LANGAN

Technical Excellence
Practical Experience
Client Responsiveness

30 August 2018

Henrique Rojas
Building Hope – Academic Solutions Academy
910 17th Street NW
Washington DC, 20006

Re: Traffic Operations Analysis
Academic Solutions Academy - Lauderhill
Broward, Florida
Langan Project No.: 330044301

Dear Mr. Rojas:

Langan Engineering and Environmental Services, Inc. was retained by Building Hope to prepare traffic-operations analysis for the proposed Academic Solutions Academy charter high school. We analyzed the school's traffic impacts to the two intersections on State Road 870 (West Commercial Boulevard) that are expected to be most impacted by the school and found that the exclusive left-turn lanes have sufficient storage capacity. The vacant site is at 6650 West Commercial Boulevard in Lauderhill, Florida and the proposed school is expected to be built by 2019. **Attachment A** includes the report figures and Figure 1 is an aerial photograph of the site and the study intersections. This letter report includes the data and traffic-operations analysis for the proposed school.

Background

The proposed 700-student charter high school will provide classes from 9th through 12th grades. The school is expected to operate with two academic shifts that operate where the arrival and dismissal times of each shift are separated by at least one hour. Academic Solutions Academy's mission is to prepare high-need students who have dropped out or who are at-risk of dropping out of high school an opportunity to earn a high school diploma. Approximately 97 percent of the students at their 273-student campus in Sunrise, Florida use public transit or a non-motorized mode of travel to get to and from school.

The 3.33-acre vacant site (Folio Nos. 4941-15-14-0240; 4941-15-14-0250; 4941-15-14-0260; 4941-15-14-0270; 4941-15-14-0280) has one driveway connection to West Commercial Boulevard (at NW 64th Terrace) that currently provides access for the property directly east of the school site. West Commercial Boulevard is a six-lane divided, state-maintained roadway with a raised median and a 45 MPH posted speed limit. We analyzed the two intersections with directional median openings on West Commercial Boulevard, at NW 64th Avenue and east of the site, because traffic from the school is expected to make left-turns or U-turns at these intersections to either enter or exit the school site. **Attachment B** contains a copy of the preliminary site plan.

Methodology

We performed the following tasks that comprise the methodology of the traffic-operations analysis.

- Collected morning (7 to 9 AM) and afternoon (4 to 6 PM) peak-hour vehicle turning-movement volumes at the following study intersections:
  - West Commercial Boulevard at NW 66th Terrace
  - West Commercial Boulevard at 6501 driveway (median opening east of project driveway)
- Used an adjustment factor from the Florida Department of Transportation (FDOT) to convert the traffic data into peak-season volumes.
- Prepared trip-generation estimates for the proposed development, based on accepted trip-generation rates developed by the Institute of Transportation Engineers (ITE)
- Calculated a growth rate for background traffic using FDOT data from traffic-count stations in the vicinity of the project.
- Developed directional trip-distribution estimates for the project based on the traffic data from FDOT.
- Prepared morning and afternoon peak-hour intersection capacity analyses for 2018 existing conditions and 2019 build conditions using Synchro software.

Data Collection

Traffic-volume data was collected on Tuesday, July 17, 2018, from 7 to 9 AM and 4 to 6 PM. A seasonal adjustment factor of 1.06 was applied to the traffic data to develop peak-season volumes. The peak-hours of the intersections occur between 7:30 and 8:30 AM and between 5:00 and 6:00 PM. Figure 3 illustrates the existing weekday morning and afternoon peak-hour traffic volumes. **Attachment C** contains the traffic data and FDOT seasonal-adjustment factors.

Trip Generation

Table 1 summarizes the trip-generation calculations for proposed development and shows that, with two academic shifts, it is expected to generate 1,710 daily, 182 morning peak-hour and 49 afternoon peak-hour trips. We prepared daily, morning peak-hour and afternoon peak-hour trip estimates for the proposed development using equations from the 10th Edition of the Institute of Transportation Engineers *Trip Generation Manual*. **Attachment D** contains the trip-generation data for the proposed development. We estimated the directional distribution assignment of school traffic to West Commercial Boulevard based on directional volumes. Figure 4 shows the proposed project-traffic distribution at the study intersections. Figure 5 illustrates the morning and afternoon project-traffic assignments at the study intersections. The trip-generation calculations are conservative because we used ITE equations that do not account of the high use of public transit that this school is expected to have.

Table 1 - Trip Generation Estimates

Use	Size	Daily	Number of Shifts	Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
High School	700 Students	1,701	1	244	120	364	47	51	98
			2	122	60	182	24	25	49

Transit Service

A high percentage of students are expected to use public transit to travel to and from the school. Broward County Transit bus route 55 provides service along West Commercial Boulevard from Knob Hill Road to State Road A1A. Bus stops for the eastbound and westbound routes are within 350 of the site. Figure 1 shows the location of the public transit bus stops and Attachment C contains a copy of the transit-route map.

Sidewalks on West Commercial Boulevard and the signalized intersections on West Commercial Boulevard at NW 64th and 70th avenues will provide a safe pedestrian path from the school to the public bus stops. The developer will provide a pedestrian path from the school to West Commercial Boulevard. The signalized intersections on West Commercial Boulevard at NW 64th (east of the site) and NW 70th (west of the site) avenues provide crosswalks and pedestrian-signal control to safely cross West Commercial Boulevard. The crosswalks at the signalized intersections on West Commercial Boulevard are less than one-quarter mile from the school site.

Traffic Operations Analysis

We conducted intersection-capacity analyses for the two study intersections and found that the 95th percentile queues for the westbound left-turn ingress movement at the NW 64th Terrace intersection and the eastbound U-turn egress movement at the 6501 driveway intersection are not expected to exceed the existing storage capacity of these turn lanes. We conducted intersection capacity analysis for the study intersections using Synchro 10 software and determined the 95th percentile queue lengths of the intersections based on the *Highway Capacity Manual, 6th Edition* published by the Transportation Research Board. **Table 2** summarizes the results of the queuing analysis and shows that the storage capacity of the left-turn lanes will not be exceeded. We developed 2019 build traffic volumes by applying a 1.03 percent annual compound growth-rate factor, based on FDOT historical traffic volumes, to the 2018 volumes and added traffic from the proposed school. Figure 6 shows the 2019 morning and afternoon peak-hour build traffic volumes. **Attachment E** contains intersection-volume tables and capacity-analyses reports.

Table 2 - Peak Hour Left-Turn Lane Length Calculation

Intersection	Peak Hour	Approach	2018 95th Percentile Queue Length (vehicles)	2019 95th Percentile Queue Length (vehicles)	Required Turn Lane Storage (feet)	Required Deceleration Length* (feet)	Minimum Turn Lane Length (feet)	Existing Turn Lane Length (feet)	Existing Storage Adequate?
Commercial Blvd at NW 66 Terrace	AM	WBL	1	3	66	240	306	310	YES
	PM		1	1	22				YES
Commercial Blvd at 6501 Driveway	AM	EBL	1	2	44	240	284	310	YES
	PM		1	1	22				YES

* Based on FDOT Florida Greenbook design standards for a 45 MPH design speed

Conclusion

We conducted a traffic-operations analysis for a proposed 700-student charter high school to determine the required storage length for two exclusive left-turn lanes on West Commercial Boulevard at two median openings. We determined that the traffic impacts from the proposed school will not cause the vehicle queues of the exclusive left-turn lanes at either study intersection to exceed their storage capacity. Please contact me at (786) 264-7226 with any questions or comments.

Sincerely,
Langan Engineering and Environmental Services, Inc.

John P. Kim, P.E., PTOE
P.E. License No. 62400
Senior Project Manager

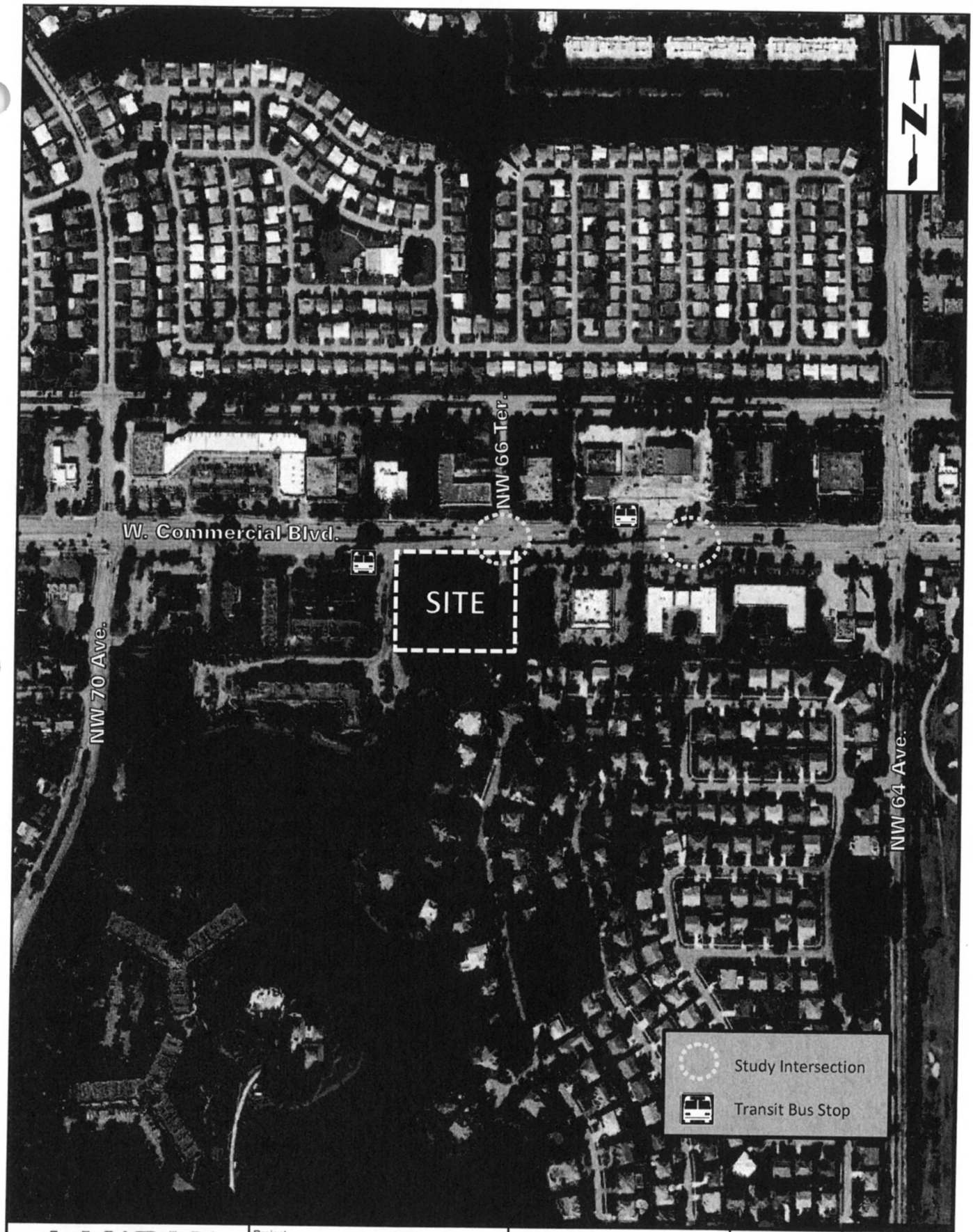
Eric Schwarz, P.E., LEED AP
Principal/Vice President

JPK:jpk

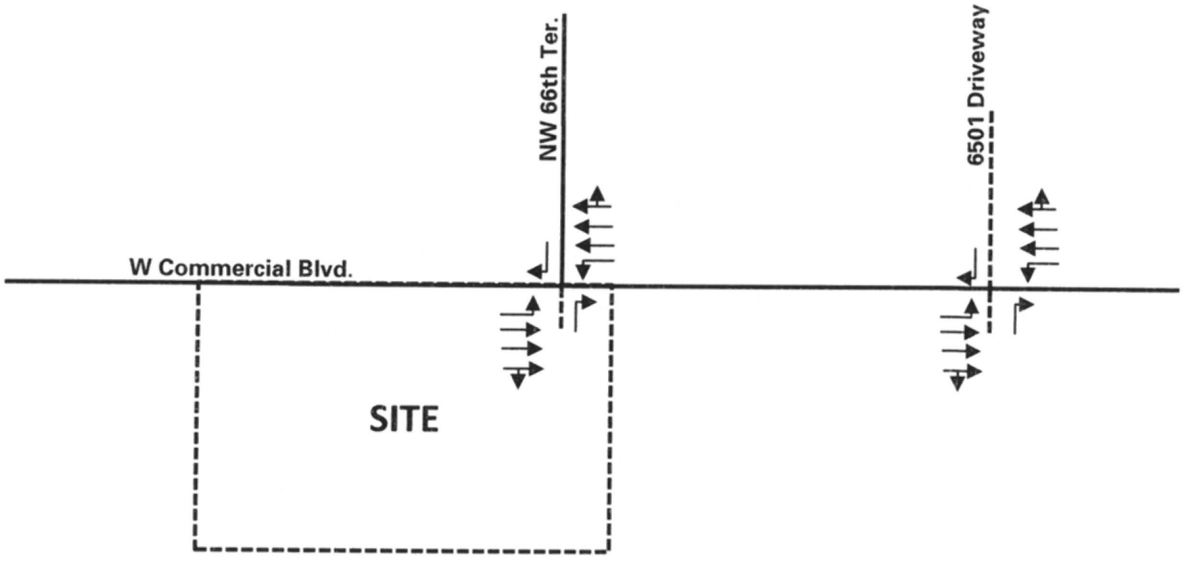
Attachments:

Attachment A – Figures
Attachment B – Site Plans
Attachment C – Traffic, FDOT and Transit Data
Attachment D – Trip Generation Data & ITE Excerpts
Attachment E – Intersection Analysis

ATTACHMENT A
FIGURES

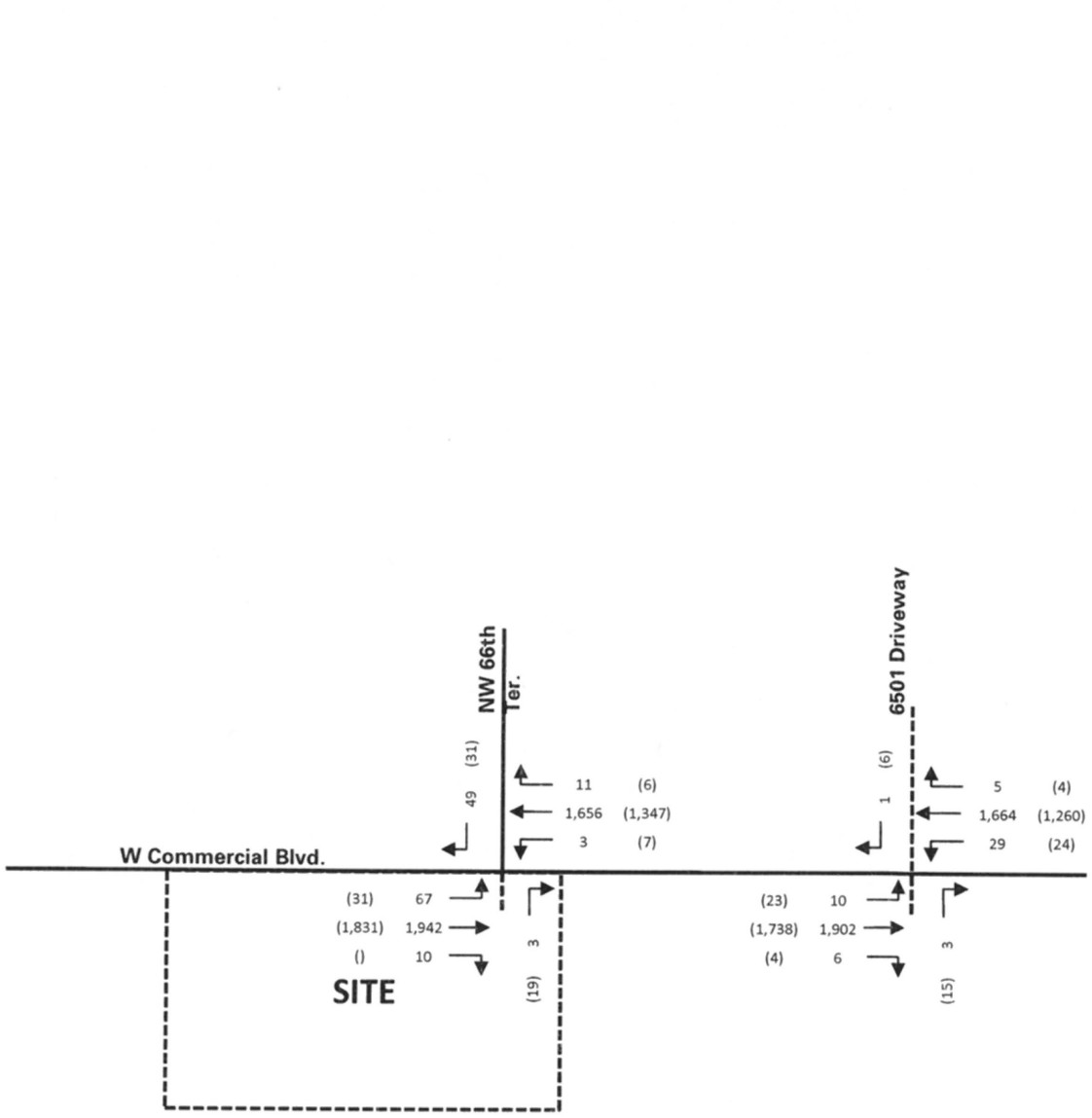


LANGAN ENGINEERING & ENVIRONMENTAL SERVICES 15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016 P: 786.264.7221 F: 786.264.7201 www.langan.com FL CERTIFICATE OF AUTHORIZATION No. 00006601	Project **ACADEMIC SOLUTIONS ACADEMY - LAUDERHILL** LAUDERHILL BROWARD FLORIDA	Figure Title **SITE LOCATION MAP**	Project No. 330044301 Date 8/30/2018 Scale NTS	**FIGURE 1**



LEGEND
Driveway

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES 15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016 P: 786.264.7221 F: 786.264.7201 www.langan.com FL CERTIFICATE OF AUTHORIZATION No. 00006601	Project **ACADEMIC SOLUTIONS ACADEMY - LAUDERHILL** LAUDERHILL BROWARD FLORIDA	Figure Title **INTERSECTION LANE CONFIGURATIONS**	Project No. 330044301 Date 8/30/2018 Scale NTS	**FIGURE 2**



LEGEND
AM Peak Hour
(#) PM Peak Hour

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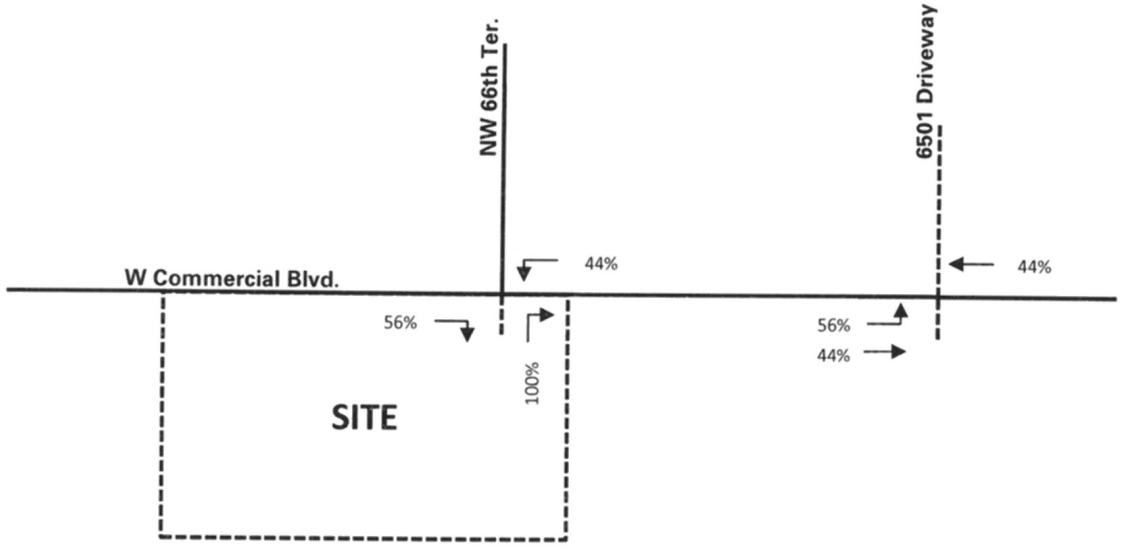

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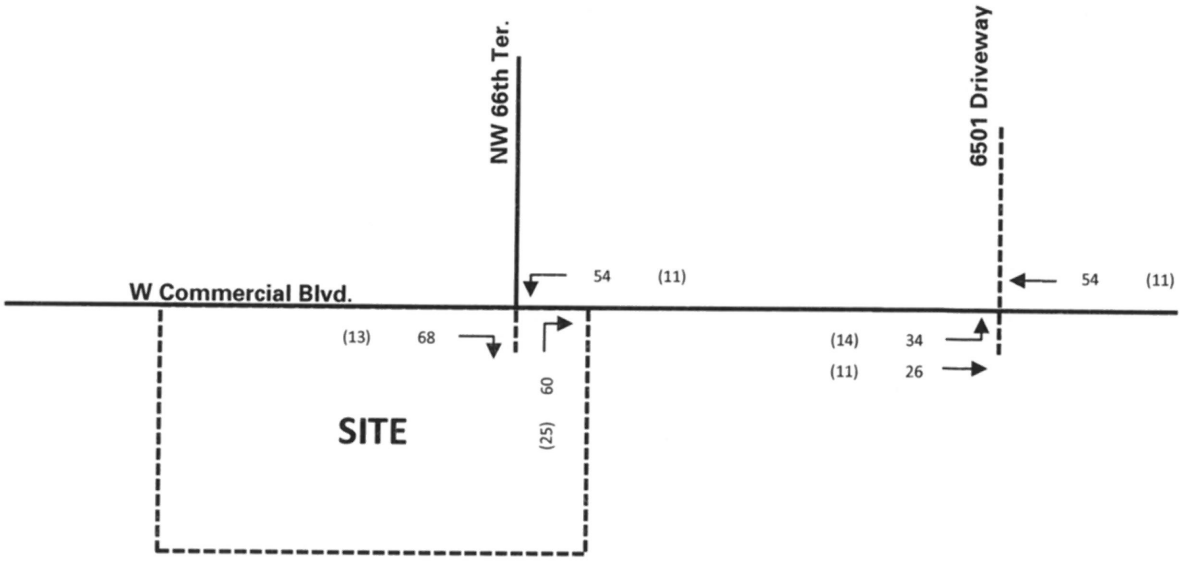

LEGEND
AM Peak Hour
(#) PM Peak Hour

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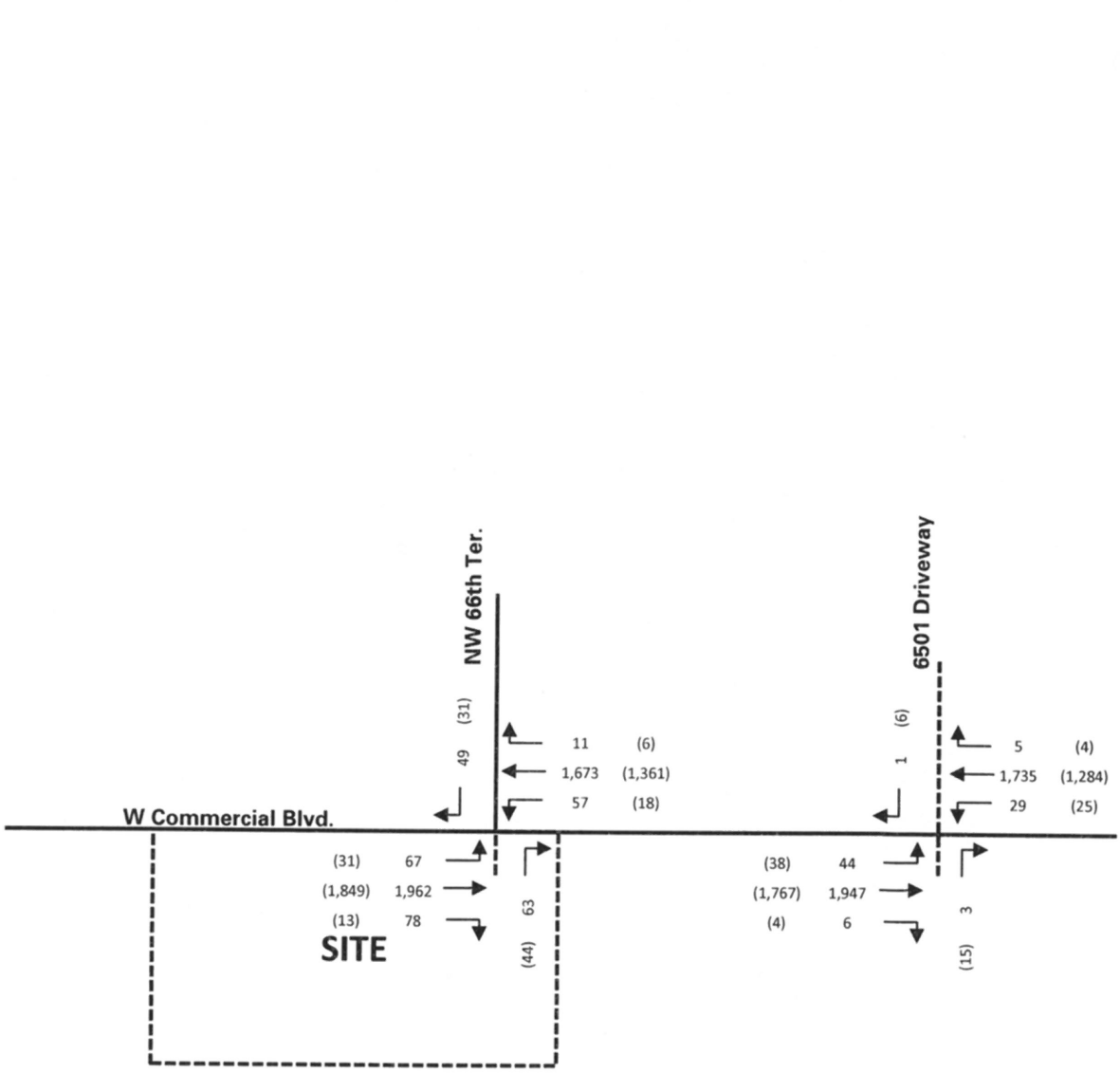


LEGEND
AM Peak Hour
(#) PM Peak Hour

LANGAN ENGINEERING & ENVIRONMENTAL SERVICES 15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016 P: 786.264.7221 F: 786.264.7201 www.langan.com FL CERTIFICATE OF AUTHORIZATION No. 00006601	Project ACADEMIC SOLUTIONS ACADEMY - LAUDERHILL LAUDERHILL BROWARD FLORIDA	Figure Title 2019 BUILD TRAFFIC VOLUMES	Project No. 330044301 Date 8/30/2018 Scale NTS	FIGURE 6

ATTACHMENT B
SITE PLAN

APPENDIX C
TRAFFIC & FDOT DATA

TRAFFIC SURVEY SPECIALISTS, INC.
85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
PHONE (561)272-3255

COMMERCIAL BOULEVARD & 6501 DRIVEWAY
TAMARAC, FLORIDA
COUNTED BY: LUIS PALOMINO
NOT SIGNALIZED

Site Code : 00180133
Start Date: 07/17/18
File I.D. : COMTIR_L
Page : 1

ALL VEHICLES

	6501 DRIVEWAY From North				COMMERCIAL BOULEVARD From East				TIRES PLUS DRIVEWAY From South				COMMERCIAL BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/17/18																	
07:00	0	0	0	0	4	0	261	0	0	0	0	0	0	0	381	1	647
07:15	0	0	0	0	2	0	309	1	0	0	0	0	0	2	414	0	728
07:30	0	0	0	0	0	1	389	1	0	0	0	0	0	2	513	1	907
07:45	0	0	0	0	6	4	413	0	0	0	0	3	0	2	398	2	828
Hr Total	0	0	0	0	12	5	1372	2	0	0	0	3	0	6	1706	4	3110
08:00	0	0	0	0	1	6	377	2	0	0	0	0	1	0	419	1	807
08:15	0	0	0	1	6	3	391	2	0	0	0	0	2	2	464	2	873
08:30	0	0	0	0	2	4	434	2	0	0	0	2	0	0	413	5	862
08:45	0	0	0	0	5	2	438	0	0	0	0	1	2	2	370	3	823
Hr Total	0	0	0	1	14	15	1640	6	0	0	0	3	5	4	1666	11	3365
* BREAK *																	
16:00	0	0	0	0	7	1	416	0	0	0	0	5	2	0	352	6	789
16:15	0	0	0	0	2	0	449	2	0	0	0	1	2	0	377	5	838
16:30	0	0	0	0	0	0	334	0	0	0	0	0	3	1	285	1	624
16:45	0	0	0	0	3	2	338	1	0	0	0	1	1	2	367	0	715
Hr Total	0	0	0	0	12	3	1537	3	0	0	0	7	8	3	1381	12	2966
17:00	0	0	0	1	3	0	335	1	0	0	0	4	2	1	305	2	654
17:15	0	0	0	2	6	0	255	1	0	0	0	4	5	0	381	0	654
17:30	0	0	0	2	7	3	252	1	0	0	0	4	1	0	436	0	706
17:45	0	0	0	1	4	0	347	1	0	1	0	2	4	9	518	2	889
Hr Total	0	0	0	6	20	3	1189	4	0	1	0	14	12	10	1640	4	2903
TOTAL	0	0	0	7	58	26	5738	15	0	1	0	27	25	23	6393	31	12344

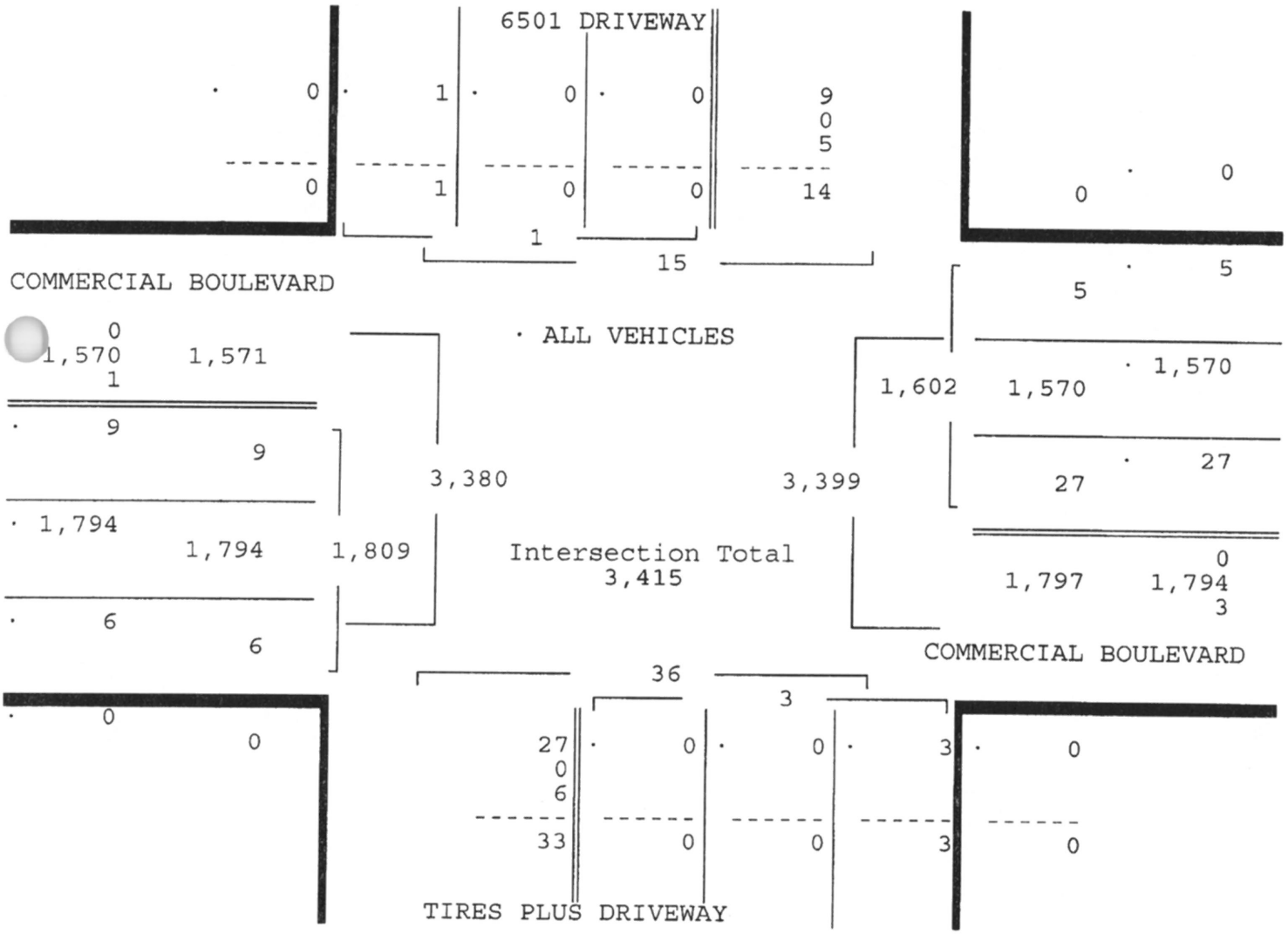
COMMERCIAL BOULEVARD & 6501 DRIVEWAY
TAMARAC, FLORIDA
COUNTED BY: LUIS PALOMINO
NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
PHONE (561)272-3255

Site Code : 00180133
Start Date: 07/17/18
File I.D. : COMTIR_L

ALL VEHICLES

	6501 DRIVEWAY From North				COMMERCIAL BOULEVARD From East				TIRES PLUS DRIVEWAY From South				COMMERCIAL BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/17/18																	
Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 07/17/18																	
Peak start 07:30					07:30				07:30				07:30				
Volume	0	0	0	1	13	14	1570	5	0	0	0	3	3	6	1794	6	
Percent	0%	0%	0%	100%	1%	1%	98%	0%	0%	0%	0%	100%	0%	0%	99%	0%	
Pk total	1				1602				3				1809				
Highest	08:15				07:45				07:45				07:30				
Volume	0	0	0	1	6	4	413	0	0	0	0	3	0	2	513	1	
Hi total	1				423				3				516				



COMMERCIAL BOULEVARD & 6501 DRIVEWAY
TAMARAC, FLORIDA
COUNTED BY: LUIS PALOMINO
NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
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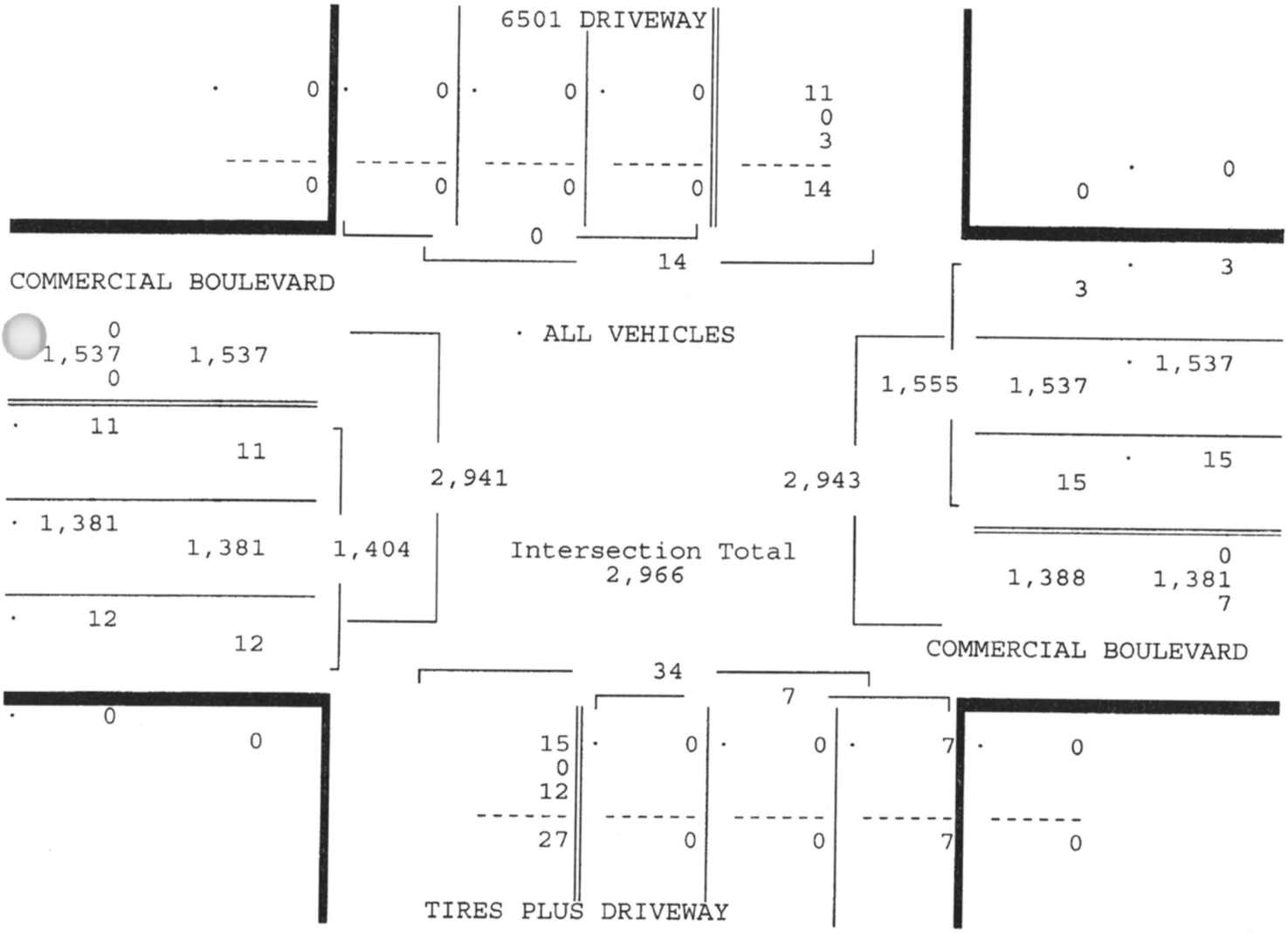
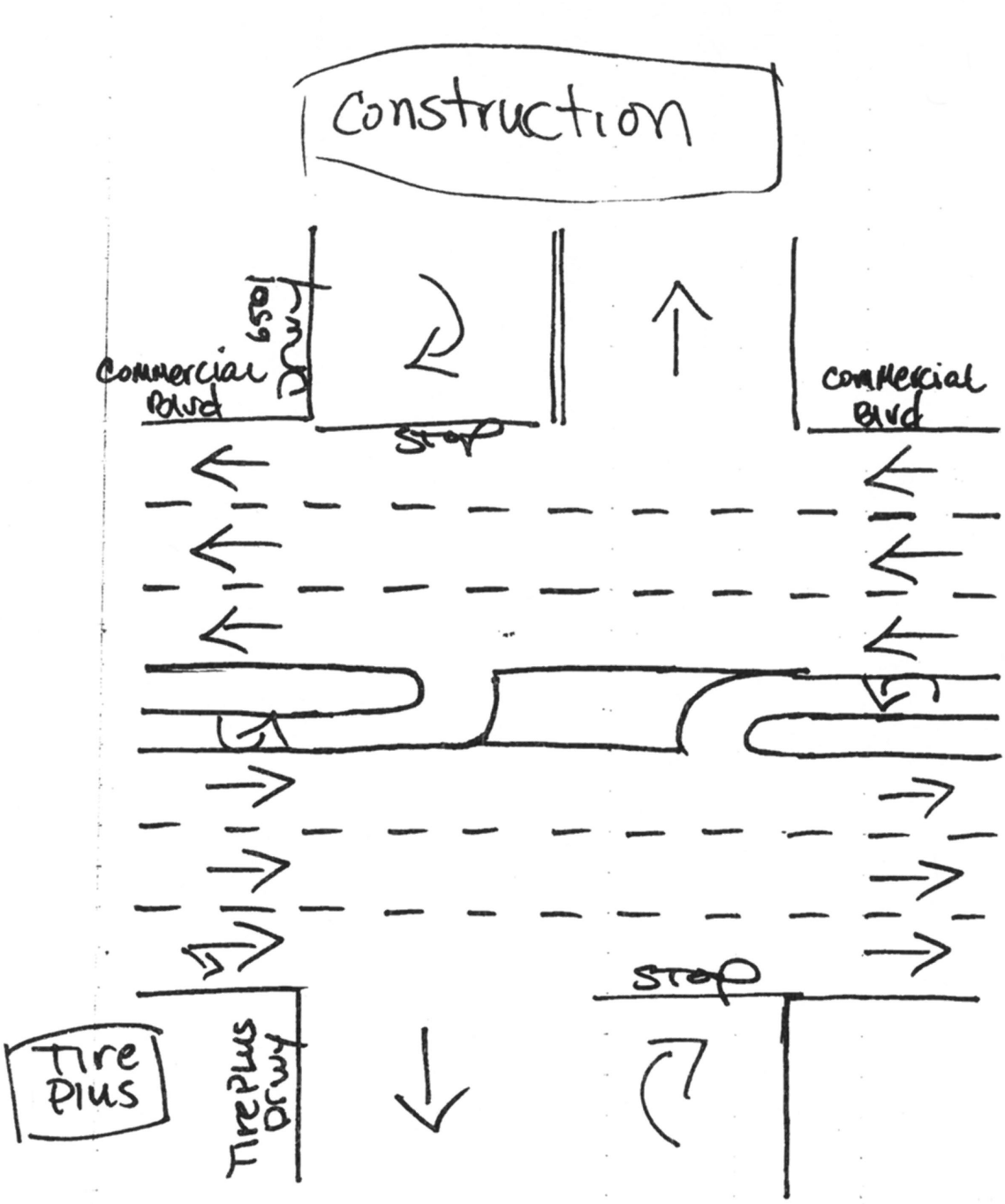
PHONE (561)272-3255

Site Code : 00180133
Start Date: 07/17/18
File I.D. : COMTIR_L
Page : 3

ALL VEHICLES

	6501 DRIVEWAY From North				COMMERCIAL BOULEVARD From East				TIRES PLUS DRIVEWAY From South				COMMERCIAL BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/17/18																	
Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 07/17/18																	
Peak start 16:00					16:00				16:00				16:00				
Volume	0	0	0	0	12	3	1537	3	0	0	0	7	8	3	1381	12	
Percent	0%	0%	0%	0%	1%	0%	99%	0%	0%	0%	0%	100%	1%	0%	98%	1%	
Pk total	0				1555				7				1404				
Highest	07:00				16:15				16:00				16:15				
Volume	0	0	0	0	2	0	449	2	0	0	0	5	2	0	377	5	
Hi total	0				453				5				384				





Tamarac, Florida
JULY 17, 2018
drawn by: Luis Palomino
NOT Signalized

COMMERCIAL BOULEVARD & NW 66TH TERRACE
TAMARAC, FLORIDA
COUNTED BY: RALPH MARTINEZ
NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
PHONE (561)272-3255

Site Code : 00180133
Start Date: 07/17/18
File I.D. : COM66T_R
Page : 1

ALL VEHICLES

	NW 66TH TERRACE From North				COMMERCIAL BOULEVARD From East				DRIVEWAY From South				COMMERCIAL BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/17/18																	
07:00	0	0	0	4	2	1	267	0	0	0	0	0	1	6	380	1	662
07:15	0	0	0	7	1	0	307	2	0	0	0	0	0	9	417	0	743
07:30	0	0	0	18	1	1	383	1	0	0	0	0	1	15	519	0	939
07:45	0	0	0	10	1	0	409	3	0	0	0	0	3	17	399	3	845
Hr Total	0	0	0	39	5	2	1366	6	0	0	0	0	5	47	1715	4	3189
08:00	0	0	0	10	0	0	369	4	0	0	0	2	0	10	425	1	821
08:15	0	0	0	8	0	0	401	2	0	0	0	1	3	14	489	5	923
08:30	0	0	0	11	0	3	446	3	0	0	0	0	1	13	427	4	908
08:45	0	0	0	11	0	3	427	2	0	0	0	2	3	14	381	8	851
Hr Total	0	0	0	40	0	6	1643	11	0	0	0	5	7	51	1722	18	3503
---------- * BREAK * ----------																	
16:00	0	0	0	4	0	0	422	5	0	0	0	2	5	4	373	1	816
16:15	0	0	0	3	2	1	449	3	0	0	0	3	2	12	386	2	863
16:30	0	0	0	1	1	0	346	3	0	0	0	1	1	4	314	1	672
16:45	0	0	0	3	0	0	318	3	0	0	0	1	1	17	388	0	731
Hr Total	0	0	0	11	3	1	1535	14	0	0	0	7	9	37	1461	4	3082
17:00	0	0	0	4	1	0	319	2	0	0	0	8	3	6	320	0	663
17:15	0	0	0	11	1	0	282	3	0	0	0	7	1	4	417	0	726
[illegible]	0	0	0	8	4	0	248	1	0	0	0	2	4	3	450	0	720
[illegible]	0	0	0	6	0	1	422	0	0	0	0	1	4	4	540	0	978
Hr Total	0	0	0	29	6	1	1271	6	0	0	0	18	12	17	1727	0	3087
TOTAL	0	0	0	119	14	10	5815	37	0	0	0	30	33	152	6625	26	12861

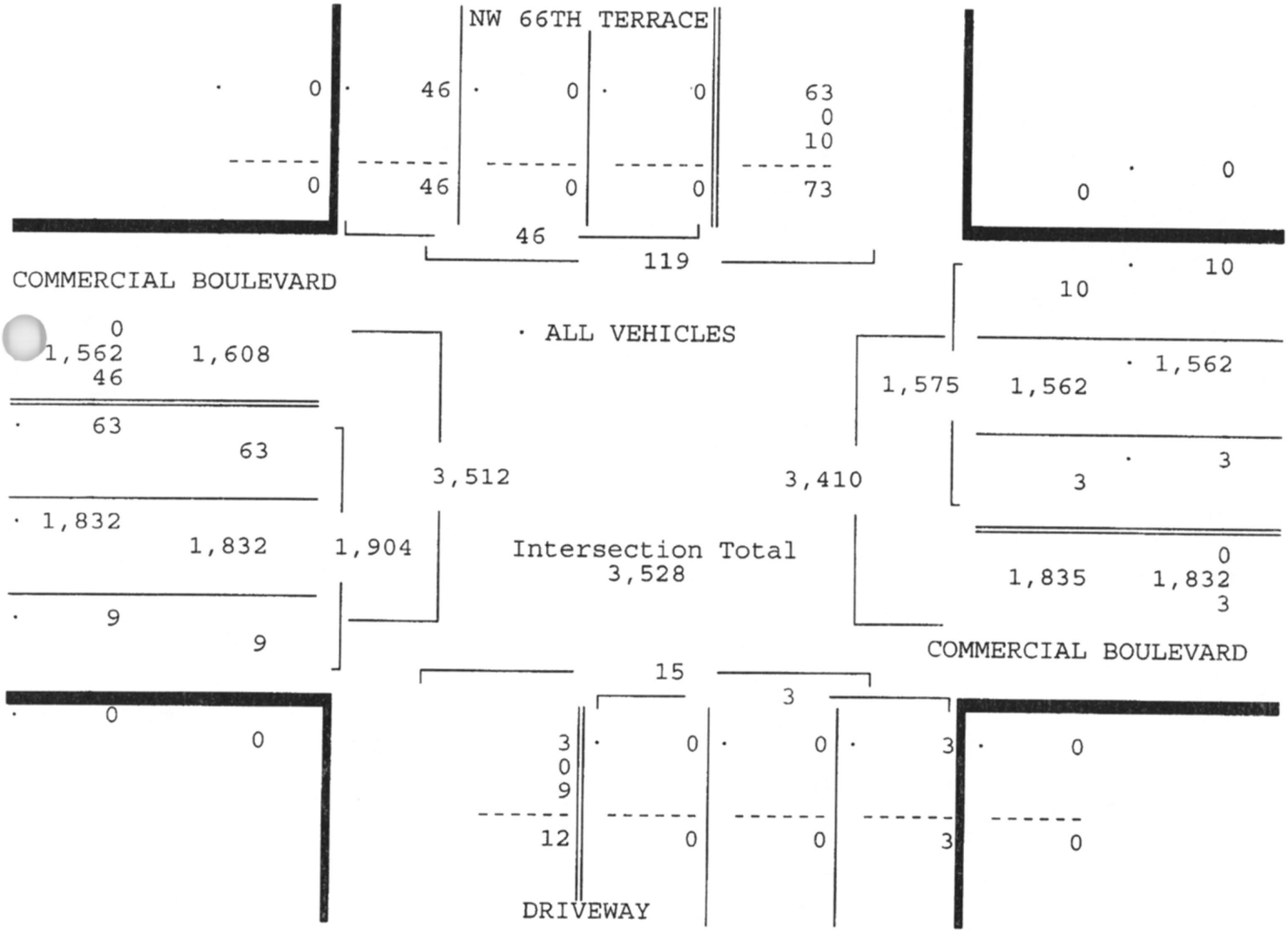
TRAFFIC SURVEY SPECIALISTS, INC.
85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
PHONE (561)272-3255

COMMERCIAL BOULEVARD & NW 66TH TERRACE
TAMARAC, FLORIDA
COUNTED BY: RALPH MARTINEZ
NOT SIGNALIZED

Site Code : 00180133
Start Date: 07/17/18
File I.D. : COM66T_R

ALL VEHICLES

	NW 66TH TERRACE From North				COMMERCIAL BOULEVARD From East				DRIVEWAY From South				COMMERCIAL BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/17/18																	
Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 07/17/18																	
Peak start	07:30				07:30				07:30				07:30				
Volume	0	0	0	46	2	1	1562	10	0	0	0	3	7	56	1832	9	
Percent	0%	0%	0%	100%	0%	0%	99%	1%	0%	0%	0%	100%	0%	3%	96%	0%	
Pk total	46				1575				3				1904				
Highest	07:30				07:45				08:00				07:30				
Volume	0	0	0	18	1	0	409	3	0	0	0	2	1	15	519	0	
Hi total	18				413				2				535				



TRAFFIC SURVEY SPECIALISTS, INC.

COMMERCIAL BOULEVARD & NW 66TH TERRACE
TAMARAC, FLORIDA
COUNTED BY: RALPH MARTINEZ
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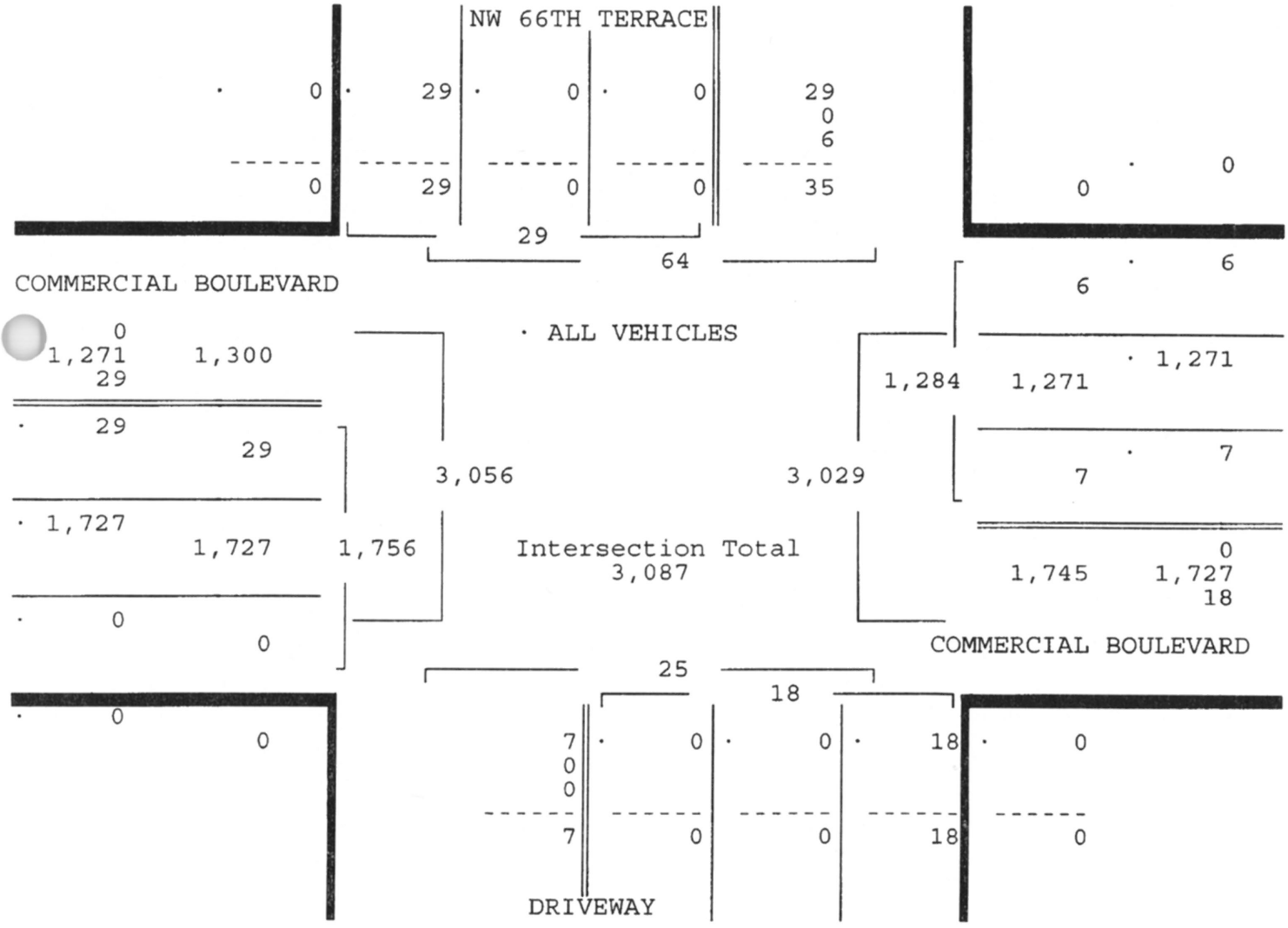
PHONE (561)272-3255

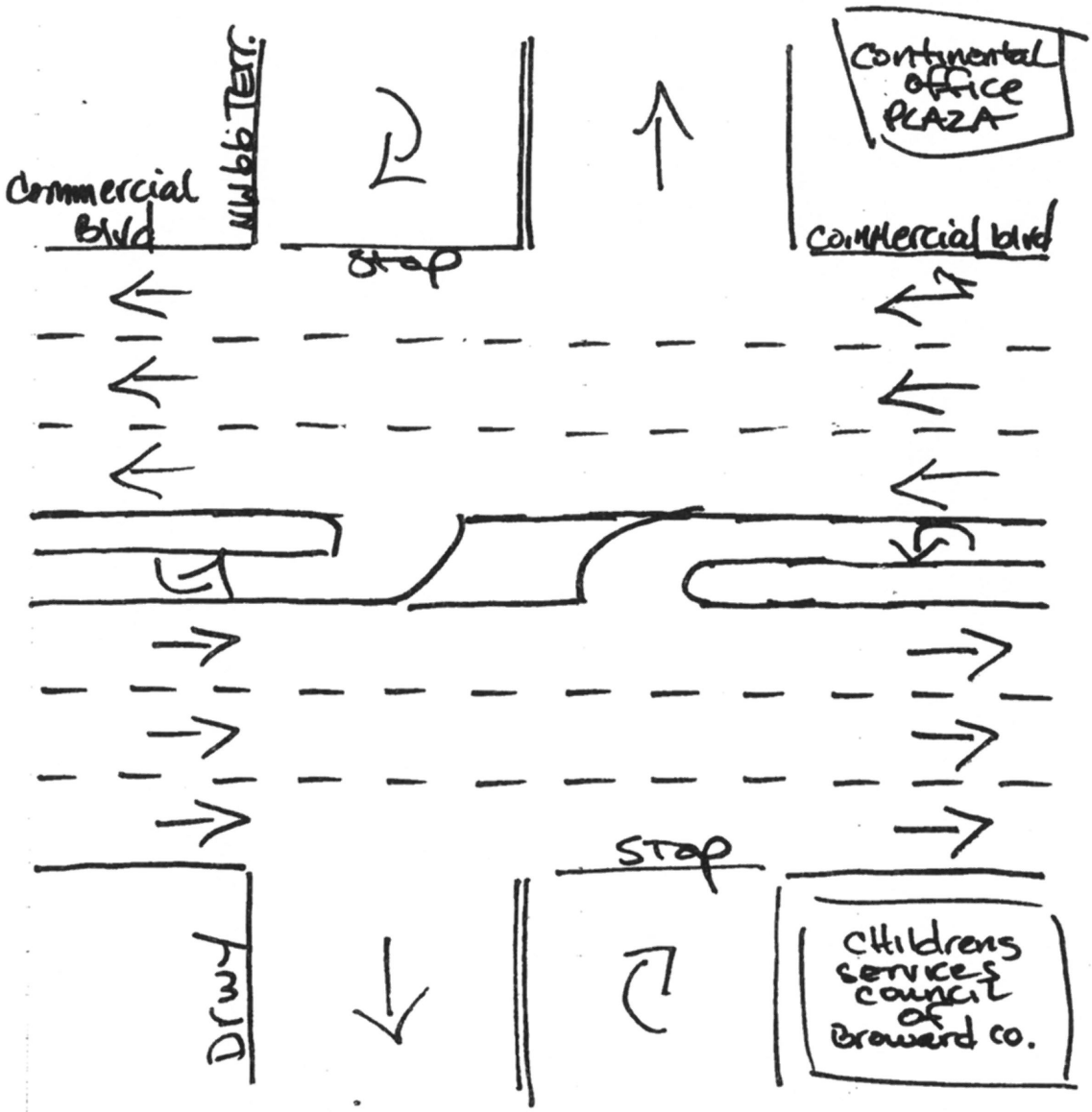
Site Code : 00180133
Start Date: 07/17/18
File I.D. : COM66T_R
Page : 3

ALL VEHICLES

	NW 66TH TERRACE From North				COMMERCIAL BOULEVARD From East				DRIVEWAY From South				COMMERCIAL BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/17/18																	
Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 07/17/18																	
Peak start	17:00				17:00				17:00				17:00				
Volume	0	0	0	29	6	1	1271	6	0	0	0	18	12	17	1727	0	
Percent	0%	0%	0%	100%	0%	0%	99%	0%	0%	0%	0%	100%	1%	1%	98%	0%	
Pk total	29				1284				18				1756				
Highest	17:15				17:45				17:00				17:45				
Volume	0	0	0	11	0	1	422	0	0	0	0	8	4	4	540	0	
Hi total	11				423				8				548				



North



Tamarac, Florida
July 17, 2018
drawn by: Luis Palomino
NOT signalized

2017 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8630 WEST-W OF US441

MOCF: 0.97

WEEK	DATES	SF	PSCF
1	01/01/2017 - 01/07/2017	1.02	1.05
2	01/08/2017 - 01/14/2017	1.01	1.04
3	01/15/2017 - 01/21/2017	1.00	1.03
4	01/22/2017 - 01/28/2017	0.99	1.02
5	01/29/2017 - 02/04/2017	0.98	1.01
* 6	02/05/2017 - 02/11/2017	0.97	1.00
* 7	02/12/2017 - 02/18/2017	0.96	0.99
* 8	02/19/2017 - 02/25/2017	0.95	0.98
* 9	02/26/2017 - 03/04/2017	0.95	0.98
*10	03/05/2017 - 03/11/2017	0.95	0.98
*11	03/12/2017 - 03/18/2017	0.95	0.98
*12	03/19/2017 - 03/25/2017	0.96	0.99
*13	03/26/2017 - 04/01/2017	0.97	1.00
*14	04/02/2017 - 04/08/2017	0.97	1.00
*15	04/09/2017 - 04/15/2017	0.98	1.01
*16	04/16/2017 - 04/22/2017	0.98	1.01
*17	04/23/2017 - 04/29/2017	0.98	1.01
*18	04/30/2017 - 05/06/2017	0.98	1.01
19	05/07/2017 - 05/13/2017	0.98	1.01
20	05/14/2017 - 05/20/2017	0.98	1.01
21	05/21/2017 - 05/27/2017	0.99	1.02
22	05/28/2017 - 06/03/2017	1.01	1.04
23	06/04/2017 - 06/10/2017	1.02	1.05
24	06/11/2017 - 06/17/2017	1.03	1.06
25	06/18/2017 - 06/24/2017	1.04	1.07
26	06/25/2017 - 07/01/2017	1.05	1.08
27	07/02/2017 - 07/08/2017	1.05	1.08
28	07/09/2017 - 07/15/2017	1.06	1.09
29	07/16/2017 - 07/22/2017	1.05	1.08
30	07/23/2017 - 07/29/2017	1.04	1.07
31	07/30/2017 - 08/05/2017	1.03	1.06
32	08/06/2017 - 08/12/2017	1.02	1.05
33	08/13/2017 - 08/19/2017	1.01	1.04
34	08/20/2017 - 08/26/2017	1.04	1.07
35	08/27/2017 - 09/02/2017	1.07	1.10
36	09/03/2017 - 09/09/2017	1.10	1.13
37	09/10/2017 - 09/16/2017	1.13	1.16
38	09/17/2017 - 09/23/2017	1.10	1.13
39	09/24/2017 - 09/30/2017	1.07	1.10
40	10/01/2017 - 10/07/2017	1.04	1.07
41	10/08/2017 - 10/14/2017	1.01	1.04
42	10/15/2017 - 10/21/2017	0.98	1.01
43	10/22/2017 - 10/28/2017	0.98	1.01
44	10/29/2017 - 11/04/2017	0.98	1.01
45	11/05/2017 - 11/11/2017	0.98	1.01
46	11/12/2017 - 11/18/2017	0.98	1.01
47	11/19/2017 - 11/25/2017	0.99	1.02
48	11/26/2017 - 12/02/2017	1.00	1.03
49	12/03/2017 - 12/09/2017	1.01	1.04
50	12/10/2017 - 12/16/2017	1.02	1.05
51	12/17/2017 - 12/23/2017	1.01	1.04
52	12/24/2017 - 12/30/2017	1.01	1.04
53	12/31/2017 - 12/31/2017	1.00	1.03

* PEAK SEASON

GROWTH RATE CALCULATION
ACADEMIC SOLUTIONS ACADEMY - LAUDERHILL

Roadway	FDOT Site	5-Year Trend
SR 870/COMMERCIAL BLVD - E OF SR 817/UNIV DR	0015	0.32%
SR 870 / COMMERCIAL BLVD - E OF NW 64 AVE	0201	3.71%
SR 817 / UNIV DR - S OF COMMERCIAL BLVD	0051	-0.94%
Average Annual Growth Rate		**1.03%**

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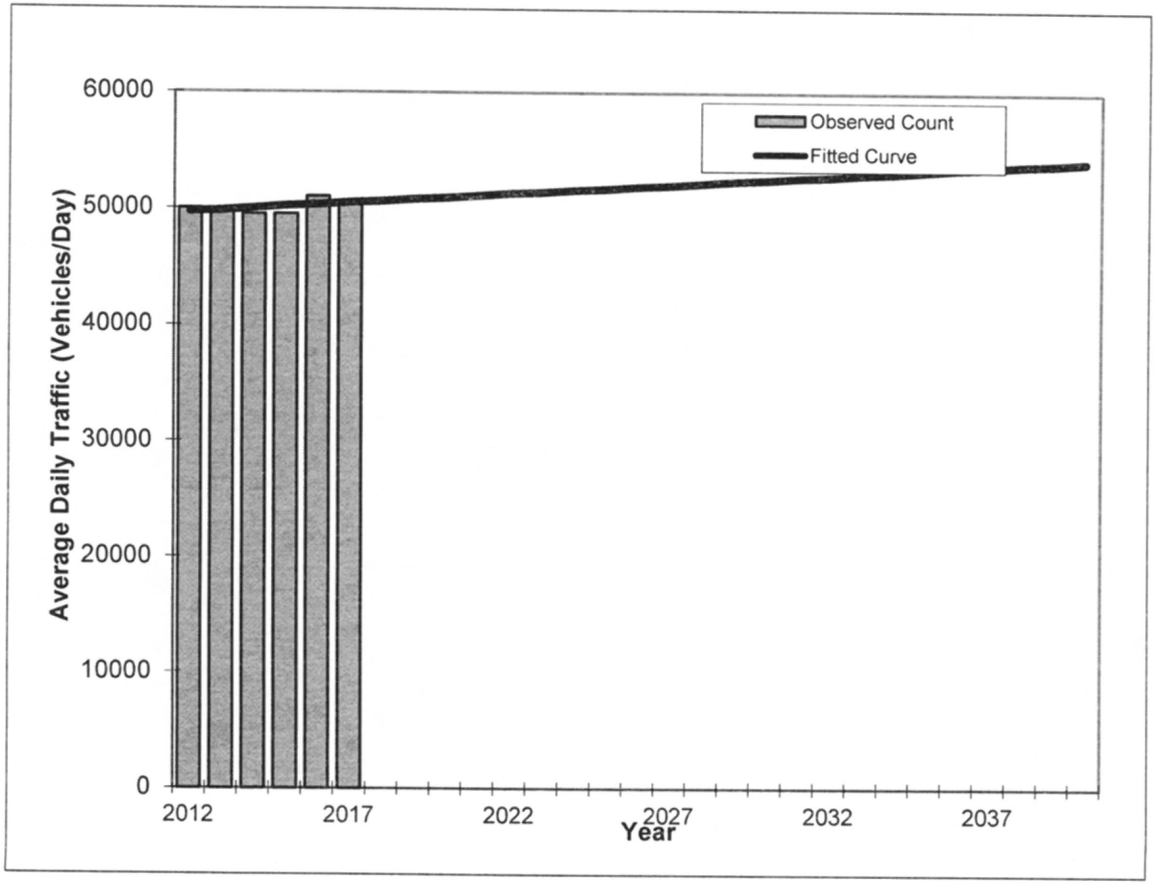
Traffic Trends - V3.0

COMMERCIAL BLVD -- SR 870/COMMERCIAL BLVD - E OF SR 817/UNIV DR

FIN#	0
Location	1

County:	Broward (86)
Station #:	0015
Highway:	COMMERCIAL BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2012	50000	49700
2013	50000	49800
2014	49500	50000
2015	49500	50200
2016	51000	50300
2017	50500	50500
2021 Opening Year Trend		
2021	N/A	51100
2030 Mid-Year Trend		
2030	N/A	52500
2040 Design Year Trend		
2040	N/A	54100
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	157
Trend R-squared:	25.30%
Trend Annual Historic Growth Rate:	0.32%
Trend Growth Rate (2017 to Design Year):	0.31%
Printed:	27-Jul-18
Straight Line Growth Option	

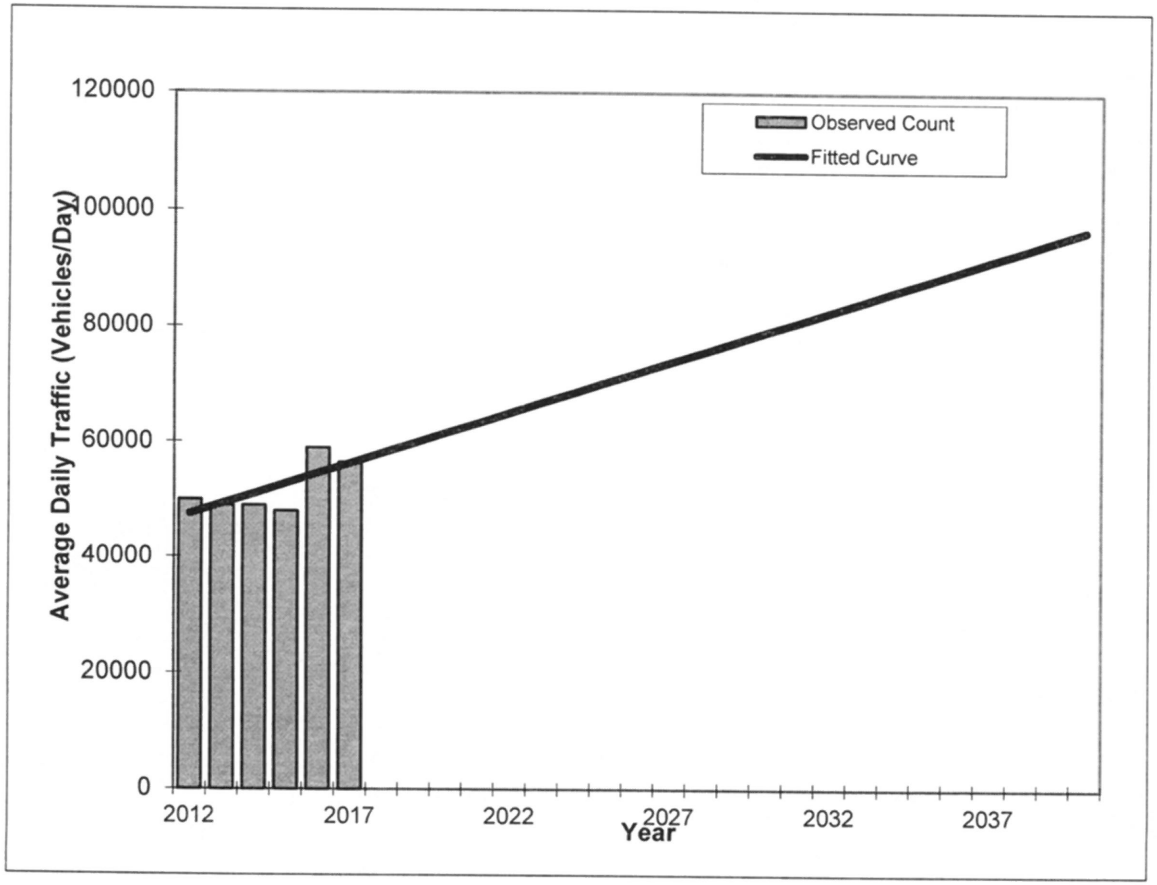
*Axle-Adjusted

Traffic Trends - V3.0

COMMERCIAL BLVD -- SR 870 / COMMERCIAL BLVD - E OF NW 64 AVE

FIN#	0
Location	1

County:	Broward (86)
Station #:	0201
Highway:	COMMERCIAL BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2012	50000	47500
2013	49000	49300
2014	49000	51000
2015	48000	52800
2016	59000	54600
2017	56500	56300
2021 Opening Year Trend		
2021	N/A	63300
2030 Mid-Year Trend		
2030	N/A	79200
2040 Design Year Trend		
2040	N/A	96700
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	1,757
Trend R-squared:	50.40%
Trend Annual Historic Growth Rate:	3.71%
Trend Growth Rate (2017 to Design Year):	3.12%
Printed:	27-Jul-18
Straight Line Growth Option	

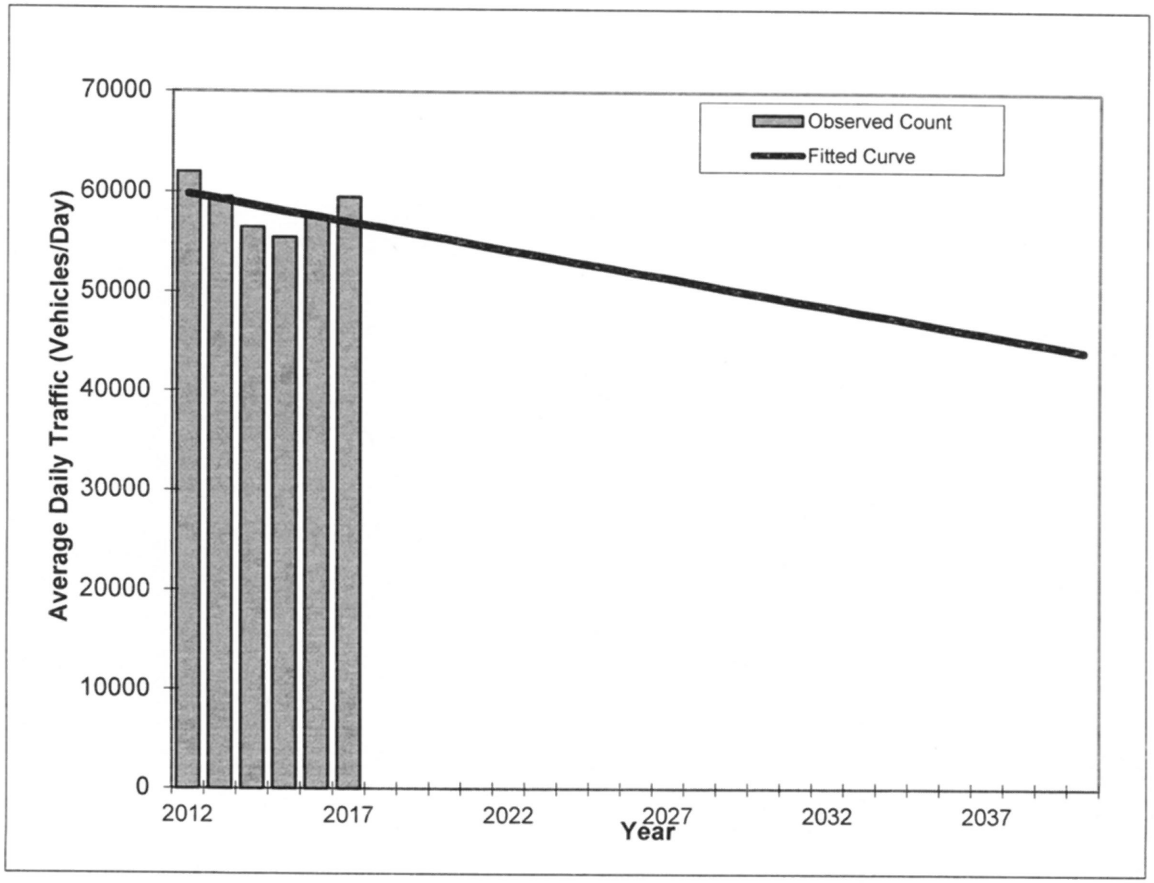
*Axle-Adjusted

Traffic Trends - V3.0

COMMERCIAL BLVD -- SR 817 / UNIV DR - S OF COMMERCIAL BLVD

FIN#	0
Location	1

County:	Broward (86)
Station #:	0051
Highway:	COMMERCIAL BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2012	62000	59800
2013	59500	59300
2014	56500	58700
2015	55500	58100
2016	57500	57600
2017	59500	57000
2021 Opening Year Trend		
2021	N/A	54800
2030 Mid-Year Trend		
2030	N/A	49800
2040 Design Year Trend		
2040	N/A	44200
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-557
Trend R-squared:	19.26%
Trend Annual Historic Growth Rate:	-0.94%
Trend Growth Rate (2017 to Design Year):	-0.98%
Printed:	27-Jul-18
Straight Line Growth Option	

*Axle-Adjusted

PROJECT DISTRIBUTION CALCULATION
ACADEMIC SOLUTIONS ACADEMY - LAUDERHILL

ROADWAY	FDOT Site	TIME	EASTBOUND VOLUME	EB%	WESTBOUND VOLUME	WB%
SR 870/COMMERCIAL BLVD - E OF SR 817/UNIV DR	0015	AM	2302	62%	1403	38%
		PM	2148	54%	1817	46%
SR 870 / COMMERCIAL BLVD - E OF NW 64 AVE	0201	AM	2399	58%	1770	42%
		PM	2140	49%	2268	51%
			Average Distribution	**56%**		**44%**

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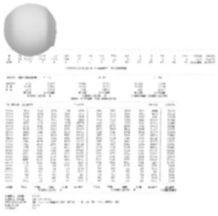
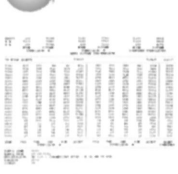
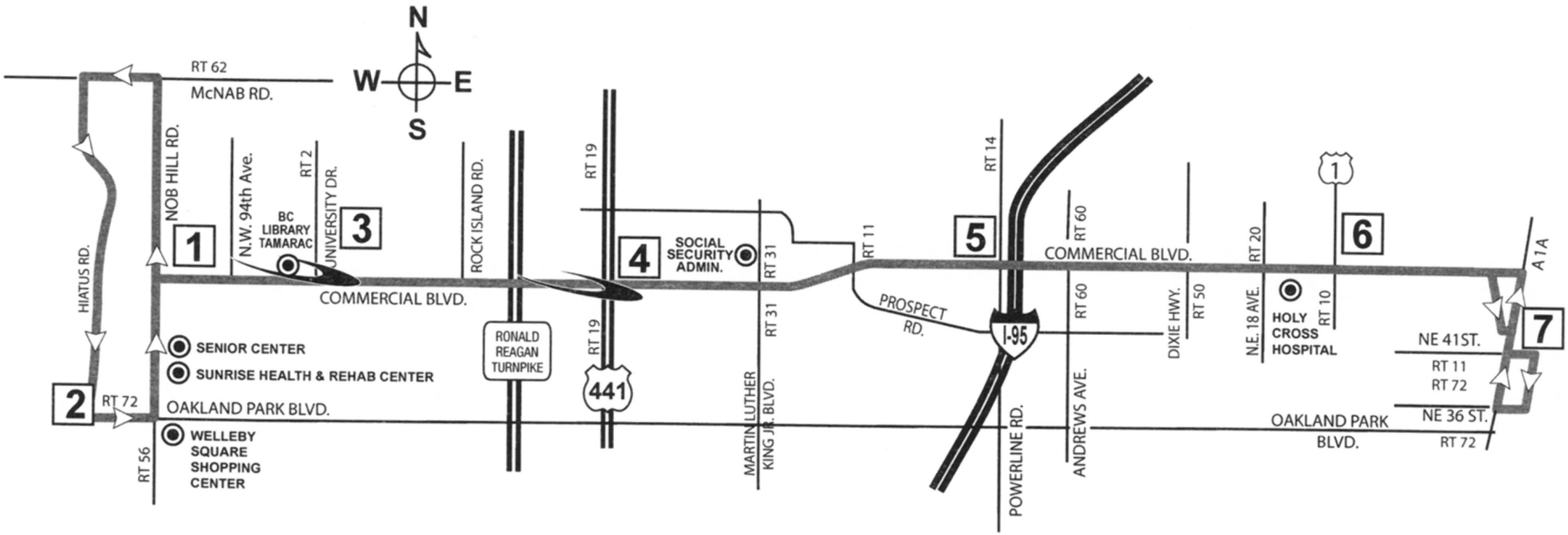




ROUTE 55

Hiatus Road to Galt Mile
via Commercial Boulevard



POINTS OF INTEREST

- Social Security Administration
- Holy Cross Hospital
- BC Library Tamarac
- Senior Center
- Sunrise Health & Rehab Center
- Welleby Square Shopping Center

LEGEND

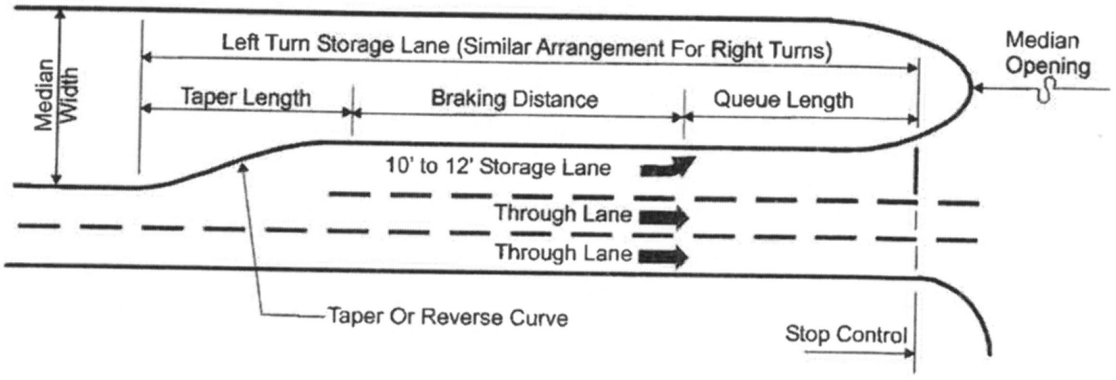
CONNECTING ROUTES → RT #

MAIN ROUTE

TIMEPOINTS

The Breeze stop location

Figure 3 – 16
Typical Storage Lane



Storage Queue Length - Unsignalized Intersections

Turning Vehicles Per Hour	30	60	100	200	300
Required Storage Length (feet)	25	50	100	175	250

At signalized intersections, the required queue length depends on the signal cycle length, the signal phasing arrangement, and rate of arrivals and departures of turning vehicles.

In absence of a turning movement study, it is recommended that 100 ft. of queue length be provided in urban/suburban areas and 50 ft. of queue length be provided in rural/town areas as a minimum.

Taper Length And Braking Distance (feet)

Highway Design Speed (mph)	Storage Entry Speed* (mph)	Taper Length	Brake To Stop	
			Urban**	Rural***
35	25	70	75	---
40	30	80	75	---
45	35	85	100	---
50	40/44	105	135	215
55	48	125	---	260
60	52	145	---	310
65	55	170	---	350

* Reaction Precedes Entry
** Minimum Braking Distance, Wet Conditions
*** Customary Braking Distance, Wet Conditions

The storage lane may be in place of or in addition to deceleration length (See Section C.9.c.3).

APPENDIX D
TRIP GENERATION DATA & ITE EXCERPTS

TRIP GENERATION ANALYSIS
ACADEMIC SOLUTIONS ACADEMY - LAUDERHILL

DAILY

Land Use	ITE Code	Size	Trip Generation Rate	In	Out	Total Trips			Total Trips per Shift		
						In	Out	Total	In	Out	Total
High School	530	700 Students	Ln (T) = 0.76 Ln(X) + 2.46	50%	50%	851	850	1,701	851	850	**1,701**

Land Use	ITE Code	Size	Trip Generation Rate	In	Out	Total Trips			Total Trips per Shift		
						In	Out	Total	In	Out	Total
High School	530	700 Students	T = 0.52 (X)	67%	33%	244	120	364	122	60	**182**

AFTERNOON PEAK HOUR

Land Use	ITE Code	Size	Trip Generation Rate	In	Out	Total Trips			Total Trips per Shift		
						In	Out	Total	In	Out	Total
High School	530	700 Students	T = 0.14 (X)	48%	52%	47	51	98	24	25	**49**

Based on 10th Edition ITE Trip Generation Manual

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High School
(530)

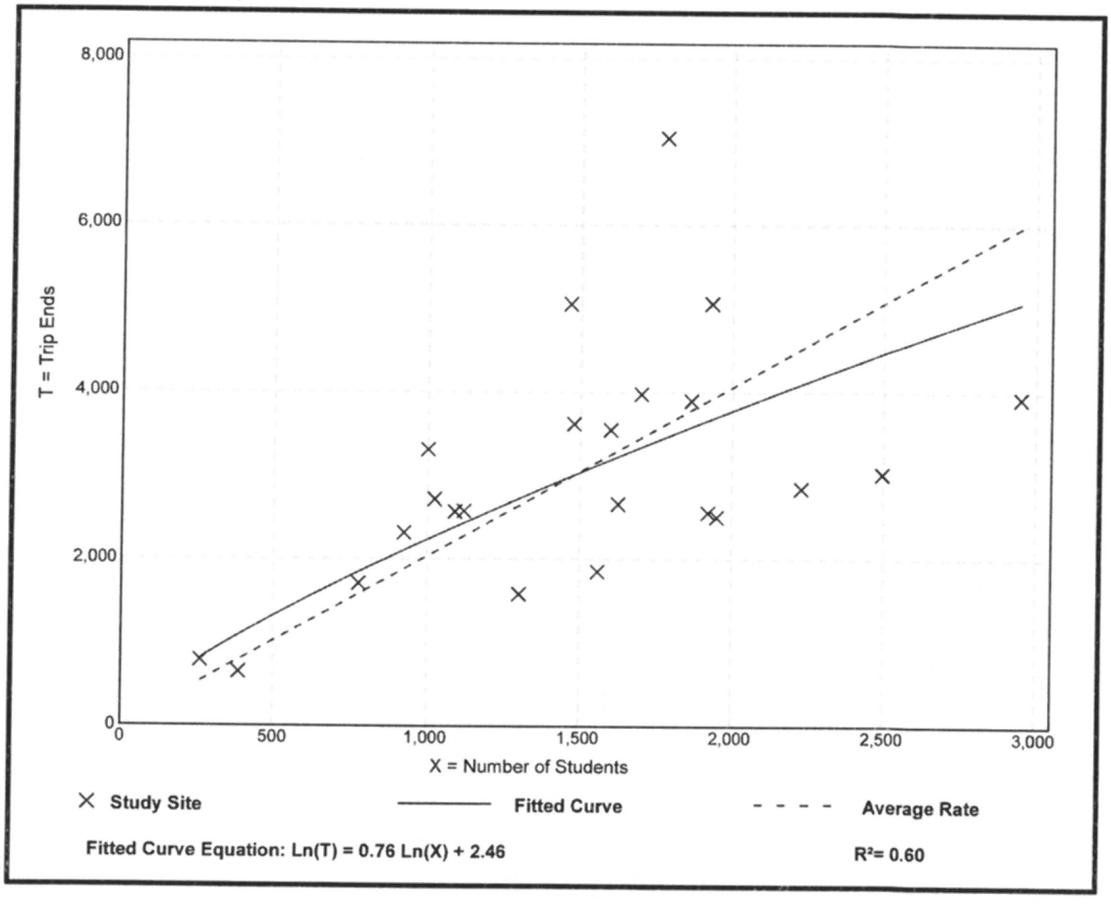
Vehicle Trip Ends vs: Students
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 23
Avg. Num. of Students: 1498
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
2.03	1.19 - 3.96	0.82

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.76 Ln(X) + 2.46

R^2= 0.60

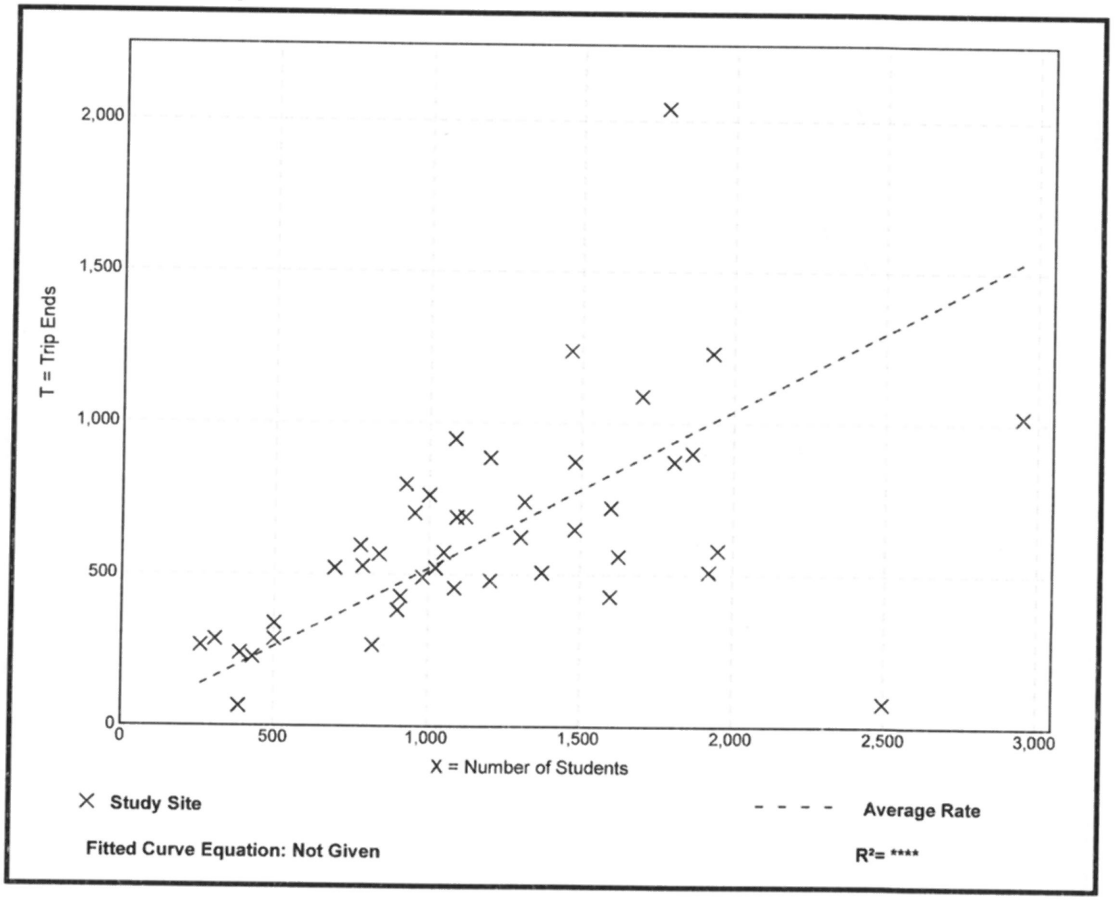
High School
(530)

Vehicle Trip Ends vs:	**Students**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	44
Avg. Num. of Students:	1202
Directional Distribution:	67% entering, 33% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.52	0.03 - 1.15	0.23

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

APPENDIX E
INTERSECTION ANALYSIS

AM PEAK HOUR TRAFFIC VOLUME CALCULATIONS
ACADEMIC SOLUTIONS ACADEMY - LAUDERHILL

Intersection	Scenario	Traffic Volumes											
		EBLT	EBT	EBRT	WBLT	WBT	WBRT	NBLT	NBT	NBRT	SBLT	SBT	SBRT
Commercial Blvd at NW 66 Terrace	Traffic Count	63	1,832	9	3	1,562	10	0	0	3	0	0	46
	Peak Season Conversion Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
	2018 Peak Season Traffic	**67**	**1,942**	**10**	**3**	**1,656**	**11**	**0**	**0**	**3**	**0**	**0**	**49**
	Compound Growth Rate	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%
	2021 Background Traffic	**67**	**1,962**	**10**	**3**	**1,673**	**11**	**0**	**0**	**3**	**0**	**0**	**49**
	In/Out			In	In					Out			
	Project Assignment			56%	44%					100%			
	Net New Project Trips	0	0	68	54	0	0	0	0	60	0	0	0
	2021 Total Traffic	**67**	**1,962**	**78**	**57**	**1,673**	**11**	**0**	**0**	**63**	**0**	**0**	**49**
Commercial Blvd at 6501 Driveway	Traffic Count	9	1,794	6	27	1,570	5	0	0	3	0	0	1
	Peak Season Conversion Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
	2018 Peak Season Traffic	**10**	**1,902**	**6**	**29**	**1,664**	**5**	**0**	**0**	**3**	**0**	**0**	**1**
	Compound Growth Rate	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%
	2021 Background Traffic	**10**	**1,921**	**6**	**29**	**1,681**	**5**	**0**	**0**	**3**	**0**	**0**	**1**
	In/Out	Out	Out			In							
	Project Assignment	56%	44%			44%							
	Net New Project Trips	34	26	0	0	54	0	0	0	0	0	0	0
	2021 Total Traffic	**44**	**1,947**	**6**	**29**	**1,735**	**5**	**0**	**0**	**3**	**0**	**0**	**1**

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PM PEAK HOUR TRAFFIC VOLUME CALCULATIONS
ACADEMIC SOLUTIONS ACADEMY - LAUDERHILL

Intersection	Scenario	Traffic Volumes											
		EBLT	EBT	EBRT	WBLT	WBT	WBRT	NBLT	NBT	NBRT	SBLT	SBT	SBRT
Commercial Blvd at NW 66 Terrace	Traffic Count	29	1,727	0	7	1,271	6	0	0	18	0	0	29
	Peak Season Conversion Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
	2018 Peak Season Traffic	**31**	**1,831**	**0**	**7**	**1,347**	**6**	**0**	**0**	**19**	**0**	**0**	**31**
	Compound Growth Rate	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%
	2021 Background Traffic	**31**	**1,849**	**0**	**7**	**1,361**	**6**	**0**	**0**	**19**	**0**	**0**	**31**
	In/Out			In	In					Out			
	Project Assignment			56%	44%					100%			
	Net New Project Trips	0	0	13	11	0	0	0	0	25	0	0	0
	2021 Total Traffic	**31**	**1,849**	**13**	**18**	**1,361**	**6**	**0**	**0**	**44**	**0**	**0**	**31**
Commercial Blvd at 6501 Driveway	Traffic Count	22	1,640	4	23	1,189	4	0	0	14	0	0	6
	Peak Season Conversion Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
	2018 Peak Season Traffic	**23**	**1,738**	**4**	**24**	**1,260**	**4**	**0**	**0**	**15**	**0**	**0**	**6**
	Compound Growth Rate	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%
	2021 Background Traffic	**24**	**1,756**	**4**	**25**	**1,273**	**4**	**0**	**0**	**15**	**0**	**0**	**6**
	In/Out	Out	Out			In							
	Project Assignment	56%	44%			44%							
	Net New Project Trips	14	11	0	0	11	0	0	0	0	0	0	0
	2021 Total Traffic	**38**	**1,767**	**4**	**25**	**1,284**	**4**	**0**	**0**	**15**	**0**	**0**	**6**

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EXISTING CONDITIONS

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	1942	10	3	1656	11	0	0	3	0	0	49
Future Vol, veh/h	67	1942	10	3	1656	11	0	0	3	0	0	49
Conflicting Peds, #/hr	0	0	0	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	130	-	-	145	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	2066	11	3	1762	12	0	0	3	0	0	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1774	0	0	2077	0	0	-	-	1039	-	-	887
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	163	-	-	114	-	-	0	0	195	0	0	247
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	163	-	-	114	-	-	-	-	195	-	-	247
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.1	23.8	23.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	195	163	-	-	114	-	-	247
HCM Lane V/C Ratio	0.016	0.437	-	-	0.028	-	-	0.211
HCM Control Delay (s)	23.8	43.2	-	-	37.5	-	-	23.4
HCM Lane LOS	C	E	-	-	E	-	-	C
HCM 95th %tile Q(veh)	0.1	2	-	-	0.1	-	-	0.8

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1902	6	29	1664	5	0	0	3	0	0	1
Future Vol, veh/h	10	1902	6	29	1664	5	0	0	3	0	0	1
Conflicting Peds, #/hr	0	0	0	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	130	-	-	230	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	2023	6	31	1770	5	0	0	3	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1775	0	0	2029	0	0	-	-	1015	-	-	888
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	162	-	-	121	-	-	0	0	203	0	0	246
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	162	-	-	121	-	-	-	-	203	-	-	246
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.8	23	19.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	203	162	-	-	121	-	-	246
HCM Lane V/C Ratio	0.016	0.066	-	-	0.255	-	-	0.004
HCM Control Delay (s)	23	28.8	-	-	44.6	-	-	19.7
HCM Lane LOS	C	D	-	-	E	-	-	C
HCM 95th %tile Q(veh)	0	0.2	-	-	0.9	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	1831	0	7	1347	6	0	0	19	0	0	31
Future Vol, veh/h	31	1831	0	7	1347	6	0	0	19	0	0	31
Conflicting Peds, #/hr	0	0	0	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	130	-	-	145	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	1990	0	8	1464	7	0	0	21	0	0	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1471	0	0	1990	0	0	-	-	995	-	-	736
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	230	-	-	127	-	-	0	0	209	0	0	310
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	230	-	-	127	-	-	-	-	209	-	-	310
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	24.1	18
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	209	230	-	-	127	-	-	310
HCM Lane V/C Ratio	0.099	0.147	-	-	0.06	-	-	0.109
HCM Control Delay (s)	24.1	23.3	-	-	35.1	-	-	18
HCM Lane LOS	C	C	-	-	E	-	-	C
HCM 95th %tile Q(veh)	0.3	0.5	-	-	0.2	-	-	0.4

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	1738	4	24	1260	4	0	0	4	0	0	6
Future Vol, veh/h	23	1738	4	24	1260	4	0	0	4	0	0	6
Conflicting Peds, #/hr	0	0	0	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	130	-	-	230	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	1889	4	26	1370	4	0	0	4	0	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1374	0	0	1893	0	0	-	-	947	-	-	687
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	257	-	-	142	-	-	0	0	225	0	0	334
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	257	-	-	142	-	-	-	-	225	-	-	334
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	21.3	16
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	225	257	-	-	142	-	-	334
HCM Lane V/C Ratio	0.019	0.097	-	-	0.184	-	-	0.02
HCM Control Delay (s)	21.3	20.5	-	-	36	-	-	16
HCM Lane LOS	C	C	-	-	E	-	-	C
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0.6	-	-	0.1

FUTURE BUILD CONDITIONS

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	1962	78	57	1673	11	0	0	63	0	0	49
Future Vol, veh/h	67	1962	78	57	1673	11	0	0	63	0	0	49
Conflicting Peds, #/hr	0	0	0	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	130	-	-	145	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	2087	83	61	1780	12	0	0	67	0	0	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1792	0	0	2170	0	0	-	-	1085	-	-	896
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	159	-	-	102	-	-	0	0	182	0	0	243
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	159	-	-	102	-	-	-	-	182	-	-	243
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	2.7	35.9	23.8
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	182	159	-	-	102	-	-	243
HCM Lane V/C Ratio	0.368	0.448	-	-	0.594	-	-	0.215
HCM Control Delay (s)	35.9	44.8	-	-	82.3	-	-	23.8
HCM Lane LOS	E	E	-	-	F	-	-	C
HCM 95th %tile Q(veh)	1.6	2.1	-	-	2.8	-	-	0.8

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	1947	6	29	1735	5	0	0	3	0	0	1
Future Vol, veh/h	44	1947	6	29	1735	5	0	0	3	0	0	1
Conflicting Peds, #/hr	0	0	0	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	130	-	-	230	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	2071	6	31	1846	5	0	0	3	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1851	0	0	2077	0	0	-	-	1039	-	-	926
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	149	-	-	114	-	-	0	0	195	0	0	232
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	149	-	-	114	-	-	-	-	195	-	-	232
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.8	23.8	20.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	195	149	-	-	114	-	-	232
HCM Lane V/C Ratio	0.016	0.314	-	-	0.271	-	-	0.005
HCM Control Delay (s)	23.8	39.9	-	-	47.9	-	-	20.6
HCM Lane LOS	C	E	-	-	E	-	-	C
HCM 95th %tile Q(veh)	0.1	1.3	-	-	1	-	-	0

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	1849	13	18	1361	6	0	0	44	0	0	31
Future Vol, veh/h	31	1849	13	18	1361	6	0	0	44	0	0	31
Conflicting Peds, #/hr	0	0	0	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	130	-	-	145	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	2010	14	20	1479	7	0	0	48	0	0	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1486	0	0	2024	0	0	-	-	1012	-	-	743
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	226	-	-	122	-	-	0	0	204	0	0	307
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	226	-	-	122	-	-	-	-	204	-	-	307
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.5	28	18.2
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	204	226	-	-	122	-	-	307
HCM Lane V/C Ratio	0.234	0.149	-	-	0.16	-	-	0.11
HCM Control Delay (s)	28	23.7	-	-	40.1	-	-	18.2
HCM Lane LOS	D	C	-	-	E	-	-	C
HCM 95th %tile Q(veh)	0.9	0.5	-	-	0.5	-	-	0.4

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	1767	4	25	1284	4	0	0	15	0	0	6
Future Vol, veh/h	38	1767	4	25	1284	4	0	0	15	0	0	6
Conflicting Peds, #/hr	0	0	0	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	130	-	-	230	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	1921	4	27	1396	4	0	0	16	0	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1400	0	0	1925	0	0	-	-	963	-	-	700
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	250	-	-	136	-	-	0	0	220	0	0	327
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	250	-	-	136	-	-	-	-	220	-	-	327
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.7	22.7	16.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	220	250	-	-	136	-	-	327
HCM Lane V/C Ratio	0.074	0.165	-	-	0.2	-	-	0.02
HCM Control Delay (s)	22.7	22.2	-	-	38	-	-	16.2
HCM Lane LOS	C	C	-	-	E	-	-	C
HCM 95th %tile Q(veh)	0.2	0.6	-	-	0.7	-	-	0.1