

ATTACHMENT C

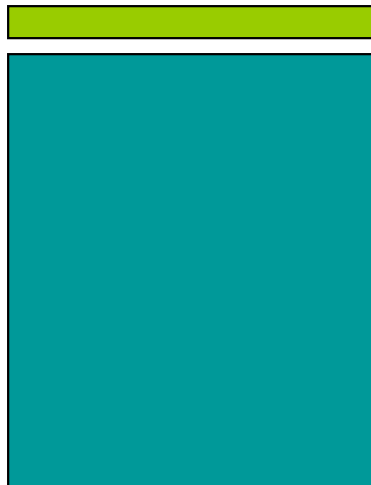
Traffic Study

Temple Solel Day School

Sheridan Street and N 52 Avenue

Hollywood, Florida

traffic study



prepared for:
Jewish School of Miami, Corporation

Traf Tech
ENGINEERING, INC.

May 2018

May 18, 2018

Jewish School of Miami, Corp.
Attention: Rabbi Eric Albert, President
3331 Farragut Street, #8G
Hollywood, Florida 33021

Re: **Temple Solel Day School – Traffic Study**

Dear Rabbi Albert:

Traf Tech Engineering, Inc. is pleased to provide you with the results of this traffic study undertaken for the proposed Temple Solel Day School to be located on the southeast corner of the intersection of Sheridan Street and N 52 Avenue in the City of Hollywood in Broward County, Florida.

It has been a pleasure working with you on this project.

Sincerely,

TRAF TECH ENGINEERING, INC.

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



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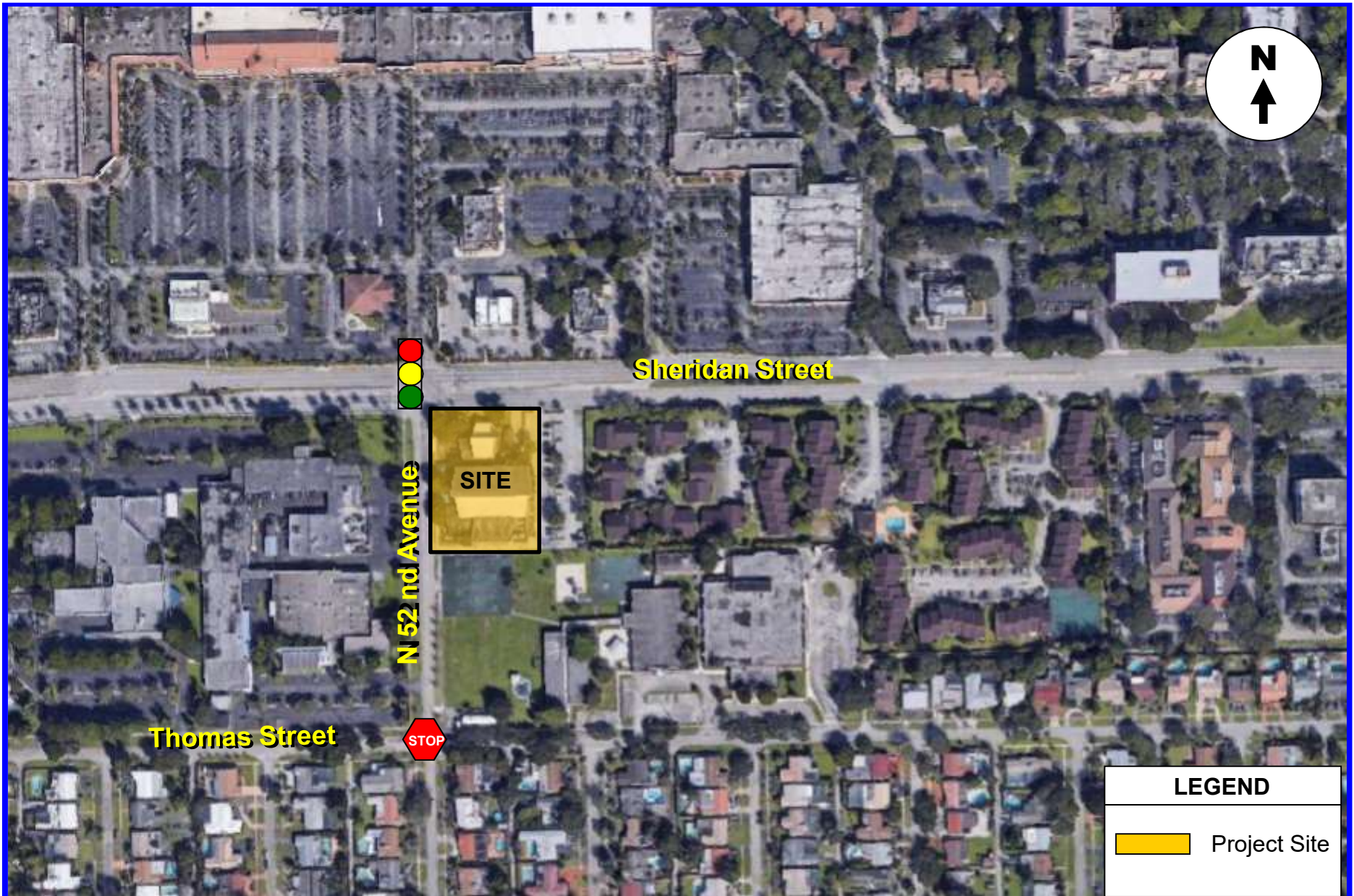
Appendices

1INTRODUCTION

Temple Solel Day School is a proposed educational institution planned to be located on the southeast corner of the intersection of Sheridan Street and N 52 Avenue in the City of Hollywood in Broward County, Florida. The location of the school site is illustrated in Figure 1 on the following page.

Traf Tech Engineering, Inc. has been retained by the Jewish School of Miami, Corporation to conduct a traffic study in connection with this education facility. The subject school will have a capacity of 381 students. This study addresses trip generation and the traffic impacts created by the proposed project on the nearby transportation network. This study is divided into eight (8) sections, as listed below:

1. Inventory
2. Existing Conditions
3. Traffic Counts
4. Trip Generation
5. Trip Distribution and Traffic Assignment
6. Traffic Analyses
7. Accumulation Analysis
8. Conclusions and Recommendations



INVENTORY

Existing Land Use

The site is currently occupied by a Daycare facility with approximately 100 students.

Proposed Land Use and Access

The site will be redeveloped with a new school housing 381 students (Grades K to 8th)

The proposed school is anticipated to be built and occupied in the Fall of 2019.

Appendix A contains the proposed site plan for the proposed School.

EXISTING CONDITIONS

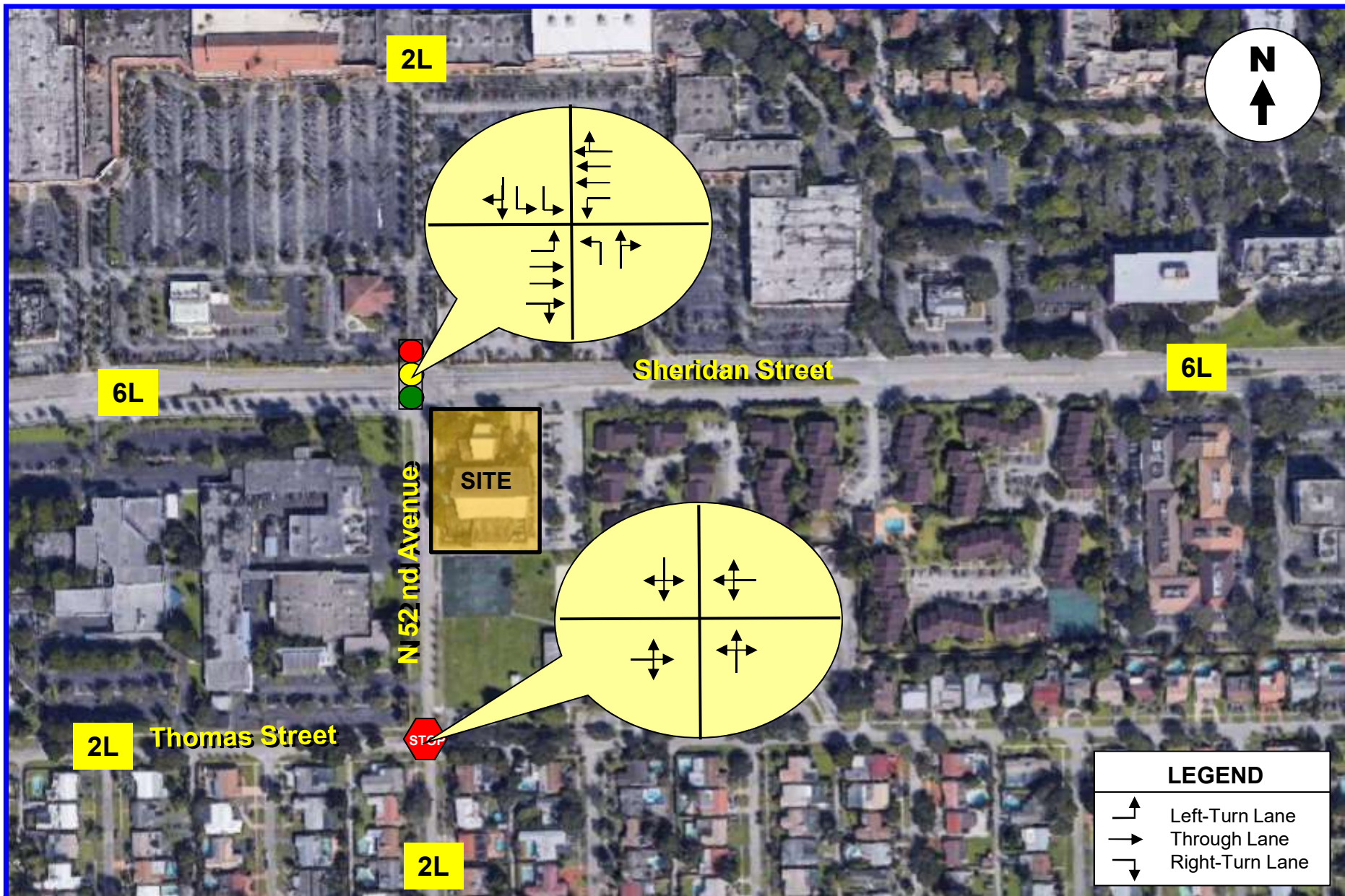
This section of the report addresses the transportation system located in the vicinity of the project site.

Roadway System

The roadway system located in the vicinity of the proposed school includes Sheridan Street and N 52 Avenue. Sheridan Street is an east-west arterial with three through lanes in each direction (six-lane divided facility) and a posted speed limit of 40 miles per hour. N 52 Avenue is a 2-lane local street oriented in the north-south direction with a posted speed limit of 30 miles per hour.

Nearby Intersection

The closest intersections to the school site include the intersection of Sheridan Street & N 52 Avenue that is controlled with traffic signal and the intersection of N 52 Avenue and Thomas Street that is currently controlled by stop signs (all-way stop control intersection). Figure 2 shows the existing lane geometry of the closest intersections and the number of lanes on the street system surrounding the school site is also depicted in this figure.



TRAFFIC COUNTS

Traf Tech Engineering, Inc., in association with Video Data Solutions, Inc., collected traffic data at the following locations:

- Sheridan Street and N 52 Avenue (signal)
- Thomas Street and N 52 Avenue (stop)

The intersection turning movement counts were collected on Tuesday, April 24, 2018 during the AM peak period (7:00 AM to 9:00 AM) and the PM peak period (4:00 PM to 6:00 PM). The existing AM and PM peak hour traffic counts are presented in Figure 3 on the following page. Appendix B contains the traffic data as collected in the field. As shown in the traffic counts, Sheridan Street is currently carrying a maximum hourly volume of approximately 2,457 vehicles per hour (east of N 52nd Avenue during the AM peak hour). Similarly, N 52nd Avenue has a maximum hourly volume of approximately 339 vehicles per hour (south of Sheridan Street during the AM peak hour). The signal timing plan for the signalized intersection is also contained in Appendix B.



TRIP GENERATION

A trip generation analysis was conducted for the proposed school. The analysis was performed using the trip generation equations published in the Institute of Transportation Engineer's ITE Trip Generation Manual (10th Edition). The trip generation analysis was undertaken for daily, AM peak hour, and PM peak hour conditions.

According to ITE's Trip Generation Manual (10th Edition), the most appropriate "land use" category for the proposed land use is:

PRIVATE SCHOOL K-8 (ITE Land Use 534)

Daily Trip Generation

$$T = 4.11 (X)$$

Where T = number of daily trips

X = number of students

AM Peak Hour

$$T = 0.85 (X) + 22.17 \text{ (55\% inbound and 45\% outbound)}$$

Where T = number of AM peak hour trips

X = number of students

PM Peak Hour

$$T = 0.26 (X) \text{ (46\% inbound and 54\% outbound)}$$

Where T = number of PM peak hour trips

X = number of students

Using the above-listed trip generation equations from the ITE document, a trip generation analysis was undertaken for the proposed project. The results of this effort are documented in Table 1 below.

TABLE 1 Trip Generation Summary (Proposed Uses) Temple Solel Day School								
Land Use	Size	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total Trips	Inbound	Outbound	Total Trips	Inbound	Outbound
Private School (K-8)	381	1,566	346	190	156	99	46	53
External Trips		1,566	346	190	156	99	46	53

Source: ITE Trip Generation Manual (10th Edition)

As indicated in Table 1, the proposed school is anticipated to generate approximately 1,566 daily trips, approximately 346 AM peak hour trips (190 inbound and 156 outbound) and approximately 99 trips (46 inbound and 53 outbound) during the typical afternoon peak hour.

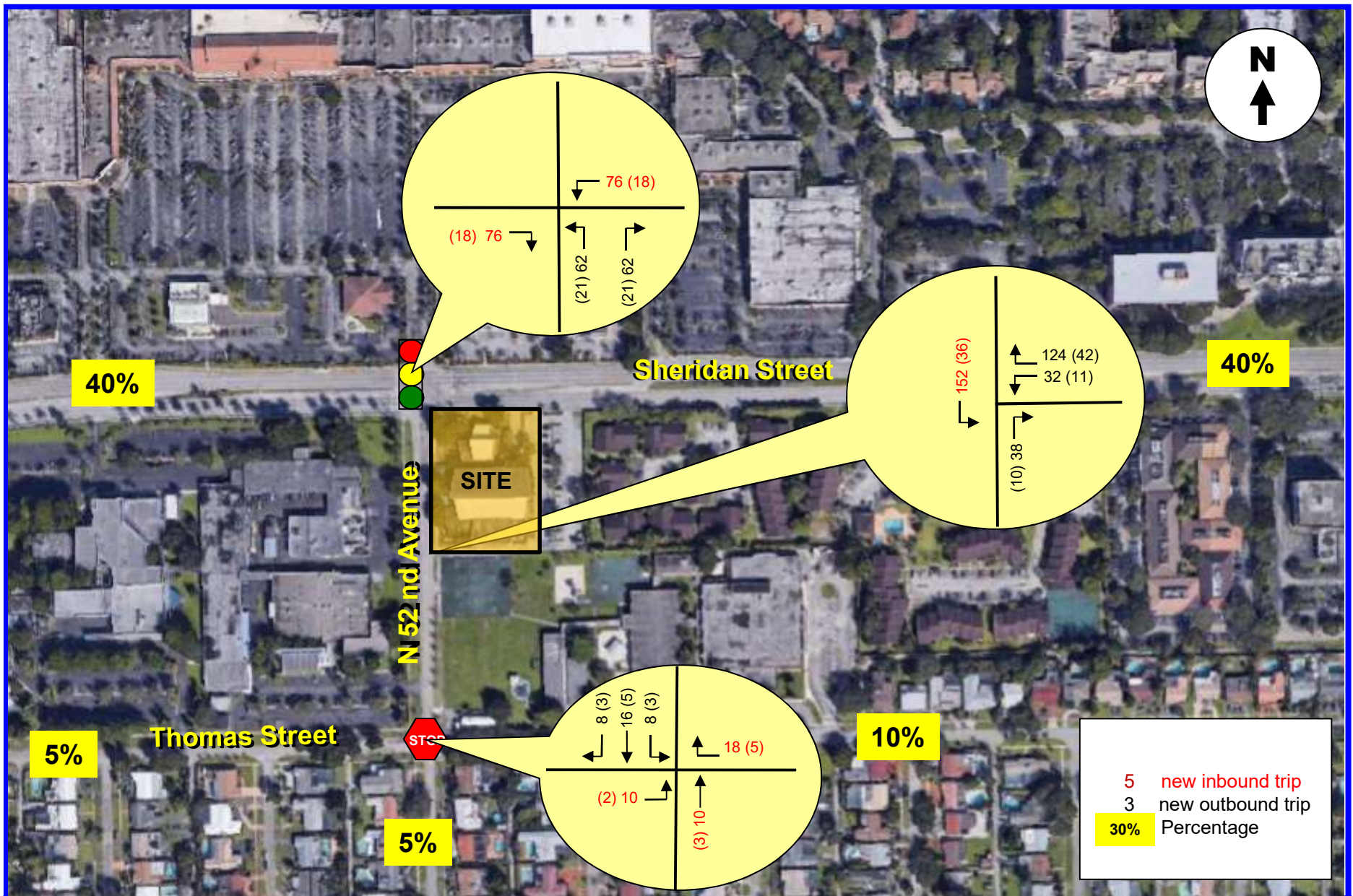
It should be noted that trips generated by the existing Daycare facility were not deducted from the trip generation to provide a conservative approach.

TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

The trip distribution and traffic assignment for the project were based on the residential homes located within a 2-mile radius from the site. Based on this procedure, the following traffic assignment was developed for the proposed school project:

- 20% from the south via N 52 Avenue
 - 5 % on Thomas Street west of N 52 Avenue
 - 10% on Thomas Street east of N 52 Avenue
 - 5% on N 52 Avenue south of Thomas Street
- 40% to and from the east via Sheridan Street
- 40% to and from the west via Sheridan Street

The new peak hour traffic generated by the project was assigned to the nearby transportation network using the traffic assignment documented above. The project traffic assignment is summarized in Figure 4.



TRAFFIC ANALYSES

This section of the study addresses the traffic impacts created by the Temple Solel Day School to the surrounding street system. As stated in the traffic counts section of this report, Sheridan Street currently carries approximately 2,457 vehicles during the highest hour (5:00 PM to 6:00 PM) and N 52 Avenue currently processes approximately 339 vehicles per hour. According to FDOT 2013 Quality/Level of Service Handbook, Sheridan Street has a level of service “D” capacity of 5,390 vehicles per hour and N 52 Avenue has a level of service “D” capacity of 1,197¹ vehicles per hour. Based on the above and the new traffic impacts depicted in Figure 4, the following conclusions are reached:

- Sheridan Street currently has an existing traffic volume of 2,457 vehicles per hour, plus 138 new peak hour trips generated by the school during the highest hour (AM Peak) = 2,595 vehicles per hour. Since this east-west facility has a capacity of 5,390 vehicles per hour, after the school is built the total peak hour trips is projected at 2,595 vehicles per hour, leaving 2,795 vehicles per hour of available capacity, which is approximately 50% of reserved capacity.
- N 52 Avenue currently has an existing traffic volume of 339 vehicles per hour, plus 70 new peak hour trips generated by the school during the highest hour (AM Peak) = 409 vehicles per hour. Since this north-south facility has a capacity of 1,197 vehicles per hour, after the school is built the total peak hour trips is projected at 409 vehicles per hour leaving approximately 788 vehicles per hour (66 %) of available roadway capacity.

Based on the above, ample roadway capacity is available on both Sheridan Street and N 52 Avenue to absorb the additional traffic impacts created by the proposed school.

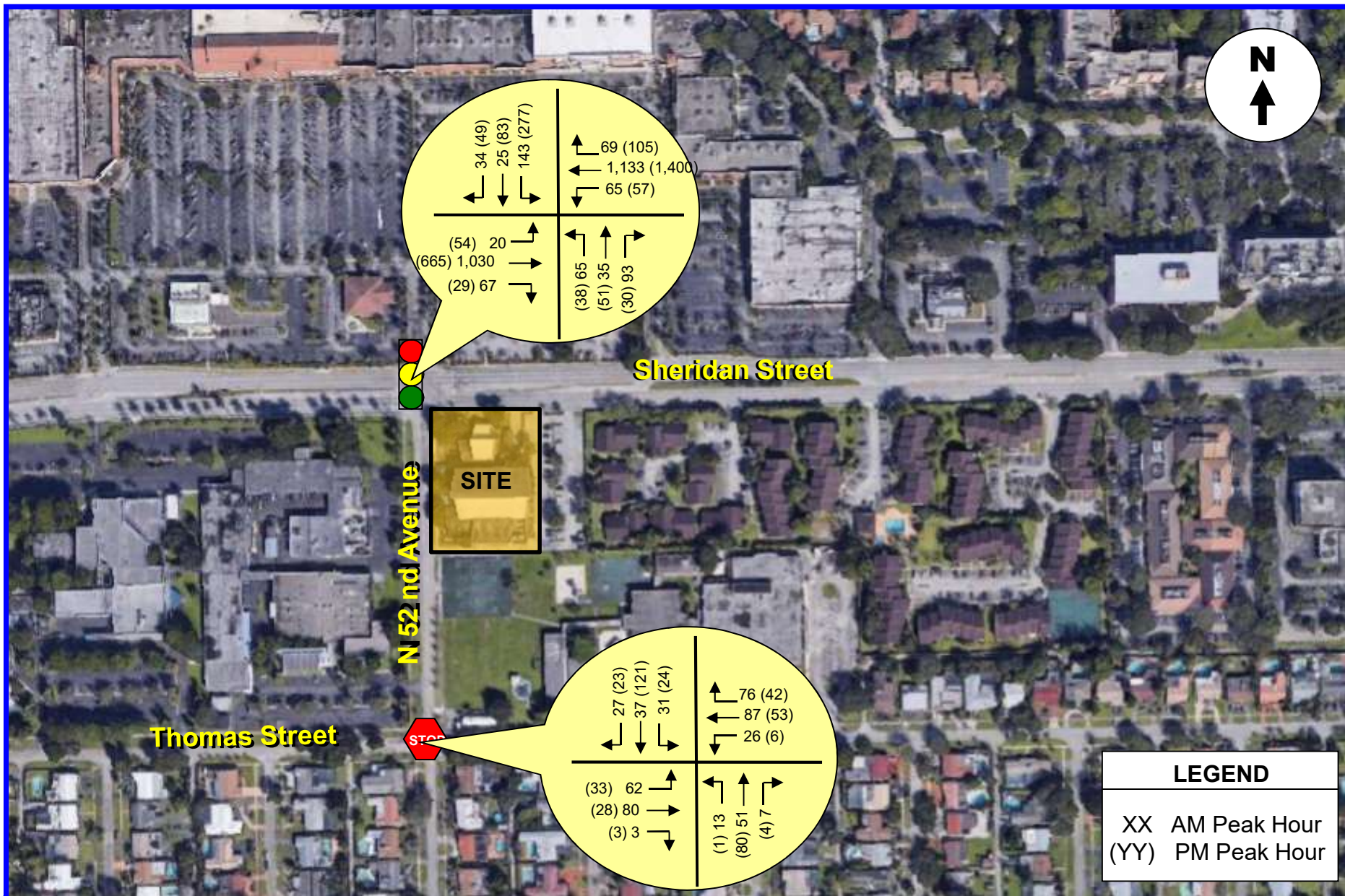
¹ $(1,330 \times 0.90) = 1,197$ vehicles per hour.

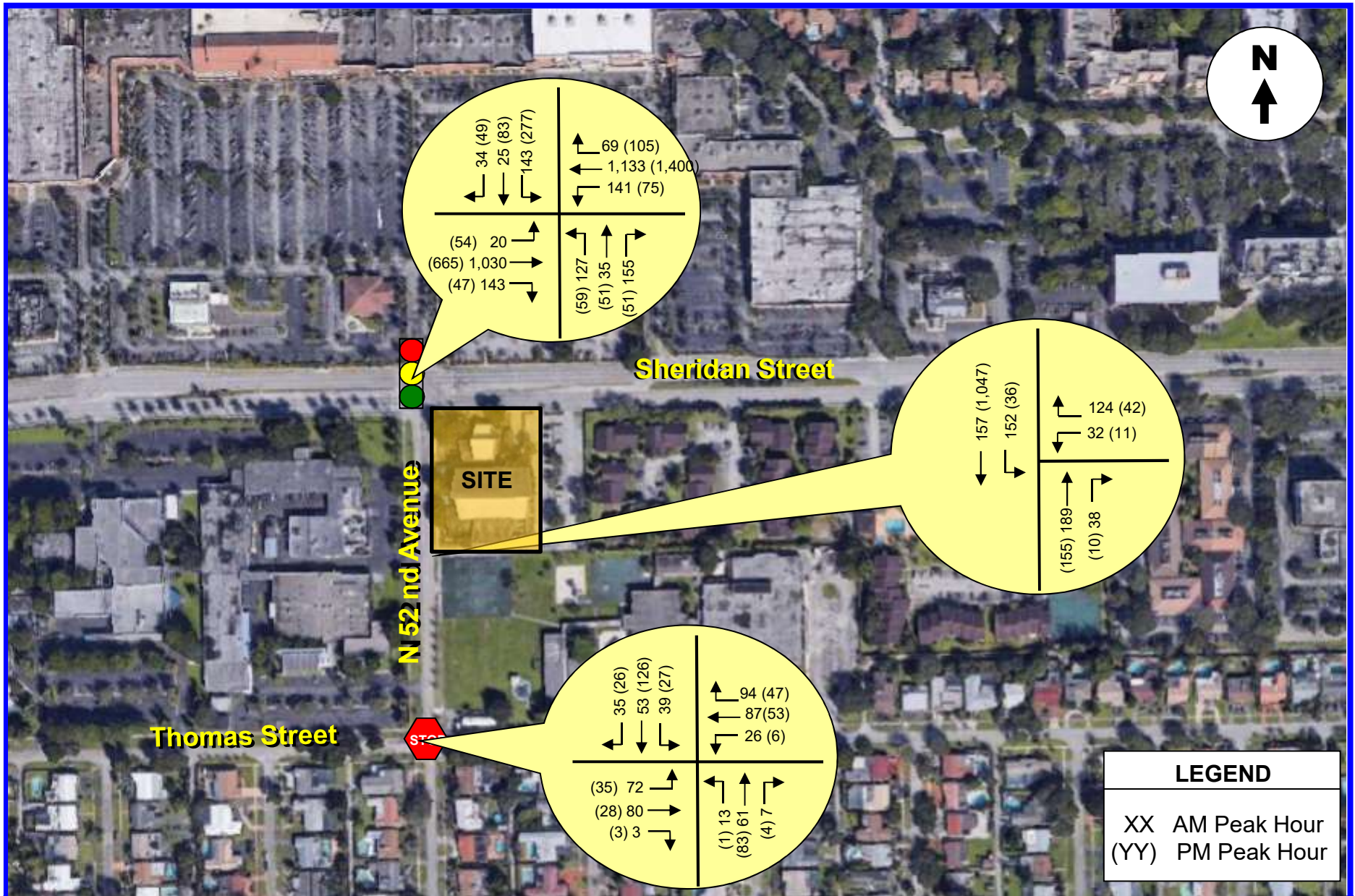
Intersection Level of Service

The intersections of Sheridan Street & N 52 Avenue and Thomas Street & N 52 Avenue were evaluated for existing conditions, future conditions with and without the project. 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 school project.

Level of service analyses were undertaken following the capacity/level of service of the Highway Capacity Manual using the SYNCHRO software. For this analysis, intersection turning movement counts collected during the month of April were adjusted by an adjustment factor of 1.02 to convert the traffic counts to average peak season conditions. The results of the intersection analyses are summarized in Table 2.

TABLE 2 Intersection Level of Service Temple Solel Day School			
Intersection/Movements	Existing	Future Traffic Conditions	
		Year 2020 Without Project	Year 2020 With Project
<i>Sheridan Street & N 52 Avenue (Signal)</i>	C (C)	C (C)	C (C)
<i>Thomas Street & N 52 Avenue (4-way Stop)</i>	A (A)	A (A)	A (A)
<i>N 52 Avenue & Access (Stop- Controlled) WB</i>	-	-	B (B)





As indicated in Table 2, all intersections are expected to operate at acceptable level of service in the year 2019 with the project in place.

The access driveway off of N 52 Avenue, as proposed, is projected to operate at acceptable level of service with the proposed project in place.

Appendix C contains the peak season conversion factor published by the FDOT and the future traffic projections for the study intersections. The results of the SYNCNRHO analyses are presented in Appendix D.

ACCUMULATION ANALYSIS

A vehicle accumulation study was conducted for the proposed Temple Solel Day School. Based on vehicle accumulation studies conducted by Traf Tech Engineering, Inc. on schools in South Florida, the typical vehicle accumulation (vehicles in queue and parked vehicles) of schools ranges between 11% and 18% of the student population. For purposes of this study, the vehicle accumulation was assumed to be 18% of the student population, or 68 vehicles ($381 \times 18\%$). Since the proposed school is design to accommodate approximately 46¹ vehicles within the stacking lanes plus 87 parking spaces for a total on-site accumulation capacity of approximately 133 vehicles (46 plus 87). Therefore, stacking should not be a problem (capacity to accommodate 68 vehicles is required and 133 vehicles can be accommodated on site).

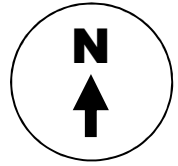
A Traffic Operations Plan (TOP) has been developed for the proposed charter school and is depicted in Figure 7.

¹ Approximately 1,030 linear feet at 22 feet per vehicle is approximately 46 vehicles.

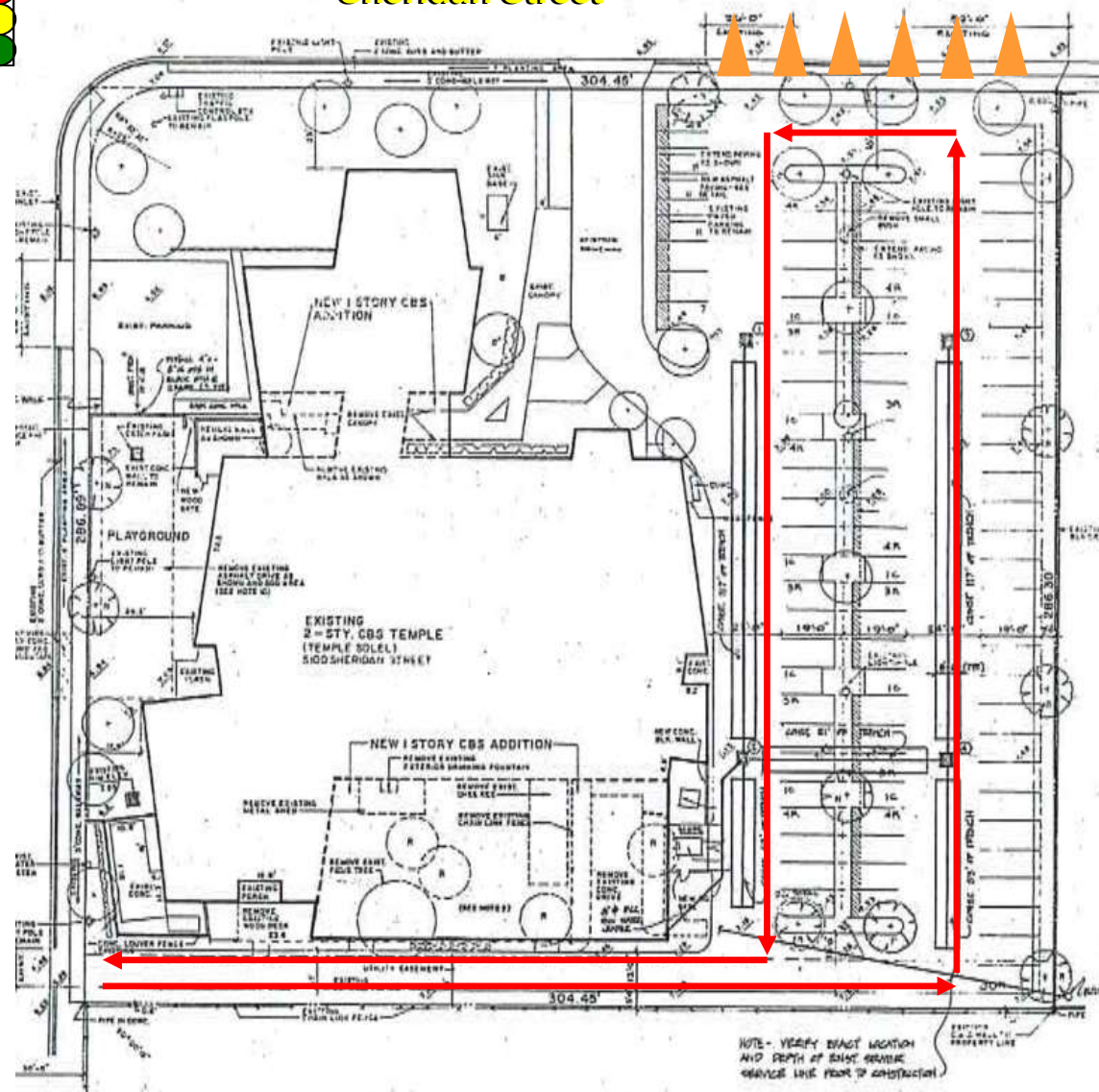


Sheridan Street

Cones



N 52 nd Avenue



18% Accumulation
= 68 vehicles on site

Traf Tech
ENGINEERING, INC.

School Circulation

FIGURE 7
Temple Solel Day Shool
Hollywood, Florida

CONCLUSIONS AND RECOMMENDATIONS

Temple Solel Day School is a proposed educational institution planned to be located on the southeast corner of Sheridan Street and N 52 Avenue in the City of Hollywood in Broward County, Florida.

Traf Tech Engineering, Inc. has been retained by the Jewish School of Miami, Corporation to conduct a traffic study in connection with this education facility. The subject school will have a capacity of 381 students. This study addresses trip generation and the traffic impacts created by the proposed project on the nearby transportation network.

The site is currently occupied by a Daycare facility with approximately 100 students. The site will be redeveloped with a new school housing 381 students (Grades K to 8th). The proposed school is anticipated to be built and occupied in the Fall of 2019.

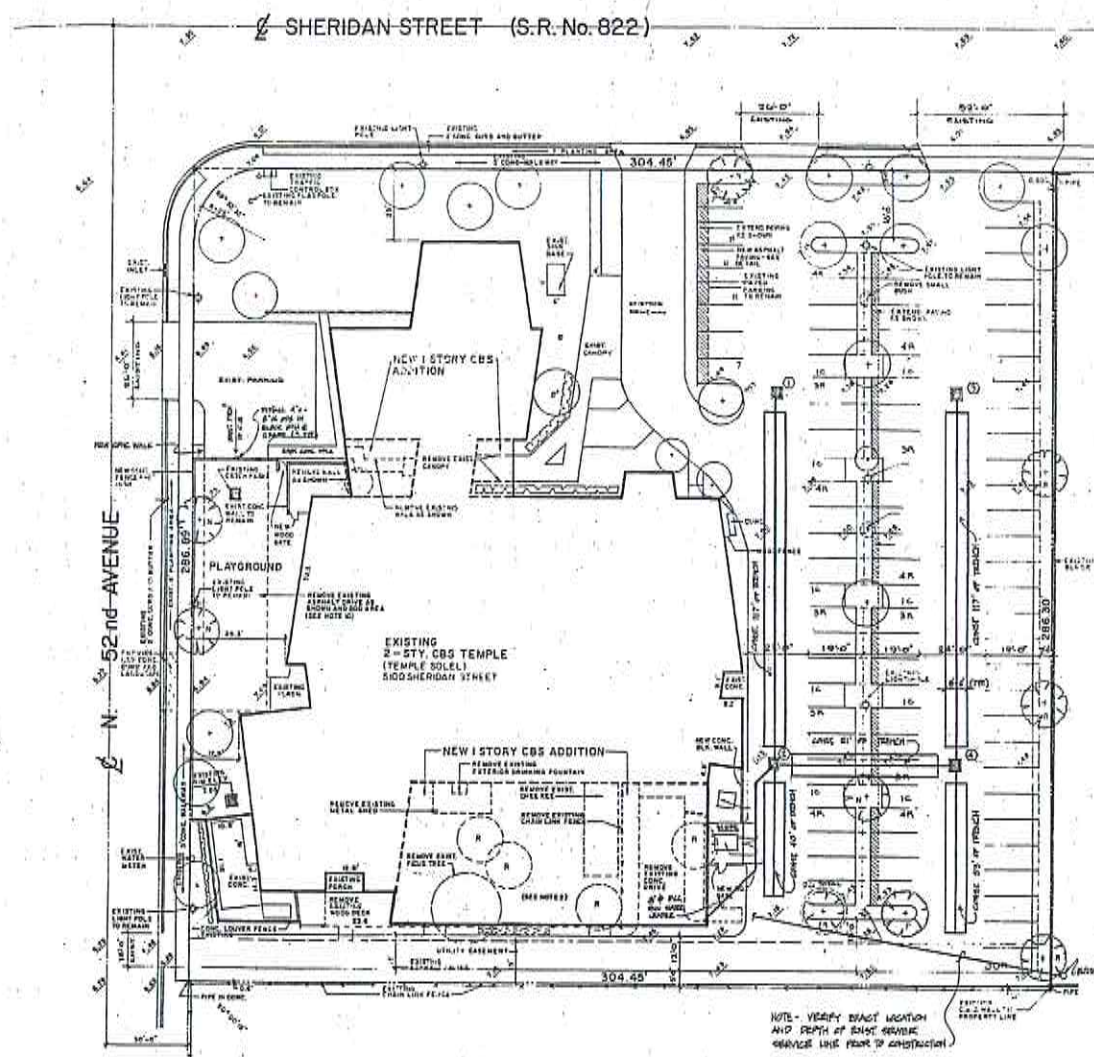
Ample roadway capacity is available on both Sheridan Street and N 52 Avenue to absorb the additional traffic impacts created by the proposed school.

Results of the intersection level of service analysis reveal that all intersections are projected to operate at acceptable level of service in the year 2019 with the proposed school project in place.

The access driveway off of N 52 Avenue, as proposed, is projected to operate at acceptable level of service with the proposed project in place.

The proposed school is design to accommodate approximately 46 vehicles within the stacking lanes plus 87 parking spaces for a total on-site accumulation capacity of approximately 133 vehicles (46 plus 87). Since the maximum vehicle accumulation anticipated for this school is 68 vehicles, stacking should not be a problem.

APPENDIX A
Site Plan – Temple Solel Day School



SITE PLAN (DRAINAGE)

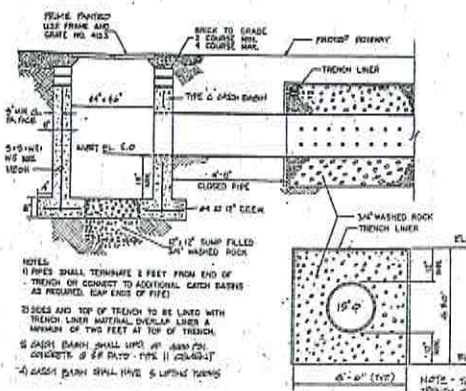


CATCH BASIN SCHEDULE (SEE SITE PLAN FOR LOCATION)

- 1 RIM ELEV. 6.90'
INVERT ELEV. 6.60'
- 2 RIM ELEV. 6.60'
INVERT ELEV. 6.30'
- 3 RIM ELEV. 6.68'
INVERT ELEV. 6.30'
- 4 RIM ELEV. 6.66'
INVERT ELEV. 6.30'

NOTE:
NEW CATCH BASINS SHALL BE
TYPE "C" CATCH BASINS ARE
DETAILED THIS PLAN.

NOTE:
IN LOCATIONS SHOWN TO RECEIVE NEW CATCH BASINS (1 THRU 4)
REMOVE EXISTING CATCH BASINS AND ANY ASSOCIATED PAVING.
RIM ELEVATIONS SHOWN ARE EXISTING. NEW CATCH BASINS
SHALL HAVE SAME RIM ELEVATIONS. (VERIFY ELEVATIONS
FOR BID PURPOSES). ELEVATIONS FOR CB (THRU 3) TAKEN
FROM DRAWINGS PREPARED BY "BERRY & SONS LAND SURVEYORS"
CIVIL ENGINEERS, HAWTHORNE, FLA. DATED JULY 14, 1968.



CATCH BASIN & SEEPAGE TRENCH DETAIL

APPENDIX B
Intersection Turning Movement Counts
and Signal Timing Data

Traf Tech Engineering, Inc.

File Name : 1- N 52 Ave & Sheridan St

Site Code : 00000000

Start Date : 4/24/2018

Page No : 1

Groups Printed- Auto - Heavy Vehicles

	N 52nd Ave Southbound					Sheridan St Westbound					N 52nd Ave Northbound					Sheridan St Eastbound					
Start Time	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	Int. Total
07:00 AM	1	4	12	0	17	8	160	3	1	172	7	2	6	0	15	7	214	3	0	224	428
07:15 AM	3	4	36	0	43	15	243	5	1	264	14	3	17	1	35	9	285	2	0	296	638
07:30 AM	4	5	31	0	40	10	258	16	0	284	31	7	12	0	50	18	235	1	0	254	628
07:45 AM	6	6	29	0	41	19	274	15	2	310	20	9	24	0	53	25	304	4	0	333	737
Total	14	19	108	0	141	52	935	39	4	1030	72	21	59	1	153	59	1038	10	0	1107	2431
08:00 AM	8	7	41	0	56	25	275	21	2	323	24	15	16	0	55	11	224	8	1	244	678
08:15 AM	15	6	38	0	59	13	292	11	5	321	15	3	11	0	29	11	236	6	0	253	662
08:30 AM	9	10	49	0	68	13	217	10	4	244	10	6	6	0	22	7	244	10	0	261	595
08:45 AM	11	5	64	0	80	19	202	4	9	234	8	10	8	0	26	6	210	4	0	220	560
Total	43	28	192	0	263	70	986	46	20	1122	57	34	41	0	132	35	914	28	1	978	2495
*** BREAK ***																					
04:00 PM	12	13	57	0	82	24	275	5	12	316	8	10	8	0	26	4	137	12	0	153	577
04:15 PM	18	18	70	0	106	35	296	11	13	355	7	12	8	0	27	5	181	7	0	193	681
04:30 PM	18	25	68	0	111	48	296	12	29	385	8	7	6	0	21	5	167	13	0	185	702
04:45 PM	9	25	70	0	104	24	324	7	11	366	7	11	6	1	25	7	166	12	0	185	680
Total	57	81	265	0	403	131	1191	35	65	1422	30	40	28	1	99	21	651	44	0	716	2640
05:00 PM	10	22	63	0	95	23	253	11	13	300	11	10	9	3	33	8	166	19	0	193	621
05:15 PM	11	18	71	0	100	28	435	15	12	490	4	15	13	0	32	4	150	13	0	167	789
05:30 PM	18	16	65	0	99	27	346	22	11	406	7	13	9	0	29	9	163	8	0	180	714
05:45 PM	14	17	89	1	121	43	289	18	12	362	5	8	15	0	28	16	129	16	0	161	672
Total	53	73	288	1	415	121	1323	66	48	1558	27	46	46	3	122	37	608	56	0	701	2796
Grand Total	167	201	853	1	1222	374	4435	186	137	5132	186	141	174	5	506	152	3211	138	1	3502	10362
Apprch %	13.7	16.4	69.8	0.1		7.3	86.4	3.6	2.7		36.8	27.9	34.4	1		4.3	91.7	3.9	0		
Total %	1.6	1.9	8.2	0	11.8	3.6	42.8	1.8	1.3	49.5	1.8	1.4	1.7	0	4.9	1.5	31	1.3	0	33.8	
Auto	167	201	853	1	1222	374	4398	182	137	5091	181	141	174	5	501	148	3179	138	0	3465	10279
% Auto	100	100	100	100	100	100	99.2	97.8	100	99.2	97.3	100	100	100	99	97.4	99	100	0	98.9	99.2
Heavy Vehicles	0	0	0	0	0	0	37	4	0	41	5	0	0	0	5	4	32	0	1	37	83
% Heavy Vehicles	0	0	0	0	0	0	0.8	2.2	0	0.8	2.7	0	0	0	1	2.6	1	0	100	1.1	0.8

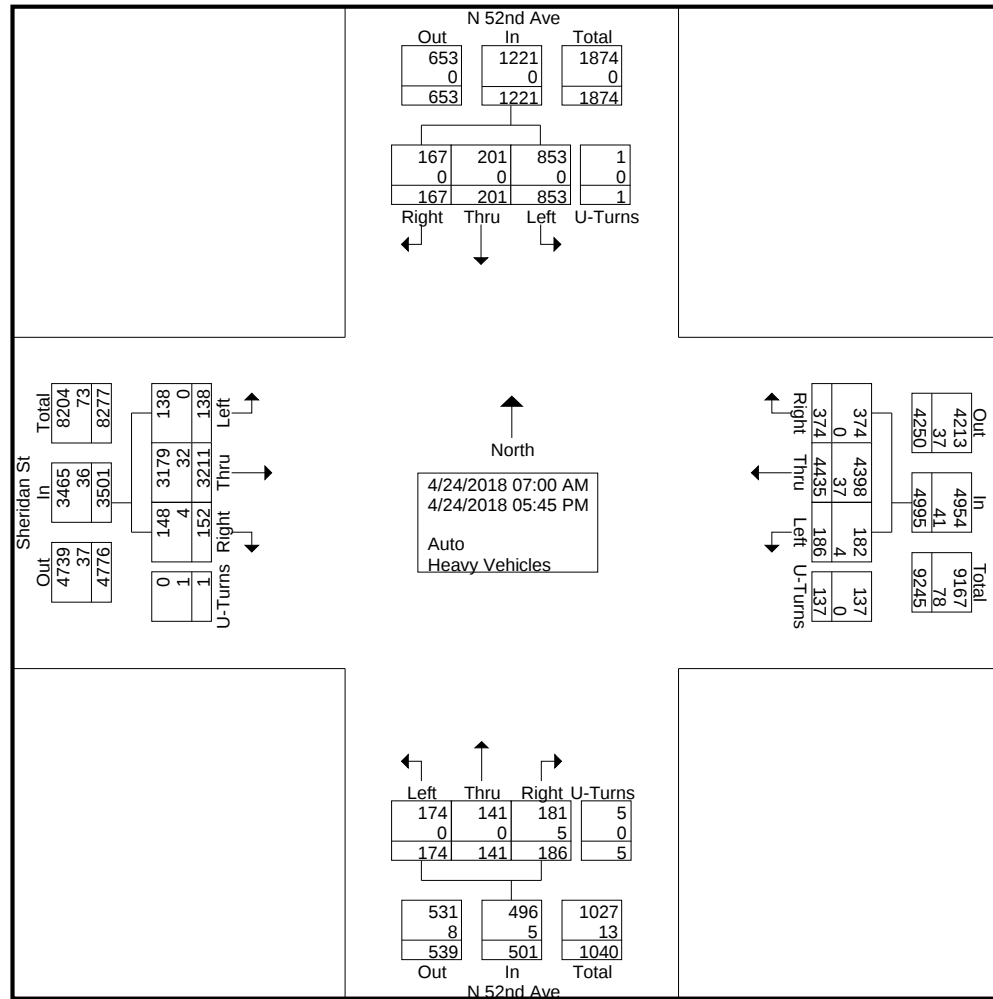
Traf Tech Engineering, Inc.

File Name : 1- N 52 Ave & Sheridan St

Site Code : 00000000

Start Date : 4/24/2018

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File Name : 1- N 52 Ave & Sheridan St

Site Code : 00000000

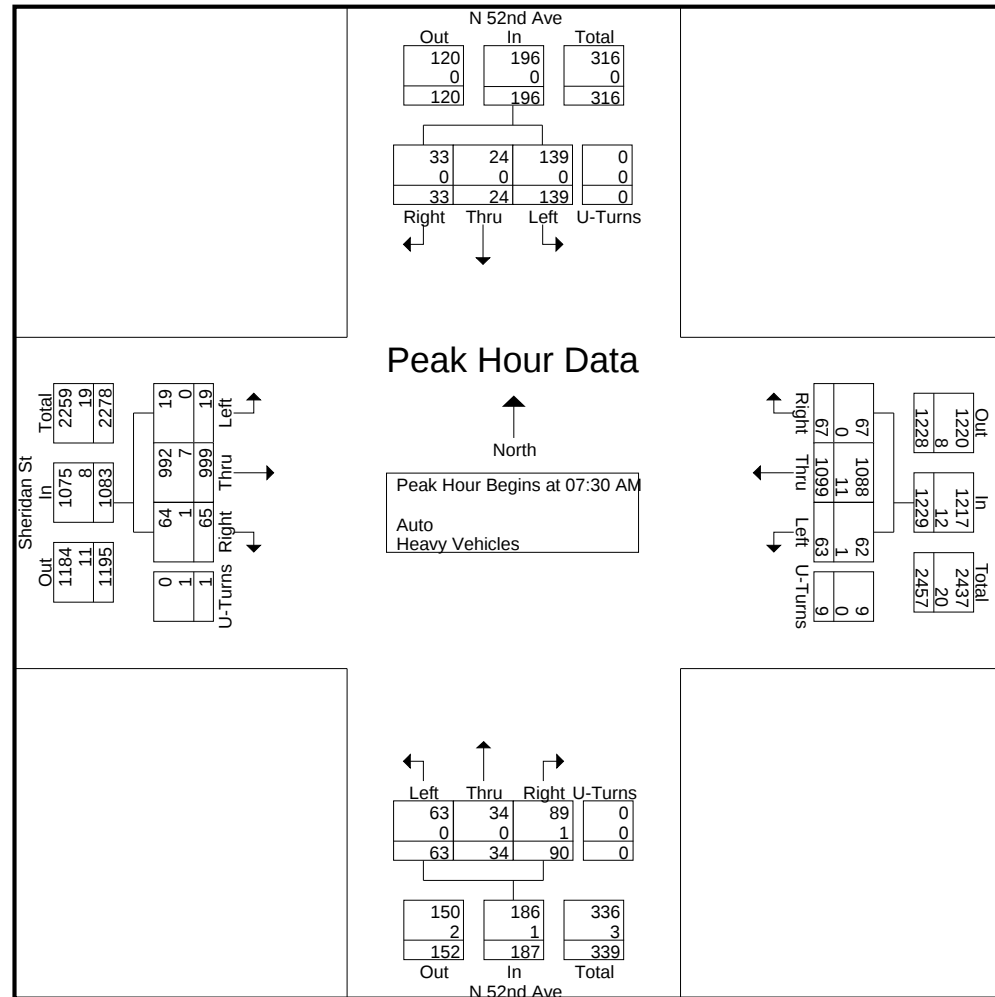
Start Date : 4/24/2018

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	N 52nd Ave Southbound					Sheridan St Westbound					N 52nd Ave Northbound					Sheridan St Eastbound					
Start Time	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	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	4	5	31	0	40	10	258	16	0	284	31	7	12	0	50	18	235	1	0	254	628
07:45 AM	6	6	29	0	41	19	274	15	2	310	20	9	24	0	53	25	304	4	0	333	737
08:00 AM	8	7	41	0	56	25	275	21	2	323	24	15	16	0	55	11	224	8	1	244	678
08:15 AM	15	6	38	0	59	13	292	11	5	321	15	3	11	0	29	11	236	6	0	253	662
Total Volume	33	24	139	0	196	67	1099	63	9	1238	90	34	63	0	187	65	999	19	1	1084	2705
% App. Total	16.8	12.2	70.9	0		5.4	88.8	5.1	0.7		48.1	18.2	33.7	0		6	92.2	1.8	0.1		
PHF	.550	.857	.848	.000	.831	.670	.941	.750	.450	.958	.726	.567	.656	.000	.850	.650	.822	.594	.250	.814	.918
Auto	33	24	139	0	196	67	1088	62	9	1226	89	34	63	0	186	64	992	19	0	1075	2683
% Auto	100	100	100	0	100	100	99.0	98.4	100	99.0	98.9	100	100	0	99.5	98.5	99.3	100	0	99.2	99.2
Heavy Vehicles	0	0	0	0	0	0	11	1	0	12	1	0	0	0	1	1	7	0	1	9	22
% Heavy Vehicles	0	0	0	0	0	0	1.0	1.6	0	1.0	1.1	0	0	0	0.5	1.5	0.7	0	100	0.8	0.8

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File Name : 1- N 52 Ave & Sheridan St
 Site Code : 00000000
 Start Date : 4/24/2018
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Traf Tech Engineering, Inc.

File Name : 1- N 52 Ave & Sheridan St

Site Code : 00000000

Start Date : 4/24/2018

Page No : 5

	N 52nd Ave Southbound					Sheridan St Westbound					N 52nd Ave Northbound					Sheridan St Eastbound					
Start Time	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	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	9	25	70	0	104	24	324	7	11	366	7	11	6	1	25	7	166	12	0	185	680
05:00 PM	10	22	63	0	95	23	253	11	13	300	11	10	9	3	33	8	166	19	0	193	621
05:15 PM	11	18	71	0	100	28	435	15	12	490	4	15	13	0	32	4	150	13	0	167	789
05:30 PM	18	16	65	0	99	27	346	22	11	406	7	13	9	0	29	9	163	8	0	180	714
Total Volume	48	81	269	0	398	102	1358	55	47	1562	29	49	37	4	119	28	645	52	0	725	2804
% App. Total	12.1	20.4	67.6	0		6.5	86.9	3.5	3		24.4	41.2	31.1	3.4		3.9	89	7.2	0		
PHF	.667	.810	.947	.000	.957	.911	.780	.625	.904	.797	.659	.817	.712	.333	.902	.778	.971	.684	.000	.939	.888
Auto	48	81	269	0	398	102	1349	53	47	1551	29	49	37	4	119	27	636	52	0	715	2783
% Auto	100	100	100	0	100	100	99.3	96.4	100	99.3	100	100	100	100	100	96.4	98.6	100	0	98.6	99.3
Heavy Vehicles	0	0	0	0	0	0	9	2	0	11	0	0	0	0	0	1	9	0	0	10	21
% Heavy Vehicles	0	0	0	0	0	0	0.7	3.6	0	0.7	0	0	0	0	0	3.6	1.4	0	0	1.4	0.7

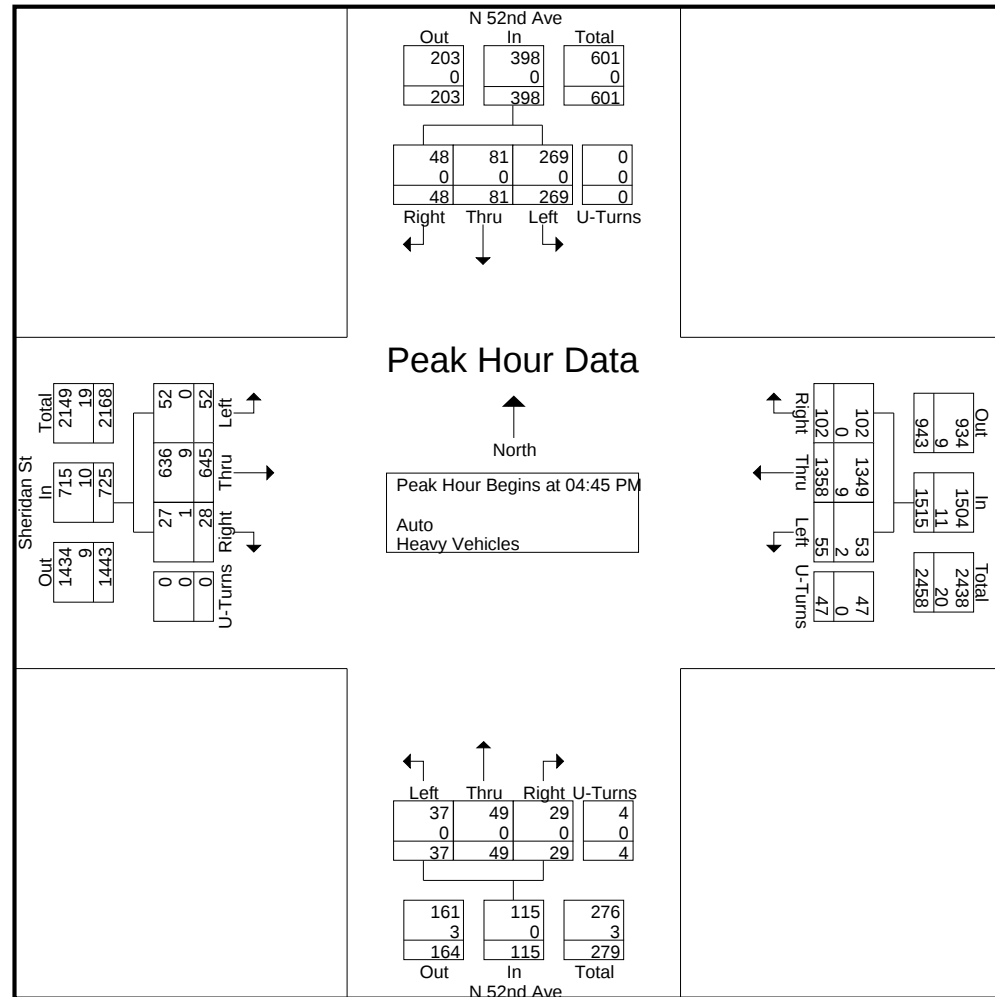
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Site Code : 00000000

Start Date : 4/24/2018

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Groups Printed- Auto - Heavy Vehicles

	N 52nd Ave Southbound					Thomas St Westbound					N 52nd Ave Northbound					Thomas St Eastbound					
Start Time	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	Int. Total
07:00 AM	3	6	1	0	10	3	10	0	0	13	0	9	3	0	12	0	7	18	0	25	60
07:15 AM	4	7	9	0	20	6	9	2	0	17	0	9	3	0	12	1	15	7	0	23	72
07:30 AM	7	9	11	0	27	27	35	6	0	68	2	15	4	0	21	0	31	18	0	49	165
07:45 AM	5	11	8	0	24	30	27	10	1	68	5	11	2	0	18	2	26	18	0	46	156
Total	19	33	29	0	81	66	81	18	1	166	7	44	12	0	63	3	79	61	0	143	453
08:00 AM	10	9	2	0	21	11	13	7	0	31	0	14	4	0	18	0	6	17	0	23	93
08:15 AM	16	3	1	0	20	4	7	0	0	11	0	11	1	0	12	1	8	13	0	22	65
08:30 AM	12	5	3	0	20	8	9	1	0	18	0	7	1	0	8	1	2	7	0	10	56
08:45 AM	11	7	5	0	23	6	6	0	0	12	0	8	4	0	12	1	9	6	0	16	63
Total	49	24	11	0	84	29	35	8	0	72	0	40	10	0	50	3	25	43	0	71	277
*** BREAK ***																					
04:00 PM	4	26	7	0	37	6	8	1	0	15	2	5	0	0	7	1	5	5	0	11	70
04:15 PM	1	10	8	0	19	7	9	2	0	18	1	8	0	0	9	0	8	1	0	9	55
04:30 PM	1	20	2	0	23	5	7	0	0	12	0	8	0	0	8	1	4	4	0	9	52
04:45 PM	10	27	4	0	41	3	9	5	0	17	1	12	0	0	13	1	5	2	0	8	79
Total	16	83	21	0	120	21	33	8	0	62	4	33	0	0	37	3	22	12	0	37	256
05:00 PM	5	29	8	0	42	9	15	0	0	24	2	20	0	0	22	1	6	10	0	17	105
05:15 PM	4	33	8	0	45	13	13	4	0	30	1	16	0	0	17	0	7	7	0	14	106
05:30 PM	5	28	6	0	39	13	10	0	0	23	0	11	0	0	11	0	4	7	0	11	84
05:45 PM	8	27	1	0	36	6	13	2	0	21	1	31	1	0	33	2	10	8	0	20	110
Total	22	117	23	0	162	41	51	6	0	98	4	78	1	0	83	3	27	32	0	62	405
Grand Total	106	257	84	0	447	157	200	40	1	398	15	195	23	0	233	12	153	148	0	313	1391
Apprch %	23.7	57.5	18.8	0		39.4	50.3	10.1	0.3		6.4	83.7	9.9	0		3.8	48.9	47.3	0		
Total %	7.6	18.5	6	0	32.1	11.3	14.4	2.9	0.1	28.6	1.1	14	1.7	0	16.8	0.9	11	10.6	0	22.5	
Auto	106	257	82	0	445	156	194	39	1	390	15	194	22	0	231	11	150	147	0	308	1374
% Auto	100	100	97.6	0	99.6	99.4	97	97.5	100	98	100	99.5	95.7	0	99.1	91.7	98	99.3	0	98.4	98.8
Heavy Vehicles	0	0	2	0	2	1	6	1	0	8	0	1	1	0	2	1	3	1	0	5	17
% Heavy Vehicles	0	0	2.4	0	0.4	0.6	3	2.5	0	2	0	0.5	4.3	0	0.9	8.3	2	0.7	0	1.6	1.2

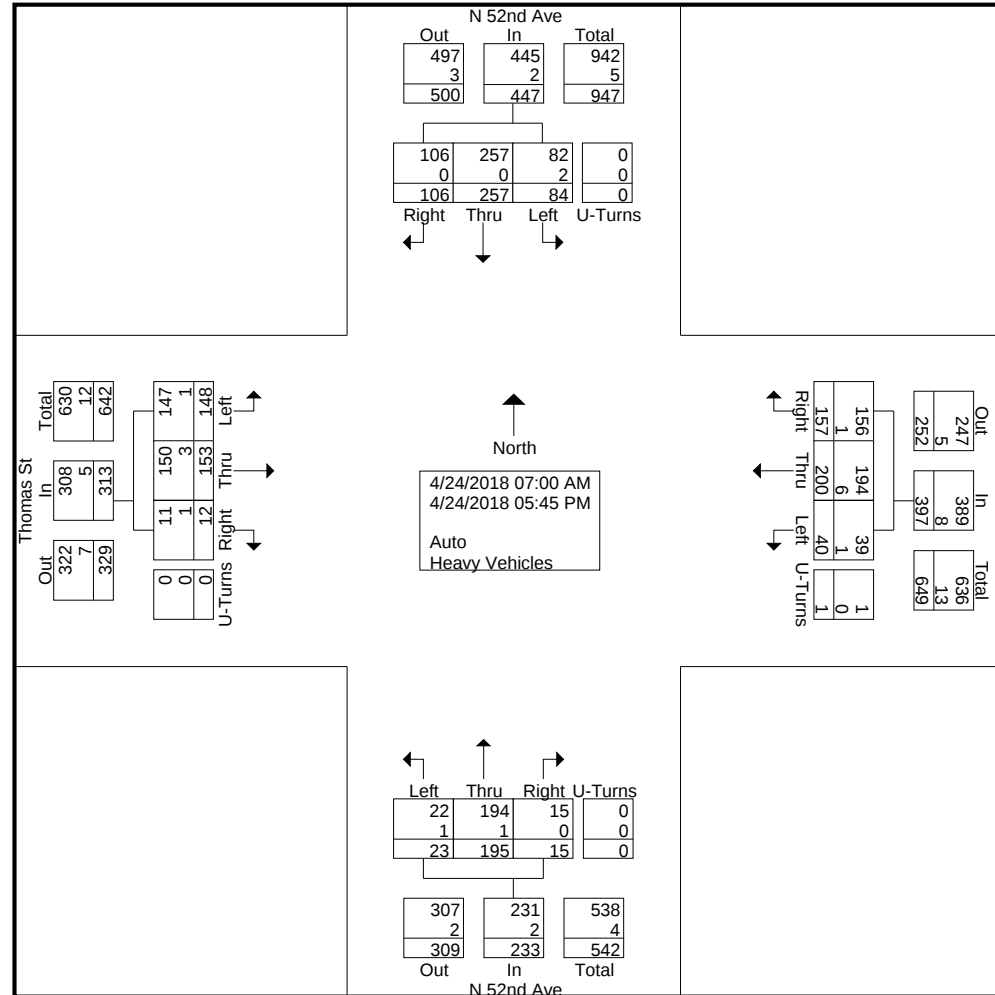
Traf Tech Engineering, Inc.

File Name : 2- N 52 Ave & Thomas St

Site Code : 00000000

Start Date : 4/24/2018

Page No : 2



Traf Tech Engineering, Inc.

File Name : 2- N 52 Ave & Thomas St

Site Code : 00000000

Start Date : 4/24/2018

Page No : 3

	N 52nd Ave Southbound					Thomas St Westbound					N 52nd Ave Northbound					Thomas St Eastbound					
Start Time	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	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	4	7	9	0	20	6	9	2	0	17	0	9	3	0	12	1	15	7	0	23	72
07:30 AM	7	9	11	0	27	27	35	6	0	68	2	15	4	0	21	0	31	18	0	49	165
07:45 AM	5	11	8	0	24	30	27	10	1	68	5	11	2	0	18	2	26	18	0	46	156
08:00 AM	10	9	2	0	21	11	13	7	0	31	0	14	4	0	18	0	6	17	0	23	93
Total Volume	26	36	30	0	92	74	84	25	1	184	7	49	13	0	69	3	78	60	0	141	486
% App. Total	28.3	39.1	32.6	0		40.2	45.7	13.6	0.5		10.1	71	18.8	0		2.1	55.3	42.6	0		
PHF	.650	.818	.682	.000	.852	.617	.600	.625	.250	.676	.350	.817	.813	.000	.821	.375	.629	.833	.000	.719	.736

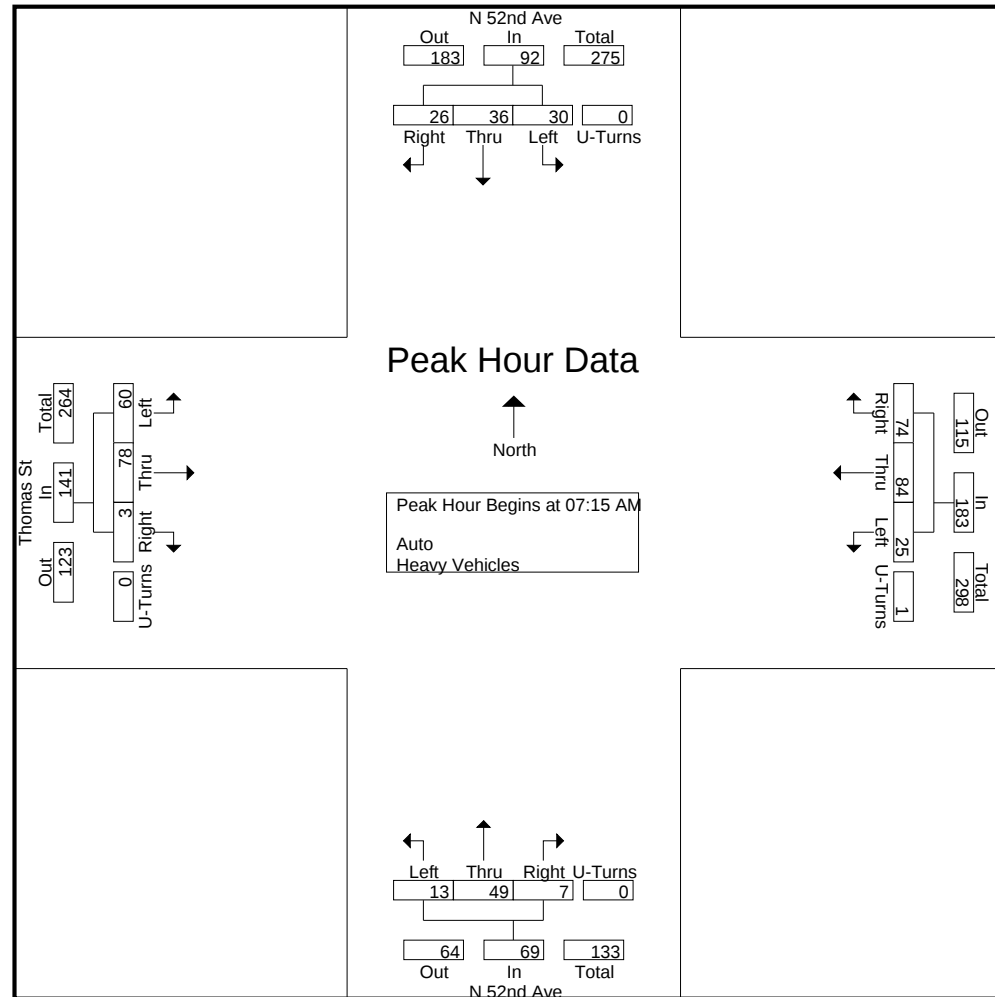
Traf Tech Engineering, Inc.

File Name : 2- N 52 Ave & Thomas St

Site Code : 00000000

Start Date : 4/24/2018

Page No : 4



Traf Tech Engineering, Inc.

File Name : 2- N 52 Ave & Thomas St

Site Code : 00000000

Start Date : 4/24/2018

Page No : 5

	N 52nd Ave Southbound					Thomas St Westbound					N 52nd Ave Northbound					Thomas St Eastbound					
Start Time	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	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	5	29	8	0	42	9	15	0	0	24	2	20	0	0	22	1	6	10	0	17	105
05:15 PM	4	33	8	0	45	13	13	4	0	30	1	16	0	0	17	0	7	7	0	14	106
05:30 PM	5	28	6	0	39	13	10	0	0	23	0	11	0	0	11	0	4	7	0	11	84
05:45 PM	8	27	1	0	36	6	13	2	0	21	1	31	1	0	33	2	10	8	0	20	110
Total Volume	22	117	23	0	162	41	51	6	0	98	4	78	1	0	83	3	27	32	0	62	405
% App. Total	13.6	72.2	14.2	0		41.8	52	6.1	0		4.8	94	1.2	0		4.8	43.5	51.6	0		
PHF	.688	.886	.719	.000	.900	.788	.850	.375	.000	.817	.500	.629	.250	.000	.629	.375	.675	.800	.000	.775	.920

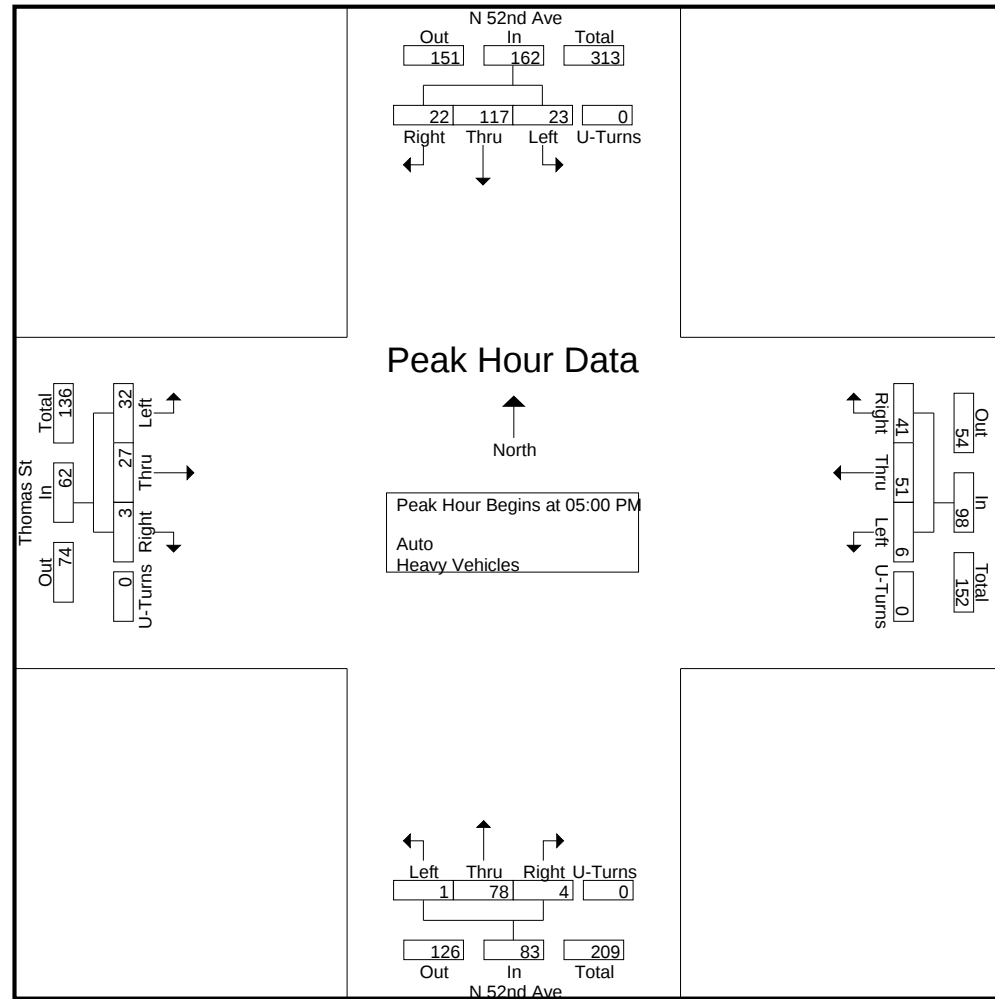
Traf Tech Engineering, Inc.

File Name : 2- N 52 Ave & Thomas St

Site Code : 00000000

Start Date : 4/24/2018

Page No : 6





BROWARD COUNTY TRAFFIC ENGINEERING
ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	3335	Initial Operation Date	09/11/85
Controller Type	2070 LN	System Number	3335
Modification Number	9	Modification Date	10/30/2014
Drawing/Project No	406516-1-52-01	FPL Grid Number	87273835607
Intersection	SHERIDAN STREET (SR 822) and N 52 AVENUE		
Municipality	HOLLYWOOD		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2			5	6	7	8
Direction	EBL	WB			WBL	EB	NB	SB
Initial Green(MIN)	4	12			5	12	6	6
Vehicle Ext.(GAP)	1.5	3.0			1.5	3.0	2.0	2.0
Maximum Green I	12	50			18	50	25	25
Maximum Green II								
Yellow Clearance	4.5	4.5			4.5	4.5	4.0	4.0
All Red Clearance	2.0	2.0			2.0	2.0	2.0	2.0
Phase Recall	OFF	MIN			OFF	MIN	OFF	OFF
Detector Delay								
Walk		7				7		5
Pedestrian Clearance		10				10		18
Permissive	5 SECT				NO			
Flash Operation		YELLOW				YELLOW	RED	RED
	7	1			8	2	4	6

Attachment

NOTES:

1. ANTI-BACKDOWN CIRCUIT WITH RED REVERT (4.0 SECONDS) EAST/WEST.
2. MOD. 9 UPDATES EW/EWL YELLOW AND ALL RED CLEARANCE VALUES.

Submitted By _____ **Approved By** _____

Station : 3335 - Sheridan St & N 52 Ave (Standard File)

Phase	1 (EL)	2 (WT)	3	4	5 (WL)	6 (ET)	7 (NT)	8 (ST)	9	10	11	12	13	14	15	16
Walk		7				7		5								
Ped Clearance		10				10		18								
Min Green	4	12			5	12	6	6								
Gap Ext	1.5	3			1.5	3	2	2								
Max1	12	50			18	50	25	25								
Max2																
Yellow Ctr	4.5	4.5	4	4	4.5	4.5	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Ctr	2	2			2	2	2	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert		4				4										
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON	ON			ON	ON	ON	ON								
Auto Flash Entry								ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call					ON		ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry																
Sim Gap Enable									ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest in Walk		ON				ON										
Coord Service																
Add Init Cde																
Concurrent Ps	1	1	1	1	2	2	1	1								

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash						
Override Higher Preempt						
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green		6	6	6	6	6
Min Walk						
Ped Clear						
Track Green						1
Min Dwell		8	8	8	8	8
Max Presence		180	180	180	180	180
Track Veh 1						9
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1		2	8	2	7	1
Dwell Cyc Veh 2		6		5		6
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1		7	1	2	8	2
Exit 2			5	6		6
Exit 3						
Exit 4						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Coordination

[illegible]

TRAFFIC ENGINEERING DIVISION SIGNALIZED INTERSECTION

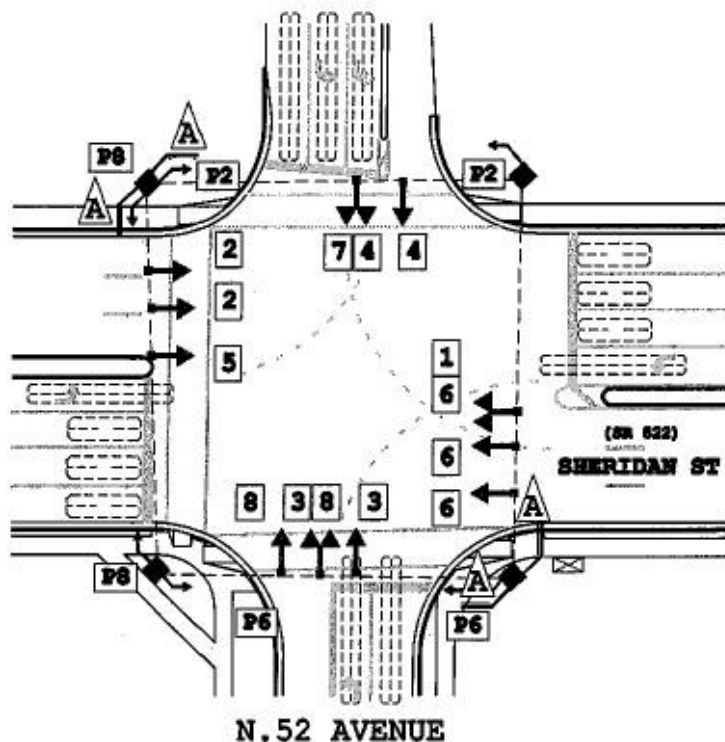
LOCATION SHERIDAN STREET AND N 52 AVENUE

ORDER NO FDOT ISSUE DATE -- REVISION NO. 3 COMPLETION DATE 5/16/06

DWG. NO. 06-05-17-01 FILE NO. C-335 CITY HOLLYWOOD SCALE: 1" = 50'

DWN BY: MS

NORTH



2 4 6 8



3-SECT
1-WAY
6-REQ'D

3 5



3-SECT
1-WAY
2-REQ'D



4-REQ'D



6-REQ'D

7 4 3 8



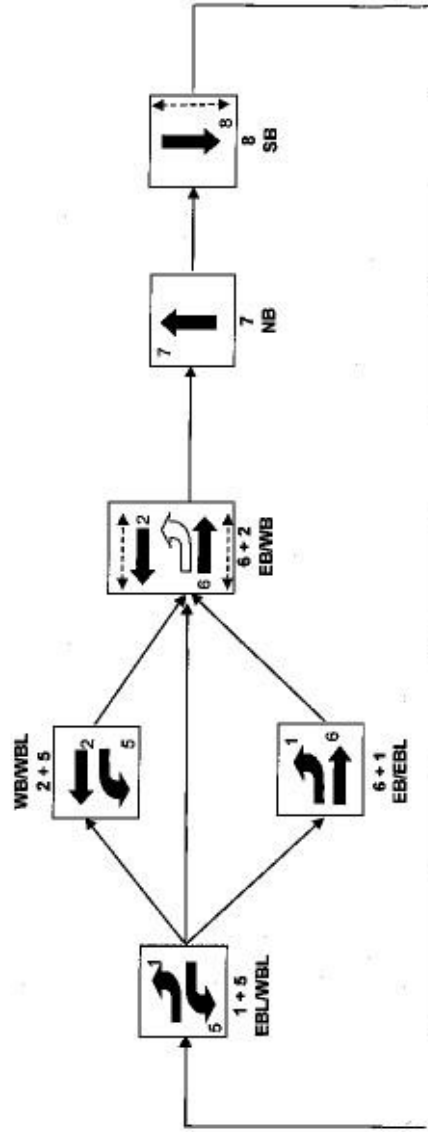
4-SECT
1-WAY
2-REQ'D

1 6



5-SECT
1-WAY
1-REQ'D

Sequence of Operation for (3335) Sheridan Street (SR 822) and N 52 Avenue, Hollywood



APPENDIX C

Peak Season Conversion Factors, Historical Traffic Counts, and Projected Turning Movement Volumes

2016 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 8601 CEN.-W OF US1 TO SR7

WEEK	DATES	SF	MOCF: 0.97 PSCF
1	01/01/2016 - 01/02/2016	0.99	1.02
2	01/03/2016 - 01/09/2016	1.00	1.03
3	01/10/2016 - 01/16/2016	1.00	1.03
4	01/17/2016 - 01/23/2016	0.99	1.02
5	01/24/2016 - 01/30/2016	0.99	1.02
* 6	01/31/2016 - 02/06/2016	0.98	1.01
* 7	02/07/2016 - 02/13/2016	0.97	1.00
* 8	02/14/2016 - 02/20/2016	0.96	0.99
* 9	02/21/2016 - 02/27/2016	0.96	0.99
*10	02/28/2016 - 03/05/2016	0.96	0.99
*11	03/06/2016 - 03/12/2016	0.96	0.99
*12	03/13/2016 - 03/19/2016	0.97	1.00
*13	03/20/2016 - 03/26/2016	0.97	1.00
*14	03/27/2016 - 04/02/2016	0.97	1.00
*15	04/03/2016 - 04/09/2016	0.98	1.01
*16	04/10/2016 - 04/16/2016	0.98	1.01
*17	04/17/2016 - 04/23/2016	0.98	1.01
*18	04/24/2016 - 04/30/2016	0.99	1.02
19	05/01/2016 - 05/07/2016	0.99	1.02
20	05/08/2016 - 05/14/2016	1.00	1.03
21	05/15/2016 - 05/21/2016	1.00	1.03
22	05/22/2016 - 05/28/2016	1.01	1.04
23	05/29/2016 - 06/04/2016	1.01	1.04
24	06/05/2016 - 06/11/2016	1.02	1.05
25	06/12/2016 - 06/18/2016	1.02	1.05
26	06/19/2016 - 06/25/2016	1.03	1.06
27	06/26/2016 - 07/02/2016	1.03	1.06
28	07/03/2016 - 07/09/2016	1.03	1.06
29	07/10/2016 - 07/16/2016	1.03	1.06
30	07/17/2016 - 07/23/2016	1.03	1.06
31	07/24/2016 - 07/30/2016	1.03	1.06
32	07/31/2016 - 08/06/2016	1.03	1.06
33	08/07/2016 - 08/13/2016	1.03	1.06
34	08/14/2016 - 08/20/2016	1.03	1.06
35	08/21/2016 - 08/27/2016	1.03	1.06
36	08/28/2016 - 09/03/2016	1.04	1.07
37	09/04/2016 - 09/10/2016	1.04	1.07
38	09/11/2016 - 09/17/2016	1.04	1.07
39	09/18/2016 - 09/24/2016	1.03	1.06
40	09/25/2016 - 10/01/2016	1.03	1.06
41	10/02/2016 - 10/08/2016	1.02	1.05
42	10/09/2016 - 10/15/2016	1.02	1.05
43	10/16/2016 - 10/22/2016	1.02	1.05
44	10/23/2016 - 10/29/2016	1.01	1.04
45	10/30/2016 - 11/05/2016	1.01	1.04
46	11/06/2016 - 11/12/2016	1.01	1.04
47	11/13/2016 - 11/19/2016	1.01	1.04
48	11/20/2016 - 11/26/2016	1.01	1.04
49	11/27/2016 - 12/03/2016	1.00	1.03
50	12/04/2016 - 12/10/2016	1.00	1.03
51	12/11/2016 - 12/17/2016	0.99	1.02
52	12/18/2016 - 12/24/2016	1.00	1.03
53	12/25/2016 - 12/31/2016	1.00	1.03

* PEAK SEASON

21-FEB-2017 10:54:34

830UPD

4_8601_PKSEASON.TXT

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2017 HISTORICAL AADT REPORT

COUNTY: 86 - BROWARD

SITE: 0116 - SR 822/SHERIDAN ST - E OF 46 AVE

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2017	44000	C	E 21000		W 23000	9.00	51.90	4.10
2016	45000	C	E 23000		W 22000	9.00	54.10	4.10
2015	43500	C	E 21500		W 22000	9.00	54.00	4.10
2014	47000	C	E 24000		W 23000	9.00	54.20	2.20
2013	45000	C	E 22000		W 23000	9.00	53.60	2.20
2012	50000	C	E 25000		W 25000	9.00	52.20	2.20
2011	44000	C	E 23000		W 21000	9.00	52.50	4.10
2010	46000	C	E 23000		W 23000	8.35	52.69	4.10
2009	45500	C	E 23000		W 22500	8.53	53.89	4.10
2008	45000	C	E 22500		W 22500	8.81	54.16	3.80
2007	49000	C	E 24500		W 24500	8.63	55.75	3.80
2006	47500	C	E 24000		W 23500	8.40	55.34	3.10
2005	48000	C	E 24500		W 23500	8.20	51.70	2.60
2004	46000	C	E 23000		W 23000	9.10	55.30	2.60
2003	45500	C	E 22500		W 23000	8.60	57.50	2.60
2002	48500	C	E 24500		W 24000	8.70	56.40	3.80

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
2017 HISTORICAL AADT REPORT

COUNTY: 86 - BROWARD

SITE: 0480 - SR 822 / SHERIDAN ST - E OF SR 7/US 441

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2017	43500	C	E 22000		W 21500	9.00	51.90	3.70
2016	43500	C	E 21000		W 22500	9.00	54.10	3.70
2015	39000	C	E 19500		W 19500	9.00	54.00	5.10
2014	41500	C	E 20500		W 21000	9.00	54.20	5.10
2013	41000	C	E 20500		W 20500	9.00	53.60	5.10
2012	43500	C	E 21500		W 22000	9.00	52.20	3.20
2011	40000	C	E 19500		W 20500	9.00	52.50	3.20
2010	39500	C	E 19000		W 20500	8.35	52.69	3.20
2009	42000	C	E 20500		W 21500	8.53	53.89	2.70
2008	48000	C	E 23000		W 25000	8.81	54.16	2.70
2007	46000	C	E 22000		W 24000	8.63	55.75	2.30
2006	41000	C	E 19500		W 21500	8.40	55.34	1.90
2005	41500	C	E 20000		W 21500	8.20	51.70	1.90
2004	41000	C	E 20000		W 21000	9.10	55.30	1.90
2003	43000	C	E 21500		W 21500	8.60	57.50	2.70
2002	44000	C	E 22500		W 21500	8.70	56.40	3.80

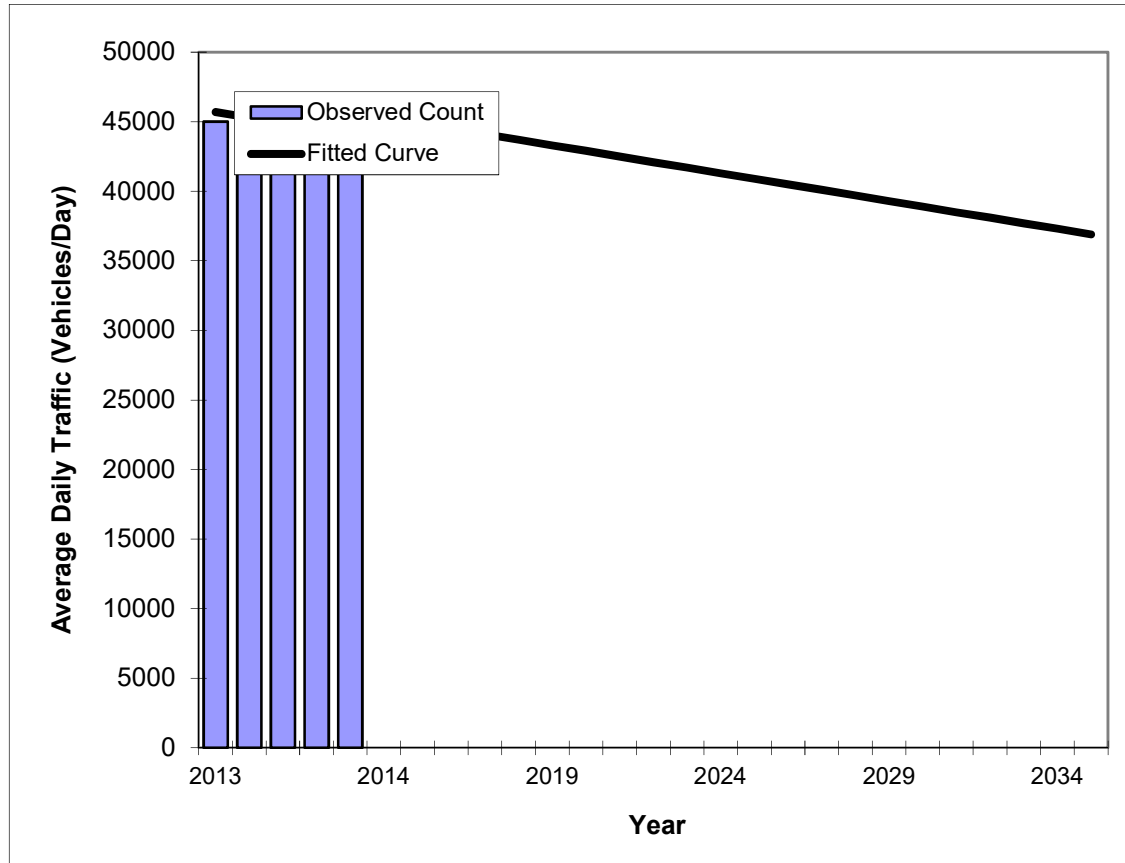
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V2.0

SR 822/SHERIDAN ST -- E OF 46 AVE

PIN#	0
Location	1

County:	Broward
Station #:	0116
Highway:	SR 822/SHERIDAN ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	45000	45700
2014	47000	45300
2015	43500	44900
2016	45000	44500
2017	44000	44100
2017 Opening Year Trend		
2017	N/A	44100
2018 Mid-Year Trend		
2018	N/A	43700
2019 Design Year Trend		
2019	N/A	43300
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-400
Trend R-squared:	22.22%
Trend Annual Historic Growth Rate:	-0.88%
Trend Growth Rate (2017 to Design Year):	-0.91%
Printed:	13-May-18
Straight Line Growth Option	

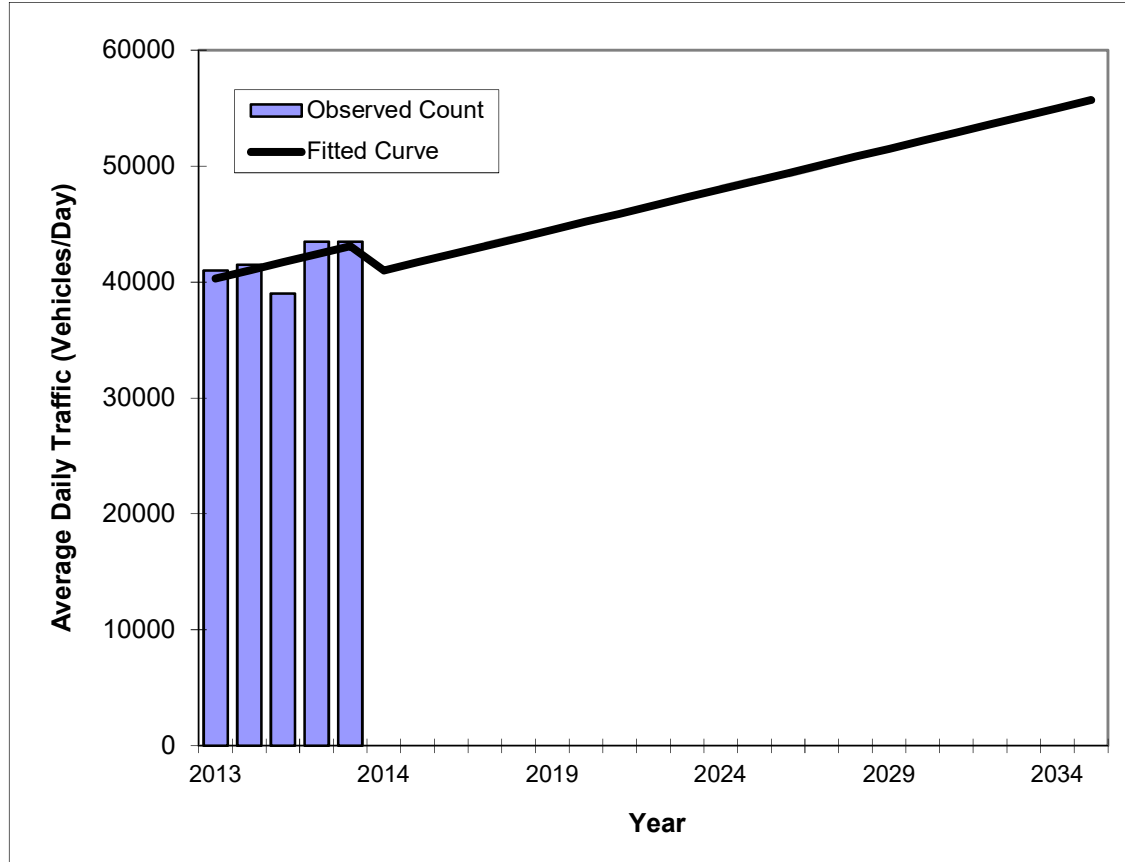
*Axle-Adjusted

Traffic Trends - V2.0

SR 822/SHERIDAN ST -- E OF SR 7/US 441

PIN#	0
Location	2

County:	Broward
Station #:	0480
Highway:	SR 822/SHERIDAN ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	41000	40300
2014	41500	41000
2015	39000	41700
2016	43500	42400
2017	43500	43100
2017 Opening Year Trend		
2017	N/A	43100
2018 Mid-Year Trend		
2018	N/A	43800
2019 Design Year Trend		
2019	N/A	44500
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	700
Trend R-squared:	34.27%
Trend Annual Historic Growth Rate:	1.74%
Trend Growth Rate (2017 to Design Year):	1.62%
Printed:	13-May-18
Straight Line Growth Option	

*Axle-Adjusted

Growth Rate Trend Analysis Calculations

Description	Station #		
	0116	0480	
Trend Growth Rate(1)	-0.91	1.62	
Adjusted Trend Growth Rate	0.50	1.62	
Average Growth Rate			1.06
Growth Rate Used			1.06

Notes:

1: Refer to Trend Analysis Chart

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Sheridan Street and N 52 Avenue AM Peak Hour

Description	N 52 Avenue Northbound			N 52 Avenue Southbound			Sheridan Street Eastbound			Sheridan Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (4/24/2018)	63	34	90	139	24	33	19	999	65	63	1,099	67
Season Adjustment Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
2018 Peak Season Traffic	64	35	92	142	24	34	19	1,019	66	64	1,121	68
Annual Growth Rate	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%
2019 Background Traffic	65	35	93	143	25	34	20	1,030	67	65	1,133	69
School (381 students)	62		62						76	76		
2019 Total Traffic	127	35	155	143	25	34	20	1,030	143	141	1,133	69

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Sheridan Street and SW 52 Avenue PM Peak Hour

Description	SW 52 Avenue Northbound			SW 52 Avenue Southbound			Sheridan Street Eastbound			Sheridan Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (4/24/2018)	37	49	29	269	81	48	52	645	28	55	1,358	102
Season Adjustment Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
2018 Peak Season Traffic	38	50	30	274	83	49	53	658	29	56	1,385	104
Annual Growth Rate	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%
2019 Background Traffic	38	51	30	277	83	49	54	665	29	57	1,400	105
School (381 students)	21		21						18	18		
2019 Total Traffic	59	51	51	277	83	49	54	665	47	75	1,400	105

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Thomas Street and N 52 Avenue AM Peak Hour

Description	N 52 Avenue Northbound			N 52 Avenue Southbound			Thomas Street Eastbound			Thomas Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (4/24/2018)	13	49	7	30	36	26	60	78	3	25	84	74
Season Adjustment Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
2018 Peak Season Traffic	13	50	7	31	37	27	61	80	3	26	86	75
Annual Growth Rate	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%
2019 Background Traffic	13	51	7	31	37	27	62	80	3	26	87	76
School (381 students)		10		8	16	8	10					18
2019 Total Traffic	13	61	7	39	53	35	72	80	3	26	87	94

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Thomas Street and N 52 Avenue PM Peak Hour

Description	N 52 Avenue Northbound			N 52 Avenue Southbound			Thomas Street Eastbound			Thomas Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (4/24/2018)	1	78	4	23	117	22	32	27	3	6	51	41
Season Adjustment Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
2018 Peak Season Traffic	1	80	4	23	119	22	33	28	3	6	52	42
Annual Growth Rate	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%
2019 Background Traffic	1	80	4	24	121	23	33	28	3	6	53	42
School (381 students)		3		3	5	3	2					5
2019 Total Traffic	1	83	4	27	126	26	35	28	3	6	53	47

APPENDIX D

Intersection Capacity Analyses

HCM Signalized Intersection Capacity Analysis

101: N 52 Avenue & Sheridan Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	1019	66	64	1121	68	64	35	92	142	24	34
Future Volume (vph)	19	1019	66	64	1121	68	64	35	92	142	24	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		0.97	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5039		1770	5042		1770	3153		3433	1699	
Flt Permitted	0.19	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	353	5039		1770	5042		1770	3153		3433	1699	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	21	1120	73	70	1232	75	70	38	101	156	26	37
RTOR Reduction (vph)	0	3	0	0	2	0	0	94	0	0	34	0
Lane Group Flow (vph)	21	1190	0	70	1305	0	70	45	0	156	29	0
Turn Type	pm+pt	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Actuated Green, G (s)	104.3	101.4		10.2	108.7		10.7	10.7		11.7	11.7	
Effective Green, g (s)	104.3	101.4		10.2	108.7		10.7	10.7		11.7	11.7	
Actuated g/C Ratio	0.65	0.63		0.06	0.68		0.07	0.07		0.07	0.07	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	255	3193		112	3425		118	210		251	124	
v/s Ratio Prot	0.00	0.24		c0.04	c0.26		c0.04	0.01		c0.05	0.02	
v/s Ratio Perm	0.05											
v/c Ratio	0.08	0.37		0.62	0.38		0.59	0.21		0.62	0.23	
Uniform Delay, d1	9.9	14.0		73.0	11.1		72.5	70.7		72.0	69.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		7.6	0.3		5.2	0.2		3.4	0.3	
Delay (s)	9.9	14.4		80.6	11.4		77.8	70.9		75.4	70.3	
Level of Service	A	B		F	B		E	E		E	E	
Approach Delay (s)		14.3			14.9			73.2			73.9	
Approach LOS		B			B			E			E	
Intersection Summary												
HCM 2000 Control Delay			23.0			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			26.0			
Intersection Capacity Utilization			58.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Timings

101: N 52 Avenue & Sheridan Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	19	1019	64	1121	64	35	142	24
Future Volume (vph)	19	1019	64	1121	64	35	142	24
Turn Type	pm+pt	NA	Prot	NA	Split	NA	Split	NA
Protected Phases	1	6	5	2	7	7	8	8
Permitted Phases	6							
Detector Phase	1	6	5	2	7	7	8	8
Switch Phase								
Minimum Initial (s)	4.0	12.0	5.0	12.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.5	24.5	11.5	24.5	24.5	24.5	29.5	29.5
Total Split (s)	20.0	75.0	20.0	75.0	30.0	30.0	35.0	35.0
Total Split (%)	12.5%	46.9%	12.5%	46.9%	18.8%	18.8%	21.9%	21.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	106.0	101.4	10.2	111.3	10.7	10.7	11.7	11.7
Actuated g/C Ratio	0.66	0.63	0.06	0.70	0.07	0.07	0.07	0.07
v/c Ratio	0.08	0.37	0.62	0.37	0.59	0.46	0.62	0.40
Control Delay	8.1	15.3	95.5	11.4	91.8	27.1	82.8	40.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	15.3	95.5	11.4	91.8	27.1	82.8	40.7
LOS	A	B	F	B	F	C	F	D
Approach Delay		15.2		15.7		48.7		70.7
Approach LOS		B		B		D		E

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 37 (23%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 21.8

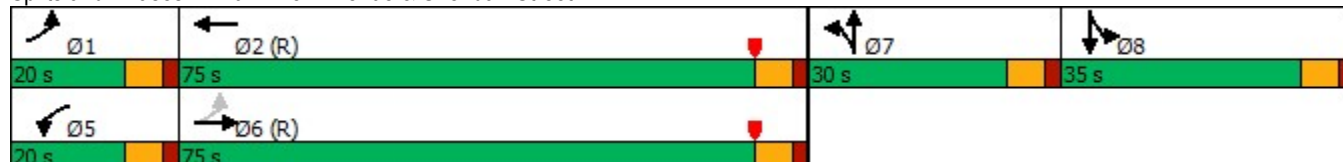
Intersection LOS: C

Intersection Capacity Utilization 58.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 101: N 52 Avenue & Sheridan Street



Queues

101: N 52 Avenue & Sheridan Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	1193	70	1307	70	139	156	63
v/c Ratio	0.08	0.37	0.62	0.37	0.59	0.46	0.62	0.40
Control Delay	8.1	15.3	95.5	11.4	91.8	27.1	82.8	40.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	15.3	95.5	11.4	91.8	27.1	82.8	40.7
Queue Length 50th (ft)	5	207	73	209	73	20	83	26
Queue Length 95th (ft)	16	294	127	282	126	56	121	77
Internal Link Dist (ft)		467		810		370		322
Turn Bay Length (ft)	280		150		220		165	
Base Capacity (vph)	373	3197	152	3507	259	549	611	333
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.37	0.46	0.37	0.27	0.25	0.26	0.19
Intersection Summary								

HCM Unsignalized Intersection Capacity Analysis

102: N 52 Avenue & Thomas Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	61	80	3	26	86	75	13	50	7	31	37	27
Future Volume (vph)	61	80	3	26	86	75	13	50	7	31	37	27
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	84	110	4	36	118	103	18	68	10	42	51	37
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	198	257	96	130								
Volume Left (vph)	84	36	18	42								
Volume Right (vph)	4	103	10	37								
Hadj (s)	0.11	-0.18	0.01	-0.07								
Departure Headway (s)	4.9	4.6	5.2	5.1								
Degree Utilization, x	0.27	0.33	0.14	0.18								
Capacity (veh/h)	684	741	623	641								
Control Delay (s)	9.7	9.8	9.0	9.2								
Approach Delay (s)	9.7	9.8	9.0	9.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.6									
Level of Service			A									
Intersection Capacity Utilization			34.1%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

101: N 52 Avenue & Sheridan Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1030	67	65	1133	69	65	35	93	143	25	34
Future Volume (vph)	20	1030	67	65	1133	69	65	35	93	143	25	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		0.97	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5038		1770	5041		1770	3152		3433	1701	
Flt Permitted	0.19	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	347	5038		1770	5041		1770	3152		3433	1701	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	22	1132	74	71	1245	76	71	38	102	157	27	37
RTOR Reduction (vph)	0	3	0	0	2	0	0	95	0	0	34	0
Lane Group Flow (vph)	22	1203	0	71	1319	0	71	45	0	157	30	0
Turn Type	pm+pt	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Actuated Green, G (s)	104.1	101.2		10.3	108.6		10.8	10.8		11.7	11.7	
Effective Green, g (s)	104.1	101.2		10.3	108.6		10.8	10.8		11.7	11.7	
Actuated g/C Ratio	0.65	0.63		0.06	0.68		0.07	0.07		0.07	0.07	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	251	3186		113	3421		119	212		251	124	
v/s Ratio Prot	0.00	0.24		c0.04	c0.26		c0.04	0.01		c0.05	0.02	
v/s Ratio Perm	0.06											
v/c Ratio	0.09	0.38		0.63	0.39		0.60	0.21		0.63	0.24	
Uniform Delay, d1	10.0	14.2		73.0	11.2		72.5	70.6		72.0	70.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		7.6	0.3		5.3	0.2		3.5	0.4	
Delay (s)	10.0	14.5		80.6	11.5		77.7	70.8		75.5	70.3	
Level of Service	B	B		F	B		E	E		E	E	
Approach Delay (s)		14.5			15.0			73.1			74.0	
Approach LOS		B			B			E			E	
Intersection Summary												
HCM 2000 Control Delay	23.1			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.45											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			26.0					
Intersection Capacity Utilization	58.4%			ICU Level of Service			B					
Analysis Period (min)	15											
c Critical Lane Group												

Timings

101: N 52 Avenue & Sheridan Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		  		  		 	 	
Traffic Volume (vph)	20	1030	65	1133	65	35	143	25
Future Volume (vph)	20	1030	65	1133	65	35	143	25
Turn Type	pm+pt	NA	Prot	NA	Split	NA	Split	NA
Protected Phases	1	6	5	2	7	7	8	8
Permitted Phases	6							
Detector Phase	1	6	5	2	7	7	8	8
Switch Phase								
Minimum Initial (s)	4.0	12.0	5.0	12.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.5	24.5	11.5	24.5	24.5	24.5	29.5	29.5
Total Split (s)	20.0	75.0	20.0	75.0	30.0	30.0	35.0	35.0
Total Split (%)	12.5%	46.9%	12.5%	46.9%	18.8%	18.8%	21.9%	21.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	105.8	101.2	10.3	111.1	10.8	10.8	11.7	11.7
Actuated g/C Ratio	0.66	0.63	0.06	0.69	0.07	0.07	0.07	0.07
v/c Ratio	0.08	0.38	0.63	0.38	0.60	0.46	0.63	0.40
Control Delay	8.2	15.5	95.6	11.6	91.8	26.8	82.8	41.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	15.5	95.6	11.6	91.8	26.8	82.8	41.4
LOS	A	B	F	B	F	C	F	D
Approach Delay		15.4		15.8		48.7		70.8
Approach LOS		B		B		D		E

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 37 (23%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 21.9

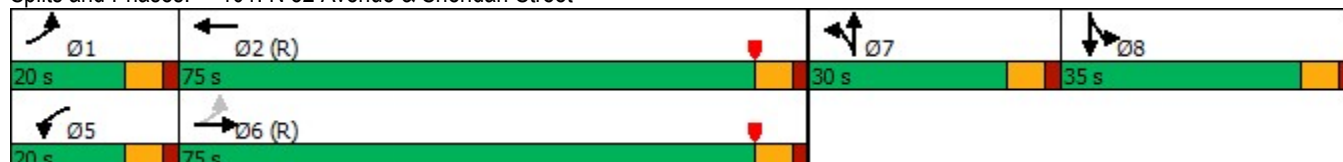
Intersection LOS: C

Intersection Capacity Utilization 58.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 101: N 52 Avenue & Sheridan Street



Queues

101: N 52 Avenue & Sheridan Street

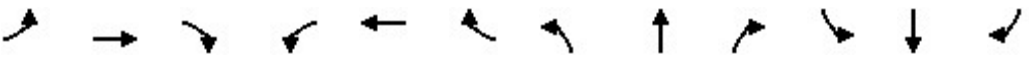
								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	1206	71	1321	71	140	157	64
v/c Ratio	0.08	0.38	0.63	0.38	0.60	0.46	0.63	0.40
Control Delay	8.2	15.5	95.6	11.6	91.8	26.8	82.8	41.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	15.5	95.6	11.6	91.8	26.8	82.8	41.4
Queue Length 50th (ft)	6	211	74	212	74	20	84	27
Queue Length 95th (ft)	17	298	128	287	127	56	122	77
Internal Link Dist (ft)		467		810		370		322
Turn Bay Length (ft)	280		150		220		165	
Base Capacity (vph)	367	3190	152	3502	259	550	611	333
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.38	0.47	0.38	0.27	0.25	0.26	0.19
Intersection Summary								

HCM Unsignalized Intersection Capacity Analysis 102: N 52 Avenue & Thomas Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	62	80	3	26	87	76	13	51	7	31	37	27
Future Volume (vph)	62	80	3	26	87	76	13	51	7	31	37	27
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	85	110	4	36	119	104	18	70	10	42	51	37
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	199	259	98	130								
Volume Left (vph)	85	36	18	42								
Volume Right (vph)	4	104	10	37								
Hadj (s)	0.11	-0.18	0.01	-0.07								
Departure Headway (s)	4.9	4.6	5.2	5.1								
Degree Utilization, x	0.27	0.33	0.14	0.18								
Capacity (veh/h)	682	740	621	639								
Control Delay (s)	9.8	9.8	9.1	9.2								
Approach Delay (s)	9.8	9.8	9.1	9.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.6									
Level of Service			A									
Intersection Capacity Utilization			34.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

101: N 52 Avenue & Sheridan Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1030	143	141	1133	69	127	35	155	143	25	34
Future Volume (vph)	20	1030	143	141	1133	69	127	35	155	143	25	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		0.97	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.88		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4992		1770	5041		1770	3105		3433	1701	
Flt Permitted	0.20	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	365	4992		1770	5041		1770	3105		3433	1701	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	22	1132	157	155	1245	76	140	38	170	157	27	37
RTOR Reduction (vph)	0	10	0	0	3	0	0	152	0	0	34	0
Lane Group Flow (vph)	22	1279	0	155	1318	0	140	56	0	157	30	0
Turn Type	pm+pt	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Actuated Green, G (s)	86.6	83.5		21.8	102.2		17.0	17.0		11.7	11.7	
Effective Green, g (s)	86.6	83.5		21.8	102.2		17.0	17.0		11.7	11.7	
Actuated g/C Ratio	0.54	0.52		0.14	0.64		0.11	0.11		0.07	0.07	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	224	2605		241	3219		188	329		251	124	
v/s Ratio Prot	0.00	c0.26		c0.09	0.26		c0.08	0.02		c0.05	0.02	
v/s Ratio Perm	0.05											
v/c Ratio	0.10	0.49		0.64	0.41		0.74	0.17		0.63	0.24	
Uniform Delay, d1	17.0	24.6		65.4	14.1		69.4	65.1		72.0	70.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.7		4.4	0.4		13.0	0.1		3.5	0.4	
Delay (s)	17.1	25.3		69.8	14.5		82.4	65.2		75.5	70.3	
Level of Service	B	C		E	B		F	E		E	E	
Approach Delay (s)		25.1			20.3			72.1			74.0	
Approach LOS		C			C			E			E	
Intersection Summary												
HCM 2000 Control Delay			31.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			26.0			
Intersection Capacity Utilization			64.6%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Timings

101: N 52 Avenue & Sheridan Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	1030	141	1133	127	35	143	25
Future Volume (vph)	20	1030	141	1133	127	35	143	25
Turn Type	pm+pt	NA	Prot	NA	Split	NA	Split	NA
Protected Phases	1	6	5	2	7	7	8	8
Permitted Phases	6							
Detector Phase	1	6	5	2	7	7	8	8
Switch Phase								
Minimum Initial (s)	4.0	12.0	5.0	12.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.5	24.5	11.5	24.5	24.5	24.5	29.5	29.5
Total Split (s)	20.0	75.0	20.0	75.0	30.0	30.0	35.0	35.0
Total Split (%)	12.5%	46.9%	12.5%	46.9%	18.8%	18.8%	21.9%	21.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	88.2	83.5	21.8	104.8	17.0	17.0	11.7	11.7
Actuated g/C Ratio	0.55	0.52	0.14	0.66	0.11	0.11	0.07	0.07
v/c Ratio	0.09	0.49	0.65	0.40	0.75	0.43	0.63	0.40
Control Delay	11.9	26.1	78.4	14.7	92.1	17.2	82.8	41.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	26.1	78.4	14.7	92.1	17.2	82.8	41.4
LOS	B	C	E	B	F	B	F	D
Approach Delay		25.8		21.4		47.3		70.8
Approach LOS		C		C		D		E

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 37 (23%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 29.1

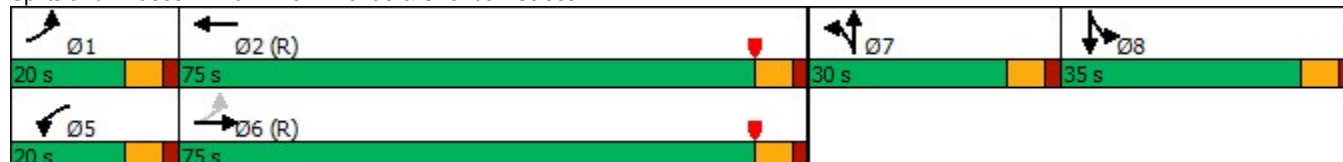
Intersection LOS: C

Intersection Capacity Utilization 64.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 101: N 52 Avenue & Sheridan Street



Queues

101: N 52 Avenue & Sheridan Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	1289	155	1321	140	208	157	64
v/c Ratio	0.09	0.49	0.65	0.40	0.75	0.43	0.63	0.40
Control Delay	11.9	26.1	78.4	14.7	92.1	17.2	82.8	41.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	26.1	78.4	14.7	92.1	17.2	82.8	41.4
Queue Length 50th (ft)	7	304	157	241	145	19	84	27
Queue Length 95th (ft)	20	409	234	329	215	58	122	77
Internal Link Dist (ft)		467		810		370		322
Turn Bay Length (ft)	280		150		220		165	
Base Capacity (vph)	339	2617	240	3304	259	600	611	333
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.49	0.65	0.40	0.54	0.35	0.26	0.19
Intersection Summary								

HCM Unsignalized Intersection Capacity Analysis 102: N 52 Avenue & Thomas Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	72	80	3	26	87	94	13	61	7	39	53	35
Future Volume (vph)	72	80	3	26	87	94	13	61	7	39	53	35
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	99	110	4	36	119	129	18	84	10	53	73	48
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	213	284	112	174								
Volume Left (vph)	99	36	18	53								
Volume Right (vph)	4	129	10	48								
Hadj (s)	0.12	-0.21	0.01	-0.07								
Departure Headway (s)	5.2	4.8	5.5	5.3								
Degree Utilization, x	0.31	0.38	0.17	0.26								
Capacity (veh/h)	643	704	580	618								
Control Delay (s)	10.5	10.7	9.6	10.1								
Approach Delay (s)	10.5	10.7	9.6	10.1								
Approach LOS	B	B	A	B								
Intersection Summary												
Delay				10.4								
Level of Service				B								
Intersection Capacity Utilization				41.7%	ICU Level of Service				A			
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

201: N 52 Avenue & Driveway

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	32	124	189	38	152	157
Future Volume (Veh/h)	32	124	189	38	152	157
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	135	205	41	165	171
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL		None	
Median storage veh)			2			
Upstream signal (ft)					450	
pX, platoon unblocked						
vC, conflicting volume	726	226			246	
vC1, stage 1 conf vol	226					
vC2, stage 2 conf vol	501					
vCu, unblocked vol	726	226			246	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	83			87	
cM capacity (veh/h)	501	814			1320	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	170	246	336			
Volume Left	35	0	165			
Volume Right	135	41	0			
cSH	721	1700	1320			
Volume to Capacity	0.24	0.14	0.13			
Queue Length 95th (ft)	23	0	11			
Control Delay (s)	11.5	0.0	4.6			
Lane LOS	B		A			
Approach Delay (s)	11.5	0.0	4.6			
Approach LOS	B					
Intersection Summary						
Average Delay			4.6			
Intersection Capacity Utilization			48.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

101: N 52 Avenue & Sheridan Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	658	29	56	1385	104	38	50	30	274	83	49
Future Volume (vph)	53	658	29	56	1385	104	38	50	30	274	83	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		0.97	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.94		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5053		1770	5032		1770	3341		3433	1758	
Flt Permitted	0.10	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	192	5053		1770	5032		1770	3341		3433	1758	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	60	748	33	64	1574	118	43	57	34	311	94	56
RTOR Reduction (vph)	0	2	0	0	3	0	0	32	0	0	14	0
Lane Group Flow (vph)	60	779	0	64	1689	0	43	59	0	311	136	0
Turn Type	pm+pt	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Actuated Green, G (s)	103.2	97.8		8.6	101.0		8.6	8.6		19.0	19.0	
Effective Green, g (s)	103.2	97.8		8.6	101.0		8.6	8.6		19.0	19.0	
Actuated g/C Ratio	0.65	0.61		0.05	0.63		0.05	0.05		0.12	0.12	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	177	3088		95	3176		95	179		407	208	
v/s Ratio Prot	0.01	0.15		c0.04	c0.34		c0.02	0.02		c0.09	0.08	
v/s Ratio Perm	0.21											
v/c Ratio	0.34	0.25		0.67	0.53		0.45	0.33		0.76	0.65	
Uniform Delay, d1	12.3	14.3		74.3	16.4		73.4	72.9		68.3	67.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		13.8	0.6		1.2	0.4		7.5	5.5	
Delay (s)	12.7	14.5		88.1	17.0		74.7	73.3		75.8	72.9	
Level of Service	B	B		F	B		E	E		E	E	
Approach Delay (s)		14.4			19.6			73.7			74.9	
Approach LOS		B			B			E			E	
Intersection Summary												
HCM 2000 Control Delay	28.5			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.58											
Actuated Cycle Length (s)	160.0			Sum of lost time (s)			26.0					
Intersection Capacity Utilization	66.9%			ICU Level of Service			C					
Analysis Period (min)	15											
c Critical Lane Group												

Timings

101: N 52 Avenue & Sheridan Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	53	658	56	1385	38	50	274	83
Future Volume (vph)	53	658	56	1385	38	50	274	83
Turn Type	pm+pt	NA	Prot	NA	Split	NA	Split	NA
Protected Phases	1	6	5	2	7	7	8	8
Permitted Phases	6							
Detector Phase	1	6	5	2	7	7	8	8
Switch Phase								
Minimum Initial (s)	4.0	12.0	5.0	12.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.5	24.5	11.5	24.5	24.5	24.5	29.5	29.5
Total Split (s)	20.0	75.0	20.0	75.0	30.0	30.0	35.0	35.0
Total Split (%)	12.5%	46.9%	12.5%	46.9%	18.8%	18.8%	21.9%	21.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	104.4	99.1	9.7	102.3	8.6	8.6	19.0	19.0
Actuated g/C Ratio	0.65	0.62	0.06	0.64	0.05	0.05	0.12	0.12
v/c Ratio	0.32	0.25	0.60	0.53	0.46	0.43	0.76	0.67
Control Delay	13.5	15.4	94.8	17.7	88.0	51.7	80.4	74.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	15.4	94.8	17.7	88.0	51.7	80.4	74.8
LOS	B	B	F	B	F	D	F	E
Approach Delay		15.2		20.5		63.4		78.6
Approach LOS		B		C		E		E

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 100 (63%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 29.3

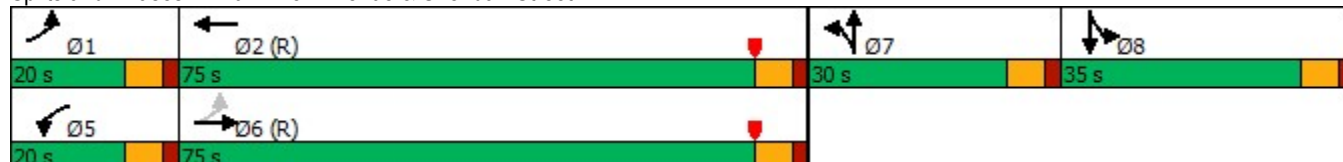
Intersection LOS: C

Intersection Capacity Utilization 66.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 101: N 52 Avenue & Sheridan Street



Queues

101: N 52 Avenue & Sheridan Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	60	781	64	1692	43	91	311	150
v/c Ratio	0.32	0.25	0.60	0.53	0.46	0.43	0.76	0.67
Control Delay	13.5	15.4	94.8	17.7	88.0	51.7	80.4	74.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	15.4	94.8	17.7	88.0	51.7	80.4	74.8
Queue Length 50th (ft)	18	132	67	340	45	31	165	137
Queue Length 95th (ft)	39	190	115	456	86	59	206	204
Internal Link Dist (ft)		467		810		370		322
Turn Bay Length (ft)	280		150		220		165	
Base Capacity (vph)	264	3131	150	3222	259	519	611	326
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.25	0.43	0.53	0.17	0.18	0.51	0.46
Intersection Summary								

HCM Unsignalized Intersection Capacity Analysis 102: N 52 Avenue & Thomas Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	33	28	3	6	52	42	1	80	4	23	119	22
Future Volume (vph)	33	28	3	6	52	42	1	80	4	23	119	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	30	3	7	57	46	1	87	4	25	129	24
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	69	110	92	178								
Volume Left (vph)	36	7	1	25								
Volume Right (vph)	3	46	4	24								
Hadj (s)	0.11	-0.20	0.01	-0.02								
Departure Headway (s)	4.8	4.4	4.5	4.4								
Degree Utilization, x	0.09	0.13	0.12	0.22								
Capacity (veh/h)	698	758	750	773								
Control Delay (s)	8.3	8.1	8.1	8.6								
Approach Delay (s)	8.3	8.1	8.1	8.6								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				8.3								
Level of Service				A								
Intersection Capacity Utilization				32.4%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

101: N 52 Avenue & Sheridan Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	665	29	57	1400	105	38	51	30	277	83	49
Future Volume (vph)	54	665	29	57	1400	105	38	51	30	277	83	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		0.97	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.94		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5053		1770	5032		1770	3343		3433	1758	
Flt Permitted	0.10	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	187	5053		1770	5032		1770	3343		3433	1758	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	61	756	33	65	1591	119	43	58	34	315	94	56
RTOR Reduction (vph)	0	2	0	0	3	0	0	32	0	0	14	0
Lane Group Flow (vph)	61	787	0	65	1707	0	43	60	0	315	136	0
Turn Type	pm+pt	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Actuated Green, G (s)	102.9	97.5		8.7	100.8		8.6	8.6		19.2	19.2	
Effective Green, g (s)	102.9	97.5		8.7	100.8		8.6	8.6		19.2	19.2	
Actuated g/C Ratio	0.64	0.61		0.05	0.63		0.05	0.05		0.12	0.12	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	173	3079		96	3170		95	179		411	210	
v/s Ratio Prot	0.01	0.16		c0.04	c0.34		c0.02	0.02		c0.09	0.08	
v/s Ratio Perm	0.21											
v/c Ratio	0.35	0.26		0.68	0.54		0.45	0.33		0.77	0.65	
Uniform Delay, d1	12.5	14.5		74.3	16.6		73.4	72.9		68.2	67.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.2		13.9	0.7		1.2	0.4		7.5	5.1	
Delay (s)	13.0	14.7		88.1	17.2		74.7	73.3		75.7	72.2	
Level of Service	B	B		F	B		E	E		E	E	
Approach Delay (s)		14.5			19.8			73.8			74.6	
Approach LOS		B			B			E			E	
Intersection Summary												
HCM 2000 Control Delay		28.6			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		160.0			Sum of lost time (s)			26.0				
Intersection Capacity Utilization		67.3%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

Timings

101: N 52 Avenue & Sheridan Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		  		  		 	 	
Traffic Volume (vph)	54	665	57	1400	38	51	277	83
Future Volume (vph)	54	665	57	1400	38	51	277	83
Turn Type	pm+pt	NA	Prot	NA	Split	NA	Split	NA
Protected Phases	1	6	5	2	7	7	8	8
Permitted Phases	6							
Detector Phase	1	6	5	2	7	7	8	8
Switch Phase								
Minimum Initial (s)	4.0	12.0	5.0	12.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.5	24.5	11.5	24.5	24.5	24.5	29.5	29.5
Total Split (s)	20.0	75.0	20.0	75.0	30.0	30.0	35.0	35.0
Total Split (%)	12.5%	46.9%	12.5%	46.9%	18.8%	18.8%	21.9%	21.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	104.2	98.8	9.8	102.1	8.6	8.6	19.2	19.2
Actuated g/C Ratio	0.65	0.62	0.06	0.64	0.05	0.05	0.12	0.12
v/c Ratio	0.33	0.25	0.60	0.53	0.46	0.44	0.77	0.67
Control Delay	13.8	15.5	94.8	17.9	88.0	52.0	80.5	74.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	15.5	94.8	17.9	88.0	52.0	80.5	74.1
LOS	B	B	F	B	F	D	F	E
Approach Delay		15.4		20.7		63.4		78.4
Approach LOS		B		C		E		E

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 100 (63%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 29.4

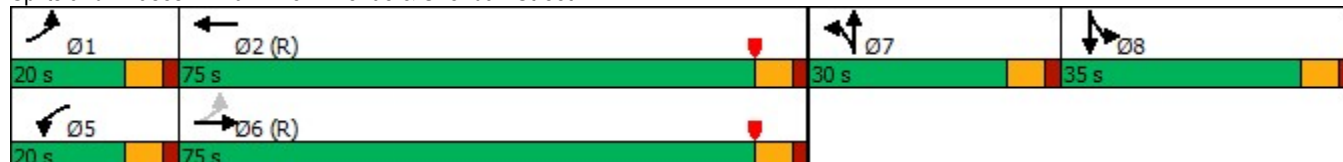
Intersection LOS: C

Intersection Capacity Utilization 67.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 101: N 52 Avenue & Sheridan Street



Queues

101: N 52 Avenue & Sheridan Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	789	65	1710	43	92	315	150
v/c Ratio	0.33	0.25	0.60	0.53	0.46	0.44	0.77	0.67
Control Delay	13.8	15.5	94.8	17.9	88.0	52.0	80.5	74.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	15.5	94.8	17.9	88.0	52.0	80.5	74.1
Queue Length 50th (ft)	18	134	68	346	45	31	167	137
Queue Length 95th (ft)	40	193	117	465	86	60	208	204
Internal Link Dist (ft)		467		810		370		322
Turn Bay Length (ft)	280		150		220		165	
Base Capacity (vph)	262	3124	151	3216	259	520	611	326
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.25	0.43	0.53	0.17	0.18	0.52	0.46
Intersection Summary								

HCM Unsignalized Intersection Capacity Analysis 102: N 52 Avenue & Thomas Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	33	28	3	6	53	42	1	80	4	24	121	23
Future Volume (vph)	33	28	3	6	53	42	1	80	4	24	121	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	30	3	7	58	46	1	87	4	26	132	25
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	69	111	92	183								
Volume Left (vph)	36	7	1	26								
Volume Right (vph)	3	46	4	25								
Hadj (s)	0.11	-0.20	0.01	-0.02								
Departure Headway (s)	4.8	4.4	4.6	4.4								
Degree Utilization, x	0.09	0.14	0.12	0.22								
Capacity (veh/h)	696	755	748	773								
Control Delay (s)	8.3	8.1	8.2	8.7								
Approach Delay (s)	8.3	8.1	8.2	8.7								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				8.4								
Level of Service				A								
Intersection Capacity Utilization				32.6%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

101: N 52 Avenue & Sheridan Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 	 	
Traffic Volume (vph)	54	665	47	75	1400	105	59	51	51	277	83	49
Future Volume (vph)	54	665	47	75	1400	105	59	51	51	277	83	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		0.97	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.93		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5035		1770	5032		1770	3274		3433	1758	
Flt Permitted	0.10	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	190	5035		1770	5032		1770	3274		3433	1758	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	61	756	53	85	1591	119	67	58	58	315	94	56
RTOR Reduction (vph)	0	4	0	0	3	0	0	54	0	0	14	0
Lane Group Flow (vph)	61	805	0	85	1707	0	67	62	0	315	136	0
Turn Type	pm+pt	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Actuated Green, G (s)	98.1	92.7		11.6	98.9		10.5	10.5		19.2	19.2	
Effective Green, g (s)	98.1	92.7		11.6	98.9		10.5	10.5		19.2	19.2	
Actuated g/C Ratio	0.61	0.58		0.07	0.62		0.07	0.07		0.12	0.12	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	169	2917		128	3110		116	214		411	210	
v/s Ratio Prot	0.01	0.16		c0.05	c0.34		c0.04	0.02		c0.09	0.08	
v/s Ratio Perm	0.21											
v/c Ratio	0.36	0.28		0.66	0.55		0.58	0.29		0.77	0.65	
Uniform Delay, d1	14.1	16.8		72.3	17.7		72.6	71.2		68.2	67.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.2		9.6	0.7		4.3	0.3		7.5	5.1	
Delay (s)	14.5	17.1		81.9	18.4		76.9	71.5		75.7	72.2	
Level of Service	B	B		F	B		E	E		E	E	
Approach Delay (s)		16.9			21.4			73.4			74.6	
Approach LOS		B			C			E			E	
Intersection Summary												
HCM 2000 Control Delay			30.5			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			26.0			
Intersection Capacity Utilization			67.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Timings

101: N 52 Avenue & Sheridan Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	54	665	75	1400	59	51	277	83
Future Volume (vph)	54	665	75	1400	59	51	277	83
Turn Type	pm+pt	NA	Prot	NA	Split	NA	Split	NA
Protected Phases	1	6	5	2	7	7	8	8
Permitted Phases	6							
Detector Phase	1	6	5	2	7	7	8	8
Switch Phase								
Minimum Initial (s)	4.0	12.0	5.0	12.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.5	24.5	11.5	24.5	24.5	24.5	29.5	29.5
Total Split (s)	20.0	75.0	20.0	75.0	30.0	30.0	35.0	35.0
Total Split (%)	12.5%	46.9%	12.5%	46.9%	18.8%	18.8%	21.9%	21.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	99.0	92.7	11.6	100.2	10.5	10.5	19.2	19.2
Actuated g/C Ratio	0.62	0.58	0.07	0.63	0.07	0.07	0.12	0.12
v/c Ratio	0.34	0.28	0.66	0.54	0.58	0.43	0.77	0.67
Control Delay	15.2	18.2	95.6	19.3	91.3	40.7	80.5	74.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	18.2	95.6	19.3	91.3	40.7	80.5	74.1
LOS	B	B	F	B	F	D	F	E
Approach Delay		18.0		22.9		59.2		78.4
Approach LOS		B		C		E		E

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 100 (63%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 31.4

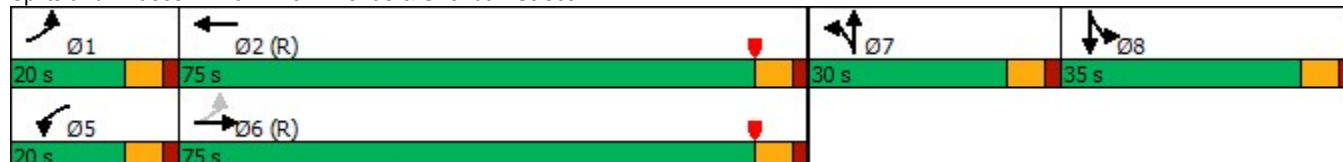
Intersection LOS: C

Intersection Capacity Utilization 67.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 101: N 52 Avenue & Sheridan Street



Queues

101: N 52 Avenue & Sheridan Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	809	85	1710	67	116	315	150
v/c Ratio	0.34	0.28	0.66	0.54	0.58	0.43	0.77	0.67
Control Delay	15.2	18.2	95.6	19.3	91.3	40.7	80.5	74.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	18.2	95.6	19.3	91.3	40.7	80.5	74.1
Queue Length 50th (ft)	19	148	88	361	69	31	167	137
Queue Length 95th (ft)	42	212	143	486	119	62	208	204
Internal Link Dist (ft)		467		810		370		322
Turn Bay Length (ft)	280		150		220		165	
Base Capacity (vph)	259	2921	156	3155	259	530	611	326
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.28	0.54	0.54	0.26	0.22	0.52	0.46
Intersection Summary								

HCM Unsignalized Intersection Capacity Analysis 102: N 52 Avenue & Thomas Street

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Sign Control		Stop			Stop			Stop			Stop		
Traffic Volume (vph)	35	28	3	6	53	47	1	83	4	27	126	26	
Future Volume (vph)	35	28	3	6	53	47	1	83	4	27	126	26	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	38	30	3	7	58	51	1	90	4	29	137	28	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total (vph)	71	116	95	194									
Volume Left (vph)	38	7	1	29									
Volume Right (vph)	3	51	4	28									
Hadj (s)	0.12	-0.22	0.01	-0.02									
Departure Headway (s)	4.8	4.5	4.6	4.4									
Degree Utilization, x	0.10	0.14	0.12	0.24									
Capacity (veh/h)	687	750	741	769									
Control Delay (s)	8.3	8.2	8.2	8.8									
Approach Delay (s)	8.3	8.2	8.2	8.8									
Approach LOS	A	A	A	A									
Intersection Summary													
Delay			8.5										
Level of Service			A										
Intersection Capacity Utilization			33.3%	ICU Level of Service			A						
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis

201: N 52 Avenue & Driveway

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	42	155	10	36	1047
Future Volume (Veh/h)	11	42	155	10	36	1047
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	46	168	11	39	1138
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT	None		
Median storage veh			2			
Upstream signal (ft)				450		
pX, platoon unblocked	0.74					
vC, conflicting volume	1390	174	179			
vC1, stage 1 conf vol	174					
vC2, stage 2 conf vol	1216					
vCu, unblocked vol	1351	174	179			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	95	97			
cM capacity (veh/h)	219	870	1397			
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	58	179	1177			
Volume Left	12	0	39			
Volume Right	46	11	0			
cSH	538	1700	1397			
Volume to Capacity	0.11	0.11	0.03			
Queue Length 95th (ft)	9	0	2			
Control Delay (s)	12.5	0.0	0.9			
Lane LOS	B		A			
Approach Delay (s)	12.5	0.0	0.9			
Approach LOS	B					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			79.2%	ICU Level of Service	D	
Analysis Period (min)			15			