



March 5, 2024

Ali Atefi, P.E.
 Masoud Atefi & Associates, Inc.
 1263 SE Illusion Isle Way
 Stuart, Florida 34997

**Department of Engineering
 and Public Works**
 P.O. Box 21229
 West Palm Beach, FL 33416-1229
 (561) 684-4000
 FAX: (561) 684-4050
 www.pbcgov.com

**RE: 3037 N Haverhill Road
 FLUA Amendment Policy 3.5-d Review
 Round 2024-25-A**

Dear Mr. Atefi:

Palm Beach County Traffic Division has reviewed the Land Use Plan Amendment Application Traffic Study for the proposed Future Land Use Amendment for the above-referenced project, revised February 2024, pursuant to Policy 3.5-d of the Land Use Element of the Palm Beach County Comprehensive Plan. The project is summarized as follows:

**Palm Beach County
 Board of County
 Commissioners**

Maria Sachs, Mayor

Maria G. Marino, Vice Mayor

Gregg K. Weiss

Michael A. Barnett

Marci Woodward

Sara Baxter

Mack Bernard

County Administrator

Verdenia C. Baker

Location:	West side of Haverhill Road, directly across Community Drive	
PCN:	00-42-43-14-00-000-5190 (<i>other on file</i>)	
Acres:	3.97 acres	
	Current FLU	Proposed FLU
FLU:	Medium Residential, 5-unit per acre (MR-5)	Institutional (INST)
Zoning:	Planned Unit Development (PUD)	Institutional & Public Facilities (IPF)
Density/ Intensity:	5 units/acre	0.45 FAR or 1 bed/1000 SF
Maximum Potential:	Single Family Detached = 20 DUs	Assisted Living Facility = 173 Beds
Proposed Potential:	None	Assisted Living Facility = 100 Beds
Net Daily Trips:	250 (maximum – current) 60 (proposed – current)	
Net PH Trips:	31 (19/12) AM, 42 (16/26) PM (maximum) 18 (11/7) AM, 24 (9/15) PM (proposed)	

** Maximum indicates typical FAR and maximum trip generator. Proposed indicates the specific uses and intensities/densities anticipated in the zoning application.*

Based on the review, the Traffic Division has determined that the traffic impacts of the proposed amendment **meet** Policy 3.5-d of the Future Land Use Element of the Palm Beach County Comprehensive Plan at the **maximum potential**

"An Equal Opportunity
 Affirmative Action Employer"



Ali Atefi, P.E.

March 5, 2024

Page 2

density shown above.

Please do not hesitate to reach out with any questions or concerns at 561-684-4030 or DSimeus@pbcgov.org.

Sincerely,

A handwritten signature in blue ink, appearing to be "DS", is written over a horizontal line.

Dominique Simeus, P.E.

Professional Engineer

Traffic Division

DS:jb

cc:

Quazi Bari, P.E., PTOE – Manager – Growth Management, Traffic Division

Lisa Amara – Director, Zoning Division

Bryan Davis – Principal Planner, Planning Division

Stephanie Gregory – Principal Planner, Planning Division

Khurshid Mohyuddin – Principal Planner, Planning Division

Kathleen Chang – Senior Planner, Planning Division

David Wiloch – Senior Planner, Planning Division

Alberto Lopez Tagle - Technical Assistant III, Traffic Division

File: General - TPS – Unincorporated - Traffic Study Review

N:\TRAFFIC\Development Review\Comp Plan\25-A\3037 N Haverhill Road.docx

3037 N. Haverhill Road

Future Land Use Amendment (FLUA)

Haverhill Rd
West Palm Beach, Florida



Prepared For:
RDG Development Group

January 2024
Revised February 2024



3037 N Haverhill Road Palm Beach County, Florida

PCN: 00-42-43-14-00-000-5190 & 5030

Future Land Use Amendment

January 2024

Revised February 2024

Prepared for:
RDG Development Group

Prepared by:
Masoud Atefi & Associates Inc.
Florida Board of PE License # 34237
1263 SE Illusion Isle Way
Stuart, Florida 34997
Phone: (561) 329-9490

Ali Digitally signed
by Ali Atefi
Date:
Atefi 2024.02.05
14:50:40 -05'00'

This item has been electronically signed and sealed by Ali Atefi, P.E. on the time and date stamp using the digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Ali Atefi, P.E.
Florida Registration Number 43854
15912 Stable Run Dr.
Spring Hill, Florida 34610

INTRODUCTION

A future Residential Nursing/Assisted Living Facility is planned to be built on 3037 N. Haverhill Road, located along the west side of Haverhill Road, directly across Community Drive, within the unincorporated Palm Beach County. The planned development shall be built on two adjacent parcels and would require changes in current land use and zoning designations within Palm Beach County. Figure-1 (next page) provides an aerial illustration of locations of the site.

The Parcel Control Numbers (PCN) for the proposed project are:

00-42-43-14-00-000-5190

00-42-43-14-00-000-5030

See the report Appendix for the proposed preliminary site plan and County PAPA Reports for the two parcels. Masoud Atefi & Associates Inc., have been retained to prepare a Future Land Use Amendment (FLUA) traffic study complying with requirements of Palm Beach County Comprehensive Plan and in accordance with Palm Beach County (PBC) *Unified Land Development Code*.

Existing Land Use Designation for the two parcels is Medium Residential (MR-5) which allows 5 Single Family residential units per acre. The land use designation proposed herein, is Institutional (INST) within which development of Residential Nursing Facility (RNF), Assisted Living Facility (ALF), Skilled Nursing or Residential Treatment Facility are allowed.

This FLUA traffic study evaluates the impact of additional traffic expected to be generated by the proposed changes in land use. The traffic impact analysis would be achieved by comparing the traffic impact of the maximum potential development under the existing designations versus that under the proposed land use designations. Also, an additional comparison will be made with traffic conditions under the actual development plan which comprises of 100 Bed RNF/ALF currently proposed to be built on the site.

Figure 1 – Site Location



SITE DATA

The two parcels have a combined area of 3.9745 acres, with a current County land use designation of Medium Residential (MR5) with maximum of 5 Single Family Residential Units per acre. The proposed land use designation is Institutional (INST). Existing and proposed land use characteristics are illustrated below on Table-1. Also illustrated on the table is the maximum development potential for the two parcels under the existing and proposed land use designations. As illustrated on Table-1, under the existing land use designations, the maximum existing development potential for the two parcels combined would be 20 single family residential units. Under the proposed conditions, the maximum development potential for the two parcels combined would be an RNF/ALF with 173 beds. It should also be noted that under the proposed land use (Institutional) at a 0.45 FAR, a maximum total of 77,819 SF of RNF/ALF would be allowed which will be included as a development scenario in the trip generation analysis which will be presented later in the trip generation analysis.

Table -1, 3037 N Haverhill Road RNF/ALF - Site Data

Parcel #	Size (acres)	Existing				Proposed		
		Zoning Designation	Max Dev Potential			Zoning Designation	Max Dev Potential	
			LU	FAR	Units		LU	***Beds
1	1.9878	*MR-5	Med Res	5RU/acre	10	INST**	RNF/ALF	87
2	1.9867	*MR-5	Med Res	5RU/acre	10	INST**	RNF/ALF	86
Total	3.9745				20			173

* Medium Residential

**Institutional

*** Per County Planning Division (Pre-App meeting)

TRIP GENERATION

The trip generation analysis is conducted by comparison of the maximum development potential under existing land use designation, i.e., 20 single family residential units, with maximum future development potential under the following three maximum development potential scenarios:

Scenario-1 - Maximum development potential for the proposed land use based on the maximum number of beds i.e., 173 beds RNF/ALF. The maximum number of beds was determined earlier in the pre-application meeting with the County Planning staff.

Scenario-2 - Maximum development potential for the proposed land use based on 0.45 FAR i.e., 77,819 SF RNF/ALF.

Scenario-3 – Actual development plan as proposed, i.e. 100 beds RNF/ALF.

The trip generation analysis was performed using the trip generation information published by the Institute of Transportation Engineers' (ITE) *Trip Generation Manual (11th Edition)* and the information documented by the Palm Beach County Engineering Traffic Division (*Trip Generation Rates – updated July 25, 2020 – see the report Appendix*). -

Tables-2 (next page) provides a summary of the trip generation results for the FLUA analysis. As indicated in Table-2, the maximum number of daily and peak hour trips expected to be generated by the proposed change in land use would occur under Scenario-1 which would allow development of a maximum 173 beds Residential Nursing Facility (RNF)/Assisted Living Facility (ALF) on the site.

Per results of this trip generation forecast, the traffic impact analysis provided in this report shall be based on maximum number of trips generated (Scenario-1), resulting in generation of 450 daily trips, 31 AM peak hour trips, and 42 PM peak hour trips.

Table 2 - Trip Generation Summary
3037 N Haverhill Rd.

Land Uses	Parcel Size	Max Dev Potential	Daily Trips	AM PH Trips			PM PH Trips		
				In	Out	Total	In	Out	Total
<u>Existing Land Use</u>									
Residential, MR-5	3.9745 acres	20 SF Res Units	200	4	11	15	12	7	19
Existing LU Total			200	4	11	15	12	7	19
<u>Proposed Land Use (Scenario 1*)</u>									
Institutional, Residential Nursing/Assisted Living Facility	3.9745 acres	173 Beds	450	19	12	31	16	26	42
Scenario-1 Total**			450	19	12	31	16	26	42
<u>Proposed Land Use (Scenario 2*)</u>									
Institutional, Residential Nursing/Assisted Living Facility	3.9745 acres	77,819 SF	326	23	7	30	12	25	37
Scenario-2 Total			326	23	7	30	12	25	37
<u>Proposed Land Use (Scenario 3*)</u>									
Institutional, Residential Nursing/Assisted Living Facility	3.9745 acres	100 Beds	260	11	7	18	9	15	24
Scenario-3 Total			260	11	7	18	9	15	24
Net New Trips due to Change in LU			250	15	1	16	4	19	23

Compiled by: Masoud Atefi & Associates Inc. (January 2024).

Sources: Palm Beach County Trip Generation Rates (July 25, 2020) & ITE TG Manual 11th Edition

* **Development Potential was determined under the following three scenarios:**

Scenario 1: Maximum allowable Beds

Scenario 2: Maximum allowable Square Footage

Scenario 3: Actual Development Plan

** **Total trips under the maximum development potential/maximum number of Beds.**

TG Rates	Daily	AM	PM	In AM	In PM
SF Residential (Units)	10	0.74	0.94	26%	63%
Assisted Living Facility (Beds)	2.6	0.18	0.24	60%	39%
Assisted Living Facility (1000 SF)	4.19	0.38	0.48	77%	32%

No Pass-by

FLUA TRAFFIC IMPACT ANALYSIS

The purpose of this analysis is to determine the optimum traffic impact of the proposed changes in land use required by the planned development on all major roadway links within the site radius of influence. The analysis shall identify significantly impacted roadway links, and determines if any of the significantly impacted links shall exceed the level of service adopted by Palm Beach County. The traffic impact analysis shall be conducted under interim (five years – County TPS Test-2) and long term (Year 2045 - County Long Range Transportation Plan - LRTP) scenarios.

RADIUS OF DEVELOPMENT INFLUENCE (RDI)

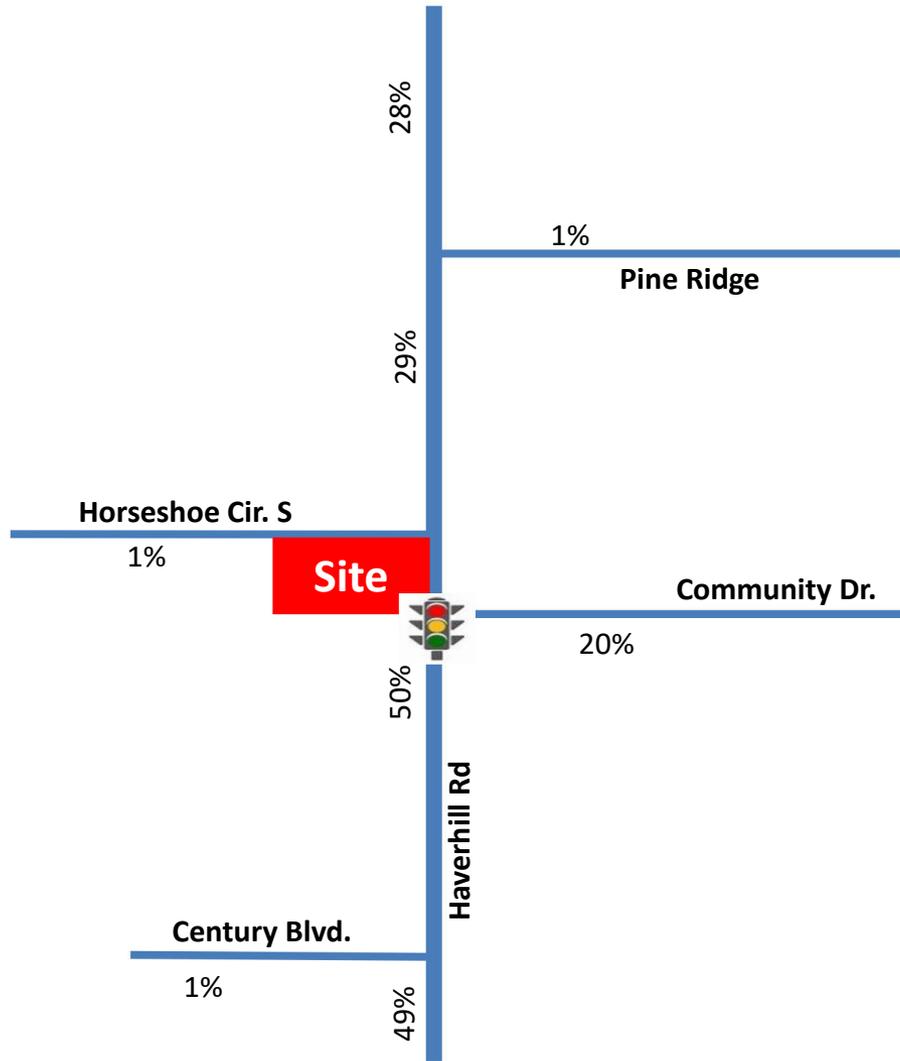
With the maximum 42 peak hour vehicle trips projected during the PM peak hour, the Test-2 RDI for the proposed FLUA (as defined by Table 12.B.2.D-7 3A of the *Traffic Performance Standards*) is half (0.5) miles. Furthermore, based on Table 3.5-1 of the County Comprehensive Plan (see the report Appendix), for a total daily traffic increase of 450 trips the RDI for the Year 2045 analysis would be the directly accessed link on first major thoroughfare link.

TRAFFIC ASSIGNMENT

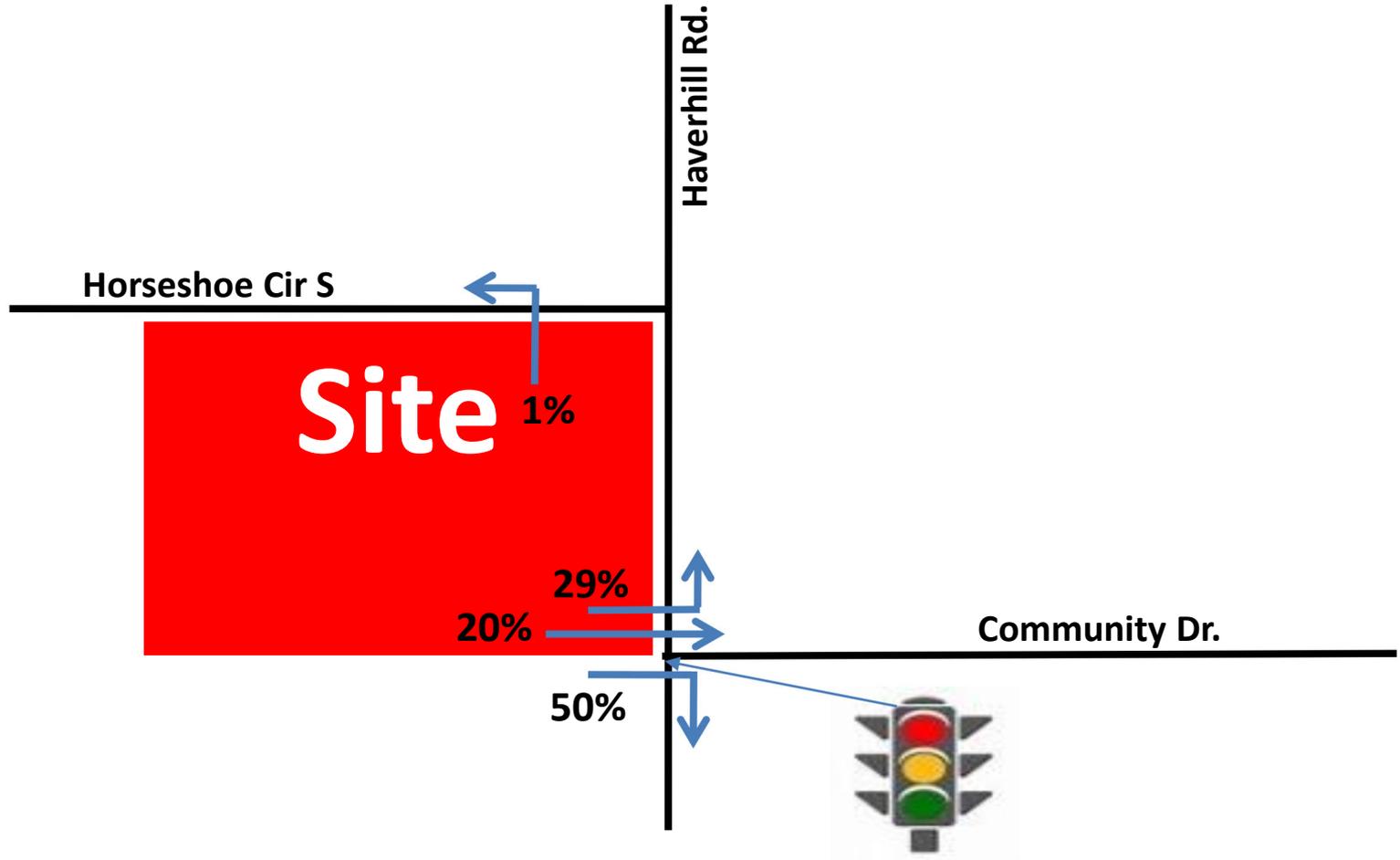
Trip distribution pattern and traffic assignment for the proposed FLUA was developed based upon knowledge of the study area, examination of the surrounding roadway network characteristics, review of current traffic volumes, previous approvals for similar land uses in the vicinity of the site, and existing land use patterns. Figure-2 (on the next page) illustrates the anticipated project trip distribution pattern within the half (0.5) miles radius of development influence for Test-2. Also, Figure-3 (next pages) provides an illustration of the site related outgoing traffic distribution pattern at the project access driveways.



Figure 2 – Site Traffic Distribution Pattern



**Figure 3 – Peak Hour Outgoing Project Traffic Distribution
At the Site Access Driveways**



TEST-2, Five Years Analysis

Significantly impacted links for Test-2 are defined as those links within the radius of development influence with a maximum development potential impact equal to or greater than three percent (3%) of the adopted LOS 'E' capacity, or those links outside of the radius with a project impact equal to or greater than five percent (5%) of the adopted LOS 'E' capacity. Table-3 on the next page presents the AM and PM peak hour significance analysis. As documented in the table, the net new peak hour trips generated by the maximum development potential will not constitute significant impact on any of the analyzed major County thoroughfare links within its area of influence, therefore Test-2 is met.

LRTP Test (Year 2045)

The FLUA process also required a long-term analysis to test the long-range impact of the proposed changes in land use. The analysis was conducted using adjusted SERPM8 Year 2045 Cost Feasible 2-way traffic volumes (provided by Palm Beach County MPO). Results of the analysis illustrated on Table-4 (next pages) indicate that none of the roadway links located within the proposed LUPA radius of influence are expected to operate over capacity ($V/C > 1$) or are significantly impacted, therefore the proposed changes in land use for the planned 3037 N. Haverhill RNF/ALF meets the long-range transportation plan (LRTP) test. Also note that the actual development plan for the proposed RNF/ALF calls for 100 beds instead of the maximum number of beds (173 beds) analyzed herein, hence no additional analysis was necessary for this FLUA process.

See the report Appendix for Palm Beach County MPO adjusted SERPM8 Year 2045 Cost Feasible traffic volume sheets used in this analysis.

Table 3 - Test 2 - Five Year Project Significance - (3037 N Haverhill ALF)

	AM		PM	
	In	Out	In	Out
Site FLUA Generated Trips	19	12	16	26

Link	From	To	Dir	Class	Facility Type	LOS E Cap	Site FLUA Traffic								Site FLUA Impact			
							In AM		In PM		Out AM		Out PM		AM		PM	
							% Asgn	Trips	% Asgn	Trips	% Asgn	Trips	% Asgn	Trips	% impact	Sig?	% impact	Sig?
Haverhill	South	Century	NB	II	4L	1780	49	10	49	8	0	0	0	0	0.56%	N	0.45%	N
			SB	II	4L	1780	0	0	0	0	49	6	49	13	0.34%	N	0.73%	N
	Century	Community	NB	II	4L	1780	50	10	50	8	0	0	0	0	0.56%	N	0.45%	N
			SB	II	4L	1780	0	0	0	0	50	6	50	13	0.34%	N	0.73%	N
	Community	Horseshoe	NB	II	5L	1870	0	0	0	0	29	4	29	8	0.21%	N	0.43%	N
			SB	II	5L	1870	29	6	29	5	0	0	0	0	0.32%	N	0.27%	N
	Horseshoe	Pine Ridge	NB	II	5L	1870	0	0	0	0	29	4	29	8	0.21%	N	0.43%	N
			SB	II	5L	1870	29	6	29	5	0	0	0	0	0.32%	N	0.27%	N
	Pine Ridge	North	NB	II	5L	1870	0	0	0	0	28	4	28	8	0.21%	N	0.43%	N
		SB	II	5L	1870	28	6	28	5	0	0	0	0	0.32%	N	0.27%	N	
Community	East	Haverhill	EB	II	4L	1780	0	0	0	0	20	3	20	6	0.17%	N	0.34%	N
			WB	II	4L	1780	20	4	20	4	0	0	0	0	0.22%	N	0.22%	N

Table 4 - LRTP Significance Analysis (3039 N Haverhill RNF/ALF)

Link	From	To	Facility Type*	LOS D Daily Cap	FLUA Impact			2045 SERPM8 Model - MPO	Adjusted 2045 Vol	Total 2045 Vol	V/C	Sig ** Impact?
					% Assgn	Project Traffic	% Increase					
Haverhill Rd	North	Community	5L	33,200	29	73	0.22	28,800	32100	32173	0.97	N
	South	Community	6LD	50,300	50	125	0.25	26,700	39200	39325	0.78	N
Community	East	Haverhill	5L	33,200	20	50	0.15	7,886	16900	16950	0.51	N

FLUA Net New Daily Trips	250
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*Number of lanes - County Cost Feasible Plan.

** Project impact is significant when net trip increase is greater than 1% for V/C of 1.4 or more, 2% for V/C of 1.2 or more and 3% for V/C less than 1.0.

Intersection Peak Hour Analysis

The main access driveway for the proposed Residential Nursing/Assisted Living Facility will serve as future EB leg of the intersection of Haverhill Road and Community Drive which will also be the first project access point onto the county major thoroughfare roadway network. This would require modifications to the current intersection lane configuration as well as the traffic signal design and signal timing plans.

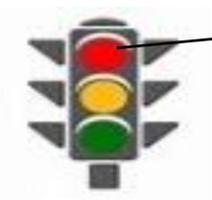
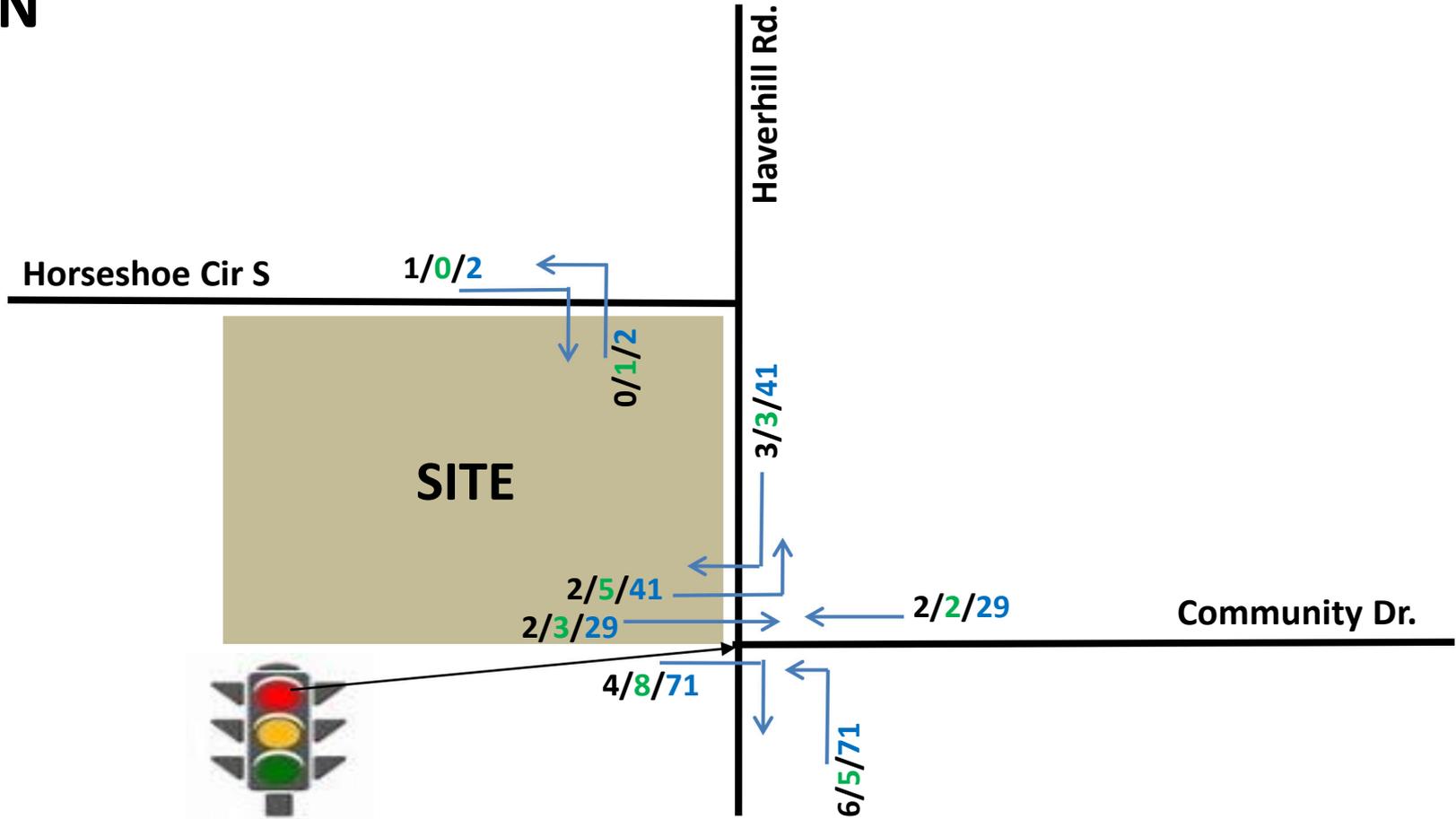
Therefore, an additional analysis was undertaken to evaluate traffic impact of the proposed project at the intersection during both AM and PM peak hours. Project peak hour driveway volumes are depicted on Figure-4 (next page). This volume would be added to the existing peak hour traffic data provided by Palm Beach County (see report appendix). Latest available TMC data was from 2022, therefore for the purpose of this analysis it was adjusted upward 1% annually for two years.

Results of the analysis as tabulated on Table-5 indicate that the intersection is projected to operate at acceptable conditions (i.e. LOS C or better) upon addition of the proposed project traffic and intersection design and signal modifications, upon addition of the EB leg (site driveway) to the intersection. Furthermore, it should be noted that the intersection peak hour operational analysis was conducted using optimized signal timing plans.

Intersection peak hour analysis worksheets are provided in the report Appendix.

Table-5				
Haverhill/Community Intersection Peak Hour Analysis				
Traffic Scenario	Peak Hour			
	AM		PM	
	Avg Delay (s)	LOS	Avg Delay (s)	LOS
Exiting	16.2	B	15.4	B
Future	30.2	C	30.6	C

**Figure-4 – Peak Hour Turning Movements at the Site Access Driveways
(AM/PM/Daily)**



SUMMARY & CONCLUSIONS

The Future Land Use Amendment (FLUA) for the proposed Residential Nursing/Assisted Living Facility meets the requirements of Palm Beach County Unified Land Development Code (ULDC), without any required improvements to the roadway system.

FLUA Summary

3037 N, Haverhill Rd. ALF

Municipality: Palm Beach County
Location: West side of Haverhill Road, directly across Community Drive.
PCN #: 00-42-43-14-00-000-5190, 00-42-43-14-00-000-5030
Total Area: 2 Parcels – Total 3.9745 acres
Actual Development Plan: 100 Beds RNF/ALF
Existing Land Use: MR-5, Medium Residential

Max Development Potential Under Existing

Land Use Designation: 20 Single Family Residential Units

Proposed Land Use: INST – Institutional

Max Development Potential Under Proposed

Land Use Designation: 173 Beds or 77,819 SF ALF at 0.45 FAR

Peak Hour Trips (vph): 31 AM and 42 PM

Max Daily Trips (vpd): 450

Max Net New

Daily Trips (vpd): 250

Appendix

**(County PAPA Parcel Reports,
Proposed Site Plan,
County Published TG Rates, Intersection TMC Data,
Table 3.5-1 of the County Comp Plan,
PBC MPO 2045 Cost Feasible Model Volumes,
County Intersection TMC Data, and
Intersection Peak Hour Analysis Sheets)**

Location Address 3037 N HAVERHILL RD
Municipality UNINCORPORATED
Parcel Control Number 00-42-43-14-00-000-5190
Subdivision
Official Records Book 29701 **Page**240
Sale Date FEB-2018
Legal Description 14-43-42, W 258.01 FT OF E 308.01 FT OF S 335.72 FT OF SE 1/4 OF SE 1/4

Owners
 HAVERHILL ALF LLC

Mailing address
 821 N RIVERSIDE DR APT 701
 POMPANO BEACH FL 33062 8504

Sales Date	Price	OR Book/Page	Sale Type	Owner
FEB-2018	\$1,100,000	29701 / 00240	WARRANTY DEED	HAVERHILL ALF LLC
MAY-1999	\$100	11121 / 00428	WARRANTY DEED	HIGGINS WILLIAM R &
MAY-1981	\$100	03591 / 00179	WARRANTY DEED	

No Exemption Information Available.

Number of Units 1 ***Total Square Feet** 4157 **Acres** 1.9878
Use Code 0100 - SINGLE FAMILY **Zoning** PUD - RESIDENTIAL PLANNED UNIT DEV' (00-UNINCORPORATED)

Tax Year	2023	2022	2021
Improvement Value	\$152,572	\$125,202	\$112,258
Land Value	\$496,950	\$447,255	\$397,560
Total Market Value	\$649,522	\$572,457	\$509,818

All values are as of January 1st each year

Tax Year	2023	2022	2021
Assessed Value	\$616,880	\$560,800	\$509,818
Exemption Amount	\$0	\$0	\$0
Taxable Value	\$616,880	\$560,800	\$509,818

Tax Year	2023	2022	2021
Ad Valorem	\$10,340	\$9,519	\$8,855
Non Ad Valorem	\$612	\$597	\$560
Total tax	\$10,952	\$10,116	\$9,415

Location Address

Municipality UNINCORPORATED
Parcel Control Number 00-42-43-14-00-000-5030
Subdivision
Official Records Book 29701 **Page**240
Sale Date FEB-2018
Legal Description 14-43-42, W 258.03 FT OF E 566.04 FT OF S 335.54 FT OF SE 1/4 OF SE 1/4

Owners

HAVERHILL ALF LLC

Mailing address

821 N RIVERSIDE DR APT 701
 POMPANO BEACH FL 33062 8504

Sales Date	Price	OR Book/Page	Sale Type	Owner
FEB-2018	\$1,100,000	29701 / 00240	WARRANTY DEED	HAVERHILL ALF LLC
MAR-2011	\$10	24521 / 01429	WARRANTY DEED	HIGGINS KATHLEEN G &
OCT-1997	\$65,000	10022 / 01772	DEED OF TRUST	
OCT-1997	\$100	10022 / 01771	QUIT CLAIM	
JAN-1978	\$4,500	02957 / 00410		

1 2

No Exemption Information Available.

Number of Units 0 ***Total Square Feet** 0 **Acres** 1.9867
Use Code 0000 - VACANT **Zoning** PUD - RESIDENTIAL PLANNED UNIT DEV (00-UNINCORPORATED)

Tax Year	2023	2022	2021
Improvement Value	\$0	\$0	\$0
Land Value	\$496,675	\$447,008	\$397,340
Total Market Value	\$496,675	\$447,008	\$397,340

All values are as of January 1st each year

Tax Year	2023	2022	2021
Assessed Value	\$480,781	\$437,074	\$397,340
Exemption Amount	\$0	\$0	\$0
Taxable Value	\$480,781	\$437,074	\$397,340

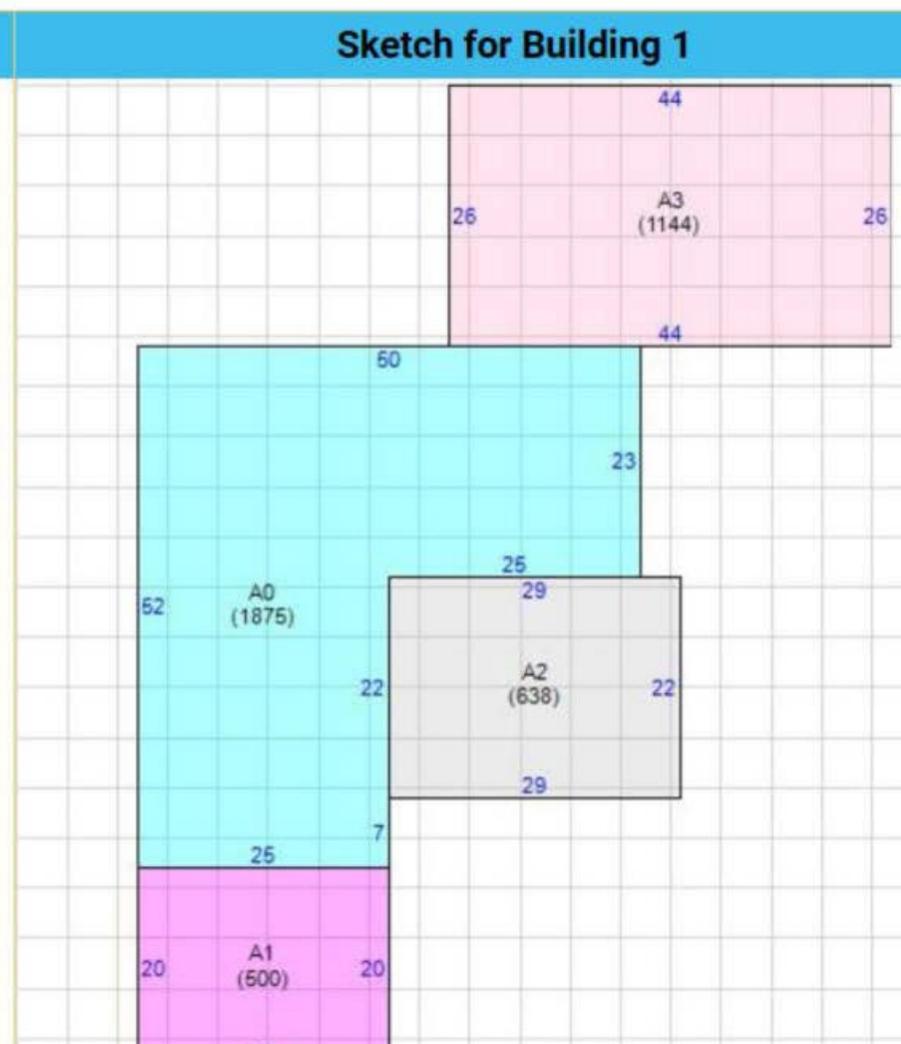
Tax Year	2023	2022	2021
Ad Valorem	\$7,997	\$7,424	\$6,901
Non Ad Valorem	\$143	\$131	\$130
Total tax	\$8,140	\$7,555	\$7,031

Property Information

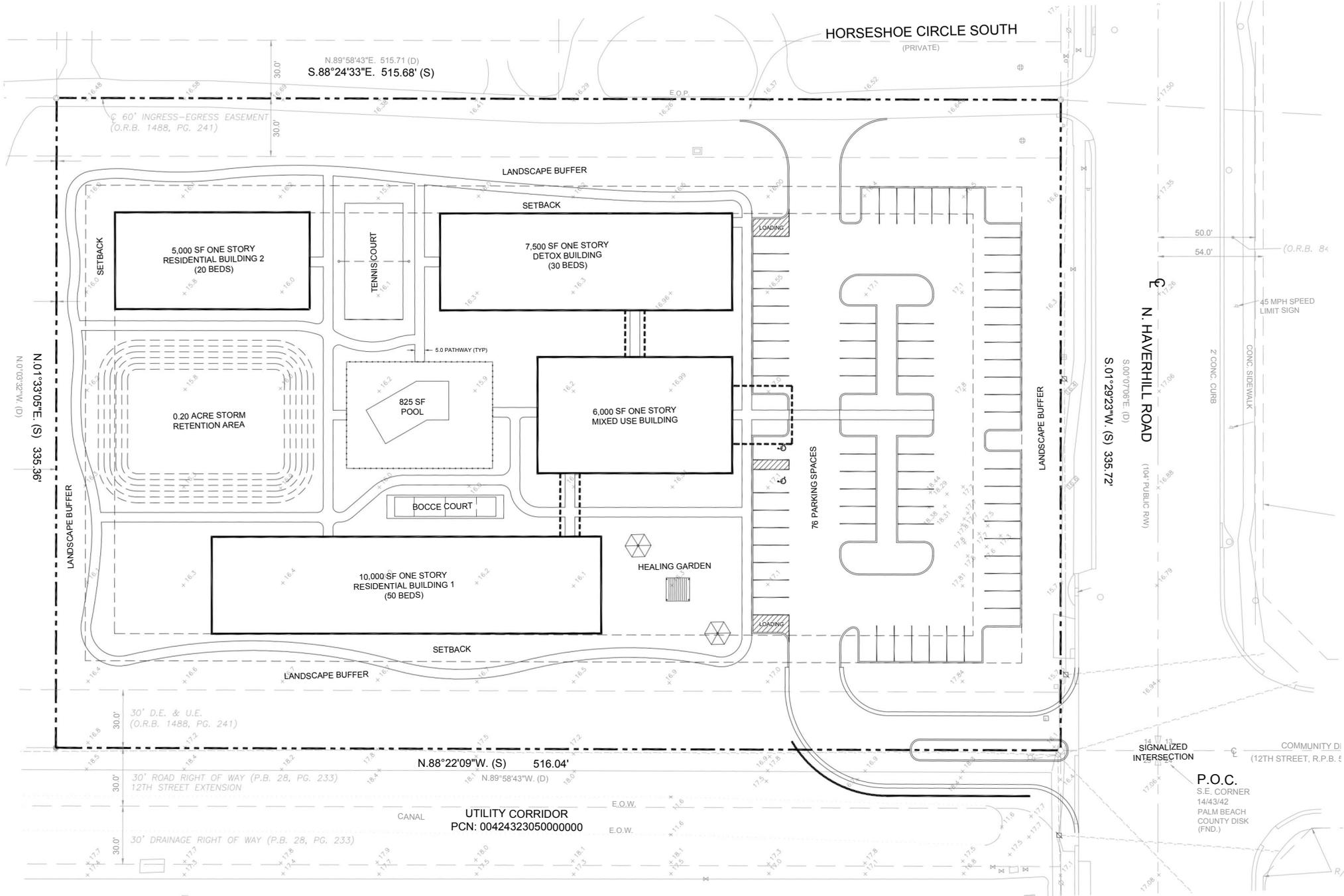
Subarea and Sq. Footage for Building 1	
Code Description	Sq. Footage
BAS Base Area	1875
SFB Semi Finished Base Area	500
FEP Finished Enclosed Porch	638
FDG Finished Det. Garage	1144
Total Square Footage : 4157	
Total Area Under Air : 2375	

Number of Units	1	View Building Details
Total Square Feet*	4157	
Acres	1.9878	
Property Use Code	0100 - SINGLE FAMILY	
Zoning	PUD - RESIDENTIAL PLANNED UNIT DEV' (00-UNINCORPORATED)	

Structural Element for Building 1	
1. Exterior Wall 1	MSY: CB STUCCO
2. Year Built	1969
3. Air Condition Desc.	HTG & AC
4. Heat Type	FORCED AIR DUCT
5. Heat Fuel	ELECTRIC
6. Bed Rooms	0
7. Full Baths	2
8. Half Baths	0
9. Exterior Wall 2	NONE
10. Roof Structure	GABLE/HIP
11. Roof Cover	ASPHALT/COMPOSITION
12. Interior Wall 1	PLASTER
13. Interior Wall 2	N/A
14. Floor Type 1	CARPETING
15. Floor Type 2	N/A
16. Stories	1



* May indicate living area in residential properties.



P.O.C.
 S.E. CORNER
 14/43/42
 PALM BEACH
 COUNTY DISK
 (FND.)

Palm Beach County Trip Generation Rates

(Must be used with traffic studies submitted to the County on or after 9/1/2022. However, immediate use is highly recommended)

Gr	Landuse	ITE Code	Unit	Daily Rate/Equation	Pass-By %	AM Peak Hour		PM Peak Hour	
						In/Out	Rate/Equation	In/Out	Rate/Equation
Industrial	General Light Industrial	110	1000 S.F.	4.87	10%	88/12	0.74	14/86	0.65
	Manufacturing	140	1000 S.F.	4.75	10%	76/24	0.68	31/69	0.74
	Warehouse	150	1000 S.F.	1.71	10%	77/23	0.17	28/72	0.18
	Mini-Warehouse/SS	151	1000 S.F.	1.45	10%	59/41	0.09	47/53	0.15
	HCF Center Warehouse - Non Sort	155	1000 S.F.	1.81	10%	81/19	0.15	39/61	0.16
Residential	Single Family Detached	210	Dwelling Unit	10	0%	26/74	0.7	63/37	0.94
	Multifamily Low-Rise Housing upto 3 story (Apartment/Condo/TH)	220	Dwelling Unit	6.74	0%	24/76	0.4	63/37	0.51
	Multifamily Mid-Rise Housing 4-10 story (Apartment/Condo/TH)	221	Dwelling Unit	4.54	0%	23/77	0.37	61/39	0.39
	55+ SF Detached	251	Dwelling Unit	4.31	0%	33/67	0.24	61/39	0.30
	55+ SF Attached	252	Dwelling Unit	3.24	0%	34/66	0.2	56/44	0.25
	Congregate Care Facility	253	Dwelling Unit	2.21	0%	58/42	0.08	49/51	0.18
	Assisted Living Facility	254	Beds	2.6	0%	60/40	0.18	39/61	0.24
Ldg	Hotel	310	Rooms	7.99	10%	56/44	0.46	51/49	0.59
Rec	Golf Course	430	Holes	30.38	5%	79/21	1.76	53/47	2.91
	Health/Fitness Club	492	1000 S.F.	32.93	5%	51/49	1.31	57/43	3.45
Institutional	Elementary School	520	Students	2.27	0%	54/46	0.74	46/54	0.16
	Middle/Junior School	522	Students	2.1	0%	54/46	0.67	48/52	0.15
	High School	525	Students	1.94	0%	68/32	0.52	48/52	0.14
	Private School (K-8)	530	Students	3.17 ^a	0%	56/44	1.01	46/54	0.26
	Private School (K-12)	532	Students	2.48	0%	63/37	0.79	43/57	0.17
	Church/Synagogue ^p	560	1000 S.F.	7.6	5%	62/38	0.32	44/56	0.49
	Day Care	565	Students	4.09	50%	53/47	0.78	47/53	0.79
	Library	590	1000 S.F.	72.05	10%	71/29	1	48/52	8.16
Med	Hospital	610	1000 S.F.	10.77	10%	67/33	0.82	35/65	0.86
	Nursing Home	620	Beds	3.06	10%	72/28	0.14	33/67	0.14
Office	General Office (10k-250k SF GFA) ^h	710	1000 S.F.	10.84	10%	88/12	1.52	17/83	1.44
	General Office (>250k SF GFA) ^h	710	1000 S.F.	$\text{Ln}(T) = 0.87 \text{Ln}(X) + 3.05$	10%	88/12	$\text{Ln}(T) = 0.86 \text{Ln}(X) + 1.16$	17/83	1.44
	Small Office Building (<=10k SF GFA)	712	1000 S.F.	14.39	10%	82/18	1.67	34/66	2.16
	Medical Office (Stand-Alone)	720	1000 S.F.	$T=42.97(X)-108.01$	10%	79/21	3.10	30/70	3.93
	Medical Office (Near Hospital)	720	1000 S.F.	31.86	10%	81/19	2.68	25/75	2.84
	Government Office	730	1000 S.F.	22.59	10%	75/25	3.34	25/75	1.71

Palm Beach County Trip Generation Rates

(Must be used with traffic studies submitted to the County on or after 9/1/2022. However, immediate use is highly recommended)

Gr	Landuse	ITE Code	Unit	Daily Rate/Equation	Pass-By %	AM Peak Hour		PM Peak Hour	
						In/Out	Rate/Equation	In/Out	Rate/Equation
Retail	Nursery (Garden Center)	817	Acre	108.1	0%	50/50	2.82	50/50	8.06
	Nursery (Wholesale)	818	Acre	19.50	0%	50/50	0.23	50/50	0.36
	Landscape Services	PBC	Acre ^c	121.70	0%	40/60	34.4	58/42	15.1
	Shop Center (>150ksf)	820	1000 S.F.	37.01	24%	62/38	0.84	48/52	3.4
	Shop Plaza (40-150ksf) w/Sup Market	821	1000 S.F.	94.49	39%	62/38	3.53	48/52	9.03
	Shop Plaza (40-150ksf) w/out Sup Market	821	1000 S.F.	67.52	39%	62/38	1.73	49/51	5.19
	Strip Retail Plaza (<40ksf)	822	1000 S.F.	54.45	63%	60/40	2.36	50/50	6.59
	Automobile Sales (New)	840	1000 S.F.	27.84	15%	73/27	1.86	40/60	2.42
	Automobile Parts Sales	843	1000 S.F.	54.57	28%	55/45	2.51	48/52	4.9
	Tire Store	848	1000 S.F.	27.69	28%	64/36	2.61	43/57	3.75
	Supermarket	850	1000 S.F.	93.84	36%	59/41	2.86	50/50	8.95
Pharmacy + DT	881	1000 S.F.	108.40	50%	52/48	3.74	50/50	10.25	
Services	Drive-In Bank	912	1000 S.F.	100.35	47%	58/42	9.95	50/50	21.01
	Fine Dining Restaurant	931	1000 S.F.	83.84	44%	50/50	0.73	67/33	7.8
	High Turnover Sit-Down Rest.	932	1000 S.F.	107.2	43%	55/45	9.57	61/39	9.05
	Fast Food Restaurant w/o DT	933	1000 S.F.	450.49	45%	58/42	43.18	50/50	33.21
	Fast Food Restaurant + DT	934	1000 S.F.	467.48	49%	51/49	44.61	52/48	33.03
	Coffee/Donut Shop w/o DT	936	1000 S.F.	441.88 ^d	45%	51/49	93.08	50/50	32.29
	Coffee/Donut Shop + DT	937	1000 S.F.	533.57	49%	51/49	85.88	50/50	38.99
	Coffee/Donut Shop + DT w/No Seat	938	DT Lanes	179	49%	50/50	39.81	50/50	15.08
	Gas Station w/Convenience Store ^e	FDOT	FP, 1000 S.F.	14.3*PM Trips	61%	50/50	Note f	50/50	12.3*FP+15.5*(X)
Carwash (Automated) ^g	PBC	Lane	166.00	0%	50/50	11.97	50/50	13.65	

Footnotes	a) Based on Daily to AM peak ratio for LUC 532 (Private School (K-12))	Modification History 3/2/2020: Added Landscape Services, modification history, edited formatting 7/25/2022: Updated with ITE TG Manual 11th ed information
	b) Weekend peak hour rate = 10.36 per 1,000 s.f. with a 48/52 directional split	
	c) Landscape Services acreage consists of overnight vehicle and equipment storage as well as areas (covered or uncovered) for chemicals, fertilizers, landscape materials (excluding plants) and other items needed for day-to-day operations. Not included are drive aisles, customer/employee parking, structures shared by nursery and landscape services, facilities that solely serve the onsite landscape activities or any nursery growing areas.	
	d) Based on Daily to PM ratio for ITE Code 937 (Coffee Donut Shop + DT)	
	e) FP=Fueling Position. Use both FP and Convenience Store size in estimating trips using the provided equation. Note that no internalization between the gas pumps and convenience store, as per ULDC Article 12, should be applied to estimate the net trips.	
	f) Use PM rates	
	g) Daily rate taken from PBC trip gen. study. Peak hour rates derived by applying peak to daily ratios for gas station to daily carwash rate from older ITE TGM. New PBC rate study underway.	
	h) Based on PBC analysis of ITE TGM data plots	

**TABLE 3.5-1
Significant Impact**

Net Trip Generation**	Distance
1 - 50	No significant impact
51 - 1,000	Only address directly accessed link on first accessed major thoroughfare*
1,001 - 4,000	One (1) mile*
4,001 - 8,000	Two (2) miles*
8,001 - 12,000	Three (3) miles*
12,001 - 20,000	Four (4) miles*
20,001 - up	Five (5) miles*

* A project has significant traffic: where net trip increase impacting roads is greater than one percent (1%) for volume to capacity ratio (v/c) of 1.4 or more, two percent (2%) for v/c of 1.2 or more and three percent (3%) for v/c of less than 1.2 of the level of service "D" capacity on an AADT basis of the link affected up to the limits set forth in this table. The laneage shall be as shown on the MPO's latest adopted LRTP.

** When calculating net trip increase, traffic associated with all prior Land Use Atlas amendment approvals for the property that has not yet received development order approvals, shall be cumulatively included in the analysis. Consideration will also be given to alternative modes of transportation (i.e. bicycle lanes, bicycle paths, bus lanes, fixed rail, and light rail facilities) in reducing the number of net trips. These alternative modes must either be operating at the time of the change to the Future Land Use Atlas or be included in both the Transportation Element (Mass Transit) and the Capital Improvement Element of the Comprehensive Plan.

SERPM 8 2045 Cost Feasible Adjusted Two-Way Traffic Volumes - Palm Beach County

PBC Station	FDOT Station	Roadway	From	To	Existing Lanes	Cost Feasible Lanes	2005 Counts	2010 Count	2015 Count	2018 Count	2015 Model	2045 Model	2045 Adjusted
1603	937013	CENTER ST	Indiantown Rd	Loxahatchee River Rd	2	2	16,388	14,538	15,079	16,010	15,919	17,825	16,900
1803	937014	CENTER ST	Loxahatchee River Rd	Alt. A1A	2	2	18,228	14,949	16,138	17,521	15,731	17,889	18,400
2608	937380	CENTRAL BLVD	PGA Blvd	I-95	4	4	14,647	14,338	16,027	16,086	23,255	40,702	33,500
2198	937380	CENTRAL BLVD	I-95	Hood Rd	4	4			-	-	23,255	40,702	40,700
2210	937379	CENTRAL BLVD	Hood Rd	Donald Ross Rd	4	4	13,761	16,373	16,725	18,117	31,339	45,551	30,900
1206	937386	CENTRAL BLVD	Donald Ross Rd	Frederick Small Rd	4	4	15,708	16,682	17,486	20,089	19,928	29,924	26,300
1614	937387	CENTRAL BLVD	Frederick Small Rd	Indian Creek Pkwy	4	4	10,954	12,750	13,914	15,889	17,592	28,709	25,000
1606	937377	CENTRAL BLVD	Indian Creek Pkwy	Indiantown Rd	4	4	27,217	26,285	26,931	27,091	17,254	10,218	19,900
1612	937378	CENTRAL BLVD	Indiantown Rd	Church St	3	3	19,245	13,034	15,746	16,741	9,394	11,287	17,600
6403	937001	CLINT MOORE RD	SR-7	Lyons Rd	4	4	13,291	15,148	18,460	18,919	11,401	16,025	23,100
6201	938508	CLINT MOORE RD	Lyons Rd	Jog Rd	4	4	21,809	21,525	24,350	26,298	19,182	27,815	33,000
6607	937002	CLINT MOORE RD	Jog Rd	Military Tr	4	4	29,949	28,767	30,959	34,229	15,501	20,927	36,400
6601	938509	CLINT MOORE RD	Military Tr	Congress Ave	6	6	30,737	29,298	27,719	33,500	23,850	26,946	31,300
6301	938509	CLINT MOORE RD	Congress Ave	NW 2nd Ave	4	4	13,712	10,637	12,136	14,643	23,850	26,946	15,200
	938506	COCOANUT ROW	Okeechobee Blvd	Clarke Ave	2	2			-	-	3,708	4,304	4,300
2104	937329	COCONUT BLVD	Persimmon Bl	Orange Bl	2	2	3,986	2,791	2,952	3,400	3,284	3,167	2,800
2412	937331	COCONUT BLVD	Orange Bl	Temple Blvd	2	2	13,365	10,796	11,459	12,686	11,015	20,999	21,800
2404	937330	COCONUT BLVD	Temple Blvd	Northlake Blvd	2	2	14,104	11,665	11,937	13,288	12,485	21,931	21,000
	PBC111a	COCONUT BLVD	Northlake Blvd	100th Ln N (Avenir)	0	4			-	-	-	22,182	22,200
3641	937336	COMMUNITY DR	Haverhill Rd	Military Tr	5	5	16,206	15,110	13,454	14,678	4,477	7,886	16,900
3659	937337	COMMUNITY DR	Military Tr	Village Blvd	3	3	17,204	15,076	17,683	18,412	15,247	17,139	19,900
6614	938509	CONGRESS AVE	Yamato Rd	Clint Moore Rd	6	6	25,198	25,740	27,629	29,864	23,850	26,946	31,200
6644	938543	CONGRESS AVE	Clint Moore Rd	NW 82nd St	6	6	28,805	28,300	34,731	30,621	28,389	33,896	41,500
6204	937672	CONGRESS AVE	NW 82nd St	SW 29th St	6	6	24,665	17,757	21,315	23,273	15,989	22,633	28,000
	938544	CONGRESS AVE	SW 29th St	Linton Blvd	6	6			-	-	9,156	14,643	14,600
5650	933500	CONGRESS AVE	Linton Blvd	Lowson Blvd	6	6	26,965	23,248	24,774	26,539	11,525	17,497	30,700
5612	933500	CONGRESS AVE	Lowson Blvd	Atlantic Ave	6	6	30,312	26,151	29,209	29,325	11,525	17,497	35,200
5630	937340	CONGRESS AVE	Atlantic Ave	Lake Ida Rd	6	6	32,662	32,658	34,768	36,689	24,598	32,597	42,800
5602	937341	CONGRESS AVE	Lake Ida Rd	35th Ave SW	6	6	31,948	29,740	30,608	31,428	28,207	39,710	43,100
5626	937342	CONGRESS AVE	35th Ave SW	Golf Rd	6	6	38,852	34,332	36,139	38,738	31,175	42,173	48,900
5624	937348	CONGRESS AVE	Golf Rd	Woolbright Rd	6	6	41,510	35,627	37,827	40,974	29,121	38,224	46,900
5610	937347	CONGRESS AVE	Woolbright Rd	Boynton Beach Blvd	6	6	38,259	32,543	33,549	33,115	22,390	29,798	41,000
5658	937345	CONGRESS AVE	Boynton Beach Blvd	Old Boynton Rd	6	6		47,139	38,263	40,960	28,939	40,714	50,000
5206	937344	CONGRESS AVE	Old Boynton Rd	Gateway Blvd	6	6	48,285	36,788	36,914	39,958	56,185	60,016	40,700
4610	937343	CONGRESS AVE	Gateway Blvd	Hypoluxo Rd	6	6	36,348	28,826	28,960	30,883	37,864	46,519	37,600
4600	937346	CONGRESS AVE	Hypoluxo Rd	Lantana Rd	4	4	29,993	25,175	23,246	28,120	35,142	39,809	27,900
4624	930022	CONGRESS AVE	Lantana Rd	JFK Dr	6	6	41,814	31,730	35,206	37,851	31,598	38,329	42,700
4626	937173	CONGRESS AVE	JFK Dr	6th Ave S	6	6	44,492	33,615	35,163	36,766	31,616	38,412	42,700
4622	930489	CONGRESS AVE	6th Ave S	Lake Worth Rd	6	6	43,176	35,682	35,712	39,282	38,642	48,003	44,400
4620	930490	CONGRESS AVE	Lake Worth Rd	French Ave	6	6	45,274	36,622	35,400	37,189	24,015	31,421	42,800

SERP 8 2045 Cost Feasible Adjusted Two-Way Traffic Volumes - Palm Beach County

PBC Station	FDOT Station	Roadway	From	To	Existing Lanes	Cost Feasible Lanes	2005 Counts	2010 Count	2015 Count	2018 Count	2015 Model	2045 Model	2045 Adjusted
6831	937169	GLADES RD	FAU Entrance/10th Ave NW	Boca Raton Blvd	6	6T	40,979	40,520	43,129	-	29,355	37,760	51,500
6833	930045	GLADES RD	Boca Raton Blvd	Old Dixie Hwy	6	6T	31,340	30,826	31,207	25,500	18,494	25,330	38,000
6837	930045	GLADES RD	Old Dixie Hwy	US-1 (Federal Hwy)	6	6T	21,142	18,587	25,998	19,633	18,494	25,330	32,800
	937528	GREENBRIAR BLVD	Greenview Shores Blv	Wellington Trace	4	4			-	-	132	487	500
3432	937319	GREENVIEW SHORES	Wellington Trc	South Shore Blvd	4	4	21,269	16,060	18,685	18,100	12,017	18,751	25,400
	937487	GULFSTREAM BLVD	Seacrest Blvd	US-1	2	2			-	-	604	968	1,000
3649	937092	GUN CLUB RD	Jog Rd	Haverhill Rd	2	3	6,740	4,227	3,918	4,917	2,033	3,038	4,900
3651	937093	GUN CLUB RD	Haverhill Rd	Military Tr	5	5	16,087	11,857	9,719	10,896	4,015	6,806	12,500
3653	937094	GUN CLUB RD	Military Tr	Kirk Rd	5	5	17,196	10,704	11,130	12,272	4,940	9,728	15,900
3655	937095	GUN CLUB RD	Kirk Rd	Congress Ave	5	5	16,544	11,374	11,215	12,119	11,136	17,741	17,900
5604	937076	HAGEN RANCH RD	W Atlantic Ave	Lake Ida Rd	4	4	16,979	18,059	16,220	17,392	13,900	20,748	24,200
5646	937077	HAGEN RANCH RD	Lake Ida Rd	Pipers Glen Blvd	4	4	15,607	13,249	12,896	14,914	12,072	18,610	19,900
5600	937075	HAGEN RANCH RD	Pipers Glen Blvd	Boynton Beach Blvd	4	4	17,772	18,471	17,559	19,853	21,295	27,498	23,800
5214	937138	HAGEN RANCH RD	Boynton Beach Blvd	Gateway Blvd	3	3	11,636	9,078	9,600	12,300	14,595	15,740	10,700
4666	937136	HAGEN RANCH RD	Gateway Blvd	Hypoluxo Rd	3	3	10,877	10,728	10,990	12,494	15,903	17,740	12,800
4668	937137	HAGEN RANCH RD	Hypoluxo Rd	Lantana Rd	3	3	13,573	9,993	9,576	9,869	14,250	15,867	11,200
	937579	HALL BLVD	Orange Blvd	Northlake Blvd	2	2			-	-	3,364	4,381	4,400
	937470	HATTON HWY	Gator Blvd	SR-700	2	2			-	-	310	360	400
4674	PBC041	HAVERHILL RD	Le Chalet Blvd	Hypoluxo Rd	2	3		10,669	11,353	11,763	1,227	47,915	58,000
4674	937149	HAVERHILL RD	Hypoluxo Rd	Lantana Rd	2	2	10,625	10,669	11,353	11,763	1,530	2,199	12,000
4672	937148	HAVERHILL RD	Lantana Rd	Melaleuca Ln	4	4	13,960	13,530	13,527	13,400	7,057	10,958	17,400
4646	937147	HAVERHILL RD	Melaleuca Ln	Lake Worth Rd	5	5	15,646	12,027	12,276	21,000	30,700	30,818	12,400
4638	937147	HAVERHILL RD	Lake Worth Rd	10th Ave N	5	5	18,150	18,363	18,786	21,000	30,700	30,818	18,900
4656	937147	HAVERHILL RD	10th Ave N	Cresthaven Blvd	5	5	22,083	19,560	22,017	23,879	30,700	30,818	22,100
4642	937146	HAVERHILL RD	Cresthaven Blvd	Purdy Ln	5	5	21,452	20,299	22,184	24,361	28,942	29,779	23,000
4224	937145	HAVERHILL RD	Purdy Ln	Forest Hill Blvd	5	5	23,092	21,919	22,762	25,534	29,018	29,313	23,100
3640	937038	HAVERHILL RD	Forest Hill Blvd	Summit Blvd	5	5	28,896	24,605	26,230	29,531	31,002	32,755	27,700
3634	937037	HAVERHILL RD	Summit Blvd	Southern Blvd	5	5	22,876	21,199	23,214	23,881	28,660	32,754	27,300
3608	937036	HAVERHILL RD	Southern Blvd	Belvedere Rd	5	5	22,051	20,031	22,190	22,809	16,965	23,923	29,100
3604	937035	HAVERHILL RD	Belvedere Rd	Okeechobee Blvd	5	5	24,162	20,120	21,666	22,502	17,017	24,783	29,400
3600	937008	HAVERHILL RD	Okeechobee Blvd	Community Dr	5	6	33,155	26,156	25,998	26,588	26,279	39,605	39,200
3672	937010	HAVERHILL RD	Community Dr	Roebuck Rd	5	5	30,533	22,464	22,121	23,238	19,921	28,880	32,100
3622	937009	HAVERHILL RD	Roebuck Rd	45th St	5	5	35,118	26,525	27,771	36,048	15,301	27,248	39,700
3202	937007	HAVERHILL RD	45th St	Beeline Hwy	5	5	20,202	14,297	14,643	16,087	8,331	12,876	19,200
	937723	HEIGHTS BLVD	Donald Ross Road	Central Blvd	2	2			-	-	2,144	2,478	2,500
6861	938529	HIDDEN VALLEY BLVD	Boca Raton Blvd	Old Dixie Hwy	4	4	8,517	6,526	7,588	7,914	1,934	4,524	10,200
	933501	HIGH RIDGE RD	Gateway Blvd	Miner Rd	2	5			-	-	11,351	20,407	20,400
4648	937304	HIGH RIDGE RD	Miner Rd	Hypoluxo Rd	2	2	7,646	5,322	6,527	7,139	5,322	6,924	8,500
	937483	HIGH RIDGE RD	Hypoluxo Road	Lk. Osborne Drive	2	2			-	-	8,089	9,746	9,700
2307	937055	HOLLY DR	Military Tr	SR 811	2	2	7,971	-	6,539	7,200	3,763	4,451	7,200

SIGNAL#	Location EW	Location NS	DATE	PEAK HR	COUNT_TYP	NBL	NBU	NBT	NBR	SBL	SBU	SBT	SBR	EBL	EBU	EBT	EBR	WBL	WBU	WBT	WBR	TOTAL
39300	Clubhouse Dr	Congress Ave	27-Sep-17	16:45 PM		70	1	1923	0	0	58	1658	16	27	0	0	45	0	0	0	0	3798
32550	Collin Dr	Congress Ave	25-Sep-19	7:30 AM		46	13	1448	2	2	11	1305	73	146	0	0	95	2	0	0	3	3146
32550	Collin Dr	Congress Ave	25-Sep-19	12:00 MD		36	9	854	5	0	14	813	55	32	0	0	29	4	0	0	1	1852
32550	Collin Dr	Congress Ave	25-Sep-19	17:00 PM		93	14	1203	0	3	8	1618	126	44	0	2	52	4	0	1	6	3174
41825	Oak Elem	Military Tr	15-Nov-16	7:30 AM		118	13	1049	6	9	0	1717	249	197	0	3	150	42	0	8	34	3595
41825	Oak Elem	Military Tr	15-Nov-16	14:15 MD		31	13	1162	17	13	3	1262	45	144	0	0	74	17	0	0	9	2790
41825	Oak Elem	Military Tr	15-Nov-16	16:45 PM		27	26	1534	35	34	0	1325	25	47	0	1	19	21	0	2	27	3123
27131	Community Dr	Crosstown Plaza	25-Apr-16	7:30 AM		20	0	0	8	0	0	0	0	0	0	639	42	4	0	358	0	1071
27131	Community Dr	Crosstown Plaza	25-Apr-16	13:00 MD		98	0	0	62	0	0	0	0	0	0	332	91	38	0	377	0	998
27131	Community Dr	Crosstown Plaza	25-Apr-16	17:00 PM		122	0	0	70	0	0	0	0	0	0	408	94	36	0	601	0	1331
27129	Community Dr	Haverhill Rd	09-Feb-22	7:45 AM		0	0	523	176	200	0	377	0	0	0	0	0	265	0	0	110	1651
27129	Community Dr	Haverhill Rd	09-Feb-22	12:00 MD		0	3	412	150	113	0	322	0	0	0	0	0	313	0	0	150	1463
27129	Community Dr	Haverhill Rd	09-Feb-22	17:00 PM		0	0	816	312	157	0	770	0	0	0	0	0	803	0	0	260	3118
27127	Community Dr	Military Tr	05-Apr-23	7:30 AM		86	47	1037	162	302	22	958	100	92	0	405	105	203	0	188	48	3755
27127	Community Dr	Military Tr	05-Apr-23	12:15 MD		102	84	694	161	150	18	807	93	138	0	265	109	191	0	221	51	3084
27127	Community Dr	Military Tr	05-Apr-23	17:00 PM		163	87	969	239	268	29	1168	156	171	0	304	125	243	0	429	53	4404
27123	Community Dr	Village Bl	12-Oct-23	7:30 AM		658	0	316	0	0	0	985	201	233	0	0	1232	0	0	0	0	3625
27123	Community Dr	Village Bl	12-Oct-23	12:30 MD		482	1	418	0	0	1	656	90	146	0	3	548	0	0	0	0	2345
27123	Community Dr	Village Bl	12-Oct-23	16:45 PM		966	1	898	0	0	0	1248	188	353	0	0	1061	0	0	0	0	4715
46160	JOE ABRUZZO AV	Lyons Rd	03-Oct-23	7:45 AM		0	0	536	30	75	54	704	0	0	0	0	0	54	2	0	50	1505
46160	JOE ABRUZZO AV	Lyons Rd	03-Oct-23	17:00 PM		0	0	1147	24	51	38	737	0	0	0	0	0	110	0	0	39	2146
46160	JOE ABRUZZO AV	Lyons Rd	03-Oct-23	16:00 PM		0	0	1230	60	66	26	820	0	0	0	0	0	113	0	0	101	2416
35022	Constitution Way	Jog Rd	03-Oct-22	7:15 AM		222	1	1271	4	18	3	1469	195	156	0	15	252	4	0	25	9	3644
35022	Constitution Way	Jog Rd	03-Oct-22	15:00 MD		14	3	1412	6	23	1	1448	30	37	1	1	39	7	0	2	21	3045
35022	Constitution Way	Jog Rd	03-Oct-22	17:00 PM		27	7	1792	8	38	3	1719	18	32	0	2	29	7	0	4	37	3723
40801	Coral Reef Elementary	Hagen Ranch Rd	12-Oct-22	7:15 AM		130	0	330	0	0	0	245	191	224	0	0	156	0	0	0	0	1276
40801	Coral Reef Elementary	Hagen Ranch Rd	12-Oct-22	13:30 MD		81	0	259	0	0	0	354	128	115	0	0	85	0	0	0	0	1022
48100	Cordova Ave	A1A	01-May-19	11:00 MD		4	0	270	0	0	0	245	8	22	0	0	3	3	0	4	4	563
41800	Cordova Ave	A1A	01-May-19	14:30 PM		2	0	341	0	0	0	273	15	16	0	0	6	1	0	5	5	664
33700	Costello Rd	Olive Ave	26-Oct-04	7:30 AM		3	0	627	7	5	0	396	10	8	0	0	0	5	0	0	15	1076
33700	Costello Rd	Olive Ave	26-Oct-04	16:45 PM		1	0	317	6	6	0	672	7	6	0	2	0	12	0	0	8	1037
1500	County Line Rd	US-1	20-Apr-22	7:30 AM		59	15	482	2	2	0	1263	264	146	0	0	137	1	0	1	0	2372
1500	County Line Rd	US-1	20-Apr-22	12:00 MD		99	21	654	3	2	1	651	105	128	0	0	139	2	0	2	1	1808
1500	County Line Rd	US-1	20-Apr-22	16:45 PM		101	21	1281	0	0	0	752	145	247	0	0	95	1	0	0	0	2643
81100	CR 880	Duda Rd	02-Oct-07	7:30 AM		7	0	3	4	16	0	12	75	39	0	126	20	2	0	132	6	442
81100	CR 880	Duda Rd	02-Oct-07	16:45 PM		26	0	8	8	1	0	0	53	48	0	175	8	2	0	191	11	531
80580	CR 880	SE Ave E	02-Oct-07	7:15 AM		122	0	112	43	1	0	27	2	0	0	17	114	73	0	30	14	555

Existing PM
Haverhill-Community

3037 HAverhill ALF

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	319	0	353	0	832	318	160	785	0
Future Volume (vph)	0	0	0	319	0	353	0	832	318	160	785	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	600		0	350		0	200		0
Storage Lanes	0		0	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850			0.850			
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1863	3539	1583	1770	3539	0
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	0	0	3433	0	1583	1863	3539	1583	1770	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						362			346			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		211			611			794			726	
Travel Time (s)		4.8			13.9			18.0			16.5	
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
Adj. Flow (vph)	0	0	0	347	0	384	0	904	346	174	853	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	347	0	384	0	904	346	174	853	0
Enter Blocked Intersection	No	No	No	No	No	No						
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Prot		Perm	Perm	NA	Perm	Prot	NA	
Protected Phases				3				2		1	6	
Permitted Phases						8	2		2			
Minimum Split (s)				9.5		22.5	22.5	22.5	22.5	9.5	22.5	
Total Split (s)				22.5		22.5	24.0	24.0	24.0	13.5	37.5	
Total Split (%)				37.5%		37.5%	40.0%	40.0%	40.0%	22.5%	62.5%	
Maximum Green (s)				18.0		18.0	19.5	19.5	19.5	9.0	33.0	
Yellow Time (s)				3.5		3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				4.5		4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Walk Time (s)						7.0	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)						11.0	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)						0	0	0	0		0	
Act Effct Green (s)				18.0		18.0		19.5	19.5	9.0	33.0	
Actuated g/C Ratio				0.30		0.30		0.32	0.32	0.15	0.55	
v/c Ratio				0.34		0.53		0.79	0.46	0.66	0.44	

Existing PM
Haverhill-Community

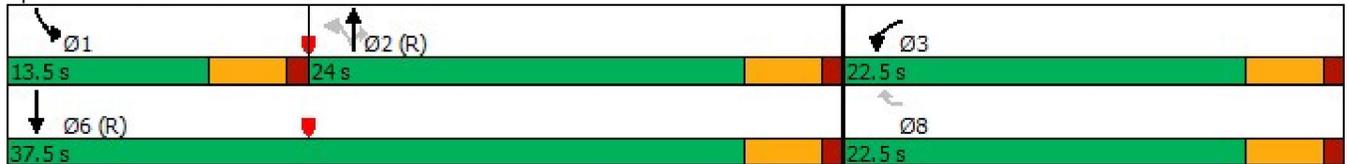
3037 Haverhill ALF

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay				17.5		5.8		24.6	4.4	38.2	8.9	
Queue Delay				0.0		0.0		0.0	0.0	0.0	0.0	
Total Delay				17.5		5.8		24.6	4.4	38.2	8.9	
LOS				B		A		C	A	D	A	
Approach Delay					11.3			19.0				13.9
Approach LOS					B			B				B

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	15.4
Intersection LOS:	B
Intersection Capacity Utilization	52.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 3:



Future AM
Haverhill-Community

3037 HAverhill ALF

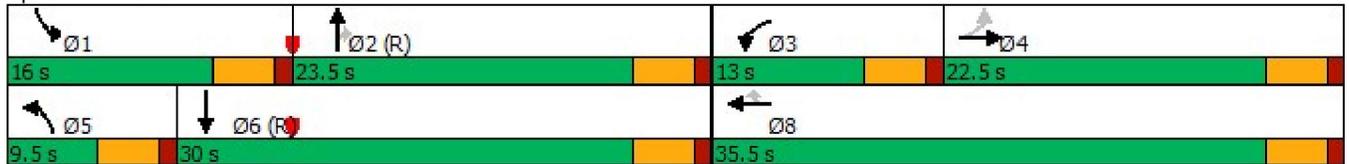
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	4	265	2	110	6	523	176	200	377	3
Future Volume (vph)	2	2	4	265	2	110	6	523	176	200	377	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	600		0	350		0	200		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.932				0.850			0.850		0.999	
Flt Protected		0.988		0.950	0.953		0.950			0.950		
Satd. Flow (prot)	0	1715	0	1681	1686	1583	1770	3539	1583	1770	3536	0
Flt Permitted		0.952		0.950	0.725		0.950			0.950		
Satd. Flow (perm)	0	1653	0	1681	1283	1583	1770	3539	1583	1770	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				153			218		1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		211			611			794			726	
Travel Time (s)		4.8			13.9			18.0			16.5	
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
Adj. Flow (vph)	2	2	4	288	2	120	7	568	191	217	410	3
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	8	0	144	146	120	7	568	191	217	413	0
Enter Blocked Intersection	No	No	No	No	No	No						
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Minimum Split (s)	22.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	22.5	22.5		13.0	35.5	35.5	9.5	23.5	23.5	16.0	30.0	
Total Split (%)	30.0%	30.0%		17.3%	47.3%	47.3%	12.7%	31.3%	31.3%	21.3%	40.0%	
Maximum Green (s)	18.0	18.0		8.5	31.0	31.0	5.0	19.0	19.0	11.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	
Walk Time (s)	7.0	7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0			0	0		0	0		0	
Act Effct Green (s)		18.0		8.5	8.5	31.0	5.0	19.0	19.0	11.5	25.5	
Actuated g/C Ratio		0.24		0.11	0.11	0.41	0.07	0.25	0.25	0.15	0.34	
v/c Ratio		0.02		0.76	0.76	0.16	0.06	0.63	0.34	0.80	0.34	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		17.6		59.1	59.7	2.1	34.0	28.7	4.4	54.4	19.5	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		17.6		59.1	59.7	2.1	34.0	28.7	4.4	54.4	19.5	
LOS		B		E	E	A	C	C	A	D	B	
Approach Delay		17.6			42.6			22.7				31.5
Approach LOS		B			D			C				C

Intersection Summary

Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	75
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	75
Control Type:	Pretimed
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	30.2
Intersection LOS:	C
Intersection Capacity Utilization	50.8%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 3:



Future PM
Haverhill-Community

3037 HAverhill ALF

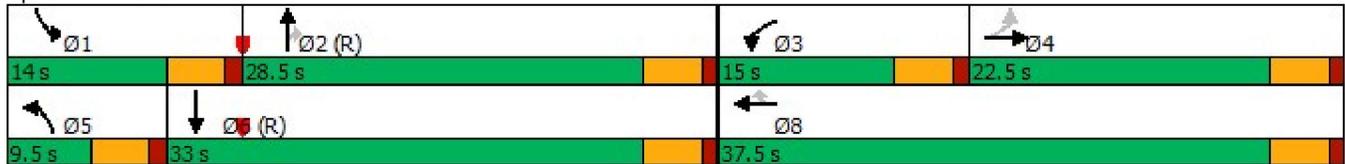
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	3	8	319	2	353	5	832	318	160	785	3
Future Volume (vph)	5	3	8	319	2	353	5	832	318	160	785	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	600		0	350		0	200		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.929				0.850			0.850		0.999	
Flt Protected		0.986		0.950	0.953		0.950			0.950		
Satd. Flow (prot)	0	1706	0	1681	1686	1583	1770	3539	1583	1770	3536	0
Flt Permitted		0.927		0.950	0.682		0.950			0.950		
Satd. Flow (perm)	0	1604	0	1681	1207	1583	1770	3539	1583	1770	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				203			346			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		211			611			794			726	
Travel Time (s)		4.8			13.9			18.0			16.5	
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
Adj. Flow (vph)	5	3	9	347	2	384	5	904	346	174	853	3
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	0	17	0	173	176	384	5	904	346	174	856	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Minimum Split (s)	22.5	22.5		9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	
Total Split (s)	22.5	22.5		15.0	37.5	37.5	9.5	28.5	28.5	14.0	33.0	
Total Split (%)	28.1%	28.1%		18.8%	46.9%	46.9%	11.9%	35.6%	35.6%	17.5%	41.3%	
Maximum Green (s)	18.0	18.0		10.5	33.0	33.0	5.0	24.0	24.0	9.5	28.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	
Walk Time (s)	7.0	7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0			0	0		0	0		0	
Act Effct Green (s)		18.0		10.5	10.5	33.0	5.0	24.0	24.0	9.5	28.5	
Actuated g/C Ratio		0.22		0.13	0.13	0.41	0.06	0.30	0.30	0.12	0.36	
v/c Ratio		0.05		0.79	0.80	0.50	0.05	0.85	0.48	0.83	0.68	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		17.9		60.0	61.0	10.3	36.2	35.8	5.2	66.9	25.2	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		17.9		60.0	61.0	10.3	36.2	35.8	5.2	66.9	25.2	
LOS		B		E	E	B	D	D	A	E	C	
Approach Delay		17.9			34.2			27.4			32.3	
Approach LOS		B			C			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	30.6
Intersection LOS:	C
Intersection Capacity Utilization	60.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 3:



Existing AM
Haverhill-Community

3037 HAverhill ALF

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	0	0	0	270	0	112	0	533	180	204	385	0
Future Volume (vph)	0	0	0	270	0	112	0	533	180	204	385	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	600		0	350		0	200		0
Storage Lanes	0		0	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850			0.850			
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	0	0	3433	0	1583	1863	3539	1583	1770	3539	0
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	0	0	3433	0	1583	1863	3539	1583	1770	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						122			196			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		211			611			794			726	
Travel Time (s)		4.8			13.9			18.0			16.5	
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
Adj. Flow (vph)	0	0	0	293	0	122	0	579	196	222	418	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	293	0	122	0	579	196	222	418	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Prot		Perm	Perm	NA	Perm	Prot	NA	
Protected Phases				3				2		1	6	
Permitted Phases						8	2		2			
Minimum Split (s)				9.5		22.5	22.5	22.5	22.5	9.5	22.5	
Total Split (s)				22.5		22.5	22.5	22.5	22.5	15.0	37.5	
Total Split (%)				37.5%		37.5%	37.5%	37.5%	37.5%	25.0%	62.5%	
Maximum Green (s)				18.0		18.0	18.0	18.0	18.0	10.5	33.0	
Yellow Time (s)				3.5		3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)				1.0		1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)				0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				4.5		4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Walk Time (s)						7.0	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)						11.0	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)						0	0	0	0		0	
Act Effct Green (s)				18.0		18.0		18.0	18.0	10.5	33.0	
Actuated g/C Ratio				0.30		0.30		0.30	0.30	0.18	0.55	
v/c Ratio				0.28		0.22		0.55	0.32	0.72	0.21	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay				17.0		4.9		19.9	4.6	39.1	7.2	
Queue Delay				0.0		0.0		0.0	0.0	0.0	0.0	
Total Delay				17.0		4.9		19.9	4.6	39.1	7.2	
LOS				B		A		B	A	D	A	
Approach Delay				13.4				16.0			18.3	
Approach LOS				B				B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	16.2
Intersection LOS:	B
Intersection Capacity Utilization	44.6%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 3:

