:	NW 107TH AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	43500	45000
2014	43500	44600
2015	45000	44300
2016	47000	44100
2017	44500	43900
2018	45500	43800
2019	45500	43700
2020	N/A	N/A
2021	41500	43600
2022	40500	43500
2023 Opening Year Trend		
2023	N/A	43400
2024 Mid-Year Trend		
2024	N/A	43400
2026 Design Year Trend		
2026	N/A	43300
TRANPLAN Forecasts/Trends		

Trend R-squared:	5.78%
Compounded Annual Historic Growth Rate:	-0.38%
Compounded Growth Rate (2022 to Design Year):	-0.12%
Printed:	15-Feb-24
Decaying Exponential Growth Option	

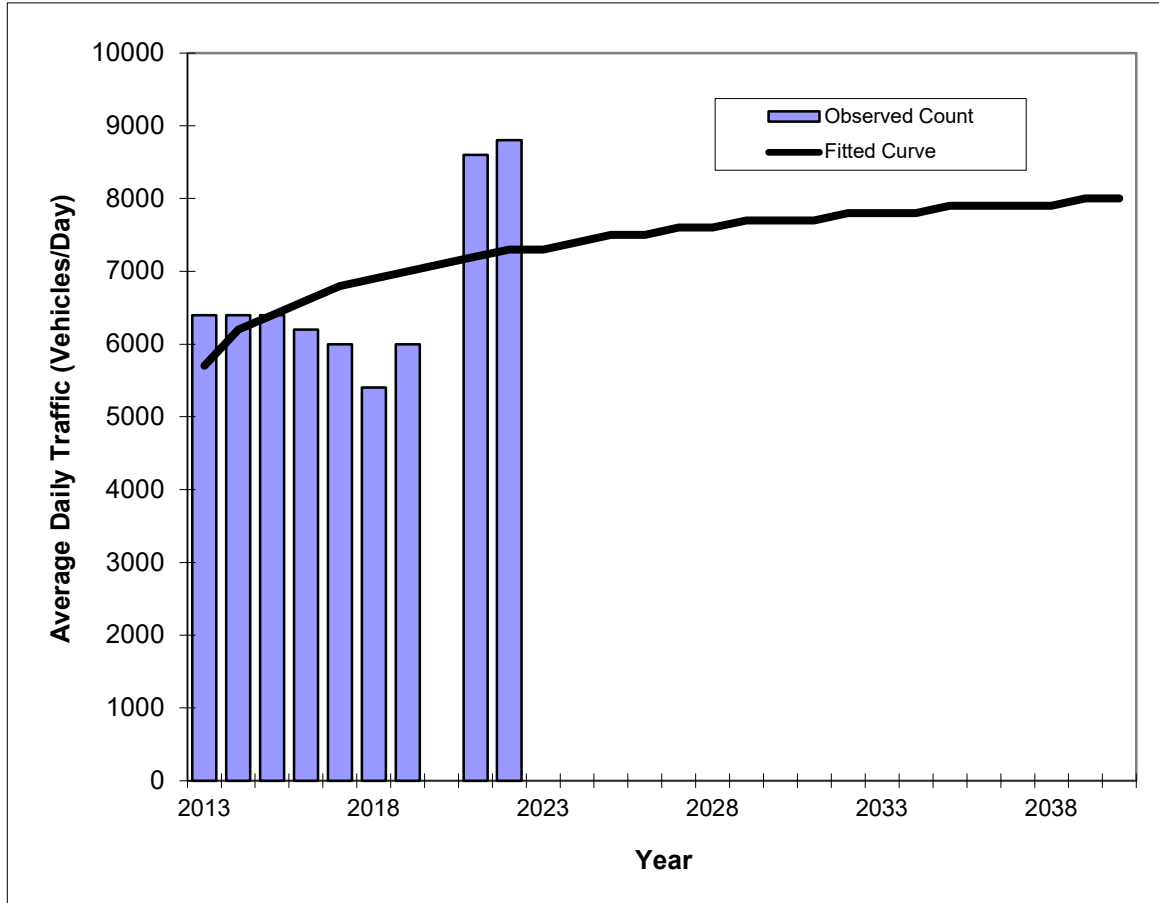
*Axle-Adjusted

Traffic Trends - V03.a

NW 19 STREET 400 -- WEST OF NW 102 AVE

FIN#	1234
Location	1

County:	Miami-Dade (87)
Station #:	8668
Highway:	NW 19 STREET 400



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	6400	5700
2014	6400	6200
2015	6400	6400
2016	6200	6600
2017	6000	6800
2018	5400	6900
2019	6000	7000
2020	N/A	N/A
2021	8600	7200
2022	8800	7300
2023 Opening Year Trend		
2023	N/A	7300
2024 Mid-Year Trend		
2024	N/A	7400
2026 Design Year Trend		
2026	N/A	7500
TRANPLAN Forecasts/Trends		

Trend R-squared:	19.23%
Compounded Annual Historic Growth Rate:	2.79%
Compounded Growth Rate (2022 to Design Year):	0.68%
Printed:	15-Feb-24
Decaying Exponential Growth Option	

*Axle-Adjusted

Growth Rate Trend Analysis Calculations

Description	8229			8668		
Option	Linear	Exponential	Decaying Exponential	Linear	Exponential	Decaying Exponential
Trend Growth Rate 5 years (1)	-0.71	-0.38	-0.38	4.56	2.79	2.79
Adjusted Growth Rate 5-years (2)	0.50	0.50	0.50	4.56	2.79	2.79
Trend R-squared 5 years	23.77	24.98	5.78	40.95	36.26	19.23
Growth Rate with highest R-squared (5-year)	0.50			4.56		
Average Growth Rate (5-year)	2.53					
Growth Rate Used	2.53					

Notes:

1: Refer to Trend Analysis Chart . 2017 to 2022 historical data

2: If the resulting growth rate is negative, a 0.5 growth rate was used

What Is R-squared?

R-squared is a statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination, or the coefficient of multiple determination for multiple regression.

The definition of R-squared is fairly straight-forward; it is the percentage of the response variable variation that is explained by a linear model. Or:

R-squared = Explained variation / Total variation

R-squared is always between 0 and 100%:

0% indicates that the model explains none of the variability of the response data around its mean.

100% indicates that the model explains all the variability of the response data around its mean.

In general, the higher the R-squared, the better the model fits your data. However, there are important conditions for this guideline that I'll talk about both in this post and my next post.

Attachement D
Future Turning Movement Volumes

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

**NW 107th Ave & NW 19th St
AM Peak Hour**

Description	NW 107th Ave Northbound			NW 107th Ave Southbound			NW 19th St Eastbound			NW 19th St Westbound		
	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	
Existing Traffic (1/24/2024)	1,672	450	249	769					190		181	
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	
2024 Peak Season Traffic	0	1739	468	259	800	0	0	0	198	0	188	
Annual Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	
Committed Developments:												
2026 Background Traffic	0	1,828	492	272	841	0	0	0	208	0	198	
Project			8	5					7		4	
2026 Total Traffic	0	1,828	500	277	841	0	0	0	215	0	202	

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

**NW 107th Ave & NW 19th St
PM Peak Hour**

Description	NW 107th Ave Northbound			NW 107th Ave Southbound			NW 19th St Eastbound			NW 19th St Westbound		
	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	
Existing Traffic (1/24/2024)	931	143	223	1,258					304		182	
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	
2024 Peak Season Traffic	0	968	149	232	1308	0	0	0	316	0	189	
Annual Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	
Committed Developments:												
2026 Background Traffic	0	1,018	156	244	1,375	0	0	0	332	0	199	
Project			9	4					8		5	
2026 Total Traffic	0	1,018	165	248	1,375	0	0	0	340	0	204	

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

**NW 19th St & Full Open Driveway
AM Peak Hour**

Description	Double Tree by Hilton Northbound			Driveway Southbound			NW 19th St Eastbound			NW 19th St Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (1/24/2024)	16	3	63	3		1	30	550	11	44	335	6
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2024 Peak Season Traffic	17	3	66	3	0	1	31	572	11	46	348	6
Annual Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Committed Developments:												
2026 Background Traffic	17	3	69	3	0	1	33	601	12	48	366	7
Project								13		18	11	
2026 Total Traffic	17	3	69	3	0	1	33	614	12	66	377	7

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

**NW 19th St & Full Open Driveway
PM Peak Hour**

Description	Double Tree by Hilton Northbound			Driveway Southbound			NW 19th St Eastbound			NW 19th St Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (1/24/2024)	18		67	5	3	12	2	390	30	128	374	4
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2024 Peak Season Traffic	19	0	70	5	3	12	2	406	31	133	389	4
Annual Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Committed Developments:												
2026 Background Traffic	20	0	73	5	3	13	2	426	33	140	409	4
Project								13		20	13	
2026 Total Traffic	20	0	73	5	3	13	2	439	33	160	422	4

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

**NW 19th St & Driveway
AM Peak Hour**

Description	Driveway Northbound			Southbound			NW 19th St Eastbound			NW 19th St Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (1/24/2024)			9					572	3		389	
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2024 Peak Season Traffic	0	0	9	0	0	0	0	595	3	0	405	0
Annual Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Committed Developments:												
2026 Background Traffic	0	0	10	0	0	0	0	625	3	0	425	0
Project			31						31		18	
2026 Total Traffic	0	0	41	0	0	0	0	625	34	0	443	0

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

**NW 19th St & Driveway
PM Peak Hour**

Description	Driveway Northbound			Southbound			NW 19th St Eastbound			NW 19th St Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (1/24/2024)			10				458		8		492	
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2024 Peak Season Traffic	0	0	10	0	0	0	0	476	8	0	512	0
Annual Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Committed Developments:												
2026 Background Traffic	0	0	11	0	0	0	0	501	9	0	538	0
Project			32						33		33	
2026 Total Traffic	0	0	43	0	0	0	0	501	42	0	571	0

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

**NW 102nd Ave & NW 19th St
AM Peak Hour**

Description	NW 102nd Ave Northbound			NW 102nd Ave Southbound			NW 19th St Eastbound			NW 19th St Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (1/24/2024)	8	12	3	184	22	121	273	302	42	6	259	260
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2024 Peak Season Traffic	8	12	3	191	23	126	284	314	44	6	269	270
Annual Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Committed Developments:												
2026 Background Traffic	9	13	3	201	24	132	298	330	46	7	283	284
Project						4	14	11			14	
2026 Total Traffic	9	13	3	201	24	136	312	341	46	7	297	284

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

**NW 102nd Ave & NW 19th St
PM Peak Hour**

Description	NW 102nd Ave Northbound			NW 102nd Ave Southbound			NW 19th St Eastbound			NW 19th St Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (1/24/2024)	53	22	13	181	21	172	67	375	16	3	280	109
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2024 Peak Season Traffic	55	23	14	188	22	179	70	390	17	3	291	113
Annual Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Committed Developments:												
2026 Background Traffic	58	24	14	198	23	188	73	410	17	3	306	119
Project						5	17	15			15	
2026 Total Traffic	58	24	14	198	23	193	90	425	17	3	321	119

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

**NW 97th Ave & NW 17th St
AM Peak Hour**

Description	NW 97th Ave Northbound			NW 97th Ave Southbound			NW 17th St Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (1/24/2024)	437	1,064			477	145	177		286			
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2024 Peak Season Traffic	454	1107	0	0	496	151	184	0	297	0	0	0
Annual Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Committed Developments:												
2026 Background Traffic	478	1,163	0	0	521	159	194	0	313	0	0	0
Project	9					5	4		7			
2026 Total Traffic	487	1,163	0	0	521	164	198	0	320	0	0	0

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

**NW 97th Ave & NW 17th St
PM Peak Hour**

Description	NW 97th Ave Northbound			NW 97th Ave Southbound			NW 17th St Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (1/24/2024)	224	782			1,309	101	134		509			
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2024 Peak Season Traffic	233	813	0	0	1361	105	139	0	529	0	0	0
Annual Growth Rate	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%	2.53%
Committed Developments:												
2026 Background Traffic	245	855	0	0	1,431	110	147	0	556	0	0	0
Project	9					6	5		10			
2026 Total Traffic	254	855	0	0	1,431	116	152	0	566	0	0	0

Attachement E
SYNCHRO Analyses

Timings

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↵	↵	↑↑↑	↵	↑↑↑
Traffic Volume (vph)	198	188	1739	259	800
Future Volume (vph)	198	188	1739	259	800
Turn Type	Prot	Prot	NA	pm+pt	NA
Protected Phases	4	4	6	5	2
Permitted Phases		4		2	
Detector Phase	4	4	6	5	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	16.0	5.0	16.0
Minimum Split (s)	24.1	24.1	24.8	11.8	24.8
Total Split (s)	24.2	24.2	124.0	21.8	145.8
Total Split (%)	14.2%	14.2%	72.9%	12.8%	85.8%
Yellow Time (s)	4.0	4.0	4.4	4.4	4.4
All-Red Time (s)	2.1	2.1	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.8	6.8	6.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	18.1	18.1	117.2	139.0	139.0
Actuated g/C Ratio	0.11	0.11	0.69	0.82	0.82
v/c Ratio	1.12	0.66	0.69	1.31	0.20
Control Delay	167.0	31.9	16.2	211.3	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	167.0	31.9	16.2	211.3	3.5
LOS	F	C	B	F	A
Approach Delay	101.3		16.2		54.4
Approach LOS	F		B		D

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 87 (51%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.31

Intersection Signal Delay: 36.2

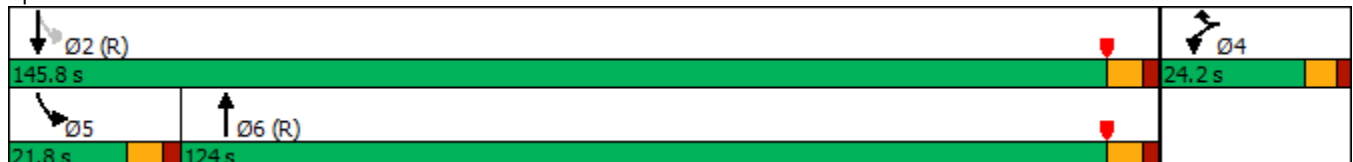
Intersection LOS: D

Intersection Capacity Utilization 85.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 101: NW 107th Avenue & NW 19th Street



Queues

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	211	200	2348	276	851
v/c Ratio	1.12	0.66	0.69	1.31	0.20
Control Delay	167.0	31.9	16.2	211.3	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	167.0	31.9	16.2	211.3	3.5
Queue Length 50th (ft)	~269	53	512	~331	65
Queue Length 95th (ft)	#449	148	554	#531	75
Internal Link Dist (ft)	720		370		397
Turn Bay Length (ft)				150	
Base Capacity (vph)	188	301	3412	210	4157
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.12	0.66	0.69	1.31	0.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 101: NW 107th Avenue & NW 19th Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↕↕↕↔		↶	↕↕↕
Traffic Volume (veh/h)	198	188	1739	468	259	800
Future Volume (veh/h)	198	188	1739	468	259	800
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	200	1850	498	276	851
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	190	169	2770	719	261	4175
Arrive On Green	0.11	0.11	0.69	0.69	0.09	0.82
Sat Flow, veh/h	1781	1585	4186	1043	1781	5274
Grp Volume(v), veh/h	211	200	1557	791	276	851
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1656	1781	1702
Q Serve(g_s), s	18.1	18.1	44.5	48.3	15.0	6.2
Cycle Q Clear(g_c), s	18.1	18.1	44.5	48.3	15.0	6.2
Prop In Lane	1.00	1.00		0.63	1.00	
Lane Grp Cap(c), veh/h	190	169	2347	1142	261	4175
V/C Ratio(X)	1.11	1.19	0.66	0.69	1.06	0.20
Avail Cap(c_a), veh/h	190	169	2347	1142	261	4175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.9	76.0	15.1	15.7	52.1	3.4
Incr Delay (d2), s/veh	98.8	127.8	1.5	3.5	71.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	21.1	17.4	19.0	16.6	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	174.7	203.8	16.6	19.2	123.2	3.5
LnGrp LOS	F	F	B	B	F	A
Approach Vol, veh/h	411		2348			1127
Approach Delay, s/veh	188.8		17.5			32.8
Approach LOS	F		B			C
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		145.8		24.2	21.8	124.0
Change Period (Y+Rc), s		6.8		6.1	6.8	6.8
Max Green Setting (Gmax), s		139.0		18.1	15.0	117.2
Max Q Clear Time (g_c+I1), s		8.2		20.1	17.0	50.3
Green Ext Time (p_c), s		6.0		0.0	0.0	32.0
Intersection Summary						
HCM 6th Ctrl Delay			40.0			
HCM 6th LOS			D			

HCM 6th TWSC
 102: Full Median Opening & NW 19th Street

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑			↔			↔	
Traffic Vol, veh/h	31	572	11	46	348	6	17	3	66	3	0	1
Future Vol, veh/h	31	572	11	46	348	6	17	3	66	3	0	1
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	698	13	56	424	7	21	4	80	4	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	431	0	0	713	0	0	1107	1326	358	967	1329	216
Stage 1	-	-	-	-	-	-	783	783	-	540	540	-
Stage 2	-	-	-	-	-	-	324	543	-	427	789	-
Critical Hdwy	4.14	-	-	4.14	-	-	5	5	4.5	5	5	4.5
Critical Hdwy Stg 1	-	-	-	-	-	-	5	5	-	5	5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5	5	-	5	5	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3	3	3	3	3	3
Pot Cap-1 Maneuver	1125	-	-	883	-	-	395	314	887	456	313	1001
Stage 1	-	-	-	-	-	-	551	551	-	704	704	-
Stage 2	-	-	-	-	-	-	873	702	-	788	547	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1125	-	-	881	-	-	359	277	885	375	276	1001
Mov Cap-2 Maneuver	-	-	-	-	-	-	433	382	-	462	365	-
Stage 1	-	-	-	-	-	-	519	519	-	665	659	-
Stage 2	-	-	-	-	-	-	817	657	-	671	515	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.1			11			11.8		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	707	1125	-	-	881	-	-	534
HCM Lane V/C Ratio	0.148	0.034	-	-	0.064	-	-	0.009
HCM Control Delay (s)	11	8.3	-	-	9.4	-	-	11.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.2	-	-	0

HCM 6th TWSC
 103: Driveway & NW 19th Street

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	595	3	0	405	0	9
Future Vol, veh/h	595	3	0	405	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	700	4	0	476	0	11

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	352
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	4.5
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3
Pot Cap-1 Maneuver	-	-	0	-	892
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	892
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	892	-	-	-
HCM Lane V/C Ratio	0.012	-	-	-
HCM Control Delay (s)	9.1	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

HCM 6th AWSC

104: NW 102nd Avenue & NW 19th Street/NW 17th Street

Intersection	
Intersection Delay, s/veh	37.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗		↵	↗	
Traffic Vol, veh/h	284	314	44	6	269	270	8	12	3	191	23	126
Future Vol, veh/h	284	314	44	6	269	270	8	12	3	191	23	126
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	342	378	53	7	324	325	10	14	4	230	28	152
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	31.9	53.6	14.3	23.7
HCM LOS	D	F	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	80%	0%	100%	70%	0%	100%	25%	0%	15%
Vol Right, %	0%	20%	0%	0%	30%	0%	0%	75%	0%	85%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	15	284	209	149	6	179	360	191	149
LT Vol	8	0	284	0	0	6	0	0	191	0
Through Vol	0	12	0	209	105	0	179	90	0	23
RT Vol	0	3	0	0	44	0	0	270	0	126
Lane Flow Rate	10	18	342	252	179	7	216	433	230	180
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.031	0.054	0.855	0.594	0.411	0.019	0.528	0.994	0.63	0.436
Departure Headway (Hd)	11.502	10.843	8.997	8.482	8.269	9.312	8.798	8.258	9.858	8.752
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	311	330	404	426	435	385	411	442	366	411
Service Time	9.278	8.619	6.744	6.229	6.016	7.062	6.548	6.007	7.616	6.51
HCM Lane V/C Ratio	0.032	0.055	0.847	0.592	0.411	0.018	0.526	0.98	0.628	0.438
HCM Control Delay	14.6	14.2	46.5	23	16.7	12.2	21	70.6	28.1	18.1
HCM Lane LOS	B	B	E	C	C	B	C	F	D	C
HCM 95th-tile Q	0.1	0.2	8.3	3.7	2	0.1	3	12.5	4.1	2.2

Timings

105: NW 97th Avenue & NW 17th Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	184	297	454	1107	496
Future Volume (vph)	184	297	454	1107	496
Turn Type	Prot	pm+ov	pm+pt	NA	NA
Protected Phases	8	1	1	6	2
Permitted Phases		8	6		
Detector Phase	8	1	1	6	2
Switch Phase					
Minimum Initial (s)	7.0	5.0	5.0	16.0	16.0
Minimum Split (s)	15.0	11.4	11.4	24.4	24.4
Total Split (s)	21.0	21.4	21.4	88.0	66.4
Total Split (%)	19.3%	19.6%	19.6%	80.7%	60.9%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	6.4	6.4	6.4
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	14.3	34.0	82.3	82.3	62.2
Actuated g/C Ratio	0.13	0.31	0.76	0.76	0.57
v/c Ratio	0.84	0.44	0.79	0.44	0.35
Control Delay	75.7	5.1	15.5	5.5	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	75.7	5.1	15.5	5.5	12.3
LOS	E	A	B	A	B
Approach Delay	32.1			8.5	12.3
Approach LOS	C			A	B

Intersection Summary

Cycle Length: 109

Actuated Cycle Length: 109

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 13.6

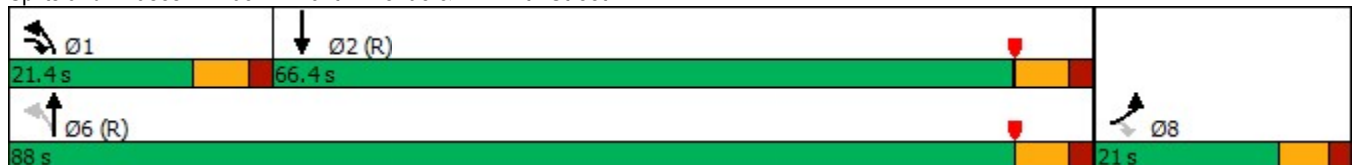
Intersection LOS: B

Intersection Capacity Utilization 69.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 105: NW 97th Avenue & NW 17th Street



Queues

105: NW 97th Avenue & NW 17th Street



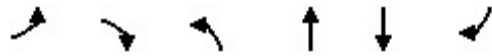
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	194	313	478	1165	681
v/c Ratio	0.84	0.44	0.79	0.44	0.35
Control Delay	75.7	5.1	15.5	5.5	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	75.7	5.1	15.5	5.5	12.3
Queue Length 50th (ft)	133	0	97	135	120
Queue Length 95th (ft)	#250	60	#151	168	159
Internal Link Dist (ft)	997			269	190
Turn Bay Length (ft)			100		
Base Capacity (vph)	243	724	618	2672	1966
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.43	0.77	0.44	0.35

Intersection Summary

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

HCM 6th Signalized Intersection Summary

105: NW 97th Avenue & NW 17th Street



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	184	297	454	1107	496	151
Future Volume (veh/h)	184	297	454	1107	496	151
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	194	313	478	1165	522	159
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	245	419	638	2660	1502	455
Arrive On Green	0.14	0.14	0.13	0.75	0.56	0.56
Sat Flow, veh/h	1781	1585	1781	3647	2761	808
Grp Volume(v), veh/h	194	313	478	1165	347	334
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1699
Q Serve(g_s), s	11.5	15.0	11.7	13.4	11.5	11.7
Cycle Q Clear(g_c), s	11.5	15.0	11.7	13.4	11.5	11.7
Prop In Lane	1.00	1.00	1.00			0.48
Lane Grp Cap(c), veh/h	245	419	638	2660	1001	957
V/C Ratio(X)	0.79	0.75	0.75	0.44	0.35	0.35
Avail Cap(c_a), veh/h	245	419	658	2660	1001	957
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	36.7	8.7	5.1	12.9	12.9
Incr Delay (d2), s/veh	15.5	6.9	4.0	0.5	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	8.4	4.6	4.3	4.7	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	61.0	43.6	12.7	5.6	13.9	14.0
LnGrp LOS	E	D	B	A	B	B
Approach Vol, veh/h	507			1643	681	
Approach Delay, s/veh	50.3			7.7	13.9	
Approach LOS	D			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	20.2	67.8			88.0	21.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.0
Max Green Setting (Gmax), s	15.0	60.0			81.6	15.0
Max Q Clear Time (g_c+I1), s	13.7	13.7			15.4	17.0
Green Ext Time (p_c), s	0.2	1.6			3.8	0.0
Intersection Summary						
HCM 6th Ctrl Delay			16.8			
HCM 6th LOS			B			

Timings

101: NW 107th Avenue & NW 19th Street

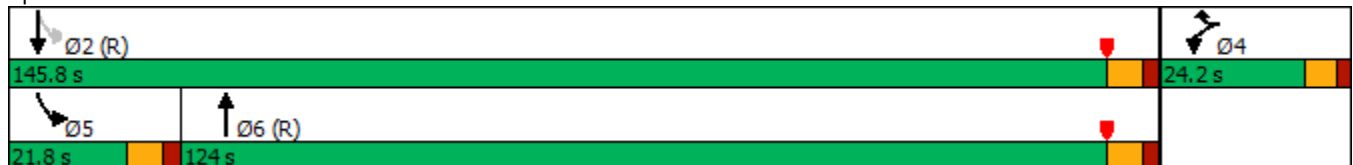


Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↵	↵	↑↑↑	↵	↑↑↑
Traffic Volume (vph)	208	198	1828	272	841
Future Volume (vph)	208	198	1828	272	841
Turn Type	Prot	Prot	NA	pm+pt	NA
Protected Phases	4	4	6	5	2
Permitted Phases		4		2	
Detector Phase	4	4	6	5	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	16.0	5.0	16.0
Minimum Split (s)	24.1	24.1	24.8	11.8	24.8
Total Split (s)	24.2	24.2	124.0	21.8	145.8
Total Split (%)	14.2%	14.2%	72.9%	12.8%	85.8%
Yellow Time (s)	4.0	4.0	4.4	4.4	4.4
All-Red Time (s)	2.1	2.1	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.8	6.8	6.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	18.1	18.1	117.2	139.0	139.0
Actuated g/C Ratio	0.11	0.11	0.69	0.82	0.82
v/c Ratio	1.18	0.71	0.72	1.45	0.22
Control Delay	182.4	37.7	17.2	268.3	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	182.4	37.7	17.2	268.3	3.6
LOS	F	D	B	F	A
Approach Delay	111.7		17.2		68.2
Approach LOS	F		B		E

Intersection Summary

Cycle Length: 170
 Actuated Cycle Length: 170
 Offset: 87 (51%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.45
 Intersection Signal Delay: 41.9
 Intersection LOS: D
 Intersection Capacity Utilization 89.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 101: NW 107th Avenue & NW 19th Street



Queues

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	221	211	2468	289	895
v/c Ratio	1.18	0.71	0.72	1.45	0.22
Control Delay	182.4	37.7	17.2	268.3	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	182.4	37.7	17.2	268.3	3.6
Queue Length 50th (ft)	~292	70	566	~387	69
Queue Length 95th (ft)	#477	171	610	#590	79
Internal Link Dist (ft)	720		370		397
Turn Bay Length (ft)				150	
Base Capacity (vph)	188	298	3412	199	4157
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.18	0.71	0.72	1.45	0.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

101: NW 107th Avenue & NW 19th Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↑↑↑		↶	↑↑↑
Traffic Volume (veh/h)	208	198	1828	492	272	841
Future Volume (veh/h)	208	198	1828	492	272	841
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	221	211	1945	523	289	895
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	190	169	2777	713	250	4175
Arrive On Green	0.11	0.11	0.69	0.69	0.09	0.82
Sat Flow, veh/h	1781	1585	4197	1034	1781	5274
Grp Volume(v), veh/h	221	211	1629	839	289	895
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1658	1781	1702
Q Serve(g_s), s	18.1	18.1	48.5	54.1	15.0	6.6
Cycle Q Clear(g_c), s	18.1	18.1	48.5	54.1	15.0	6.6
Prop In Lane	1.00	1.00		0.62	1.00	
Lane Grp Cap(c), veh/h	190	169	2347	1143	250	4175
V/C Ratio(X)	1.17	1.25	0.69	0.73	1.16	0.21
Avail Cap(c_a), veh/h	190	169	2347	1143	250	4175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.9	76.0	15.7	16.6	55.1	3.4
Incr Delay (d2), s/veh	116.9	152.1	1.7	4.2	105.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	22.2	19.0	21.4	18.3	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	192.9	228.0	17.4	20.8	161.0	3.5
LnGrp LOS	F	F	B	C	F	A
Approach Vol, veh/h	432		2468			1184
Approach Delay, s/veh	210.1		18.6			42.0
Approach LOS	F		B			D
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		145.8		24.2	21.8	124.0
Change Period (Y+Rc), s		6.8		6.1	6.8	6.8
Max Green Setting (Gmax), s		139.0		18.1	15.0	117.2
Max Q Clear Time (g_c+I1), s		8.6		20.1	17.0	56.1
Green Ext Time (p_c), s		6.4		0.0	0.0	33.8
Intersection Summary						
HCM 6th Ctrl Delay			45.6			
HCM 6th LOS			D			

HCM 6th TWSC
 102: Full Median Opening & NW 19th Street

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑			↔			↔	
Traffic Vol, veh/h	33	601	12	48	366	7	17	3	69	3	0	1
Future Vol, veh/h	33	601	12	48	366	7	17	3	69	3	0	1
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	733	15	59	446	9	21	4	84	4	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	455	0	0	750	0	0	1164	1396	376	1018	1399	228
Stage 1	-	-	-	-	-	-	823	823	-	569	569	-
Stage 2	-	-	-	-	-	-	341	573	-	449	830	-
Critical Hdwy	4.14	-	-	4.14	-	-	5	5	4.5	5	5	4.5
Critical Hdwy Stg 1	-	-	-	-	-	-	5	5	-	5	5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5	5	-	5	5	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3	3	3	3	3	3
Pot Cap-1 Maneuver	1102	-	-	855	-	-	372	292	874	433	291	991
Stage 1	-	-	-	-	-	-	529	529	-	684	684	-
Stage 2	-	-	-	-	-	-	859	681	-	771	525	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1102	-	-	853	-	-	335	255	872	350	254	991
Mov Cap-2 Maneuver	-	-	-	-	-	-	412	361	-	440	343	-
Stage 1	-	-	-	-	-	-	495	495	-	642	637	-
Stage 2	-	-	-	-	-	-	799	634	-	649	491	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.1			11.2			12.1		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	692	1102	-	-	853	-	-	511
HCM Lane V/C Ratio	0.157	0.037	-	-	0.069	-	-	0.01
HCM Control Delay (s)	11.2	8.4	-	-	9.5	-	-	12.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.2	-	-	0

HCM 6th TWSC
 103: Driveway & NW 19th Street

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	625	3	0	425	0	35
Future Vol, veh/h	625	3	0	425	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	735	4	0	500	0	41

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	370
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	4.5
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3
Pot Cap-1 Maneuver	-	-	0	-	878
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	878
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	878	-	-	-
HCM Lane V/C Ratio	0.047	-	-	-
HCM Control Delay (s)	9.3	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

HCM 6th AWSC

104: NW 102nd Avenue & NW 19th Street/NW 17th Street

Intersection	
Intersection Delay, s/veh	45.3
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗		↵	↗	
Traffic Vol, veh/h	298	330	46	7	283	284	9	13	3	201	24	132
Future Vol, veh/h	298	330	46	7	283	284	9	13	3	201	24	132
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	359	398	55	8	341	342	11	16	4	242	29	159
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	36.3	69	14.8	26.2
HCM LOS	E	F	B	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	81%	0%	100%	71%	0%	100%	25%	0%	15%
Vol Right, %	0%	19%	0%	0%	29%	0%	0%	75%	0%	85%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	16	298	220	156	7	189	378	201	156
LT Vol	9	0	298	0	0	7	0	0	201	0
Through Vol	0	13	0	220	110	0	189	94	0	24
RT Vol	0	3	0	0	46	0	0	284	0	132
Lane Flow Rate	11	19	359	265	188	8	227	456	242	188
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.035	0.059	0.898	0.626	0.433	0.022	0.568	1.07	0.67	0.464
Departure Headway (Hd)	11.934	11.283	9.276	8.761	8.548	9.503	8.988	8.447	10.213	9.105
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	302	319	395	416	425	375	400	428	356	398
Service Time	9.634	8.983	6.976	6.461	6.248	7.296	6.781	6.24	7.913	6.805
HCM Lane V/C Ratio	0.036	0.06	0.909	0.637	0.442	0.021	0.568	1.065	0.68	0.472
HCM Control Delay	15.1	14.7	54.4	25	17.6	12.5	23.1	93	31.4	19.4
HCM Lane LOS	C	B	F	C	C	B	C	F	D	C
HCM 95th-tile Q	0.1	0.2	9.2	4.1	2.1	0.1	3.4	15	4.6	2.4

Timings

105: NW 97th Avenue & NW 17th Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	194	313	478	1163	521
Future Volume (vph)	194	313	478	1163	521
Turn Type	Prot	pm+ov	pm+pt	NA	NA
Protected Phases	8	1	1	6	2
Permitted Phases		8	6		
Detector Phase	8	1	1	6	2
Switch Phase					
Minimum Initial (s)	7.0	5.0	5.0	16.0	16.0
Minimum Split (s)	15.0	11.4	11.4	24.4	24.4
Total Split (s)	21.0	21.4	21.4	88.0	66.4
Total Split (%)	19.3%	19.6%	19.6%	80.7%	60.9%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	6.4	6.4	6.4
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	14.5	34.8	82.1	82.1	61.4
Actuated g/C Ratio	0.13	0.32	0.75	0.75	0.56
v/c Ratio	0.87	0.46	0.85	0.46	0.37
Control Delay	79.9	6.8	21.1	5.8	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	79.9	6.8	21.1	5.8	12.8
LOS	E	A	C	A	B
Approach Delay	34.8			10.2	12.8
Approach LOS	C			B	B

Intersection Summary

Cycle Length: 109

Actuated Cycle Length: 109

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 15.2

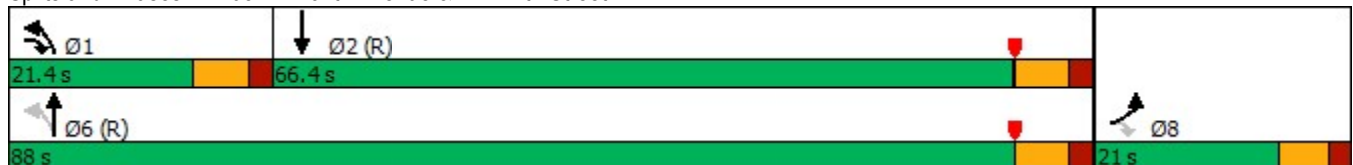
Intersection LOS: B

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 105: NW 97th Avenue & NW 17th Street



Queues

105: NW 97th Avenue & NW 17th Street



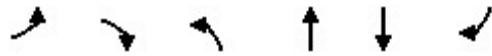
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	204	329	503	1224	715
v/c Ratio	0.87	0.46	0.85	0.46	0.37
Control Delay	79.9	6.8	21.1	5.8	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	79.9	6.8	21.1	5.8	12.8
Queue Length 50th (ft)	141	14	105	146	128
Queue Length 95th (ft)	#267	81	#196	181	168
Internal Link Dist (ft)	997			269	190
Turn Bay Length (ft)			100		
Base Capacity (vph)	243	717	598	2666	1941
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.84	0.46	0.84	0.46	0.37

Intersection Summary

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

HCM 6th Signalized Intersection Summary

105: NW 97th Avenue & NW 17th Street



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	194	313	478	1163	521	159
Future Volume (veh/h)	194	313	478	1163	521	159
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	329	503	1224	548	167
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	245	430	628	2660	1483	450
Arrive On Green	0.14	0.14	0.13	0.75	0.56	0.56
Sat Flow, veh/h	1781	1585	1781	3647	2760	809
Grp Volume(v), veh/h	204	329	503	1224	364	351
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1699
Q Serve(g_s), s	12.2	15.0	12.5	14.4	12.5	12.6
Cycle Q Clear(g_c), s	12.2	15.0	12.5	14.4	12.5	12.6
Prop In Lane	1.00	1.00	1.00			0.48
Lane Grp Cap(c), veh/h	245	430	628	2660	988	945
V/C Ratio(X)	0.83	0.76	0.80	0.46	0.37	0.37
Avail Cap(c_a), veh/h	245	430	635	2660	988	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	36.5	9.5	5.3	13.5	13.5
Incr Delay (d2), s/veh	20.6	7.7	6.6	0.6	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	8.9	5.3	4.6	5.1	4.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	66.3	44.2	16.1	5.8	14.6	14.6
LnGrp LOS	E	D	B	A	B	B
Approach Vol, veh/h	533			1727	715	
Approach Delay, s/veh	52.7			8.8	14.6	
Approach LOS	D			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	21.0	67.0			88.0	21.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.0
Max Green Setting (Gmax), s	15.0	60.0			81.6	15.0
Max Q Clear Time (g_c+I1), s	14.5	14.6			16.4	17.0
Green Ext Time (p_c), s	0.1	1.7			4.1	0.0
Intersection Summary						
HCM 6th Ctrl Delay			18.1			
HCM 6th LOS			B			

Timings

101: NW 107th Avenue & NW 19th Street

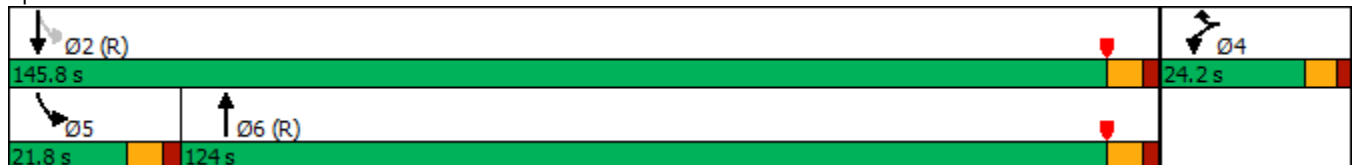


Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↘	↑↑↑
Traffic Volume (vph)	215	202	1828	277	841
Future Volume (vph)	215	202	1828	277	841
Turn Type	Prot	Prot	NA	pm+pt	NA
Protected Phases	4	4	6	5	2
Permitted Phases		4		2	
Detector Phase	4	4	6	5	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	16.0	5.0	16.0
Minimum Split (s)	24.1	24.1	24.8	11.8	24.8
Total Split (s)	24.2	24.2	124.0	21.8	145.8
Total Split (%)	14.2%	14.2%	72.9%	12.8%	85.8%
Yellow Time (s)	4.0	4.0	4.4	4.4	4.4
All-Red Time (s)	2.1	2.1	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.8	6.8	6.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	18.1	18.1	117.2	139.0	139.0
Actuated g/C Ratio	0.11	0.11	0.69	0.82	0.82
v/c Ratio	1.22	0.72	0.73	1.48	0.22
Control Delay	195.8	39.1	17.2	280.3	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	195.8	39.1	17.2	280.3	3.6
LOS	F	D	B	F	A
Approach Delay	119.9		17.2		72.2
Approach LOS	F		B		E

Intersection Summary

Cycle Length: 170
 Actuated Cycle Length: 170
 Offset: 87 (51%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.48
 Intersection Signal Delay: 44.2
 Intersection LOS: D
 Intersection Capacity Utilization 90.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 101: NW 107th Avenue & NW 19th Street



Queues

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	229	215	2477	295	895
v/c Ratio	1.22	0.72	0.73	1.48	0.22
Control Delay	195.8	39.1	17.2	280.3	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	195.8	39.1	17.2	280.3	3.6
Queue Length 50th (ft)	~311	75	570	~401	69
Queue Length 95th (ft)	#498	177	615	#606	79
Internal Link Dist (ft)	720		370		397
Turn Bay Length (ft)				150	
Base Capacity (vph)	188	298	3413	199	4157
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.22	0.72	0.73	1.48	0.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

101: NW 107th Avenue & NW 19th Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↵	↗	↑↑↑		↵	↑↑↑
Traffic Volume (veh/h)	215	202	1828	500	277	841
Future Volume (veh/h)	215	202	1828	500	277	841
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	215	1945	532	295	895
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	190	169	2767	721	249	4175
Arrive On Green	0.11	0.11	0.69	0.69	0.09	0.82
Sat Flow, veh/h	1781	1585	4182	1046	1781	5274
Grp Volume(v), veh/h	229	215	1635	842	295	895
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1656	1781	1702
Q Serve(g_s), s	18.1	18.1	48.8	54.7	15.0	6.6
Cycle Q Clear(g_c), s	18.1	18.1	48.8	54.7	15.0	6.6
Prop In Lane	1.00	1.00		0.63	1.00	
Lane Grp Cap(c), veh/h	190	169	2347	1141	249	4175
V/C Ratio(X)	1.21	1.27	0.70	0.74	1.19	0.21
Avail Cap(c_a), veh/h	190	169	2347	1141	249	4175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.9	76.0	15.8	16.7	55.3	3.4
Incr Delay (d2), s/veh	132.3	161.2	1.7	4.3	116.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.3	22.6	19.1	21.6	19.0	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	208.3	237.2	17.5	21.0	171.7	3.5
LnGrp LOS	F	F	B	C	F	A
Approach Vol, veh/h	444		2477			1190
Approach Delay, s/veh	222.3		18.7			45.2
Approach LOS	F		B			D
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		145.8		24.2	21.8	124.0
Change Period (Y+Rc), s		6.8		6.1	6.8	6.8
Max Green Setting (Gmax), s		139.0		18.1	15.0	117.2
Max Q Clear Time (g_c+I1), s		8.6		20.1	17.0	56.7
Green Ext Time (p_c), s		6.4		0.0	0.0	33.8
Intersection Summary						
HCM 6th Ctrl Delay			48.4			
HCM 6th LOS			D			

Timings

101: NW 107th Avenue & NW 19th Street

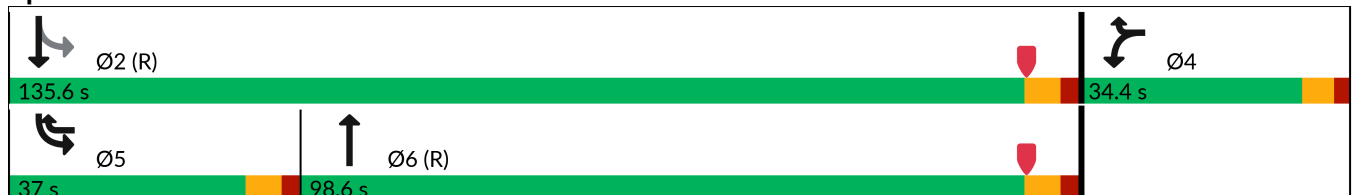


Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	215	202	1828	277	841
Future Volume (vph)	215	202	1828	277	841
Turn Type	Prot	pt+ov	NA	pm+pt	NA
Protected Phases	4	4 5	6	5	2
Permitted Phases				2	
Detector Phase	4	4 5	6	5	2
Switch Phase					
Minimum Initial (s)	7.0		16.0	5.0	16.0
Minimum Split (s)	24.2		24.8	11.8	24.8
Total Split (s)	34.4		98.6	37.0	135.6
Total Split (%)	20.2%		58.0%	21.8%	79.8%
Yellow Time (s)	4.0		4.4	4.4	4.4
All-Red Time (s)	2.1		2.4	2.4	2.4
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.1		6.8	6.8	6.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None		C-Max	None	C-Max
Act Effct Green (s)	25.6	58.9	98.2	131.5	131.5
Actuated g/C Ratio	0.15	0.35	0.58	0.77	0.77
v/c Ratio	0.86	0.39	0.87	0.92	0.23
Control Delay (s/veh)	98.9	41.3	34.8	88.3	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	98.9	41.3	34.8	88.3	5.6
LOS	F	D	C	F	A
Approach Delay (s/veh)	71.0		34.8		26.1
Approach LOS	E		C		C

Intersection Summary

Cycle Length: 170
 Actuated Cycle Length: 170
 Offset: 87 (51%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay (s/veh): 36.2 Intersection LOS: D
 Intersection Capacity Utilization 90.2% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 101: NW 107th Avenue & NW 19th Street



Queues

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	229	215	2477	295	895
v/c Ratio	0.86	0.39	0.87	0.92	0.23
Control Delay (s/veh)	98.9	41.3	34.8	88.3	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	98.9	41.3	34.8	88.3	5.6
Queue Length 50th (ft)	249	167	872	272	95
Queue Length 95th (ft)	#375	239	965	#425	112
Internal Link Dist (ft)	917		370		397
Turn Bay Length (ft)				150	
Base Capacity (vph)	294	573	2856	356	3934
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.78	0.38	0.87	0.83	0.23

Intersection Summary

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

HCM 6th Signalized Intersection Summary
 101: NW 107th Avenue & NW 19th Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↕↕↕		↶	↕↕↕
Traffic Volume (veh/h)	215	202	1828	500	277	841
Future Volume (veh/h)	215	202	1828	500	277	841
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	215	1945	532	295	895
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	254	445	2421	631	315	3992
Arrive On Green	0.14	0.14	0.60	0.60	0.14	0.78
Sat Flow, veh/h	1781	1585	4182	1046	1781	5274
Grp Volume(v), veh/h	229	215	1635	842	295	895
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1655	1781	1702
Q Serve(g_s), s	21.5	19.2	62.3	69.8	21.3	7.9
Cycle Q Clear(g_c), s	21.5	19.2	62.3	69.8	21.3	7.9
Prop In Lane	1.00	1.00		0.63	1.00	
Lane Grp Cap(c), veh/h	254	445	2054	999	315	3992
V/C Ratio(X)	0.90	0.48	0.80	0.84	0.94	0.22
Avail Cap(c_a), veh/h	297	483	2054	999	385	3992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.7	50.9	25.7	27.2	58.7	4.9
Incr Delay (d2), s/veh	26.5	0.8	3.3	8.6	25.5	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	17.5	25.9	29.6	15.0	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	98.2	51.7	29.0	35.9	84.2	5.0
LnGrp LOS	F	D	C	D	F	A
Approach Vol, veh/h	444		2477			1190
Approach Delay, s/veh	75.7		31.4			24.7
Approach LOS	E		C			C
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		139.7		30.3	30.3	109.4
Change Period (Y+Rc), s		6.8		6.1	6.8	6.8
Max Green Setting (Gmax), s		128.8		28.3	30.2	91.8
Max Q Clear Time (g_c+l1), s		9.9		23.5	23.3	71.8
Green Ext Time (p_c), s		6.4		0.7	0.3	15.8
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			34.2			
HCM 6th LOS			C			

HCM 6th TWSC
 102: Full Median Opening & NW 19th Street

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑			↔			↔	
Traffic Vol, veh/h	33	614	12	66	377	7	17	3	69	3	0	1
Future Vol, veh/h	33	614	12	66	377	7	17	3	69	3	0	1
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	749	15	80	460	9	21	4	84	4	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	469	0	0	766	0	0	1229	1468	384	1082	1471	235
Stage 1	-	-	-	-	-	-	839	839	-	625	625	-
Stage 2	-	-	-	-	-	-	390	629	-	457	846	-
Critical Hdwy	4.14	-	-	4.14	-	-	5	5	4.5	5	5	4.5
Critical Hdwy Stg 1	-	-	-	-	-	-	5	5	-	5	5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5	5	-	5	5	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3	3	3	3	3	3
Pot Cap-1 Maneuver	1089	-	-	843	-	-	348	271	868	405	270	985
Stage 1	-	-	-	-	-	-	520	520	-	646	646	-
Stage 2	-	-	-	-	-	-	818	644	-	765	516	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1089	-	-	841	-	-	306	229	866	320	228	985
Mov Cap-2 Maneuver	-	-	-	-	-	-	392	338	-	412	315	-
Stage 1	-	-	-	-	-	-	486	486	-	605	585	-
Stage 2	-	-	-	-	-	-	739	583	-	642	482	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.4			11.4			12.5		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	675	1089	-	-	841	-	-	482
HCM Lane V/C Ratio	0.161	0.037	-	-	0.096	-	-	0.01
HCM Control Delay (s)	11.4	8.4	-	-	9.7	-	-	12.5
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.3	-	-	0

HCM 6th TWSC
 103: Driveway & NW 19th Street

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	625	34	0	443	0	41
Future Vol, veh/h	625	34	0	443	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	735	40	0	521	0	48

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	388
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	4.5
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3
Pot Cap-1 Maneuver	-	-	0	-	865
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	865
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	865	-	-	-
HCM Lane V/C Ratio	0.056	-	-	-
HCM Control Delay (s)	9.4	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

HCM 6th AWSC

104: NW 102nd Avenue & NW 19th Street/NW 17th Street

Intersection	
Intersection Delay, s/veh	50.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗		↵	↗	
Traffic Vol, veh/h	312	341	46	7	297	284	9	13	3	201	24	136
Future Vol, veh/h	312	341	46	7	297	284	9	13	3	201	24	136
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	376	411	55	8	358	342	11	16	4	242	29	164
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	3			3			2			2		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	2			2			3			3		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	2			2			3			3		
HCM Control Delay	41.6			76.5			15			27.3		
HCM LOS	E			F			B			D		

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	81%	0%	100%	71%	0%	100%	26%	0%	15%
Vol Right, %	0%	19%	0%	0%	29%	0%	0%	74%	0%	85%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	16	312	227	160	7	198	383	201	160
LT Vol	9	0	312	0	0	7	0	0	201	0
Through Vol	0	13	0	227	114	0	198	99	0	24
RT Vol	0	3	0	0	46	0	0	284	0	136
Lane Flow Rate	11	19	376	274	192	8	239	461	242	193
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.036	0.06	0.947	0.652	0.447	0.023	0.606	1.103	0.681	0.484
Departure Headway (Hd)	12.16	11.508	9.385	8.869	8.661	9.655	9.14	8.606	10.429	9.318
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	296	313	391	411	419	369	394	420	349	389
Service Time	9.86	9.208	7.085	6.569	6.361	7.446	6.931	6.396	8.129	7.018
HCM Lane V/C Ratio	0.037	0.061	0.962	0.667	0.458	0.022	0.607	1.098	0.693	0.496
HCM Control Delay	15.3	14.9	64.5	26.7	18.2	12.7	25.1	104.2	32.7	20.5
HCM Lane LOS	C	B	F	D	C	B	D	F	D	C
HCM 95th-tile Q	0.1	0.2	10.5	4.5	2.2	0.1	3.8	16	4.8	2.6

Timings

105: NW 97th Avenue & NW 17th Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	198	320	487	1163	521
Future Volume (vph)	198	320	487	1163	521
Turn Type	Prot	pm+ov	pm+pt	NA	NA
Protected Phases	8	1	1	6	2
Permitted Phases		8	6		
Detector Phase	8	1	1	6	2
Switch Phase					
Minimum Initial (s)	7.0	5.0	5.0	16.0	16.0
Minimum Split (s)	15.0	11.4	11.4	24.4	24.4
Total Split (s)	21.0	21.4	21.4	88.0	66.4
Total Split (%)	19.3%	19.6%	19.6%	80.7%	60.9%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	6.4	6.4	6.4
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	14.5	35.1	82.1	82.1	61.1
Actuated g/C Ratio	0.13	0.32	0.75	0.75	0.56
v/c Ratio	0.88	0.47	0.87	0.46	0.37
Control Delay	81.9	7.2	23.5	5.8	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	81.9	7.2	23.5	5.8	12.9
LOS	F	A	C	A	B
Approach Delay	35.7			11.0	12.9
Approach LOS	D			B	B

Intersection Summary

Cycle Length: 109

Actuated Cycle Length: 109

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 15.9

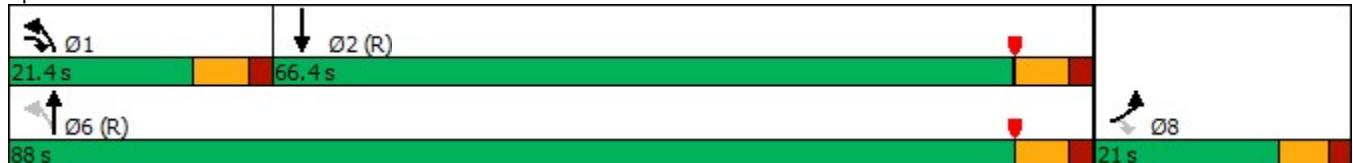
Intersection LOS: B

Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 105: NW 97th Avenue & NW 17th Street



Queues

105: NW 97th Avenue & NW 17th Street

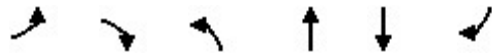


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	208	337	513	1224	721
v/c Ratio	0.88	0.47	0.87	0.46	0.37
Control Delay	81.9	7.2	23.5	5.8	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	81.9	7.2	23.5	5.8	12.9
Queue Length 50th (ft)	144	18	107	146	129
Queue Length 95th (ft)	#275	88	#213	181	170
Internal Link Dist (ft)	997			269	190
Turn Bay Length (ft)			100		
Base Capacity (vph)	243	717	593	2664	1933
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.86	0.47	0.87	0.46	0.37

Intersection Summary

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

HCM 6th Signalized Intersection Summary
 105: NW 97th Avenue & NW 17th Street



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	198	320	487	1163	521	164
Future Volume (veh/h)	198	320	487	1163	521	164
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	208	337	513	1224	548	173
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	245	435	628	2660	1462	459
Arrive On Green	0.14	0.14	0.14	0.75	0.55	0.55
Sat Flow, veh/h	1781	1585	1781	3647	2735	830
Grp Volume(v), veh/h	208	337	513	1224	368	353
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1695
Q Serve(g_s), s	12.4	15.0	12.9	14.4	12.7	12.8
Cycle Q Clear(g_c), s	12.4	15.0	12.9	14.4	12.7	12.8
Prop In Lane	1.00	1.00	1.00			0.49
Lane Grp Cap(c), veh/h	245	435	628	2660	983	938
V/C Ratio(X)	0.85	0.78	0.82	0.46	0.37	0.38
Avail Cap(c_a), veh/h	245	435	630	2660	983	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	36.5	9.9	5.3	13.7	13.7
Incr Delay (d2), s/veh	22.9	8.2	7.7	0.6	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	9.2	5.6	4.6	5.2	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	68.8	44.7	17.6	5.8	14.8	14.9
LnGrp LOS	E	D	B	A	B	B
Approach Vol, veh/h	545			1737	721	
Approach Delay, s/veh	53.9			9.3	14.8	
Approach LOS	D			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	21.3	66.7			88.0	21.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.0
Max Green Setting (Gmax), s	15.0	60.0			81.6	15.0
Max Q Clear Time (g_c+I1), s	14.9	14.8			16.4	17.0
Green Ext Time (p_c), s	0.0	1.7			4.1	0.0
Intersection Summary						
HCM 6th Ctrl Delay			18.7			
HCM 6th LOS			B			

Timings

101: NW 107th Avenue & NW 19th Street

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↘	↖	↑↑↑	↘	↑↑↑
Traffic Volume (vph)	316	189	968	232	1308
Future Volume (vph)	316	189	968	232	1308
Turn Type	Prot	Prot	NA	pm+pt	NA
Protected Phases	4	4	6	5	2
Permitted Phases		4		2	
Detector Phase	4	4	6	5	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	16.0	5.0	16.0
Minimum Split (s)	24.1	24.1	24.8	11.8	24.8
Total Split (s)	24.2	24.2	124.0	21.8	145.8
Total Split (%)	14.2%	14.2%	72.9%	12.8%	85.8%
Yellow Time (s)	4.0	4.0	4.4	4.4	4.4
All-Red Time (s)	2.1	2.1	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.8	6.8	6.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	18.1	18.1	122.7	139.0	139.0
Actuated g/C Ratio	0.11	0.11	0.72	0.82	0.82
v/c Ratio	1.79	0.65	0.33	0.65	0.33
Control Delay	413.4	29.5	8.7	11.6	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	413.4	29.5	8.7	11.6	4.1
LOS	F	C	A	B	A
Approach Delay	269.7		8.7		5.2
Approach LOS	F		A		A

Intersection Summary

Cycle Length: 170
 Actuated Cycle Length: 170
 Offset: 87 (51%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.79
 Intersection Signal Delay: 48.7
 Intersection LOS: D
 Intersection Capacity Utilization 68.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 101: NW 107th Avenue & NW 19th Street



Queues

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	336	201	1189	247	1391
v/c Ratio	1.79	0.65	0.33	0.65	0.33
Control Delay	413.4	29.5	8.7	11.6	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	413.4	29.5	8.7	11.6	4.1
Queue Length 50th (ft)	~558	47	157	50	121
Queue Length 95th (ft)	#770	141	189	70	136
Internal Link Dist (ft)	720		370		397
Turn Bay Length (ft)				150	
Base Capacity (vph)	188	307	3600	426	4157
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.79	0.65	0.33	0.58	0.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

101: NW 107th Avenue & NW 19th Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↵	↶	↑↑↑		↵	↑↑↑
Traffic Volume (veh/h)	316	189	968	149	232	1308
Future Volume (veh/h)	316	189	968	149	232	1308
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	336	201	1030	159	247	1391
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	190	169	3250	501	432	4175
Arrive On Green	0.11	0.11	0.73	0.73	0.05	0.82
Sat Flow, veh/h	1781	1585	4616	685	1781	5274
Grp Volume(v), veh/h	336	201	788	401	247	1391
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1729	1781	1702
Q Serve(g_s), s	18.1	18.1	13.8	13.8	5.8	11.6
Cycle Q Clear(g_c), s	18.1	18.1	13.8	13.8	5.8	11.6
Prop In Lane	1.00	1.00		0.40	1.00	
Lane Grp Cap(c), veh/h	190	169	2487	1263	432	4175
V/C Ratio(X)	1.77	1.19	0.32	0.32	0.57	0.33
Avail Cap(c_a), veh/h	190	169	2487	1263	505	4175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.9	76.0	8.0	8.0	5.9	3.9
Incr Delay (d2), s/veh	367.8	130.0	0.3	0.7	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.7	21.2	5.1	5.4	2.1	3.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	443.8	205.9	8.4	8.7	6.4	4.1
LnGrp LOS	F	F	A	A	A	A
Approach Vol, veh/h	537		1189			1638
Approach Delay, s/veh	354.7		8.5			4.4
Approach LOS	F		A			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		145.8		24.2	14.8	131.0
Change Period (Y+Rc), s		6.8		6.1	6.8	6.8
Max Green Setting (Gmax), s		139.0		18.1	15.0	117.2
Max Q Clear Time (g_c+I1), s		13.6		20.1	7.8	15.8
Green Ext Time (p_c), s		12.4		0.0	0.2	8.9
Intersection Summary						
HCM 6th Ctrl Delay			61.8			
HCM 6th LOS			E			

HCM 6th TWSC
 102: Full Median Opening & NW 19th Street

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑			↔			↔	
Traffic Vol, veh/h	2	406	31	133	389	4	19	0	70	5	3	12
Future Vol, veh/h	2	406	31	133	389	4	19	0	70	5	3	12
Conflicting Peds, #/hr	0	0	3	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	472	36	155	452	5	22	0	81	6	3	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	457	0	0	511	0	0	1035	1264	257	1005	1280	229
Stage 1	-	-	-	-	-	-	497	497	-	765	765	-
Stage 2	-	-	-	-	-	-	538	767	-	240	515	-
Critical Hdwy	4.14	-	-	4.14	-	-	5	5	4.5	5	5	4.5
Critical Hdwy Stg 1	-	-	-	-	-	-	5	5	-	5	5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5	5	-	5	5	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3	3	3	3	3	3
Pot Cap-1 Maneuver	1100	-	-	1050	-	-	425	335	967	439	330	990
Stage 1	-	-	-	-	-	-	735	735	-	561	561	-
Stage 2	-	-	-	-	-	-	705	560	-	949	722	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1100	-	-	1047	-	-	367	284	964	356	280	990
Mov Cap-2 Maneuver	-	-	-	-	-	-	460	381	-	443	362	-
Stage 1	-	-	-	-	-	-	731	731	-	559	478	-
Stage 2	-	-	-	-	-	-	588	477	-	866	718	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.3			10.3			10.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	781	1100	-	-	1047	-	-	631
HCM Lane V/C Ratio	0.133	0.002	-	-	0.148	-	-	0.037
HCM Control Delay (s)	10.3	8.3	-	-	9	-	-	10.9
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.5	-	-	0.1

HCM 6th TWSC
 103: Driveway & NW 19th Street

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	476	8	0	512	0	10
Future Vol, veh/h	476	8	0	512	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	573	10	0	617	0	12

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	292
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	4.5
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3
Pot Cap-1 Maneuver	-	-	0	-	938
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	938
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	938	-	-	-
HCM Lane V/C Ratio	0.013	-	-	-
HCM Control Delay (s)	8.9	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

HCM 6th AWSC

104: NW 102nd Avenue & NW 19th Street/NW 17th Street

Intersection	
Intersection Delay, s/veh	20.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗		↵	↗	
Traffic Vol, veh/h	70	390	17	3	291	113	55	23	14	188	22	179
Future Vol, veh/h	70	390	17	3	291	113	55	23	14	188	22	179
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	448	20	3	334	130	63	26	16	216	25	206
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	22.4	20.5	14.4	20.1
HCM LOS	C	C	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	62%	0%	100%	88%	0%	100%	46%	0%	11%
Vol Right, %	0%	38%	0%	0%	12%	0%	0%	54%	0%	89%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	37	70	260	147	3	194	210	188	201
LT Vol	55	0	70	0	0	3	0	0	188	0
Through Vol	0	23	0	260	130	0	194	97	0	22
RT Vol	0	14	0	0	17	0	0	113	0	179
Lane Flow Rate	63	43	80	299	169	3	223	241	216	231
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.179	0.111	0.198	0.697	0.39	0.009	0.531	0.549	0.541	0.506
Departure Headway (Hd)	10.187	9.405	8.872	8.396	8.313	9.09	8.574	8.186	9.019	7.883
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	352	381	406	433	436	394	421	442	400	457
Service Time	7.949	7.166	6.611	6.096	6.013	6.838	6.322	5.933	6.764	5.628
HCM Lane V/C Ratio	0.179	0.113	0.197	0.691	0.388	0.008	0.53	0.545	0.54	0.505
HCM Control Delay	15.2	13.3	13.8	28.3	16.2	11.9	20.7	20.5	21.9	18.5
HCM Lane LOS	C	B	B	D	C	B	C	C	C	C
HCM 95th-tile Q	0.6	0.4	0.7	5.2	1.8	0	3	3.2	3.1	2.8

Timings

105: NW 97th Avenue & NW 17th Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	139	529	233	813	1361
Future Volume (vph)	139	529	233	813	1361
Turn Type	Prot	pm+ov	pm+pt	NA	NA
Protected Phases	8	1	1	6	2
Permitted Phases		8	6		
Detector Phase	8	1	1	6	2
Switch Phase					
Minimum Initial (s)	7.0	5.0	5.0	16.0	16.0
Minimum Split (s)	15.0	11.4	11.4	24.4	24.4
Total Split (s)	21.0	21.4	21.4	88.0	66.4
Total Split (%)	19.3%	19.6%	19.6%	80.7%	60.9%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	6.4	6.4	6.4
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	12.8	36.0	83.8	83.8	60.2
Actuated g/C Ratio	0.12	0.33	0.77	0.77	0.55
v/c Ratio	0.72	1.05	0.72	0.32	0.81
Control Delay	65.3	87.1	39.7	4.4	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	87.1	39.7	4.4	24.0
LOS	E	F	D	A	C
Approach Delay	82.6			12.3	24.0
Approach LOS	F			B	C

Intersection Summary

Cycle Length: 109

Actuated Cycle Length: 109

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

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 32.5

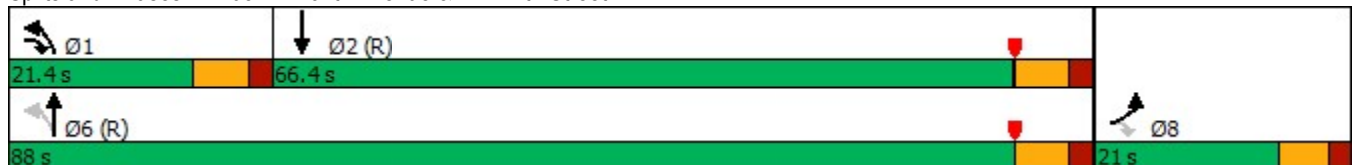
Intersection LOS: C

Intersection Capacity Utilization 84.4%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 105: NW 97th Avenue & NW 17th Street



Queues

105: NW 97th Avenue & NW 17th Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	149	569	251	874	1576
v/c Ratio	0.72	1.05	0.72	0.32	0.81
Control Delay	65.3	87.1	39.7	4.4	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	87.1	39.7	4.4	24.0
Queue Length 50th (ft)	101	~420	116	86	445
Queue Length 95th (ft)	168	#638	#249	115	548
Internal Link Dist (ft)	997			269	190
Turn Bay Length (ft)			100		
Base Capacity (vph)	243	542	347	2720	1936
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	1.05	0.72	0.32	0.81

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 105: NW 97th Avenue & NW 17th Street



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	139	529	233	813	1361	105
Future Volume (veh/h)	139	529	233	813	1361	105
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	569	251	874	1463	113
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	245	326	330	2660	2074	159
Arrive On Green	0.14	0.14	0.07	1.00	0.83	0.83
Sat Flow, veh/h	1781	1585	1781	3647	3431	256
Grp Volume(v), veh/h	149	569	251	874	775	801
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1817
Q Serve(g_s), s	8.6	15.0	5.2	0.2	19.6	20.1
Cycle Q Clear(g_c), s	8.6	15.0	5.2	0.2	19.6	20.1
Prop In Lane	1.00	1.00	1.00			0.14
Lane Grp Cap(c), veh/h	245	326	330	2660	1104	1129
V/C Ratio(X)	0.61	1.74	0.76	0.33	0.70	0.71
Avail Cap(c_a), veh/h	245	326	453	2660	1104	1129
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	43.3	14.2	0.1	5.3	5.3
Incr Delay (d2), s/veh	3.8	346.9	3.0	0.3	3.7	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	40.1	3.9	0.2	4.9	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.0	390.2	17.3	0.4	9.0	9.1
LnGrp LOS	D	F	B	A	A	A
Approach Vol, veh/h	718			1125	1576	
Approach Delay, s/veh	319.2			4.2	9.1	
Approach LOS	F			A	A	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.8	74.2			88.0	21.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.0
Max Green Setting (Gmax), s	15.0	60.0			81.6	15.0
Max Q Clear Time (g_c+I1), s	7.2	22.1			2.2	17.0
Green Ext Time (p_c), s	0.2	4.7			2.6	0.0
Intersection Summary						
HCM 6th Ctrl Delay			72.6			
HCM 6th LOS			E			

Timings

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↘	↗	↑↑↑	↘	↑↑↑
Traffic Volume (vph)	332	199	1018	244	1375
Future Volume (vph)	332	199	1018	244	1375
Turn Type	Prot	Prot	NA	pm+pt	NA
Protected Phases	4	4	6	5	2
Permitted Phases		4		2	
Detector Phase	4	4	6	5	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	16.0	5.0	16.0
Minimum Split (s)	24.1	24.1	24.8	11.8	24.8
Total Split (s)	24.2	24.2	124.0	21.8	145.8
Total Split (%)	14.2%	14.2%	72.9%	12.8%	85.8%
Yellow Time (s)	4.0	4.0	4.4	4.4	4.4
All-Red Time (s)	2.1	2.1	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.8	6.8	6.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	18.1	18.1	122.0	139.0	139.0
Actuated g/C Ratio	0.11	0.11	0.72	0.82	0.82
v/c Ratio	1.88	0.69	0.35	0.71	0.35
Control Delay	450.9	33.0	9.1	14.9	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	450.9	33.0	9.1	14.9	4.2
LOS	F	C	A	B	A
Approach Delay	294.1		9.1		5.8
Approach LOS	F		A		A

Intersection Summary

Cycle Length: 170
 Actuated Cycle Length: 170
 Offset: 87 (51%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.88
 Intersection Signal Delay: 53.1
 Intersection Capacity Utilization 71.5%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service C

Splits and Phases: 101: NW 107th Avenue & NW 19th Street



Queues

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	353	212	1249	260	1463
v/c Ratio	1.88	0.69	0.35	0.71	0.35
Control Delay	450.9	33.0	9.1	14.9	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	450.9	33.0	9.1	14.9	4.2
Queue Length 50th (ft)	~597	58	170	53	130
Queue Length 95th (ft)	#811	157	211	74	145
Internal Link Dist (ft)	720		370		397
Turn Bay Length (ft)				150	
Base Capacity (vph)	188	308	3581	407	4157
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.88	0.69	0.35	0.64	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 101: NW 107th Avenue & NW 19th Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	332	199	1018	156	244	1375
Future Volume (veh/h)	332	199	1018	156	244	1375
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	353	212	1083	166	260	1463
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	190	169	3243	497	415	4175
Arrive On Green	0.11	0.11	0.73	0.73	0.05	0.82
Sat Flow, veh/h	1781	1585	4620	682	1781	5274
Grp Volume(v), veh/h	353	212	828	421	260	1463
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1729	1781	1702
Q Serve(g_s), s	18.1	18.1	14.8	14.9	6.1	12.4
Cycle Q Clear(g_c), s	18.1	18.1	14.8	14.9	6.1	12.4
Prop In Lane	1.00	1.00		0.39	1.00	
Lane Grp Cap(c), veh/h	190	169	2480	1260	415	4175
V/C Ratio(X)	1.86	1.26	0.33	0.33	0.63	0.35
Avail Cap(c_a), veh/h	190	169	2480	1260	485	4175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.9	76.0	8.3	8.3	6.4	4.0
Incr Delay (d2), s/veh	407.1	154.4	0.4	0.7	1.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.8	22.3	5.6	5.8	2.3	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	483.0	230.3	8.6	9.0	7.5	4.2
LnGrp LOS	F	F	A	A	A	A
Approach Vol, veh/h	565		1249			1723
Approach Delay, s/veh	388.2		8.8			4.7
Approach LOS	F		A			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		145.8		24.2	15.1	130.7
Change Period (Y+Rc), s		6.8		6.1	6.8	6.8
Max Green Setting (Gmax), s		139.0		18.1	15.0	117.2
Max Q Clear Time (g_c+I1), s		14.4		20.1	8.1	16.9
Green Ext Time (p_c), s		13.6		0.0	0.2	9.6
Intersection Summary						
HCM 6th Ctrl Delay			67.4			
HCM 6th LOS			E			

HCM 6th TWSC
 102: Full Median Opening & NW 19th Street

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑			↔			↔	
Traffic Vol, veh/h	2	426	33	140	409	4	20	0	73	5	3	13
Future Vol, veh/h	2	426	33	140	409	4	20	0	73	5	3	13
Conflicting Peds, #/hr	0	0	3	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	495	38	163	476	5	23	0	85	6	3	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	481	0	0	536	0	0	1087	1328	270	1057	1345	241
Stage 1	-	-	-	-	-	-	521	521	-	805	805	-
Stage 2	-	-	-	-	-	-	566	807	-	252	540	-
Critical Hdwy	4.14	-	-	4.14	-	-	5	5	4.5	5	5	4.5
Critical Hdwy Stg 1	-	-	-	-	-	-	5	5	-	5	5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5	5	-	5	5	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3	3	3	3	3	3
Pot Cap-1 Maneuver	1078	-	-	1028	-	-	403	314	956	416	308	980
Stage 1	-	-	-	-	-	-	717	717	-	538	538	-
Stage 2	-	-	-	-	-	-	686	537	-	938	704	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1078	-	-	1025	-	-	344	263	953	332	257	980
Mov Cap-2 Maneuver	-	-	-	-	-	-	439	361	-	422	340	-
Stage 1	-	-	-	-	-	-	713	713	-	536	452	-
Stage 2	-	-	-	-	-	-	564	452	-	852	700	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.3			10.5			11.1		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	761	1078	-	-	1025	-	-	619
HCM Lane V/C Ratio	0.142	0.002	-	-	0.159	-	-	0.039
HCM Control Delay (s)	10.5	8.3	-	-	9.2	-	-	11.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.6	-	-	0.1

HCM 6th TWSC
 103: Driveway & NW 19th Street

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	501	9	0	538	0	11
Future Vol, veh/h	501	9	0	538	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	604	11	0	648	0	13

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	308
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	4.5
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3
Pot Cap-1 Maneuver	-	-	0	-	926
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	926
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	926	-	-	-
HCM Lane V/C Ratio	0.014	-	-	-
HCM Control Delay (s)	8.9	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

HCM 6th AWSC

104: NW 102nd Avenue & NW 19th Street/NW 17th Street

Intersection	
Intersection Delay, s/veh	23.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗		↵	↗	
Traffic Vol, veh/h	73	410	17	3	306	119	58	24	14	198	23	188
Future Vol, veh/h	73	410	17	3	306	119	58	24	14	198	23	188
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	471	20	3	352	137	67	28	16	228	26	216
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	25.7	23	15.1	22.4
HCM LOS	D	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	63%	0%	100%	89%	0%	100%	46%	0%	11%
Vol Right, %	0%	37%	0%	0%	11%	0%	0%	54%	0%	89%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	38	73	273	154	3	204	221	198	211
LT Vol	58	0	73	0	0	3	0	0	198	0
Through Vol	0	24	0	273	137	0	204	102	0	23
RT Vol	0	14	0	0	17	0	0	119	0	188
Lane Flow Rate	67	44	84	314	177	3	234	254	228	243
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.196	0.119	0.213	0.753	0.419	0.009	0.577	0.598	0.587	0.549
Departure Headway (Hd)	10.559	9.782	9.143	8.627	8.547	9.378	8.861	8.471	9.291	8.152
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	340	366	393	421	422	382	408	427	389	441
Service Time	8.324	7.547	6.893	6.376	6.296	7.13	6.612	6.223	7.041	5.902
HCM Lane V/C Ratio	0.197	0.12	0.214	0.746	0.419	0.008	0.574	0.595	0.586	0.551
HCM Control Delay	15.9	13.9	14.4	33.4	17.4	12.2	23.1	23.1	24.5	20.4
HCM Lane LOS	C	B	B	D	C	B	C	C	C	C
HCM 95th-tile Q	0.7	0.4	0.8	6.2	2	0	3.5	3.8	3.6	3.2

Timings

105: NW 97th Avenue & NW 17th Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	147	556	245	855	1431
Future Volume (vph)	147	556	245	855	1431
Turn Type	Prot	pm+ov	pm+pt	NA	NA
Protected Phases	8	1	1	6	2
Permitted Phases		8	6		
Detector Phase	8	1	1	6	2
Switch Phase					
Minimum Initial (s)	7.0	5.0	5.0	16.0	16.0
Minimum Split (s)	15.0	11.4	11.4	24.4	24.4
Total Split (s)	21.0	21.4	21.4	88.0	66.4
Total Split (%)	19.3%	19.6%	19.6%	80.7%	60.9%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	6.4	6.4	6.4
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	13.2	36.0	83.4	83.4	60.2
Actuated g/C Ratio	0.12	0.33	0.77	0.77	0.55
v/c Ratio	0.74	1.11	0.77	0.34	0.86
Control Delay	66.6	106.3	44.0	4.6	26.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	106.3	44.0	4.6	26.2
LOS	E	F	D	A	C
Approach Delay	98.0			13.4	26.2
Approach LOS	F			B	C

Intersection Summary

Cycle Length: 109

Actuated Cycle Length: 109

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

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 37.1

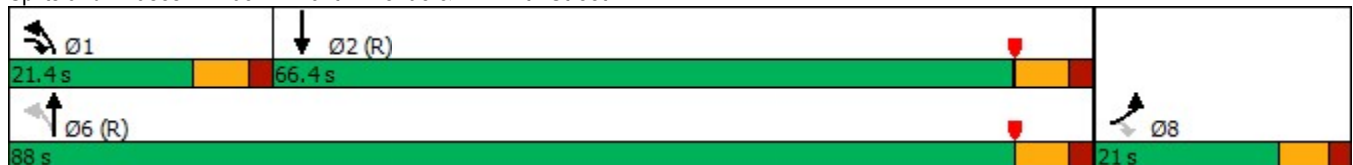
Intersection LOS: D

Intersection Capacity Utilization 88.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 105: NW 97th Avenue & NW 17th Street



Queues

105: NW 97th Avenue & NW 17th Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	158	598	263	919	1657
v/c Ratio	0.74	1.11	0.77	0.34	0.86
Control Delay	66.6	106.3	44.0	4.6	26.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	106.3	44.0	4.6	26.2
Queue Length 50th (ft)	107	~468	127	95	488
Queue Length 95th (ft)	#182	#688	#268	122	602
Internal Link Dist (ft)	997			269	190
Turn Bay Length (ft)			100		
Base Capacity (vph)	243	539	341	2708	1936
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.65	1.11	0.77	0.34	0.86

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

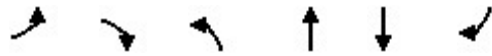
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

105: NW 97th Avenue & NW 17th Street



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	556	245	855	1431	110
Future Volume (veh/h)	147	556	245	855	1431	110
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	598	263	919	1539	118
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	245	331	314	2660	2067	157
Arrive On Green	0.14	0.14	0.07	1.00	0.82	0.82
Sat Flow, veh/h	1781	1585	1781	3647	3433	254
Grp Volume(v), veh/h	158	598	263	919	813	844
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1817
Q Serve(g_s), s	9.1	15.0	5.5	0.2	22.6	23.4
Cycle Q Clear(g_c), s	9.1	15.0	5.5	0.2	22.6	23.4
Prop In Lane	1.00	1.00	1.00			0.14
Lane Grp Cap(c), veh/h	245	331	314	2660	1100	1124
V/C Ratio(X)	0.64	1.81	0.84	0.35	0.74	0.75
Avail Cap(c_a), veh/h	245	331	433	2660	1100	1124
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	43.1	17.4	0.1	5.7	5.7
Incr Delay (d2), s/veh	5.2	375.2	7.4	0.4	4.5	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	43.3	5.0	0.2	5.5	5.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.7	418.4	24.8	0.4	10.2	10.4
LnGrp LOS	D	F	C	A	B	B
Approach Vol, veh/h	756			1182	1657	
Approach Delay, s/veh	341.3			5.9	10.3	
Approach LOS	F			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.1	73.9			88.0	21.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.0
Max Green Setting (Gmax), s	15.0	60.0			81.6	15.0
Max Q Clear Time (g_c+I1), s	7.5	25.4			2.2	17.0
Green Ext Time (p_c), s	0.2	5.1			2.8	0.0
Intersection Summary						
HCM 6th Ctrl Delay			78.4			
HCM 6th LOS			E			

Timings

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↶	↷	↑↑↑	↶	↑↑↑
Traffic Volume (vph)	340	204	1018	248	1375
Future Volume (vph)	340	204	1018	248	1375
Turn Type	Prot	Prot	NA	pm+pt	NA
Protected Phases	4	4	6	5	2
Permitted Phases		4		2	
Detector Phase	4	4	6	5	2
Switch Phase					
Minimum Initial (s)	7.0	7.0	16.0	5.0	16.0
Minimum Split (s)	24.1	24.1	24.8	11.8	24.8
Total Split (s)	24.2	24.2	124.0	21.8	145.8
Total Split (%)	14.2%	14.2%	72.9%	12.8%	85.8%
Yellow Time (s)	4.0	4.0	4.4	4.4	4.4
All-Red Time (s)	2.1	2.1	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.8	6.8	6.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max
Act Effct Green (s)	18.1	18.1	121.7	139.0	139.0
Actuated g/C Ratio	0.11	0.11	0.72	0.82	0.82
v/c Ratio	1.93	0.71	0.35	0.73	0.35
Control Delay	471.0	35.3	9.3	16.4	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	471.0	35.3	9.3	16.4	4.2
LOS	F	D	A	B	A
Approach Delay	307.7		9.3		6.1
Approach LOS	F		A		A

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 87 (51%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.93

Intersection Signal Delay: 56.2

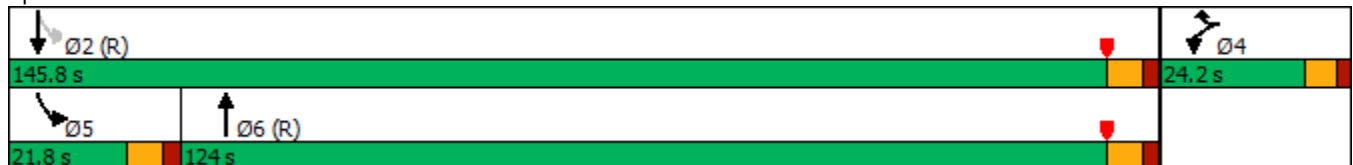
Intersection LOS: E

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 101: NW 107th Avenue & NW 19th Street



Queues

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	362	217	1259	264	1463
v/c Ratio	1.93	0.71	0.35	0.73	0.35
Control Delay	471.0	35.3	9.3	16.4	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	471.0	35.3	9.3	16.4	4.2
Queue Length 50th (ft)	~618	64	172	54	130
Queue Length 95th (ft)	#832	167	217	85	145
Internal Link Dist (ft)	720		370		397
Turn Bay Length (ft)				150	
Base Capacity (vph)	188	307	3570	403	4157
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.93	0.71	0.35	0.66	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 101: NW 107th Avenue & NW 19th Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↑↑↑		↶	↑↑↑
Traffic Volume (veh/h)	340	204	1018	165	248	1375
Future Volume (veh/h)	340	204	1018	165	248	1375
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	362	217	1083	176	264	1463
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	190	169	3210	521	413	4175
Arrive On Green	0.11	0.11	0.73	0.73	0.05	0.82
Sat Flow, veh/h	1781	1585	4579	716	1781	5274
Grp Volume(v), veh/h	362	217	836	423	264	1463
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1722	1781	1702
Q Serve(g_s), s	18.1	18.1	15.0	15.1	6.2	12.4
Cycle Q Clear(g_c), s	18.1	18.1	15.0	15.1	6.2	12.4
Prop In Lane	1.00	1.00		0.42	1.00	
Lane Grp Cap(c), veh/h	190	169	2478	1254	413	4175
V/C Ratio(X)	1.91	1.29	0.34	0.34	0.64	0.35
Avail Cap(c_a), veh/h	190	169	2478	1254	481	4175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	75.9	76.0	8.3	8.3	6.6	4.0
Incr Delay (d2), s/veh	428.0	165.8	0.4	0.7	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	30.9	22.9	5.6	5.9	2.3	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	503.9	241.8	8.7	9.1	7.9	4.2
LnGrp LOS	F	F	A	A	A	A
Approach Vol, veh/h	579		1259			1727
Approach Delay, s/veh	405.7		8.8			4.8
Approach LOS	F		A			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		145.8		24.2	15.3	130.5
Change Period (Y+Rc), s		6.8		6.1	6.8	6.8
Max Green Setting (Gmax), s		139.0		18.1	15.0	117.2
Max Q Clear Time (g_c+I1), s		14.4		20.1	8.2	17.1
Green Ext Time (p_c), s		13.6		0.0	0.2	9.7
Intersection Summary						
HCM 6th Ctrl Delay			71.3			
HCM 6th LOS			E			

HCM 6th TWSC
 102: Full Median Opening & NW 19th Street

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑			↔			↔	
Traffic Vol, veh/h	2	439	33	160	422	4	20	0	73	5	3	13
Future Vol, veh/h	2	439	33	160	422	4	20	0	73	5	3	13
Conflicting Peds, #/hr	0	0	3	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	510	38	186	491	5	23	0	85	6	3	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	496	0	0	551	0	0	1155	1404	277	1125	1421	248
Stage 1	-	-	-	-	-	-	536	536	-	866	866	-
Stage 2	-	-	-	-	-	-	619	868	-	259	555	-
Critical Hdwy	4.14	-	-	4.14	-	-	5	5	4.5	5	5	4.5
Critical Hdwy Stg 1	-	-	-	-	-	-	5	5	-	5	5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5	5	-	5	5	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3	3	3	3	3	3
Pot Cap-1 Maneuver	1064	-	-	1015	-	-	376	290	951	388	285	974
Stage 1	-	-	-	-	-	-	707	707	-	506	506	-
Stage 2	-	-	-	-	-	-	650	505	-	931	693	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1064	-	-	1012	-	-	314	235	948	303	231	974
Mov Cap-2 Maneuver	-	-	-	-	-	-	408	331	-	394	310	-
Stage 1	-	-	-	-	-	-	703	703	-	504	413	-
Stage 2	-	-	-	-	-	-	518	412	-	845	689	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.6			10.7			11.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	738	1064	-	-	1012	-	-	588
HCM Lane V/C Ratio	0.147	0.002	-	-	0.184	-	-	0.042
HCM Control Delay (s)	10.7	8.4	-	-	9.4	-	-	11.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.7	-	-	0.1

HCM 6th TWSC
 103: Driveway & NW 19th Street

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	501	42	0	571	0	43
Future Vol, veh/h	501	42	0	571	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	604	51	0	688	0	52

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	328
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	4.5
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3
Pot Cap-1 Maneuver	-	-	0	-	910
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	910
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	910	-	-	-
HCM Lane V/C Ratio	0.057	-	-	-
HCM Control Delay (s)	9.2	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

HCM 6th AWSC

104: NW 102nd Avenue & NW 19th Street/NW 17th Street

Intersection	
Intersection Delay, s/veh	25.3
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗		↵	↗	
Traffic Vol, veh/h	90	425	17	3	321	119	58	24	14	198	23	193
Future Vol, veh/h	90	425	17	3	321	119	58	24	14	198	23	193
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	103	489	20	3	369	137	67	28	16	228	26	222
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	28.2	25.2	15.5	23.8
HCM LOS	D	D	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	63%	0%	100%	89%	0%	100%	47%	0%	11%
Vol Right, %	0%	37%	0%	0%	11%	0%	0%	53%	0%	89%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	38	90	283	159	3	214	226	198	216
LT Vol	58	0	90	0	0	3	0	0	198	0
Through Vol	0	24	0	283	142	0	214	107	0	23
RT Vol	0	14	0	0	17	0	0	119	0	193
Lane Flow Rate	67	44	103	326	182	3	246	260	228	248
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.201	0.122	0.267	0.793	0.44	0.009	0.619	0.626	0.601	0.577
Departure Headway (Hd)	10.835	10.057	9.286	8.769	8.691	9.572	9.054	8.673	9.51	8.368
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	331	356	387	414	414	374	398	416	380	432
Service Time	8.61	7.831	7.042	6.525	6.448	7.332	6.814	6.432	7.269	6.127
HCM Lane V/C Ratio	0.202	0.124	0.266	0.787	0.44	0.008	0.618	0.625	0.6	0.574
HCM Control Delay	16.3	14.2	15.4	37.9	18.1	12.4	25.5	25	25.7	22
HCM Lane LOS	C	B	C	E	C	B	D	C	D	C
HCM 95th-tile Q	0.7	0.4	1.1	6.9	2.2	0	4	4.1	3.8	3.5

Timings

105: NW 97th Avenue & NW 17th Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	152	566	254	855	1431
Future Volume (vph)	152	566	254	855	1431
Turn Type	Prot	pm+ov	pm+pt	NA	NA
Protected Phases	8	1	1	6	2
Permitted Phases		8	6		
Detector Phase	8	1	1	6	2
Switch Phase					
Minimum Initial (s)	7.0	5.0	5.0	16.0	16.0
Minimum Split (s)	15.0	11.4	11.4	24.4	24.4
Total Split (s)	21.0	21.4	21.4	88.0	66.4
Total Split (%)	19.3%	19.6%	19.6%	80.7%	60.9%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	6.4	6.4	6.4
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	13.4	36.0	83.2	83.2	60.2
Actuated g/C Ratio	0.12	0.33	0.76	0.76	0.55
v/c Ratio	0.75	1.13	0.81	0.34	0.86
Control Delay	67.4	113.4	48.0	4.7	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	67.4	113.4	48.0	4.7	26.4
LOS	E	F	D	A	C
Approach Delay	103.7			14.6	26.4
Approach LOS	F			B	C

Intersection Summary

Cycle Length: 109

Actuated Cycle Length: 109

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

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 39.0

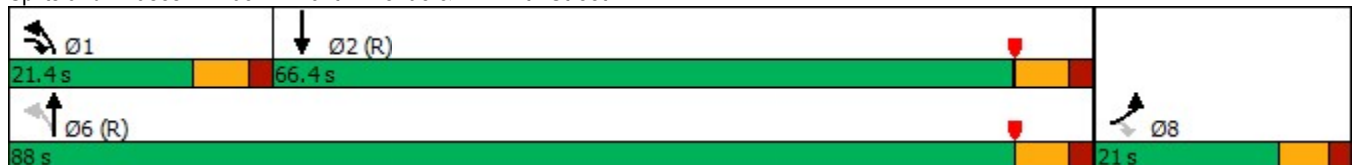
Intersection LOS: D

Intersection Capacity Utilization 89.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 105: NW 97th Avenue & NW 17th Street



Queues

105: NW 97th Avenue & NW 17th Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	163	609	273	919	1664
v/c Ratio	0.75	1.13	0.81	0.34	0.86
Control Delay	67.4	113.4	48.0	4.7	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	67.4	113.4	48.0	4.7	26.4
Queue Length 50th (ft)	110	~484	136	97	493
Queue Length 95th (ft)	#196	#706	#286	122	607
Internal Link Dist (ft)	997			269	190
Turn Bay Length (ft)			100		
Base Capacity (vph)	243	539	338	2702	1936
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.67	1.13	0.81	0.34	0.86

Intersection Summary

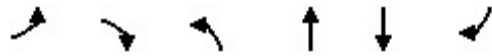
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 105: NW 97th Avenue & NW 17th Street



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	152	566	254	855	1431	116
Future Volume (veh/h)	152	566	254	855	1431	116
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	609	273	919	1539	125
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	245	335	315	2660	2049	165
Arrive On Green	0.14	0.14	0.07	1.00	0.82	0.82
Sat Flow, veh/h	1781	1585	1781	3647	3417	268
Grp Volume(v), veh/h	163	609	273	919	817	847
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1814
Q Serve(g_s), s	9.5	15.0	5.8	0.2	23.2	24.2
Cycle Q Clear(g_c), s	9.5	15.0	5.8	0.2	23.2	24.2
Prop In Lane	1.00	1.00	1.00			0.15
Lane Grp Cap(c), veh/h	245	335	315	2660	1095	1118
V/C Ratio(X)	0.66	1.82	0.87	0.35	0.75	0.76
Avail Cap(c_a), veh/h	245	335	429	2660	1095	1118
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	43.0	18.2	0.1	5.9	5.9
Incr Delay (d2), s/veh	6.1	380.8	10.5	0.4	4.6	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	44.3	5.4	0.2	5.7	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.7	423.8	28.7	0.4	10.5	10.8
LnGrp LOS	D	F	C	A	B	B
Approach Vol, veh/h				1192	1664	
Approach Delay, s/veh	345.0			6.9	10.6	
Approach LOS	F			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.4	73.6			88.0	21.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.0
Max Green Setting (Gmax), s	15.0	60.0			81.6	15.0
Max Q Clear Time (g_c+I1), s	7.8	26.2			2.2	17.0
Green Ext Time (p_c), s	0.3	5.2			2.8	0.0
Intersection Summary						
HCM 6th Ctrl Delay			80.6			
HCM 6th LOS			F			

Timings

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	340	204	1018	248	1375
Future Volume (vph)	340	204	1018	248	1375
Turn Type	Prot	pt+ov	NA	pm+pt	NA
Protected Phases	4	4 5	6	5	2
Permitted Phases				2	
Detector Phase	4	4 5	6	5	2
Switch Phase					
Minimum Initial (s)	7.0		16.0	5.0	16.0
Minimum Split (s)	24.2		24.8	11.8	24.8
Total Split (s)	34.2		114.0	21.8	135.8
Total Split (%)	20.1%		67.1%	12.8%	79.9%
Yellow Time (s)	4.0		4.4	4.4	4.4
All-Red Time (s)	2.1		2.4	2.4	2.4
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.1		6.8	6.8	6.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None		C-Max	None	C-Max
Act Effct Green (s)	28.1	46.6	110.5	129.0	129.0
Actuated g/C Ratio	0.17	0.27	0.65	0.76	0.76
v/c Ratio	1.24	0.42	0.39	0.77	0.38
Control Delay (s/veh)	188.7	26.0	14.1	23.1	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	188.7	26.0	14.1	23.1	7.3
LOS	F	C	B	C	A
Approach Delay (s/veh)	127.7		14.1		9.7
Approach LOS	F		B		A

Intersection Summary

Cycle Length: 170

Actuated Cycle Length: 170

Offset: 87 (51%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.24

Intersection Signal Delay (s/veh): 30.4

Intersection LOS: C

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 101: NW 107th Avenue & NW 19th Street



Queues

101: NW 107th Avenue & NW 19th Street



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	362	217	1259	264	1463
v/c Ratio	1.24	0.42	0.39	0.77	0.38
Control Delay (s/veh)	188.7	26.0	14.1	23.1	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	188.7	26.0	14.1	23.1	7.3
Queue Length 50th (ft)	~498	94	222	75	182
Queue Length 95th (ft)	#712	174	267	131	203
Internal Link Dist (ft)	1456		370		397
Turn Bay Length (ft)				150	
Base Capacity (vph)	292	543	3237	372	3858
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.24	0.40	0.39	0.71	0.38

Intersection Summary

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

HCM 6th Signalized Intersection Summary
 101: NW 107th Avenue & NW 19th Street



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↶↶↶		↶	↶↶↶
Traffic Volume (veh/h)	340	204	1018	165	248	1375
Future Volume (veh/h)	340	204	1018	165	248	1375
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	362	217	1083	176	264	1463
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	294	357	2907	472	390	3875
Arrive On Green	0.17	0.17	0.66	0.66	0.06	0.76
Sat Flow, veh/h	1781	1585	4579	716	1781	5274
Grp Volume(v), veh/h	362	217	836	423	264	1463
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1722	1781	1702
Q Serve(g_s), s	28.1	20.9	18.9	18.9	8.0	16.5
Cycle Q Clear(g_c), s	28.1	20.9	18.9	18.9	8.0	16.5
Prop In Lane	1.00	1.00		0.42	1.00	
Lane Grp Cap(c), veh/h	294	357	2243	1135	390	3875
V/C Ratio(X)	1.23	0.61	0.37	0.37	0.68	0.38
Avail Cap(c_a), veh/h	294	357	2243	1135	441	3875
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.9	59.1	13.1	13.1	10.4	6.9
Incr Delay (d2), s/veh	129.4	3.0	0.5	0.9	2.5	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.5	18.5	7.5	7.7	3.3	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	200.3	62.1	13.6	14.0	12.9	7.2
LnGrp LOS	F	E	B	B	B	A
Approach Vol, veh/h	579		1259			1727
Approach Delay, s/veh	148.5		13.7			8.1
Approach LOS	F		B			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		135.8		34.2	17.0	118.8
Change Period (Y+Rc), s		6.8		6.1	6.8	6.8
Max Green Setting (Gmax), s		129.0		28.1	15.0	107.2
Max Q Clear Time (g_c+l1), s		18.5		30.1	10.0	20.9
Green Ext Time (p_c), s		13.6		0.0	0.2	9.7
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			32.9			
HCM 6th LOS			C			

Timings

105: NW 97th Avenue & NW 17th Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	152	566	254	855	1431
Future Volume (vph)	152	566	254	855	1431
Turn Type	Prot	pm+ov	pm+pt	NA	NA
Protected Phases	8	1	1	6	2
Permitted Phases		8	6		
Detector Phase	8	1	1	6	2
Switch Phase					
Minimum Initial (s)	7.0	5.0	5.0	16.0	16.0
Minimum Split (s)	15.0	11.4	11.4	24.4	24.4
Total Split (s)	23.6	21.4	21.4	85.4	64.0
Total Split (%)	21.7%	19.6%	19.6%	78.3%	58.7%
Yellow Time (s)	4.0	4.4	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.4	6.4	6.4	6.4
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	14.2	38.6	82.4	82.4	57.6
Actuated g/C Ratio	0.13	0.35	0.76	0.76	0.53
v/c Ratio	0.71	1.06	0.75	0.34	0.90
Control Delay	61.8	88.8	41.5	5.1	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	88.8	41.5	5.1	30.9
LOS	E	F	D	A	C
Approach Delay	83.1			13.4	30.9
Approach LOS	F			B	C

Intersection Summary

Cycle Length: 109

Actuated Cycle Length: 109

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 36.3

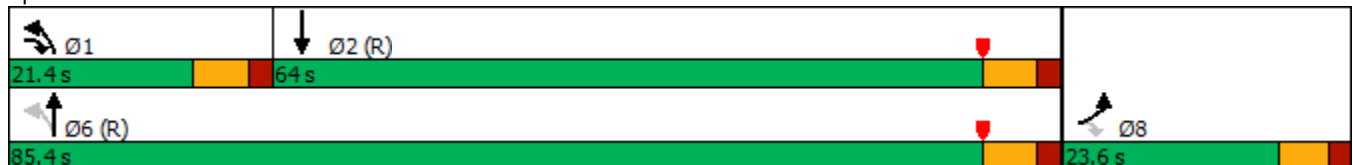
Intersection LOS: D

Intersection Capacity Utilization 89.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 105: NW 97th Avenue & NW 17th Street



Queues

105: NW 97th Avenue & NW 17th Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	163	609	273	919	1664
v/c Ratio	0.71	1.06	0.75	0.34	0.90
Control Delay	61.8	88.8	41.5	5.1	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	88.8	41.5	5.1	30.9
Queue Length 50th (ft)	110	~460	131	96	523
Queue Length 95th (ft)	178	#682	#287	137	644
Internal Link Dist (ft)	997			269	190
Turn Bay Length (ft)			100		
Base Capacity (vph)	285	574	366	2675	1852
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.57	1.06	0.75	0.34	0.90

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

105: NW 97th Avenue & NW 17th Street



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	152	566	254	855	1431	116
Future Volume (veh/h)	152	566	254	855	1431	116
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	609	273	919	1539	125
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	288	385	304	2576	1943	157
Arrive On Green	0.16	0.16	0.08	0.96	0.78	0.78
Sat Flow, veh/h	1781	1585	1781	3647	3417	268
Grp Volume(v), veh/h	163	609	273	919	817	847
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1814
Q Serve(g_s), s	9.2	17.6	6.6	1.5	28.7	29.9
Cycle Q Clear(g_c), s	9.2	17.6	6.6	1.5	28.7	29.9
Prop In Lane	1.00	1.00	1.00			0.15
Lane Grp Cap(c), veh/h	288	385	304	2576	1039	1061
V/C Ratio(X)	0.57	1.58	0.90	0.36	0.79	0.80
Avail Cap(c_a), veh/h	288	385	404	2576	1039	1061
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	41.3	21.3	0.6	8.2	8.4
Incr Delay (d2), s/veh	2.2	274.0	15.7	0.4	6.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	39.5	5.5	0.5	7.8	8.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.4	315.2	37.1	1.0	14.2	14.7
LnGrp LOS	D	F	D	A	B	B
Approach Vol, veh/h	772			1192	1664	
Approach Delay, s/veh	258.0			9.2	14.4	
Approach LOS	F			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	15.3	70.1			85.4	23.6
Change Period (Y+Rc), s	6.4	6.4			6.4	6.0
Max Green Setting (Gmax), s	15.0	57.6			79.0	17.6
Max Q Clear Time (g_c+I1), s	8.6	31.9			3.5	19.6
Green Ext Time (p_c), s	0.2	5.1			2.8	0.0
Intersection Summary						
HCM 6th Ctrl Delay			64.6			
HCM 6th LOS			E			