



WELLINGTON NORTH

Village of Wellington, FL

TRAFFIC EQUIVALENCY STATEMENT

PREPARED FOR:

Wellington Commercial Holdings, LLC
3667 120th Avenue South
Wellington, Florida 33414

JOB NO. 22-129

DATE: 08/21/2023

REVISED: 09/13/2023

Revised 09/19/2023

Revised 09/28/2023

Revised 10/20/2023

Bryan G. Kelley, Professional Engineer, State of Florida, License No. 74006

This item has been digitally signed and sealed by Bryan G. Kelley, P.E., on 10/20/23.

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**Bryan
Kelley** Digitally signed
by Bryan Kelley
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1.0 SITE DATA

The subject parcel is located in the northeast corner of South Shore Boulevard and Pierson Road in the Village of Wellington and contains approximately 96.17 acres. The Property Control Numbers (PCNs) for the subject parcel are the following:

73-41-44-16-21-001-0000	73-41-44-16-01-001-0010
73-41-44-16-22-001-0020	73-41-44-16-22-001-0030
73-41-44-16-22-001-0040	

The property is currently designated as Equestrian Commercial in the Village of Wellington Comprehensive Plan. The property owner is requesting a change in the 96.17 acre parcel's designation to Residential "D" which allows 5 units per acre on the Village of Wellington's Comprehensive Plan.

The site currently consists of the following uses:

Existing Development

- 352 stables
- Exhibitor – 25 Trailers
- Event – 500 Spectators
- Staff – 30 officials

Note the 5.57-acre Coach House property was previously part of the application and has now been removed. The Coach House will remain vested for 50 multifamily residential units.

The proposed plan of development is to consist of 96 residential dwelling units (49 single family and 47 multifamily) along with ancillary support facilities such as a sports and golf complex that will be available primarily for the residents of the proposed site and Wellington South. The 96 residential dwelling units do not include the vested 50 multifamily dwelling units associated with the Coach House.

The project is estimated to have a build out of 2027 for purposes of the traffic study. Site access is proposed via a full access driveway connection to South Shore Boulevard and an emergency access driveway connection to Pierson Road. For additional information on site layout, please refer to the Master Plan.

The purpose of this report is to document the trip generation change from the previously proposed plan of development to the currently proposed plan of development due to the removal of the Coach House property from the application and reduction in building square footage of the ancillary facilities. Since the traffic will result in a reduction of trips, the conclusions and recommendations of the Wellington North Traffic Impact Statement dated May 12, 2023 remain valid and can be considered conservative.

2.0 TRAFFIC ANALYSIS

Future Land Use Traffic Analysis

The traffic generated by previously proposed future land use restricted potential development has been calculated utilizing the same methodology as the previous Wellington North Impact Statement. The trip generation rates are in accordance with rates published by the Palm Beach County Traffic Division and the ITE Trip Generation Manual, 11th Edition. However, the previous traffic study included the 5.57 acre Coach House that has a future land use designation of Residential “F” – 12 dwelling units per acre for a total of 67 dwelling units. To account for removal of this property from the application, 67 dwelling units were removed from the previously proposed use trip generation analysis. Table 1 shows the daily traffic generation associated with the previously proposed use (minus 67 dwelling units) and Tables 2 and 3 show the AM and PM peak hour traffic generation, respectively. The traffic generated by the previously proposed future land use restricted potential may be summarized as follows:

Previously Proposed Future Land Use Restricted Potential

Daily Traffic Generation	=	2,992 tpd
AM Peak Hour Traffic Generation (In/Out)	=	186 pht (84 In/102 Out)
PM Peak Hour Traffic Generation (In/Out)	=	248 pht (139 In/109 Out)

The trip generation by the currently proposed future land use designation maximum potential is shown on Tables 4-6 attached to this statement. Based on a maximum of 5 dwelling units per acre and the site consisting of 96.17 acres, the maximum intensity is 481 dwelling units. The maximum trip generation potential may be summarized as follows:

Proposed Future Land Use Maximum Potential

Daily Traffic Generation	=	4,810 tpd
AM Peak Hour Traffic Generation (In/Out)	=	337 pht (88 In/249 Out)
PM Peak Hour Traffic Generation (In/Out)	=	452 pht (285 In/167 Out)

The trip generation above is for informational purposes only. Similar to the previous submittal, the applicant is proposing a restricted maximum land use potential. The trip generation by the currently proposed future land use designation restricted potential is shown on Tables 7-9 attached to this statement and may be summarized as follows:

Currently Proposed Future Land Use Restricted Potential

Daily Traffic Generation	=	2,706 tpd
AM Peak Hour Traffic Generation (In/Out)	=	175 pht (98 In/77 Out)
PM Peak Hour Traffic Generation (In/Out)	=	239 pht (127 In/112 Out)

2.0 TRAFFIC ANALYSIS (CONT.)

The decrease in traffic generation as a result of the proposed modifications is shown in Table 10 and may be summarized as follows:

Future Land Use Net Trips (Current – Previously Proposed)

Daily Traffic Generation	=	286 tpd DECREASE
AM Peak Hour Traffic Generation (In/Out)	=	11 pht DECREASE
PM Peak Hour Traffic Generation (In/Out)	=	9 pht DECREASE

Site Plan

The traffic generated by previously proposed development has been calculated utilizing the same methodology as the previous Wellington North traffic study. The trip generation rates are in accordance with rates published by the Palm Beach County Traffic Division and the ITE Trip Generation Manual, 11th Edition. Table 11-13 show the traffic generation associated with the previously proposed plan of development and may be summarized as follows:

Previously Proposed Site Plan

Daily Traffic Generation	=	3,444 tpd
AM Peak Hour Traffic Generation (In/Out)	=	213 pht (91 In/122 Out)
PM Peak Hour Traffic Generation (In/Out)	=	282 pht (160 In/122 Out)

The trip generation by the currently proposed plan of development is shown on Tables 14-16 attached to this report and are summarized as follows:

Currently Proposed Site Plan

Daily Traffic Generation	=	2,706 tpd
AM Peak Hour Traffic Generation (In/Out)	=	175 pht (98 In/77 Out)
PM Peak Hour Traffic Generation (In/Out)	=	239 pht (127 In/112 Out)

It should be noted the previous reduced rates for the recreational community center and golf course have been removed to be conservative and due to the reduction in intensity for the Wellington North and South developments. However, the golf course and social facilities will be private membership only and likely generate less trips than projected. Additionally, the golf course is an existing facility for which no existing discounts were taken and no reduction for internal capture was considered.

The decrease in traffic generation as a result of the proposed modifications using a conservative analysis is shown in Table 17 and may be summarized as follows:

2.0 TRAFFIC ANALYSIS (CONT.)

Site Plan Net Trips (Current – Previously Proposed)

Daily Traffic Generation	=	738 tpd DECREASE
AM Peak Hour Traffic Generation (In/Out)	=	38 pht DECREASE
PM Peak Hour Traffic Generation (In/Out)	=	43 pht DECREASE

Note a separate trip generation for the purposes of the driveway volumes figure has been included as shown in Tables 18-20 which includes the vested Coach House property.

Due to the elimination of the Pierson Road driveway, a Synchro analysis was prepared for the intersections of South Shore Boulevard at Greenview Shores Boulevard and Pierson Road. The intersection analysis included the reduction in trips from the previous approved traffic study, redistribution of driveway trips, and reduction in single family homes proposed as part of the Wellington South application. The Synchro analysis was provided for the total traffic conditions inclusive of the proposed intersection improvements. The results demonstrated the intersections would continue to operate at an acceptable Level of Service with the proposed turn lane improvements.

3.0 CONCLUSION

The attached tables document the daily, A.M. and P.M. peak hour traffic generation for the reduction in traffic due to the removal of the 5.57 acre parcel Coach House and decreased building size of the accessory recreational facilities. The results and conclusions from the Wellington North Traffic Impact Statement dated May 12, 2023 remain valid. The impacts identified in the previously study can be considered conservative due to the reduction in trips outlined in this report

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FUTURE LAND USE DESIGNATION (RESIDENTIAL F) - RESTRICTED POTENTIAL PREVIOUSLY PROPOSED

TABLE 1 - Daily Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips	Internalization			External Trips	Pass-by		Net Trips
				In	Out		%	Total	%		Trips		
Single Family Detached	210	22	Dwelling Units	10			220	0.0%	0	220	0%	0	220
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	211	Dwelling Units	6.74			1,422	0.0%	0	1,422	0%	0	1,422
Golf Course	430	18	Holes	30.38 x 50%			273	0.0%	0	273	0%	0	273
Recreational Community Center	495	149,536	S.F.	28.82 x 25%			1,077	0.0%	0	1,077	0%	0	1,077
Grand Totals:							2,992	0.0%	0	2,992	0%	0	2,992

TABLE 2 - AM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization			External Trips			Pass-by		Net Trips				
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total	
Single Family Detached	210	22	Dwelling Units	0.7	0.26	0.74	4	11	15	0.0%	0	0	0	4	11	15	0%	0	4	11	15
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	211	Dwelling Units	0.4	0.24	0.76	20	64	84	0.0%	0	0	0	20	64	84	0%	0	20	64	84
Golf Course	430	18	Holes	1.76 x 50%	0.79	0.21	13	3	16	0.0%	0	0	0	13	3	16	0%	0	13	3	16
Recreational Community Center	495	149,536	S.F.	1.91 x 25%	0.66	0.34	47	24	71	0.0%	0	0	0	47	24	71	0%	0	47	24	71
Grand Totals:							84	102	186	0.0%	0	0	0	84	102	186	0%	0	84	102	186

TABLE 3 - PM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization			External Trips			Pass-by		Net Trips				
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total	
Single Family Detached	210	22	Dwelling Units	0.94	0.63	0.37	13	8	21	0.0%	0	0	0	13	8	21	0%	0	13	8	21
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	211	Dwelling Units	0.51	0.63	0.37	68	40	108	0.0%	0	0	0	68	40	108	0%	0	68	40	108
Golf Course	430	18	Holes	2.91 x 50%	0.53	0.47	14	12	26	0.0%	0	0	0	14	12	26	0%	0	14	12	26
Recreational Community Center	495	149,536	S.F.	2.50 x 25%	0.47	0.53	44	49	93	0.0%	0	0	0	44	49	93	0%	0	44	49	93
Grand Totals:							139	109	248	0.0%	0	0	0	139	109	248	0%	0	139	109	248

Notes:

The golf course and sports complex are not open to the public and previously had a 50% and 25% reduction factor applied to account for private membership only.
 Recreational Community Center square footage calculated as total site amenities minus the golf clubhouse and main clubhouse as they are ancillary to the overall use. (191,536 SF - 24,000 SF (main clubhouse) - 18,000 SF (golf clubhouse) = 149,536 SF
 67 dwelling units removed from the previous proposed use due to the removal of the 5.57-acre Coach House parcel

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FUTURE LAND USE DESIGNATION (RESIDENTIAL D) - MAXIMUM POTENTIAL - INFORMATIONAL ONLY

TABLE 4 - Daily Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips	Internalization			External Trips	Pass-by		Net Trips
				In	Out		%	Total			%	Trips	
Single Family Detached	210	481	Dwelling Units 10			4,810	0.0%	0		4,810	0%	0	4,810
Grand Totals:						4,810	0.0%	0		4,810	0%	0	4,810

TABLE 5 - AM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization			External Trips			Pass-by		Net Trips			
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total
Single Family Detached	210	481	Dwelling Units 0.7	0.26	0.74	88	249	337	0.0%	0	0	0	88	249	337	0%	0	88	249	337
Grand Totals:						88	249	337	0.0%	0	0	0	88	249	337	0%	0	88	249	337

TABLE 6 - PM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization			External Trips			Pass-by		Net Trips			
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total
Single Family Detached	210	481	Dwelling Units 0.94	0.63	0.37	285	167	452	0.0%	0	0	0	285	167	452	0%	0	285	167	452
Grand Totals:						285	167	452	0.0%	0	0	0	285	167	452	0%	0	285	167	452

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FUTURE LAND USE DESIGNATION (RESIDENTIAL D) - RESTRICTED POTENTIAL CURRENTLY PROPOSED

TABLE 7 - Daily Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips	Internalization			External Trips	Pass-by		Net Trips
				In	Out		%	In	Out		Total	%	
Single Family Detached	210	49	Dwelling Units	10			490	0.0%	0	490	0%	0	490
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	47	Dwelling Units	6.74			317	0.0%	0	317	0%	0	317
Golf Course	430	18	Holes	30.38			547	0.0%	0	547	0%	0	547
Recreational Community Center	495	46,906	S.F.	28.82			1,352	0.0%	0	1,352	0%	0	1,352
Grand Totals:							2,706	0.0%	0	2,706	0%	0	2,706

TABLE 8 - AM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization			External Trips			Pass-by		Net Trips				
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total	
Single Family Detached	210	49	Dwelling Units	0.7	0.26	0.74	9	25	34	0.0%	0	0	0	9	25	34	0%	0	9	25	34
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	47	Dwelling Units	0.4	0.24	0.76	5	14	19	0.0%	0	0	0	5	14	19	0%	0	5	14	19
Golf Course	430	18	Holes	1.76	0.79	0.21	25	7	32	0.0%	0	0	0	25	7	32	0%	0	25	7	32
Recreational Community Center	495	46,906	S.F.	1.91	0.66	0.34	59	31	90	0.0%	0	0	0	59	31	90	0%	0	59	31	90
Grand Totals:							98	77	175	0.0%	0	0	0	98	77	175	0%	0	98	77	175

TABLE 9 - PM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization			External Trips			Pass-by		Net Trips				
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total	
Single Family Detached	210	49	Dwelling Units	0.94	0.63	0.37	29	17	46	0.0%	0	0	0	29	17	46	0%	0	29	17	46
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	47	Dwelling Units	0.51	0.63	0.37	15	9	24	0.0%	0	0	0	15	9	24	0%	0	15	9	24
Golf Course	430	18	Holes	2.91	0.53	0.47	28	24	52	0.0%	0	0	0	28	24	52	0%	0	28	24	52
Recreational Community Center	495	46,906	S.F.	2.5	0.47	0.53	55	62	117	0.0%	0	0	0	55	62	117	0%	0	55	62	117
Grand Totals:							127	112	239	0.0%	0	0	0	127	112	239	0%	0	127	112	239

Notes:

The golf course and sports/social facilities are for private members only. The previous reduced rates for the recreational community center and golf course have been removed to be conservative and due to reduction in intensity for the Wellington North and South developments. Note the golf course is an existing facility and no reduction for internal capture has been used to be conservative. Recreational Community Center square footage calculated as total site amenities minus the golf clubhouse and drive shack as they are ancillary to the overall golf use. (62,406 SF - 1,500 SF (drive shack) - 14,000 SF (golf clubhouse) = 46,906 SF

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TABLE 10
FUTURE LAND USE DESIGNATION
TRAFFIC GENERATION DIFFERENCE: CURRENTLY PROPOSED - PREVIOUSLY PROPOSED

	DAILY	AM PEAK HOUR			PM PEAK HOUR		
		TOTAL	IN	OUT	TOTAL	IN	OUT
PREVIOUSLY PROPOSED =	2,992	186	84	102	248	139	109
CURRENTLY PROPOSED =	2,706	175	98	77	239	127	112
INCREASE =	-286	-11	14	-25	-9	-12	3

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SITE PLAN CURRENTLY APPROVED

TABLE 11 - Daily Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips	Internalization			External Trips			Pass-by		Net Trips				
				In	Out		%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total	
Single Family Detached	210	22	Dwelling Units	10			220	0.0%	0	0	0	220	0%	0	0	220			
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	278	Dwelling Units	6.74			1,874	0.0%	0	0	0	1,874	0%	0	0	1,874			
Golf Course	430	18	Holes	30.38 x 50%			273	0.0%	0	0	0	273	0%	0	0	273			
Recreational Community Center	495	149,536	S.F.	28.82 x 25%			1,077	0.0%	0	0	0	1,077	0%	0	0	1,077			
Grand Totals:							3,444	0.0%	0	0	0	3,444	0%	0	0	3,444			

TABLE 12 - AM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization				External Trips			Pass-by		Net Trips				
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total		
Single Family Detached	210	22	Dwelling Units	0.7	0.26	0.74	4	11	15	0.0%	0	0	0	4	11	15	0%	0	0	4	11	15
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	278	Dwelling Units	0.4	0.24	0.76	27	84	111	0.0%	0	0	0	27	84	111	0%	0	0	27	84	111
Golf Course	430	18	Holes	1.76 x 50%	0.79	0.21	13	3	16	0.0%	0	0	0	13	3	16	0%	0	0	13	3	16
Recreational Community Center	495	149,536	S.F.	1.91 x 25%	0.66	0.34	47	24	71	0.0%	0	0	0	47	24	71	0%	0	0	47	24	71
Grand Totals:							91	122	213	0.0%	0	0	0	91	122	213	0%	0	0	91	122	213

TABLE 13 - PM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization				External Trips			Pass-by		Net Trips				
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total		
Single Family Detached	210	22	Dwelling Units	0.94	0.63	0.37	13	8	21	0.0%	0	0	0	13	8	21	0%	0	0	13	8	21
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	278	Dwelling Units	0.51	0.63	0.37	89	53	142	0.0%	0	0	0	89	53	142	0%	0	0	89	53	142
Golf Course	430	18	Holes	2.91 x 50%	0.53	0.47	14	12	26	0.0%	0	0	0	14	12	26	0%	0	0	14	12	26
Recreational Community Center	495	149,536	S.F.	2.50 x 25%	0.47	0.53	44	49	93	0.0%	0	0	0	44	49	93	0%	0	0	44	49	93
Grand Totals:							160	122	282	0.0%	0	0	0	160	122	282	0%	0	0	160	122	282

Notes:

The golf course and sports complex are not open to the public and previously had a 50% and 25% reduction factor applied to account for private membership only.
 Recreational Community Center square footage calculated as total site amenities minus the golf clubhouse and main clubhouse as they are ancillary to the overall use. (191,536 SF - 24,000 SF (main clubhouse) - 18,000 SF (golf clubhouse) = 149,536 SF

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SITE PLAN CURRENTLY PROPOSED

TABLE 14 - Daily Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips	Internalization			External Trips	Pass-by		Net Trips
				In	Out		%	In	Out		Total	%	
Single Family Detached	210	49	Dwelling Units	10			490	0.0%	0	490	0%	0	490
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	47	Dwelling Units	6.74			317	0.0%	0	317	0%	0	317
Golf Course	430	18	Holes	30.38			547	0.0%	0	547	0%	0	547
Recreational Community Center	495	46,906	S.F.	28.82			1,352	0.0%	0	1,352	0%	0	1,352
Grand Totals:							2,706	0.0%	0	2,706	0%	0	2,706

TABLE 15 - AM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization			External Trips			Pass-by		Net Trips				
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total	
Single Family Detached	210	49	Dwelling Units	0.7	0.26	0.74	9	25	34	0.0%	0	0	0	9	25	34	0%	0	9	25	34
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	47	Dwelling Units	0.4	0.24	0.76	5	14	19	0.0%	0	0	0	5	14	19	0%	0	5	14	19
Golf Course	430	18	Holes	1.76	0.79	0.21	25	7	32	0.0%	0	0	0	25	7	32	0%	0	25	7	32
Recreational Community Center	495	46,906	S.F.	1.91	0.66	0.34	59	31	90	0.0%	0	0	0	59	31	90	0%	0	59	31	90
Grand Totals:							98	77	175	0.0%	0	0	0	98	77	175	0%	0	98	77	175

TABLE 16 - PM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization			External Trips			Pass-by		Net Trips				
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total	
Single Family Detached	210	49	Dwelling Units	0.94	0.63	0.37	29	17	46	0.0%	0	0	0	29	17	46	0%	0	29	17	46
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	47	Dwelling Units	0.51	0.63	0.37	15	9	24	0.0%	0	0	0	15	9	24	0%	0	15	9	24
Golf Course	430	18	Holes	2.91	0.53	0.47	28	24	52	0.0%	0	0	0	28	24	52	0%	0	28	24	52
Recreational Community Center	495	46,906	S.F.	2.5	0.47	0.53	55	62	117	0.0%	0	0	0	55	62	117	0%	0	55	62	117
Grand Totals:							127	112	239	0.0%	0	0	0	127	112	239	0%	0	127	112	239

Notes:

The golf course and sports/social facilities are for private members only. The previous reduced rates for the recreational community center and golf course have been removed to be conservative and due to reduction in intensity for the Wellington North and South developments. Note the golf course is an existing facility and no reduction for internal capture has been used to be conservative. Recreational Community Center square footage calculated as total site amenities minus the golf clubhouse and drive shack as they are ancillary to the overall golf use. (62,406 SF - 1,500 SF (drive shack) - 14,000 SF (golf clubhouse) = 46,906 SF

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TABLE 17
SITE PLAN

TRAFFIC GENERATION DIFFERENCE: CURRENTLY PROPOSED - PREVIOUSLY PROPOSED

	DAILY	AM PEAK HOUR			PM PEAK HOUR		
		TOTAL	IN	OUT	TOTAL	IN	OUT
PREVIOUSLY PROPOSED =	3,444	213	91	122	282	160	122
CURRENTLY PROPOSED =	2,706	175	98	77	239	127	112
INCREASE =	-738	-38	7	-45	-43	-33	-10

WELLINGTON NORTH

08/31/2023
 Revised: 09/13/2023
 Revised: 09/19/2023
 Revised: 09/28/2023
 Revised: 10/20/2023

SITE PLAN CURRENTLY PROPOSED WITH COACH HOUSE VESTED TRAFFIC (50 DU) FOR DRIVEWAY TRIPS

TABLE 18 - Daily Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips	Internalization			External Trips	Pass-by		Net Trips
				In	Out		%	In	Out		Total	%	
Single Family Detached	210	49	Dwelling Units	10			490	0.0%	0	490	0%	0	490
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	97	Dwelling Units	6.74			654	0.0%	0	654	0%	0	654
Golf Course	430	18	Holes	30.38			547	0.0%	0	547	0%	0	547
Recreational Community Center	495	46,906	S.F.	28.82			1,352	0.0%	0	1,352	0%	0	1,352
Grand Totals:							3,043	0.0%	0	3,043	0%	0	3,043

TABLE 19 - AM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization			External Trips			Pass-by		Net Trips				
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total	
Single Family Detached	210	49	Dwelling Units	0.7	0.26	0.74	9	25	34	0.0%	0	0	0	9	25	34	0%	0	9	25	34
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	97	Dwelling Units	0.4	0.24	0.76	9	30	39	0.0%	0	0	0	9	30	39	0%	0	9	30	39
Golf Course	430	18	Holes	1.76	0.79	0.21	25	7	32	0.0%	0	0	0	25	7	32	0%	0	25	7	32
Recreational Community Center	495	46,906	S.F.	1.91	0.66	0.34	59	31	90	0.0%	0	0	0	59	31	90	0%	0	59	31	90
Grand Totals:							102	93	195	0.0%	0	0	0	102	93	195	0%	0	102	93	195

TABLE 20 - PM Peak Hour Traffic Generation

Landuse	ITE Code	Intensity	Rate/Equation	Dir Split		Gross Trips			Internalization			External Trips			Pass-by		Net Trips				
				In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	Trips	In	Out	Total	
Single Family Detached	210	49	Dwelling Units	0.94	0.63	0.37	29	17	46	0.0%	0	0	0	29	17	46	0%	0	29	17	46
Multifamily Low-Rise Housing up to 3 story (Apartment/Condo/TH)	220	97	Dwelling Units	0.51	0.63	0.37	31	18	49	0.0%	0	0	0	31	18	49	0%	0	31	18	49
Golf Course	430	18	Holes	2.91	0.53	0.47	28	24	52	0.0%	0	0	0	28	24	52	0%	0	28	24	52
Recreational Community Center	495	46,906	S.F.	2.5	0.47	0.53	55	62	117	0.0%	0	0	0	55	62	117	0%	0	55	62	117
Grand Totals:							143	121	264	0.0%	0	0	0	143	121	264	0%	0	143	121	264

Notes:

The golf course and sports/social facilities are for private members only. The previous reduced rates for the recreational community center and golf course have been removed to be conservative and due to reduction in intensity for the Wellington North and South developments. Note the golf course is an existing facility and no reduction for internal capture has been used to be conservative. Recreational Community Center square footage calculated as total site amenities minus the golf clubhouse and drive shack as they are ancillary to the overall golf use. (62,406 SF - 1,500 SF (drive shack) - 14,000 SF (golf clubhouse) = 46,906 SF

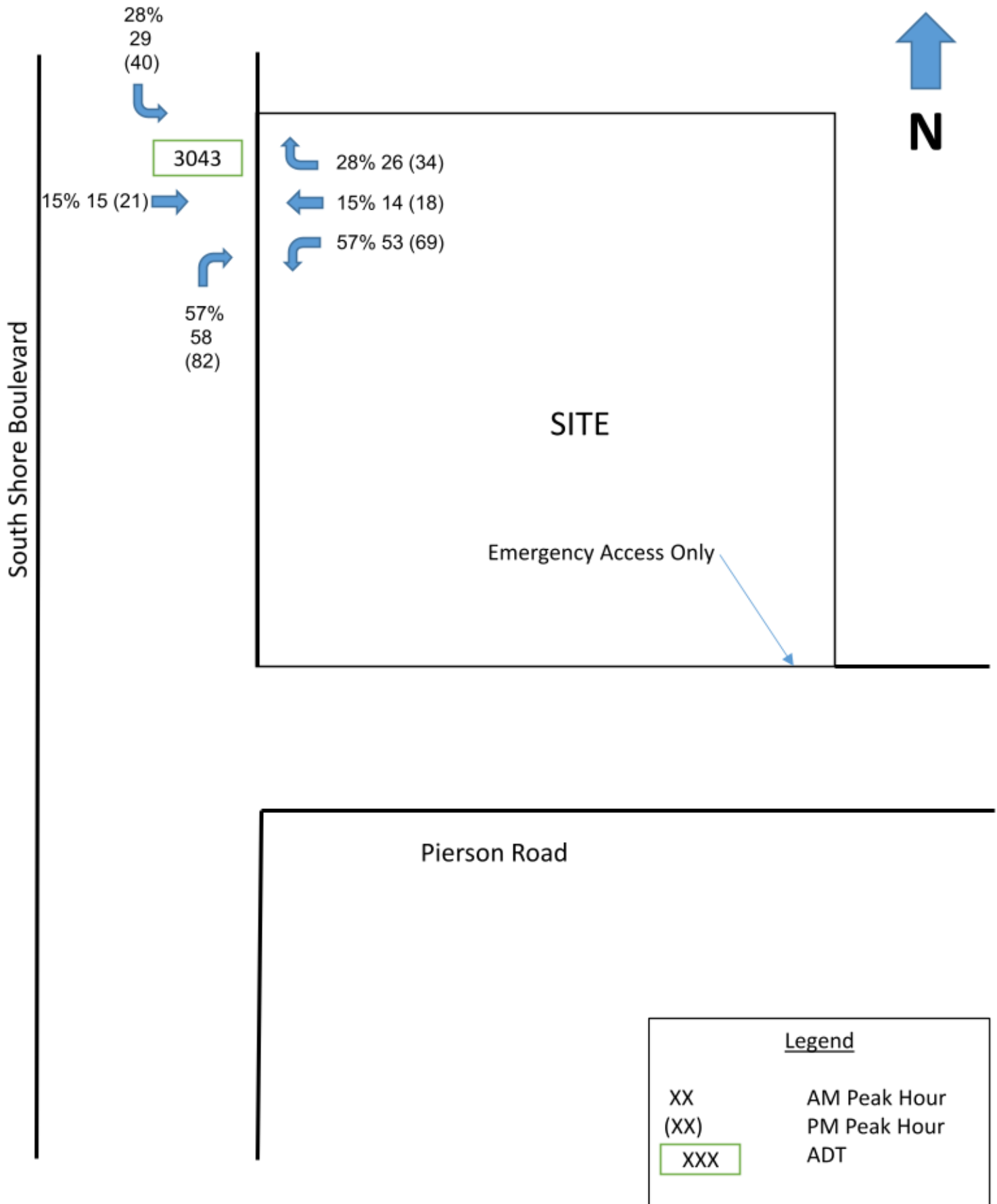


Figure 1 – Turning Movement Worksheet
Wellington North
Project # 22-129

CMA INTERSECTION ANALYSIS
WELLINGTON NORTH
SOUTH SHORE BOULEVARD AT PIERSON ROAD

INPUT DATA

Comments:

Growth Rate = 1.25% Peak Season = 1.00 Current Year = 2018 Buildout Year = 2027

AM Peak Hour

INTERSECTION VOLUME DEVELOPMENT

	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	Existing Volume (2018)	146	415	9	145	724	229	73	46	132	7	48
Peak Season Adjustment	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth (2018-2022 - 1%)	6	17	0	6	29	9	3	2	5	0	2	3
Background Traffic Growth (2022-2027)	10	29	1	10	50	16	5	3	9	0	3	5
1.0% Background Growth	14	39	1	14	68	21	7	4	12	1	4	6
Major Projects Traffic	0	68	0	1	17	1	2	0	0	0	0	5
Background Traffic Used	14	107	1	15	85	22	9	4	12	1	4	11
Project Traffic	0	-12	0	8	8	7	0	0	0	0	0	-13
2027 Background Traffic	160	522	10	160	809	251	82	50	144	8	52	79
Wellington South	0	24	7	0	13	27	13	9	2	7	16	0
Total	160	534	17	168	830	285	95	59	148	15	70	66
Approach Total	710	1,283			301			162				

Critical Volume Analysis											
No. of Lanes	1	2	<	1	1	>	1	1	>	1	
Per Lane Volume	160	275		168	830	285	0	154	148	85	
Right on Red			0			60			60		
Overlaps Left			0					160		168	
Adj. Per Lane Volume	160	275	0	168	830	225	0	154	0	85	
Through/Right Volume		275			830			154		85	
Opposing Left Turns		168			160			0		0	
Critical Volume for Approach		443			990			154		85	
Critical Volume for Direction				990				154		85	
Intersection Critical Volume				1,144							
STATUS?	UNDER										

PM Peak Hour

INTERSECTION VOLUME DEVELOPMENT

	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	Existing Volume (2018)	147	778	11	148	546	86	286	68	194	26	71
Peak Season Adjustment	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth (2018-2022 - 1%)	6	32	0	6	22	3	12	3	8	1	3	8
Background Traffic Growth (2022-2027)	10	54	1	10	38	6	20	5	13	2	5	14
1.0% Background Growth	14	73	1	14	51	8	27	6	18	2	7	19
Major Projects Traffic	0	40	0	5	87	3	1	0	0	0	0	2
Background Traffic Used	14	113	1	20	138	11	28	6	18	2	7	21
Project Traffic	0	20	0	-9	-9	-8	19	0	0	0	0	21
2027 Background Traffic	161	891	12	168	684	97	314	74	212	28	78	228
Wellington South	6	23	9	0	29	22	32	21	9	10	14	0
Total	167	934	21	169	784	111	365	95	221	38	92	249
Approach Total	1,122	974			681			379				

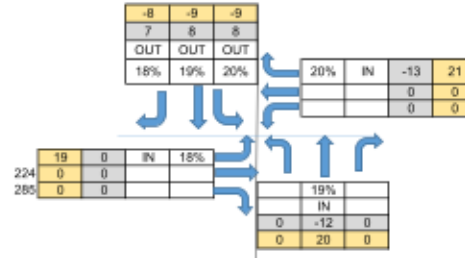
Critical Volume Analysis											
No. of Lanes	1	2	<	1	1	>	1	1	>	1	
Per Lane Volume	167	477		169	704	111	0	460	221	130	
Right on Red			0			60			60		
Overlaps Left			0					167		169	
Adj. Per Lane Volume	167	477	0	169	704	51	0	460	0	130	
Through/Right Volume		477			704			460		130	
Opposing Left Turns		169			167			0		0	
Critical Volume for Approach		636			871			460		130	
Critical Volume for Direction				871				460		130	
Intersection Critical Volume				1,331							
STATUS?	NEAR										

Major Project from Link Analysis

Net new Wellington North Trips based on proposed trip gen minus existing Equestrian Village trips from mtp traffic study
 Wellington South trips based on Traffic Equivalency Statement dated 09/19/23

NET TRIPS

	IN	OUT
AM	-64	41
PM	105	-46



Existing Equestrian Village Trips

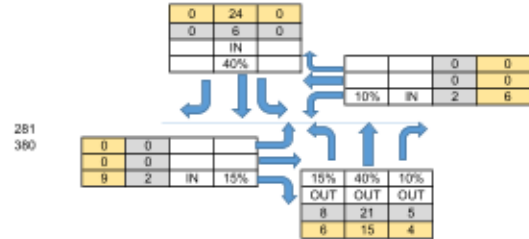
	In	Out	Net Trip Difference
AM	166	52	-64 41
PM	38	167	105 -46

Proposed Wellington North Trips With Coach House

	In	Out
AM	102	93
PM	143	121

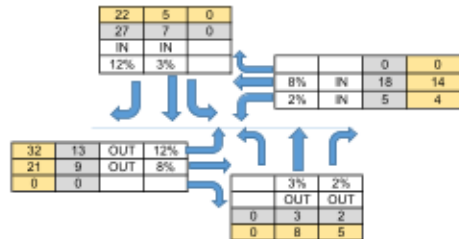
WELLINGTON SOUTH RESIDENTIAL NET TRIPS

	IN	OUT
AM	16	52
PM	61	37



WELLINGTON SOUTH SHOWGROUNDS NET TRIPS

	IN	OUT
AM	228	188
PM	181	266



CMA INTERSECTION ANALYSIS
WELLINGTON NORTH
SOUTH SHORE BOULEVARD AT GREENVIEW SHORES BOULEVARD

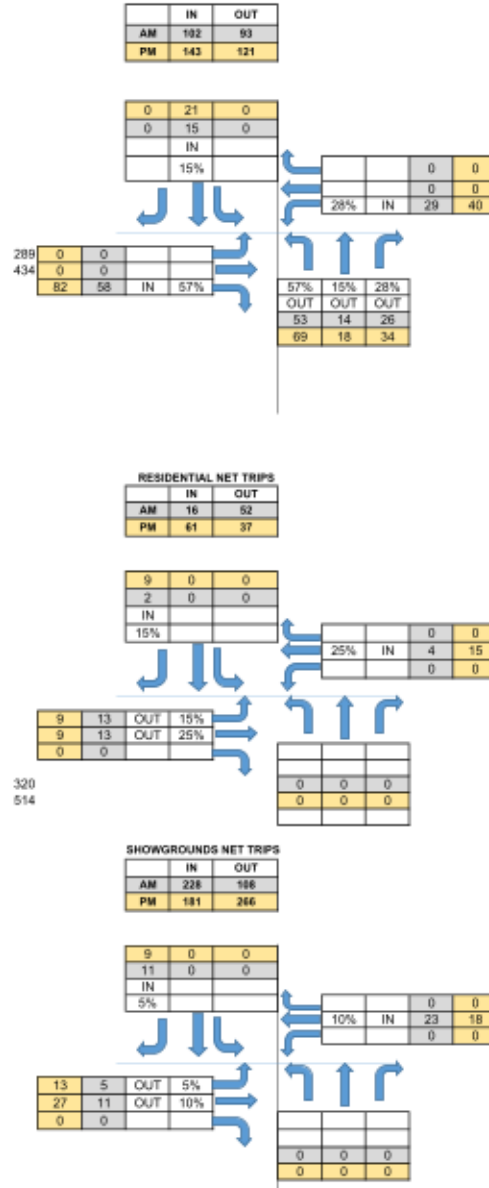
INPUT DATA					
Comments:					
Growth Rate =	1.29%	Peak Season =	1.00	Current Year =	2018
		Buildout Year =	2027		

AM Peak Hour												
INTERSECTION VOLUME DEVELOPMENT												
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volume (2018)	0	0	0	413	0	572	390	168	0	0	537	561
Peak Season Adjustment	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth (2018-2022 - 1%)	0	0	0	17	0	23	16	7	0	0	22	23
Background Traffic Growth (2022-2027)	0	0	0	28	0	39	27	12	0	0	37	39
1.0% Background Growth	0	0	0	39	0	54	37	16	0	0	50	53
Major Projects Traffic	0	0	0	3	0	19	5	22	0	0	133	5
Background Traffic Used	0	0	0	42	0	73	42	38	0	0	183	58
Project Traffic	53	14	26	0	15	0	0	0	58	29	0	0
2027 Background Traffic	0	0	0	455	0	645	432	206	0	0	720	619
Wellington South	0	0	0	0	0	13	18	24	0	0	27	0
Total	53	14	26	455	15	658	450	230	58	29	747	619
Approach Total	93			1,127			737			1,395		
CRITICAL VOLUME ANALYSIS												
No. of Lanes	1	1	<	2	><	1	2	2	<	1	2	1
Per Lane Volume	53	1	40	235	658	225	139	29	374	619		
Right on Red					60				60	60		
Overlap Left					225				619	235		
Adj. Per Lane Volume	53	40	0	235	0	373	225	139	29	0	324	
Through/Right Volume					373				139		324	
Opposing Left Turns					53				29		225	
Critical Volume for Approach					426				168		548	
Critical Volume for Direction				426					548			
Intersection Critical Volume	974											
STATUS?	UNDER											

PM Peak Hour												
INTERSECTION VOLUME DEVELOPMENT												
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volume (2018)	0	0	0	575	0	448	587	668	0	0	271	374
Peak Season Adjustment	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth (2018-2022 - 1%)	0	0	0	23	0	18	24	27	0	0	11	15
Background Traffic Growth (2022-2027)	0	0	0	40	0	31	40	46	0	0	19	26
1.0% Background Growth	0	0	0	54	0	42	55	63	0	0	25	35
Major Projects Traffic	0	0	0	9	0	12	23	138	0	0	55	3
Background Traffic Used	0	0	0	63	0	54	78	201	0	0	80	38
Project Traffic	69	18	34	0	21	0	0	0	82	40	0	0
2027 Background Traffic	0	0	0	638	0	502	665	869	0	0	351	412
Wellington South	0	0	0	0	0	18	22	36	0	0	33	0
Total	69	18	34	638	21	520	687	905	82	40	384	412
Approach Total	121			1,179			1,674			836		
Critical Volume Analysis												
No. of Lanes	1	1	<	2	><	1	2	2	<	1	2	1
Per Lane Volume	69	52	0	329	520	343	488	40	192	412		
Right on Red					60				60	60		
Overlap Left					343				412	329		
Adj. Per Lane Volume	69	52	0	329	0	116	343	488	40	0	23	
Through/Right Volume					116			488		23		
Opposing Left Turns					69			40		343		
Critical Volume for Approach					381			528		366		
Critical Volume for Direction				381				528				
Intersection Critical Volume	910											
STATUS?	UNDER											

Note:
 Driveway Trips used to be conservative and not net trips

DRIVEWAY PROPOSED TRIPS WITH COACH HOUSE



Lanes, Volumes, Timings

3: South Shore Blvd & Greenview Shores Blvd

10/20/2023

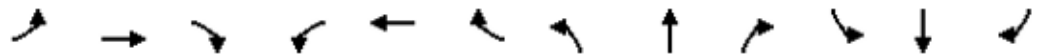


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	455	15	658	53	14	26	450	230	58	29	747	619
Future Volume (vph)	455	15	658	53	14	26	450	230	58	29	747	619
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Fr _t			0.850		0.904			0.970				0.850
Fl _t Protected	0.950	0.955		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1690	1583	1770	1684	0	3433	3433	0	1770	3539	1583
Fl _t Permitted	0.950	0.955		0.519			0.950			0.567		
Satd. Flow (perm)	1681	1690	1583	967	1684	0	3433	3433	0	1056	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			84		27			32				243
Link Speed (mph)		30			30			30				30
Link Distance (ft)		588			518			1933				1582
Travel Time (s)		13.4			11.8			43.9				36.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	479	16	693	56	15	27	474	242	61	31	786	652
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	249	246	693	56	42	0	474	303	0	31	786	652
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)		12			12			24				24
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	Split	NA	pm+ov	Perm	NA		Prot	NA		pm+pt	NA	pm+ov
Protected Phases	8	8	1		4		1	6		5	2	8
Permitted Phases			8	4						2		2
Detector Phase	8	8	1	4	4		1	6		5	2	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	4.0	4.0	4.0		4.0	20.0		4.0	20.0	5.0
Minimum Split (s)	11.5	11.5	10.5	10.5	10.5		10.5	26.5		10.5	26.5	11.5
Total Split (s)	36.0	36.0	38.0	14.0	14.0		38.0	66.0		14.0	42.0	36.0
Total Split (%)	27.7%	27.7%	29.2%	10.8%	10.8%		29.2%	50.8%		10.8%	32.3%	27.7%
Maximum Green (s)	29.5	29.5	31.5	7.5	7.5		31.5	59.5		7.5	35.5	29.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	None		None	None	None
Act Effct Green (s)	24.5	24.5	56.1	7.7	7.7		24.9	55.1		37.3	30.7	55.2
Actuated g/C Ratio	0.21	0.21	0.49	0.07	0.07		0.22	0.48		0.33	0.27	0.48
v/c Ratio	0.69	0.68	0.85	0.86	0.30		0.64	0.18		0.08	0.83	0.73
Control Delay	54.3	53.6	33.6	137.0	35.6		45.8	16.8		16.6	49.0	13.5

Lanes, Volumes, Timings

3: South Shore Blvd & Greenview Shores Blvd

10/20/2023

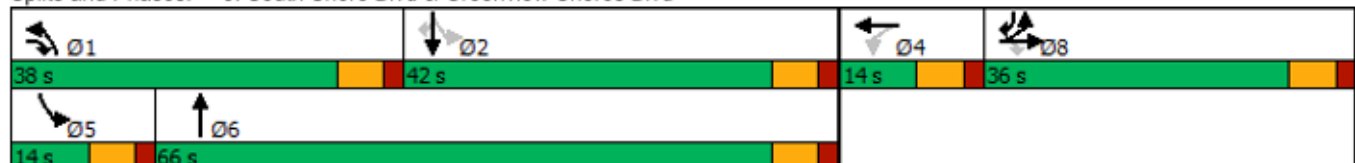


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	54.3	53.6	33.6	137.0	35.6		45.8	16.8		16.6	49.0	13.5
LOS	D	D	C	F	D		D	B		B	D	B
Approach Delay		42.1			93.6			34.5			32.6	
Approach LOS		D			F			C			C	
Queue Length 50th (ft)	191	189	415	46	12		179	67		11	307	149
Queue Length 95th (ft)	302	297	606	#142	51		238	100		26	405	269
Internal Link Dist (ft)		508			438			1853			1502	
Turn Bay Length (ft)												
Base Capacity (vph)	445	447	915	65	138		970	1850		402	1127	957
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.56	0.55	0.76	0.86	0.30		0.49	0.16		0.08	0.70	0.68

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 114.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 37.9
 Intersection LOS: D
 Intersection Capacity Utilization 81.0%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: South Shore Blvd & Greenview Shores Blvd



HCM 6th Signalized Intersection Summary

3: South Shore Blvd & Greenview Shores Blvd

10/20/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	455	15	658	53	14	26	450	230	58	29	747	619
Future Volume (veh/h)	455	15	658	53	14	26	450	230	58	29	747	619
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	490	0	630	56	15	16	474	242	60	31	786	589
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	927	0	672	82	38	40	567	1255	305	427	1069	889
Arrive On Green	0.26	0.00	0.26	0.05	0.05	0.05	0.16	0.44	0.44	0.02	0.30	0.30
Sat Flow, veh/h	3563	0	1585	1781	828	883	3456	2834	689	1781	3554	1585
Grp Volume(v), veh/h	490	0	630	56	0	31	474	150	152	31	786	589
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1711	1728	1777	1746	1781	1777	1585
Q Serve(g_s), s	13.4	0.0	29.5	3.5	0.0	2.0	15.1	5.8	6.0	1.4	22.5	29.4
Cycle Q Clear(g_c), s	13.4	0.0	29.5	3.5	0.0	2.0	15.1	5.8	6.0	1.4	22.5	29.4
Prop In Lane	1.00		1.00	1.00		0.52	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	927	0	672	82	0	78	567	787	773	427	1069	889
V/C Ratio(X)	0.53	0.00	0.94	0.69	0.00	0.40	0.84	0.19	0.20	0.07	0.74	0.66
Avail Cap(c_a), veh/h	927	0	672	118	0	113	960	932	916	505	1113	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	0.0	31.2	53.3	0.0	52.6	45.9	19.2	19.3	26.5	35.6	17.4
Incr Delay (d2), s/veh	0.6	0.0	20.8	9.8	0.0	3.2	3.4	0.1	0.1	0.1	2.5	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.8	0.0	27.1	3.2	0.0	1.7	11.0	4.4	4.4	1.1	15.2	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.6	0.0	52.0	63.1	0.0	55.8	49.3	19.3	19.4	26.5	38.1	19.2
LnGrp LOS	D	A	D	E	A	E	D	B	B	C	D	B
Approach Vol, veh/h		1120			87			776			1406	
Approach Delay, s/veh		45.2			60.5			37.6			29.9	
Approach LOS		D			E			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.1	40.6		11.7	9.0	56.7		36.0				
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	31.5	35.5		7.5	7.5	59.5		29.5				
Max Q Clear Time (g_c+I1), s	17.1	31.4		5.5	3.4	8.0		31.5				
Green Ext Time (p_c), s	1.5	2.7		0.0	0.0	2.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Lanes, Volumes, Timings
6: South Shore Blvd & Pierson Road

10/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	59	146	15	70	66	160	534	17	168	830	285
Future Volume (vph)	95	59	146	15	70	66	160	534	17	168	830	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t			0.850			0.850		0.995				0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3522	0	1770	1863	1583
Fl _t Permitted	0.495			0.717			0.073			0.388		
Satd. Flow (perm)	922	1863	1583	1336	1863	1583	136	3522	0	723	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154			105		4				289
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1735			2216			3294			1933	
Travel Time (s)		39.4			50.4			74.9			43.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	100	62	154	16	74	69	168	562	18	177	874	300
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	62	154	16	74	69	168	580	0	177	874	300
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)		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	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4	1	3	8	5	1	6		5	2	7
Permitted Phases	4		4	8		8	6			2		2
Detector Phase	7	4	1	3	8	5	1	6		5	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	26.0	26.0	12.0	26.0	26.0	12.0	12.0	25.0		12.0	25.0	26.0
Total Split (s)	15.0	24.0	15.0	15.0	24.0	17.0	15.0	69.0		17.0	71.0	15.0
Total Split (%)	12.0%	19.2%	12.0%	12.0%	19.2%	13.6%	12.0%	55.2%		13.6%	56.8%	12.0%
Maximum Green (s)	7.0	16.0	8.0	7.0	16.0	10.0	8.0	62.0		10.0	64.0	7.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0		3.0	3.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	7.0	8.0	8.0	7.0	7.0	7.0		7.0	7.0	8.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	None
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)	18.4	15.9	32.6	14.5	9.9	23.4	63.0	54.7		65.2	55.8	70.3

Lanes, Volumes, Timings
6: South Shore Blvd & Pierson Road

10/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.17	0.15	0.30	0.13	0.09	0.22	0.58	0.51		0.60	0.52	0.65
v/c Ratio	0.47	0.23	0.26	0.08	0.44	0.16	0.82	0.33		0.34	0.91	0.27
Control Delay	47.0	48.5	7.2	37.9	59.2	3.1	56.3	16.9		9.9	39.6	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	47.0	48.5	7.2	37.9	59.2	3.1	56.3	16.9		9.9	39.6	1.8
LOS	D	D	A	D	E	A	E	B		A	D	A
Approach Delay	27.9			32.7			25.7			27.3		
Approach LOS	C			C			C			C		
Queue Length 50th (ft)	65	39	0	10	55	0	71	128		47	561	3
Queue Length 95th (ft)	115	91	54	30	105	14	#213	179		83	#890	35
Internal Link Dist (ft)	1655			2136			3214			1853		
Turn Bay Length (ft)												
Base Capacity (vph)	214	341	584	218	287	437	205	2106		542	1148	1129
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.47	0.18	0.26	0.07	0.26	0.16	0.82	0.28		0.33	0.76	0.27

Intersection Summary

Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	108.3
Natural Cycle:	130
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	27.2
Intersection LOS:	C
Intersection Capacity Utilization:	82.8%
ICU Level of Service:	E
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: South Shore Blvd & Pierson Road

Ø1 15 s	Ø2 71 s	Ø3 15 s	Ø4 24 s
Ø5 17 s	Ø6 69 s	Ø7 15 s	Ø8 24 s

HCM 6th Signalized Intersection Summary

6: South Shore Blvd & Pierson Road

10/20/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	59	146	15	70	66	160	534	17	168	830	285
Future Volume (veh/h)	95	59	146	15	70	66	160	534	17	168	830	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	62	91	16	74	6	168	562	18	177	874	237
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	149	227	216	112	201	230	1803	58	539	965	926
Arrive On Green	0.07	0.08	0.08	0.05	0.06	0.06	0.06	0.51	0.51	0.07	0.52	0.52
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3514	112	1781	1870	1585
Grp Volume(v), veh/h	100	62	91	16	74	6	168	284	296	177	874	237
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1850	1781	1870	1585
Q Serve(g_s), s	5.3	3.2	5.4	0.8	4.0	0.3	4.5	9.5	9.5	4.8	43.6	7.5
Cycle Q Clear(g_c), s	5.3	3.2	5.4	0.8	4.0	0.3	4.5	9.5	9.5	4.8	43.6	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	220	149	227	216	112	201	230	911	949	539	965	926
V/C Ratio(X)	0.46	0.42	0.40	0.07	0.66	0.03	0.73	0.31	0.31	0.33	0.91	0.26
Avail Cap(c_a), veh/h	220	291	348	251	291	353	255	1073	1117	594	1166	1096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	45.0	40.0	41.2	47.2	39.3	22.4	14.5	14.5	10.6	22.6	10.4
Incr Delay (d2), s/veh	1.5	1.8	1.1	0.1	6.4	0.1	9.2	0.2	0.2	0.4	9.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.3	2.8	3.9	0.7	3.7	0.2	4.6	6.8	7.1	3.3	27.7	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	46.8	41.1	41.3	53.7	39.4	31.5	14.7	14.7	11.0	31.5	10.6
LnGrp LOS	D	D	D	D	D	D	C	B	B	B	C	B
Approach Vol, veh/h		253			96			748			1288	
Approach Delay, s/veh		43.2			50.7			18.5			24.9	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	60.0	13.0	16.2	13.9	59.7	15.0	14.2				
Change Period (Y+Rc), s	7.0	7.0	8.0	8.0	7.0	7.0	8.0	8.0				
Max Green Setting (Gmax), s	8.0	64.0	7.0	16.0	10.0	62.0	7.0	16.0				
Max Q Clear Time (g_c+l1), s	6.5	45.6	2.8	7.4	6.8	11.5	7.3	6.0				
Green Ext Time (p_c), s	0.1	7.4	0.0	0.3	0.1	4.0	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Lanes, Volumes, Timings

3: South Shore Blvd & Greenview Shores Blvd

10/20/2023

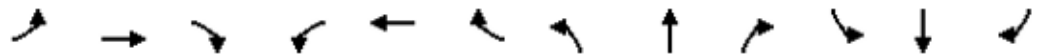


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	638	21	520	69	18	34	687	905	82	40	384	412
Future Volume (vph)	638	21	520	69	18	34	687	905	82	40	384	412
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Fr _t			0.850		0.902			0.988				0.850
Fl _t Protected	0.950	0.955		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1690	1583	1770	1680	0	3433	3497	0	1770	3539	1583
Fl _t Permitted	0.950	0.955		0.274			0.950			0.276		
Satd. Flow (perm)	1681	1690	1583	510	1680	0	3433	3497	0	514	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			211		36			9				305
Link Speed (mph)		30			30			30				30
Link Distance (ft)		588			518			1933				1582
Travel Time (s)		13.4			11.8			43.9				36.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	672	22	547	73	19	36	723	953	86	42	404	434
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	349	345	547	73	55	0	723	1039	0	42	404	434
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)		12			12			24				24
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	Split	NA	pm+ov	Perm	NA		Prot	NA		pm+pt	NA	pm+ov
Protected Phases	8	8	1		4		1	6		5	2	8
Permitted Phases			8	4						2		2
Detector Phase	8	8	1	4	4		1	6		5	2	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	4.0	4.0	4.0		4.0	20.0		4.0	20.0	5.0
Minimum Split (s)	11.5	11.5	10.5	10.5	10.5		10.5	26.5		10.5	26.5	11.5
Total Split (s)	37.0	37.0	44.0	21.0	21.0		44.0	60.0		12.0	28.0	37.0
Total Split (%)	28.5%	28.5%	33.8%	16.2%	16.2%		33.8%	46.2%		9.2%	21.5%	28.5%
Maximum Green (s)	30.5	30.5	37.5	14.5	14.5		37.5	53.5		5.5	21.5	30.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	6.5	6.5
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	None		None	None	None
Act Effct Green (s)	29.0	29.0	67.5	14.6	14.6		31.9	49.8		26.2	20.7	49.7
Actuated g/C Ratio	0.24	0.24	0.55	0.12	0.12		0.26	0.41		0.21	0.17	0.41
v/c Ratio	0.87	0.86	0.57	1.22	0.24		0.81	0.73		0.25	0.68	0.53
Control Delay	68.8	66.9	12.6	231.0	27.2		50.2	34.6		26.6	55.2	6.9

Lanes, Volumes, Timings

3: South Shore Blvd & Greenview Shores Blvd

10/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	68.8	66.9	12.6	231.0	27.2		50.2	34.6		26.6	55.2	6.9
LOS	E	E	B	F	C		D	C		C	E	A
Approach Delay		43.5			143.5			41.0			30.0	
Approach LOS		D			F			D			C	
Queue Length 50th (ft)	283	278	158	~72	14		278	377		18	164	40
Queue Length 95th (ft)	#484	#473	262	#181	56		355	458		38	228	98
Internal Link Dist (ft)		508			438			1853			1502	
Turn Bay Length (ft)												
Base Capacity (vph)	421	423	1032	60	231		1058	1542		166	625	841
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.83	0.82	0.53	1.22	0.24		0.68	0.67		0.25	0.65	0.52

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 122.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay: 42.6
 Intersection LOS: D
 Intersection Capacity Utilization 77.4%
 ICU Level of Service D
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: South Shore Blvd & Greenview Shores Blvd



HCM 6th Signalized Intersection Summary 3: South Shore Blvd & Greenview Shores Blvd

10/20/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	638	21	520	69	18	34	687	905	82	40	384	412
Future Volume (veh/h)	638	21	520	69	18	34	687	905	82	40	384	412
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	688	0	484	73	19	25	723	953	85	42	404	371
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	925	0	796	105	43	57	838	1350	120	208	687	718
Arrive On Green	0.26	0.00	0.26	0.06	0.06	0.06	0.24	0.41	0.41	0.03	0.19	0.19
Sat Flow, veh/h	3563	0	1585	1781	733	964	3456	3300	294	1781	3554	1585
Grp Volume(v), veh/h	688	0	484	73	0	44	723	513	525	42	404	371
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1697	1728	1777	1817	1781	1777	1585
Q Serve(g_s), s	18.8	0.0	23.2	4.3	0.0	2.7	21.2	25.4	25.4	2.0	11.0	17.7
Cycle Q Clear(g_c), s	18.8	0.0	23.2	4.3	0.0	2.7	21.2	25.4	25.4	2.0	11.0	17.7
Prop In Lane	1.00		1.00	1.00		0.57	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	925	0	796	105	0	100	838	727	744	208	687	718
V/C Ratio(X)	0.74	0.00	0.61	0.69	0.00	0.44	0.86	0.71	0.71	0.20	0.59	0.52
Avail Cap(c_a), veh/h	1025	0	841	244	0	232	1222	897	917	252	721	733
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	0.0	18.9	48.9	0.0	48.2	38.4	26.0	26.0	33.1	38.9	20.7
Incr Delay (d2), s/veh	2.7	0.0	1.2	7.9	0.0	3.0	4.5	1.9	1.9	0.5	1.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.2	0.0	13.2	3.8	0.0	2.2	14.4	16.3	16.6	1.6	8.5	15.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	0.0	20.1	56.8	0.0	51.2	43.0	27.9	27.9	33.5	40.1	21.3
LnGrp LOS	D	A	C	E	A	D	D	C	C	C	D	C
Approach Vol, veh/h		1172			117			1761			817	
Approach Delay, s/veh		31.0			54.7			34.1			31.2	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.2	27.0		12.8	9.3	49.9		34.0				
Change Period (Y+Rc), s	6.5	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	37.5	21.5		14.5	5.5	53.5		30.5				
Max Q Clear Time (g_c+l1), s	23.2	19.7		6.3	4.0	27.4		25.2				
Green Ext Time (p_c), s	2.5	0.8		0.2	0.0	7.8		2.3				

Intersection Summary

HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lanes, Volumes, Timings
6: South Shore Blvd & Pierson Road

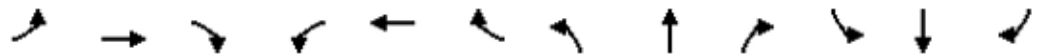
10/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	365	95	221	38	92	249	167	934	21	159	704	111
Future Volume (vph)	365	95	221	38	92	249	167	934	21	159	704	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t			0.850			0.850		0.997				0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3529	0	1770	1863	1583
Fl _t Permitted	0.446			0.692			0.069			0.152		
Satd. Flow (perm)	831	1863	1583	1289	1863	1583	129	3529	0	283	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233			87		2				117
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1735			2216			3294			1933	
Travel Time (s)		39.4			50.4			74.9			43.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	384	100	233	40	97	262	176	983	22	167	741	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	384	100	233	40	97	262	176	1005	0	167	741	117
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)		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	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4	1	3	8	5	1	6		5	2	7
Permitted Phases	4		4	8		8	6			2		2
Detector Phase	7	4	1	3	8	5	1	6		5	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	26.0	26.0	12.0	26.0	26.0	12.0	12.0	25.0		12.0	25.0	26.0
Total Split (s)	33.0	33.0	19.0	26.0	26.0	24.0	19.0	67.0		24.0	72.0	33.0
Total Split (%)	22.0%	22.0%	12.7%	17.3%	17.3%	16.0%	12.7%	44.7%		16.0%	48.0%	22.0%
Maximum Green (s)	25.0	25.0	12.0	18.0	18.0	17.0	12.0	60.0		17.0	65.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0		3.0	3.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	7.0	8.0	8.0	7.0	7.0	7.0		7.0	7.0	8.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	None
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)	45.7	33.2	53.0	20.3	12.6	32.8	69.9	58.2		70.8	58.7	90.8

Lanes, Volumes, Timings
6: South Shore Blvd & Pierson Road

10/20/2023

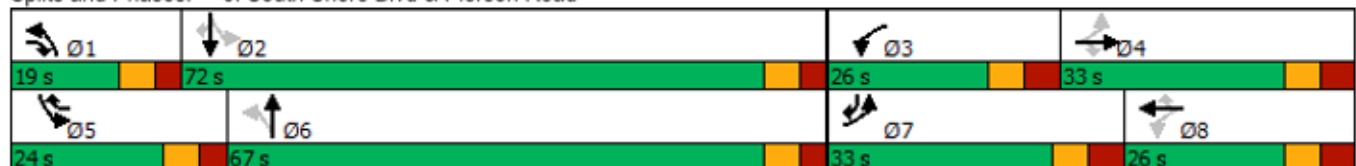


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.33	0.24	0.38	0.15	0.09	0.24	0.51	0.42		0.51	0.42	0.66
v/c Ratio	0.86	0.22	0.31	0.19	0.57	0.59	0.86	0.68		0.61	0.94	0.11
Control Delay	61.4	48.0	5.0	38.0	75.6	36.9	70.8	35.6		25.0	58.5	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	61.4	48.0	5.0	38.0	75.6	36.9	70.8	35.6		25.0	58.5	1.8
LOS	E	D	A	D	E	D	E	D		C	E	A
Approach Delay		41.2			46.4			40.8			46.6	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	317	80	0	26	90	150	107	377		70	631	0
Queue Length 95th (ft)	#502	138	58	56	151	236	#269	512		118	#934	23
Internal Link Dist (ft)		1655			2136			3214			1853	
Turn Bay Length (ft)												
Base Capacity (vph)	445	447	754	349	244	496	209	1588		339	883	1081
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.86	0.22	0.31	0.11	0.40	0.53	0.84	0.63		0.49	0.84	0.11

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	138.3
Natural Cycle:	120
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	43.3
Intersection LOS:	D
Intersection Capacity Utilization:	91.5%
ICU Level of Service:	F
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 6: South Shore Blvd & Pierson Road



HCM 6th Signalized Intersection Summary

6: South Shore Blvd & Pierson Road

10/20/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↕		↘	↑	↗
Traffic Volume (veh/h)	365	95	221	38	92	249	167	934	21	159	704	111
Future Volume (veh/h)	365	95	221	38	92	249	167	934	21	159	704	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	384	100	170	40	97	199	176	983	22	167	741	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	497	533	252	235	308	202	1496	33	284	784	941
Arrive On Green	0.17	0.27	0.27	0.03	0.13	0.13	0.07	0.42	0.42	0.07	0.42	0.42
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3553	80	1781	1870	1585
Grp Volume(v), veh/h	384	100	170	40	97	199	176	492	513	167	741	54
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1856	1781	1870	1585
Q Serve(g_s), s	25.0	5.9	11.4	2.8	6.8	16.5	8.0	31.7	31.7	7.6	54.5	2.0
Cycle Q Clear(g_c), s	25.0	5.9	11.4	2.8	6.8	16.5	8.0	31.7	31.7	7.6	54.5	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	446	497	533	252	235	308	202	748	782	284	784	941
V/C Ratio(X)	0.86	0.20	0.32	0.16	0.41	0.65	0.87	0.66	0.66	0.59	0.95	0.06
Avail Cap(c_a), veh/h	446	497	533	414	235	308	226	748	782	374	850	997
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	40.8	35.3	51.5	57.6	53.1	32.8	33.1	33.1	25.6	40.0	12.2
Incr Delay (d2), s/veh	15.6	0.2	0.3	0.3	1.2	4.6	27.0	2.1	2.0	1.9	18.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	19.9	5.0	8.0	2.3	6.0	11.4	8.5	20.3	21.0	6.1	37.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.6	40.9	35.7	51.8	58.8	57.7	59.8	35.2	35.1	27.5	58.1	12.2
LnGrp LOS	E	D	D	D	E	E	E	D	D	C	E	B
Approach Vol, veh/h		654			336			1181			962	
Approach Delay, s/veh		50.5			57.3			38.9			50.3	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.1	67.0	13.0	46.0	16.8	67.2	33.0	26.0				
Change Period (Y+Rc), s	7.0	7.0	8.0	8.0	7.0	7.0	8.0	8.0				
Max Green Setting (Gmax), s	12.0	65.0	18.0	25.0	17.0	60.0	25.0	18.0				
Max Q Clear Time (g_c+I1), s	10.0	56.5	4.8	13.4	9.6	33.7	27.0	18.5				
Green Ext Time (p_c), s	0.1	3.5	0.0	0.8	0.2	7.4	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			46.8									
HCM 6th LOS			D									