Kimley»Horn

July 1, 2024
Revised September 6, 2024
Revised October 11, 2024

Village of Wellington
Traffic Engineering Division
12300 Forest Hill Blvd
Wellington, FL 33414

RE: ***Isla Carroll***
Traffic Performance Standards Statement
Palm Beach, Florida
Kimley-Horn #140957002

Dear Village:

Kimley-Horn and Associates, Inc. has been retained to perform a traffic impact evaluation for the proposed development located on the northwest corner of the intersection of 120th Avenue and 35th Street in Wellington, Florida (see Figure 1). The existing site has been leased out to the National Polo Club for equestrian events throughout the year. These events often occur outside of the AM (7-9 AM) and PM (4-6 PM) peak hours of traffic that the surrounding road network experiences. Therefore, for trip generation purposes the existing site was not considered to generate any traffic, to maintain a conservative analysis. The proposed plan of development includes the addition of:

- 40 single family dwelling units
- 6 grooms quarters
- Showgrounds/equestrian uses with an average weekend attendance of 60 attendees
- 24 equestrian stables
- 107,011 square feet of air conditioned private space that includes:
  - Event Barn
  - Clubhouse
  - Pool
  - Fitness Center
  - Spa

It should be noted that all of the uses on site are part of the private club and operate exclusively for members and their guests. Therefore, a significant amount of traffic generated by the site will be internal to the site and be generated by the residential component internal to the site boundaries, with the trips never exiting to the external road network.

The Parcel Control Number (PCN) for the site is: 73-41-44-22-00-000-1030. This analysis was conducted to evaluate compliance with the Vehicular Traffic Performance Standards of the Village of Wellington, as defined in Article 9 of the Wellington Unified Land Development Code. (ULDC)

TRIP GENERATION DETERMINATION

A trip generation determination was prepared to determine the potential impacts of the proposed redevelopment utilizing rates and equations published by the Institute of Traffic Engineers (ITE) in *the 11th Edition Trip Generation Manual*. Traffic generated by the equestrian, stables, and grooms quarters were calculated using similar studies that have been conducted in Wellington, and the relevant excerpts are included in the Appendix, for reference. Table 1 summarizes the trip generation calculations for the proposed development. As shown in Table 1, the proposed redevelopment of the site results in an increase of 1,214 net new daily trips, an increase of 85 net new AM peak hour trips (+43 in, +42 out), and an increase of 114 net new PM peak hour trips (+61 in, +53 out).

Table 1: Weekday Trip Generation Calculations

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Proposed Scenario								
Recreational Community Center	107.011 ksf	745	51	34	17	70	33	37
Single Family Detached	40 DU	400	28	7	21	38	24	14
Stable	24 Stall(s)	39	4	2	2	4	2	2
Grooms Quarters	6 DU	30	2	0	2	3	2	1
	Subtotal	*1,214*	*85*	*43*	*42*	*115*	*61*	*54*
Pass-By Capture								
Recreational Community Center	0.0%	0	0	0	0	0	0	0
Single Family Detached	0.0%	0	0	0	0	0	0	0
Stable	0.0%	0	0	0	0	0	0	0
Grooms Quarters	0.0%	0	0	0	0	0	0	0
	Subtotal	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Driveway Volumes		**1,214**	**85**	**43**	**42**	**115**	**61**	**54**
Proposed Net External Trips-Existing Net New External Trips		**1,214**	**85**	**43**	**42**	**115**	**61**	**54**

Land Use	Daily	AM Peak Hour	PM Peak Hour	Pass By
Recreational Community Center	25% of: Ln(T) = 0.96*Ln(X) + 3.42	25% of: 1.91 trips/ksf (66% in, 34% out)	25% of: Ln(T) = 0.71*Ln(X) + 0.71 (47% in, 53% out)	0.0%
Single Family Detached	10 trips/DU	0.7 trips/DU (26% in, 74% out)	0.94 trips/DU (63% in, 37% out)	0.0%
Stable	1.62 trips/Stall(s)	0.15 trips/Stall(s) (60% in, 40% out)	0.15 trips/Stall(s) (60% in, 40% out)	0.0%
Grooms Quarters	5 trips/DU	0.36 trips/DU (20% in, 80% out)	0.44 trips/DU (55% in, 35% out)	0.0%

For reference, a weekend peak hour trip generation calculation was prepared to determine the amount of net new traffic generated by the site during average weekend conditions. On an average weekend, it is expected that the site will have 30-60 attendees for the equestrian uses on site. Table 2 summarizes the trip generation calculations during the weekend peak hour for the proposed development. As shown in Table 2 on average, the proposed redevelopment of the site results in an increase of 86 net new weekend peak hour trips (+52 in, +34 out).

Table 2: Average Weekend Trip Generation Calculations

Land Use	Intensity	Peak Hour		
		Total	In	Out
Proposed Scenario				
Recreational Community Center	107.011 ksf	28	16	13
Single Family Detached	40 DU	37	23	14
Stable	24 Stall(s)	4	2	2
Grooms Quarters	6 DU	3	2	1
Showgrounds	60 attendee(s)	14	10	4
	Subtotal	*86*	*53*	*34*
Pass-By Capture				
Recreational Community Center	0.0%	0	0	0
Single Family Detached	0.0%	0	0	0
Stable	0.0%	0	0	0
Grooms Quarters	0.0%	0	0	0
Showgrounds	0.0%	0	0	0
	Subtotal	*0*	*0*	*0*
Driveway Volumes		**86**	**53**	**34**
Proposed Net External Trips-Existing Net New External Trips		**86**	**53**	**34**

Land Use	Peak Hour:	Pass By
Recreational Community Center	25% of: 1.07 trips/ksf (54% in, 46% out)	0.0%
Single Family Detached	0.92 trips/DU (63% in, 37% out)	0.0%
Stable	0.15 trips/Stall(s) (60% in, 40% out)	0.0%
Grooms Quarters	0.44 trips/DU (65% in, 35% out)	0.0%
Showgrounds	0.23 trips/attendee(s) (73% in, 27% out)	0.0%

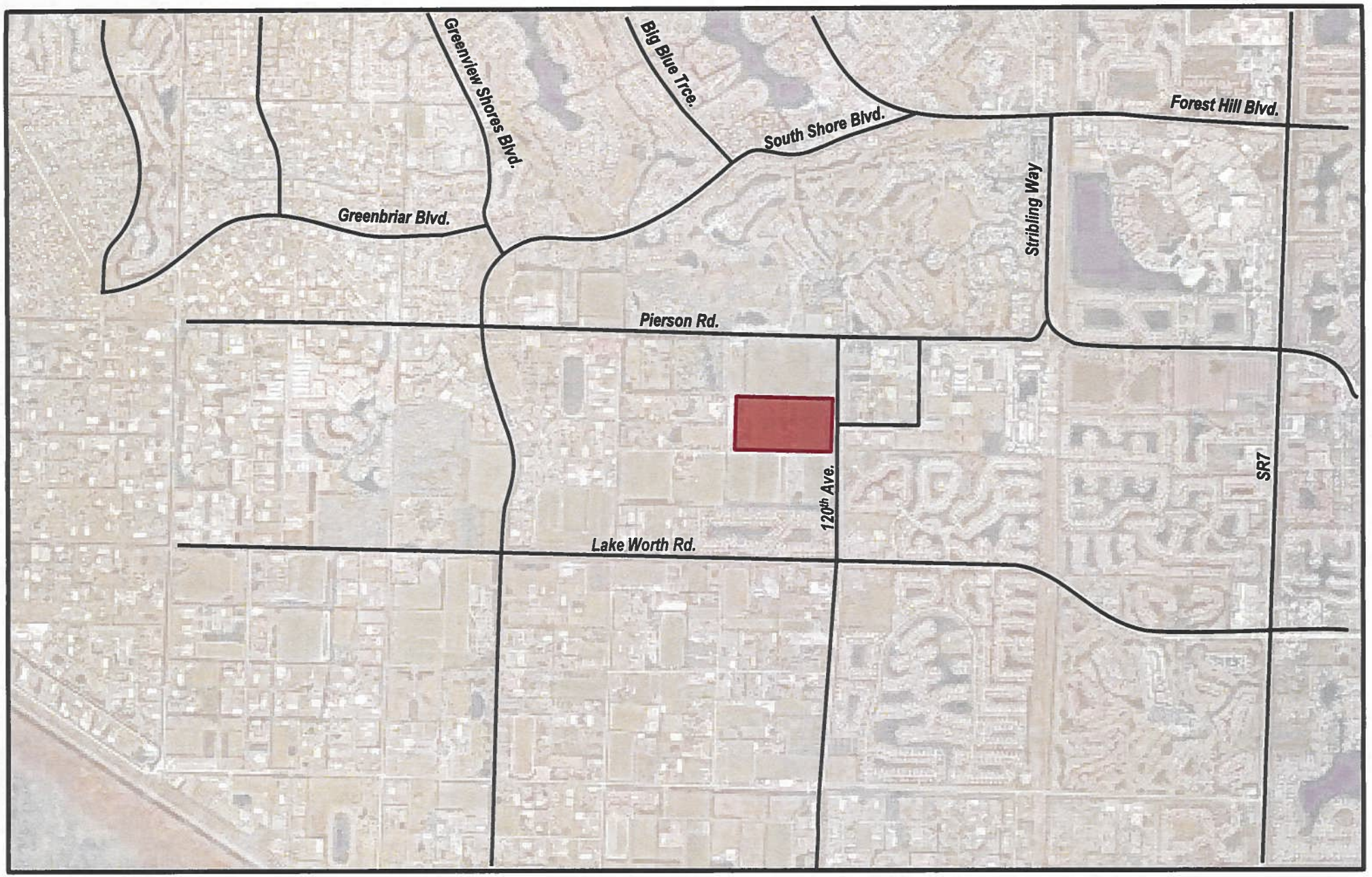
A weekend peak hour analysis was also conducted to determine the amount of net new traffic generated by the site during peak weekend conditions. Peak weekend conditions for this site are representative of equestrian events that are planned to occur a few times a year, at most quarterly. These events are expected to have 300 attendees for the equestrian uses on site. Table 3 summarizes the trip generation calculations during the weekend peak hour for the proposed development. As shown in Table 3, the proposed redevelopment of the site results in an increase of 141 net new weekend peak hour trips (+92 in, +49 out). It should be noted that the weekend analysis utilizes an attendance of 300 attendees, representative of a quarterly event, for the equestrian uses on site, which is in excess of a standard weekend attendance of 60 attendees. The trip generation potential for the quarterly events was utilized in the following sections for the weekend peak hour analyses.

Table 3: Quarterly Event - Weekend Trip Generation Calculations

Land Use	Intensity	Peak Hour		
		Total	In	Out
Proposed Scenario				
Recreational Community Center	107.011 ksf	28	15	13
Single Family Detached	40 DU	37	23	14
Stable	24 Stall(s)	4	2	2
Grooms Quarters	6 DU	3	2	1
Showgrounds	300 attendee(s)	69	50	19
	Subtotal	*141*	*92*	*49*
Pass-By Capture				
Recreational Community Center	0.0%	0	0	0
Single Family Detached	0.0%	0	0	0
Stable	0.0%	0	0	0
Grooms Quarters	0.0%	0	0	0
Showgrounds	0.0%	0	0	0
	Subtotal	*0*	*0*	*0*
Driveway Volumes		**141**	**92**	**49**
Proposed Net External Trips-Existing Net New External Trips		**141**	**92**	**49**

Land Use	Peak Hour:	Pass By
Recreational Community Center	25% of: 1.07 trips/ksf (54% in, 46% out)	0.0%
Single Family Detached	0.92 trips/DU (63% in, 37% out)	0.0%
Stable	0.15 trips/Stall(s) (60% in, 40% out)	0.0%
Grooms Quarters	0.44 trips/DU (65% in, 35% out)	0.0%
Showgrounds	0.23 trips/attendee(s) (73% in, 27% out)	0.0%

The net new traffic associated with the redevelopment of the site was distributed across the surrounding road network based on complimentary land uses and existing traffic patterns in the area. The assumed traffic distribution is illustrated in Figure 2.



NORTH

LEGEND

Site Location

FIGURE 1
Isla Carroll
KH #140957002
Site Location

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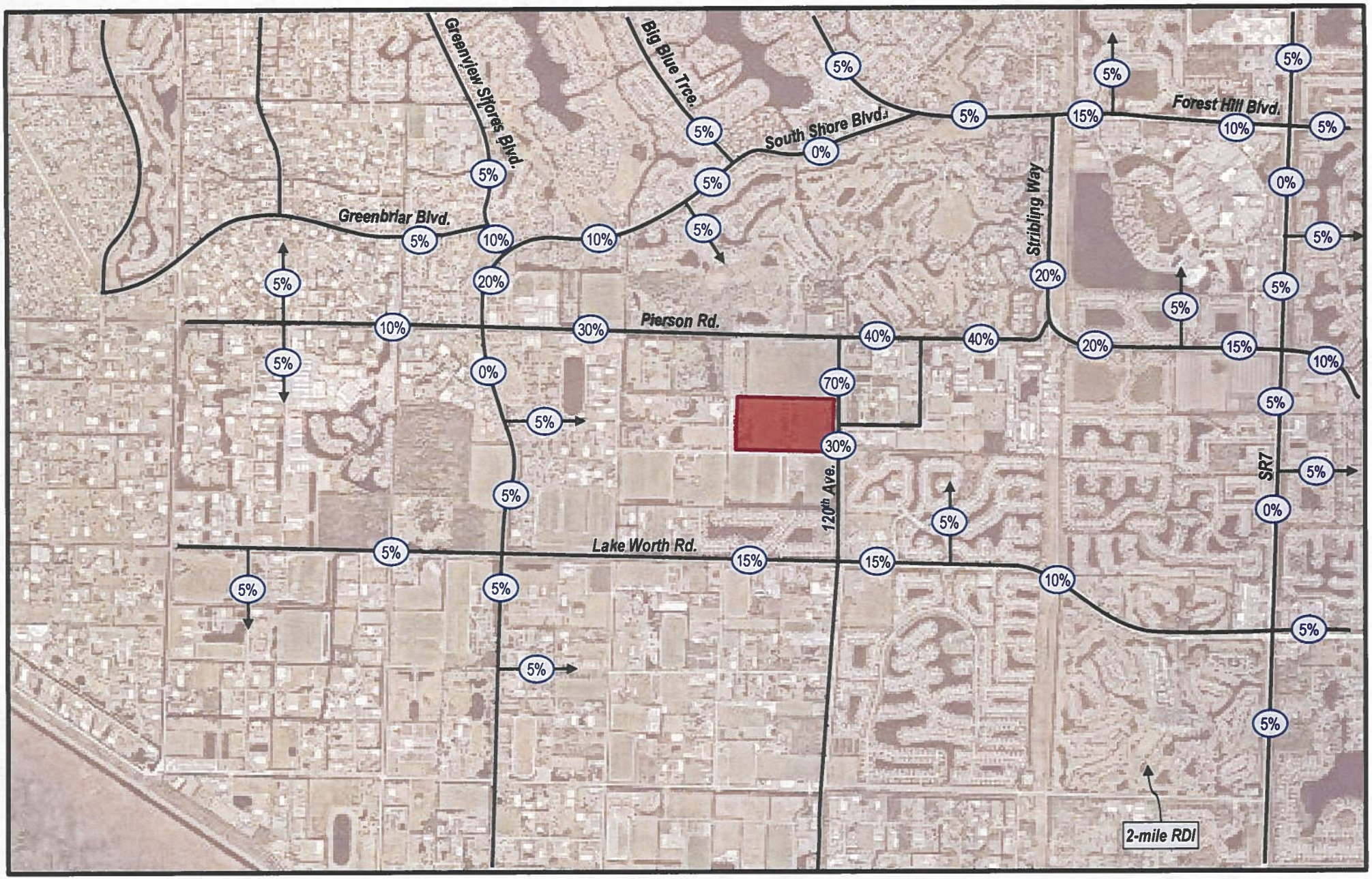

NORTH

LEGEND

Site Location

XX% Traffic Assignment

FIGURE 2
Isla Carroll
KH #140957002
Project Distribution

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LINK SIGNIFICANCE ANALYSIS

The project traffic was distributed across the links within the surrounding area based on the distribution illustrated in Figure 2, to determine if the addition of project traffic will significantly impact the roadway links, based on the methodology stated in Article 9. Table 4 and Table 5 summarize the weekday AM peak hour and PM peak hour significance analyses, respectively. The LOS D capacity as stated in Article 9 was utilized for a majority of the roadway links. Several links within the vicinity of the project are located within the Equestrian Preserve Area and therefore LOS E volumes were utilized, where applicable.

The weekend peak hour project traffic, for quarterly equestrian events, was distributed across the links within the Village of Wellington to determine if the addition of project traffic will significantly impact the roadway links, based on methodology stated in Article 9. Table 6 summarizes the weekend peak hour significance analysis.

The existing roadway capacities were measured to determine the intersections at which further analysis may be required. Test 1 of Article 9 states, during standard weekday conditions, where the addition of project traffic is significant on a link and the roadway capacity exceeds 80% intersection analysis is required. Additionally, the nearest major intersections from the driveway connections to the surrounding road network are required to be analyzed.

Based on this criteria, further intersection analysis is required at the following intersections:

1. 120th Avenue & Project Driveway (Weekday & Weekend)
2. 120th Avenue & Lake Worth Road (Weekday)
3. Stribling Way & Forest Hill Boulevard (Weekday)
4. Stribling Way & Pierson Road (Weekday)
5. SR 7 & Stribling Way (Weekday)

Additionally, a weekend peak hour analysis was conducted at the project driveway, for the larger quarterly equestrian events.

Table 4: AM Peak Hour Significance Analysis

ROADWAY	FROM	TO	EXISTING NUMBER OF LANES	AM PEAK HOUR VOLUME DEVELOPMENT & SIGNIFICANCE												
				PROJECT % ASSIGNMENT	NB EB IN/OUT?	LOS D E GENERAL SVC VOLUME	NB EB PEAK ANALYSIS					SB WB PEAK ANALYSIS				
							2022 VOL	% CAP	PROJECT TRAFFIC	% IMPACT	Sig?	2022 VOL	% CAP	PROJECT TRAFFIC	% IMPACT	Sig?
Lake Worth Road	Gene Misch Way	South Shore Boulevard	2L	5%	i	880	-	-	2	0.23%	No	-	-	2	0.23%	No
Lake Worth Road	South Shore Boulevard	120th Avenue	2L	15%	i	880	-	-	6	0.68%	No	-	-	6	0.68%	No
Lake Worth Road	120th Avenue	SR7	4LD	15%	o	2,000	-	-	6	0.30%	No	-	-	6	0.30%	No
Lake Worth Road	SR7	Lyons Road	6LD	15%	o	3,020	-	-	6	0.20%	No	-	-	6	0.20%	No
Forest Hill Boulevard	Wellington Trace	South Shore Boulevard	4LD	5%	i	2,000	-	-	2	0.10%	No	-	-	2	0.10%	No
Forest Hill Boulevard	South Shore Boulevard	Stribling Way	6LD	5%	i	3,020	-	-	2	0.07%	No	-	-	2	0.07%	No
Forest Hill Boulevard	Stribling Way	SR7	6LD	15%	o	3,020	-	-	6	0.20%	No	-	-	6	0.20%	No
South Shore Boulevard	50th Street	Lake Worth Road	2L	5%	i	800	-	-	2	0.25%	No	-	-	2	0.25%	No
South Shore Boulevard	Lake Worth Road	Pierson Road	2LD	5%	i	840	-	-	2	0.24%	No	-	-	2	0.24%	No
South Shore Boulevard	Pierson Road	Greenview Shores Boulevard	4LD	20%	o	2,000	-	-	8	0.40%	No	-	-	9	0.45%	No
South Shore Boulevard	Greenview Shores Boulevard	Big Blue Trace	4LD	10%	o	2,000	-	-	4	0.20%	No	-	-	4	0.20%	No
South Shore Boulevard	Big Blue Trace	Forest Hill Boulevard	4LD	0%	o	2,000	-	-	0	0.00%	No	-	-	0	0.00%	No
120th Avenue	Pierson Road	Project Driveway	2L	70%	o	640	149	23%	29	4.53%	Yes	114	18%	30	4.69%	Yes
120th Avenue	Project Driveway	Lake Worth Road	2L	30%	i	640	149	23%	13	2.03%	Yes	114	18%	12	1.88%	Yes
120th Avenue	Lake Worth Road	50th Street	2L	0%	i	640	-	-	0	0.00%	No	-	-	0	0.00%	No
Pierson Road	Ousley Farms Road	South Shore Boulevard	2L	10%	i	800	-	-	4	0.50%	No	-	-	4	0.50%	No
Pierson Road	South Shore Boulevard	120th Avenue	2L	30%	i	800	132	17%	13	1.63%	Yes	141	18%	13	1.63%	Yes
Pierson Road	120th Avenue	Stribling Way	2L	40%	o	750	132	18%	17	2.27%	Yes	141	19%	17	2.27%	Yes
Stribling Way	Forest Hill Boulevard	Pierson Road	2L	20%	o	880	-	-	8	0.91%	No	799	91%	9	1.02%	Yes
Stribling Way	Pierson Road	SR7	2L	20%	o	880	-	-	8	0.91%	No	443	50%	9	1.02%	Yes
Stribling Way	SR7	Donahue Way	4LD	10%	o	2,000	-	-	4	0.20%	No	-	-	4	0.20%	No
Greenview Shores Boulevard	South Shore Boulevard	Greenbriar Boulevard	4LD	10%	o	2,000	-	-	4	0.20%	No	-	-	4	0.20%	No
Big Blue Trace	Wellington Trace	South Shore Boulevard	2L	5%	o	880	-	-	2	0.23%	No	-	-	2	0.23%	No
SR7	Forest Hill Boulevard	Stribling Way	8LD	5%	o	4,040	-	-	2	0.05%	No	-	-	2	0.05%	No
SR7	Stribling Way	Lake Worth Road	8LD	5%	o	4,040	-	-	2	0.05%	No	-	-	2	0.05%	No

Table 5: PM Peak Hour Significance Analysis

ROADWAY	FROM	TO	EXISTING NUMBER OF LANES	PM PEAK HOUR VOLUME DEVELOPMENT & SIGNIFICANCE												
				PROJECT % ASSIGNMENT	NB EB IN/OUT?	LOS D E GENERAL SVC VOLUME	NB EB PEAK ANALYSIS					SB WB PEAK ANALYSIS				
							2022 VOL	% CAP	PROJECT TRAFFIC	% IMPACT	Sig?	2022 VOL	% CAP	PROJECT TRAFFIC	% IMPACT	Sig?
Lake Worth Road	Gene Misch Way	South Shore Boulevard	2L	5%	i	880	-	-	3	0.34%	No	-	-	3	0.34%	No
Lake Worth Road	South Shore Boulevard	120th Avenue	2L	15%	i	880	457	52%	9	1.02%	Yes	-	-	8	0.91%	No
Lake Worth Road	120th Avenue	SR7	4LD	15%	o	2,000	-	-	8	0.40%	No	-	-	9	0.45%	No
Lake Worth Road	SR7	Lyons Road	6LD	15%	o	3,020	-	-	8	0.26%	No	-	-	9	0.30%	No
Forest Hill Boulevard	Wellington Trace	South Shore Boulevard	4LD	5%	i	2,000	-	-	3	0.15%	No	-	-	3	0.15%	No
Forest Hill Boulevard	South Shore Boulevard	Stribling Way	6LD	5%	i	3,020	-	-	3	0.10%	No	-	-	3	0.10%	No
Forest Hill Boulevard	Stribling Way	SR7	6LD	15%	o	3,020	-	-	8	0.26%	No	-	-	9	0.30%	No
South Shore Boulevard	50th Street	Lake Worth Road	2L	5%	i	800	-	-	3	0.38%	No	-	-	3	0.38%	No
South Shore Boulevard	Lake Worth Road	Pierson Road	2LD	5%	i	840	-	-	3	0.36%	No	-	-	3	0.36%	No
South Shore Boulevard	Pierson Road	Greenview Shores Boulevard	4LD	20%	o	2,000	-	-	11	0.55%	No	-	-	12	0.60%	No
South Shore Boulevard	Greenview Shores Boulevard	Big Blue Trace	4LD	10%	o	2,000	-	-	5	0.25%	No	-	-	6	0.30%	No
South Shore Boulevard	Big Blue Trace	Forest Hill Boulevard	4LD	0%	o	2,000	-	-	0	0.00%	No	-	-	0	0.00%	No
120th Avenue	Pierson Road	Project Driveway	2L	70%	o	640	274	43%	37	5.78%	Yes	168	26%	43	6.72%	Yes
120th Avenue	Project Driveway	Lake Worth Road	2L	30%	i	640	274	43%	18	2.81%	Yes	168	26%	16	2.50%	Yes
120th Avenue	Lake Worth Road	50th Street	2L	0%	i	640	-	-	0	0.00%	No	-	-	0	0.00%	No
Pierson Road	Ousley Farms Road	South Shore Boulevard	2L	10%	i	800	-	-	6	0.75%	No	-	-	5	0.63%	No
Pierson Road	South Shore Boulevard	120th Avenue	2L	30%	i	800	209	26%	18	2.25%	Yes	214	27%	16	2.00%	Yes
Pierson Road	120th Avenue	Stribling Way	2L	40%	o	750	209	28%	21	2.80%	Yes	214	29%	24	3.20%	Yes
Stribling Way	Forest Hill Boulevard	Pierson Road	2L	20%	o	880	610	69%	11	1.25%	Yes	651	74%	12	1.36%	Yes
Stribling Way	Pierson Road	SR7	2L	20%	o	880	743	84%	11	1.25%	Yes	670	76%	12	1.36%	Yes
Stribling Way	SR7	Donahue Way	4LD	10%	o	2,000	-	-	5	0.25%	No	-	-	6	0.30%	No
Greenview Shores Boulevard	South Shore Boulevard	Greenbriar Boulevard	4LD	10%	o	2,000	-	-	5	0.25%	No	-	-	6	0.30%	No
Big Blue Trace	Wellington Trace	South Shore Boulevard	2L	5%	o	880	-	-	3	0.34%	No	-	-	3	0.34%	No
SR7	Forest Hill Boulevard	Stribling Way	8LD	5%	o	4,040	-	-	3	0.07%	No	-	-	3	0.07%	No
SR7	Stribling Way	Lake Worth Road	8LD	5%	o	4,040	-	-	3	0.07%	No	-	-	3	0.07%	No

Table 6: Quarterly Event - Weekend Peak Hour Significance Analysis

				WEEKEND PEAK HOUR VOLUME DEVELOPMENT & SIGNIFICANCE													
							NB EB PEAK ANALYSIS					SB/WB PEAK ANALYSIS					
ROADWAY	FROM	TO	EXISTING NUMBER OF LANES	PROJECT % ASSIGNMENT	NB EB IN OUT?	LOS D E GENERAL SVC VOLUME	2022 VOL	% CAP	PROJECT TRAFFIC	% IMPACT	Sig?	2022 VOL	% CAP	PROJECT TRAFFIC	% IMPACT	Sig?
Lake Worth Road	Gene Misch Way	South Shore Boulevard	2L	5%	i	880	-	-	5	0.57%	No	-	-	2	0.23%	No
Lake Worth Road	South Shore Boulevard	120th Avenue	2L	15%	i	880	423	48%	14	1.59%	Yes	-	-	7	0.80%	No
Lake Worth Road	120th Avenue	SR7	4LD	15%	o	2,000	-	-	7	0.35%	No	-	-	14	0.70%	No
Lake Worth Road	SR7	Lyons Road	6LD	15%	o	3,020	-	-	7	0.23%	No	-	-	14	0.46%	No
Forest Hill Boulevard	Wellington Trace	South Shore Boulevard	4LD	5%	i	2,000	-	-	5	0.25%	No	-	-	2	0.10%	No
Forest Hill Boulevard	South Shore Boulevard	Stribling Way	6LD	5%	i	3,020	-	-	5	0.17%	No	-	-	2	0.07%	No
Forest Hill Boulevard	Stribling Way	SR7	6LD	15%	o	3,020	-	-	7	0.23%	No	-	-	14	0.46%	No
South Shore Boulevard	50th Street	Lake Worth Road	2L	5%	i	800	-	-	5	0.63%	No	-	-	2	0.25%	No
South Shore Boulevard	Lake Worth Road	Pierson Road	2LD	5%	i	840	-	-	5	0.60%	No	-	-	2	0.24%	No
South Shore Boulevard	Pierson Road	Greenview Shores Boulevard	4LD	20%	o	2,000	-	-	10	0.50%	No	-	-	18	0.90%	No
South Shore Boulevard	Greenview Shores Boulevard	Big Blue Trace	4LD	10%	o	2,000	-	-	5	0.25%	No	-	-	9	0.45%	No
South Shore Boulevard	Big Blue Trace	Forest Hill Boulevard	4LD	0%	o	2,000	-	-	0	0.00%	No	-	-	0	0.00%	No
120th Avenue	Pierson Road	Project Driveway	2L	70%	o	640	689	108%	34	5.31%	Yes	543	85%	64	10.00%	Yes
120th Avenue	Project Driveway	Lake Worth Road	2L	30%	i	640	621	97%	28	4.38%	Yes	477	75%	15	2.34%	Yes
120th Avenue	Lake Worth Road	50th Street	2L	0%	i	640	-	-	0	0.00%	No	-	-	0	0.00%	No
Pierson Road	Ousley Farms Road	South Shore Boulevard	2L	10%	i	750	228	30%	9	1.20%	Yes	-	-	5	0.67%	No
Pierson Road	South Shore Boulevard	120th Avenue	2L	30%	i	750	255	34%	28	3.73%	Yes	254	34%	15	2.00%	Yes
Pierson Road	120th Avenue	Stribling Way	2L	40%	o	750	255	34%	20	2.67%	Yes	254	34%	37	4.93%	Yes
Stribling Way	Forest Hill Boulevard	Pierson Road	2L	20%	o	880	496	56%	10	1.14%	Yes	597	68%	18	2.05%	Yes
Stribling Way	Pierson Road	SR7	2L	20%	o	880	697	79%	10	1.14%	Yes	464	53%	18	2.05%	Yes
Stribling Way	SR7	Donahue Way	4LD	10%	o	2,000	-	-	5	0.25%	No	-	-	9	0.45%	No
Greenview Shores Boulevard	South Shore Boulevard	Greenbriar Boulevard	4LD	10%	o	2,000	-	-	5	0.25%	No	-	-	9	0.45%	No
Big Blue Trace	Wellington Trace	South Shore Boulevard	2L	5%	o	880	-	-	2	0.23%	No	-	-	5	0.57%	No
SR7	Forest Hill Boulevard	Stribling Way	8LD	5%	o	4,040	-	-	2	0.05%	No	-	-	5	0.12%	No
SR7	Stribling Way	Lake Worth Road	8LD	5%	o	4,040	-	-	2	0.05%	No	-	-	5	0.12%	No

LINK CAPACITY ANALYSIS

The surrounding roadways identified in Table 4 and Table 5 that are expected to be significantly impacted by the projected traffic were evaluated using the Test 1 criteria defined in Article 12 of the Palm Beach County Unified Land Development Code. The following tables summarize the peak hour capacity analyses on the significantly impacted roadway links during weekday and weekend conditions. Traffic volumes from the year 2022 were obtained from the Wellington Speed and Count study conducted by Pinder Troutman Consulting and were collected during peak season conditions. Committed development project traffic was included for the Professional Center at Wellington, Wellington North, Wellington South, and Wellington Aquatic Center projects. Applicable traffic volume data and committed development data is included in the Appendix, for reference.

Table 7 and Table 8 illustrate the results of the weekday AM and PM peak hour analyses. As illustrated in these tables no roadway links are expected to exceed their applicable LOS capacities.

Table 9 illustrates the results of the weekend peak hour analysis, for quarterly equestrian events. As illustrated in this table all of the links are expected to operate at their respective LOS D/E capacities and are expected to operate acceptably with the addition of project traffic, with the exception of 120th Avenue on weekends. However, this is considered a background deficiency not caused by the addition of project traffic and would be over capacity without the addition of project traffic.

Table 7: Weekday AM Peak Hour Capacity Analysis

Roadway	From	To	Committed Lanes	Committed Facility Type	Committed LOS D/E Service Volume	Direction	Significantly Impacted?	Count Year	Count Year Traffic Volume	Committed Traffic - Option #1: Committed Traffic (from TPS)	Committed Traffic - Option #1: 1.0% Traffic Growth	Committed Traffic - Option #1: Committed plus 1.0%	Committed Traffic - Option #2: Historic Growth Rate (from TPS)	Committed Traffic - Option #2: Max Historic Growth or 1%	Committed Traffic - Option #2: Max Historic Growth	Utilized (Maximum) Committed Traffic	Wellington Committed Traffic*	Wellington Athletics Traffic	Project Traffic	2028 Total Traffic	Meets Standard ??	Background Def. ??	Future v/c
120th Avenue	Pierson Road	Project Driveway	2L	Class II	640	NB/EB	Yes	2022	149	0	9	9	1.29%	1.29%	12	12	45	37	29	272	Yes	-	0.43
			2L	Class II	640	SB/WB	Yes	2022	114	0	7	7	1.29%	1.29%	9	9	42	71	30	266	Yes	-	0.42
120th Avenue	Project Driveway	Lake Worth Road	2L	Class II	640	NB/EB	Yes	2022	149	0	9	9	1.29%	1.29%	12	12	45	43	13	262	Yes	-	0.41
			2L	Class II	640	SB/WB	Yes	2022	114	0	7	7	1.29%	1.29%	9	9	42	22	12	199	Yes	-	0.31
Pierson Road	South Shore Boulevard	120th Avenue	2L	Class II	800	NB/EB	Yes	2022	132	0	8	8	1.29%	1.29%	11	11	54	29	13	239	Yes	-	0.30
			2L	Class II	800	SB/WB	Yes	2022	141	0	9	9	1.29%	1.29%	11	11	59	57	13	281	Yes	-	0.35
Pierson Road	120th Avenue	Sribling Way	2L	Class II	750	NB/EB	Yes	2022	132	0	8	8	1.29%	1.29%	11	11	96	105	17	361	Yes	-	0.48
			2L	Class II	750	SB/WB	Yes	2022	141	0	9	9	1.29%	1.29%	11	11	93	139	17	401	Yes	-	0.53
Sribling Way	Forest Hill Boulevard	Pierson Road	2L	Class II	880	NB/EB	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			2L	Class II	880	SB/WB	Yes	2023	712	16	36	52	1.29%	1.29%	47	52	52	36	9	861	Yes	-	0.98
Sribling Way	Pierson Road	SR7	2L	Class II	880	NB/EB	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			2L	Class II	880	SB/WB	Yes	2023	464	29	24	53	1.29%	1.29%	31	53	52	28	9	606	Yes	-	0.69

**Wellington Committed Traffic includes project traffic from Wellington North, Wellington South, Professional Center at Wellington, and Aquatic Center*

Table 8: Weekday PM Peak Hour Capacity Analysis

Roadway	From	To	Committed Lanes	Committed Facility Type	Committed LOS D/E Service Volume	Direction	Significantly Impacted?	Count Year	Count Year Traffic Volume	Committed Traffic - Option #1: Committed Traffic (from TPS)	Committed Traffic - Option #1: 1.0% Traffic Growth	Committed Traffic - Option #1: Committed plus 1.0%	Committed Traffic - Option #2: Historic Growth Rate (from TPS)	Committed Traffic - Option #2: Max Historic Growth or 1%	Committed Traffic - Option #2: Max Historic Growth	Utilized (Maximum) Committed Traffic	Wellington Committed Traffic*	Wellington Athletics Traffic	Project Traffic	2028 Total Traffic	Meets Standard ??	Background Def. ??	Future v/c
Lake Worth Road	South Shore Boulevard	120th Avenue	2L	Class I	880	NB/EB	Yes	2022	457	5	28	33	1.29%	1.29%	37	37	92	20	9	615	Yes	-	0.70
			2L	Class I	880	SB/WB	No	2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120th Avenue	Pierson Road	Project Driveway	2L	Class II	640	NB/EB	Yes	2022	274	0	17	17	1.29%	1.29%	22	22	63	75	37	471	Yes	-	0.74
			2L	Class II	640	SB/WB	Yes	2022	168	0	10	10	1.29%	1.29%	13	13	96	66	43	386	Yes	-	0.60
120th Avenue	Project Driveway	Lake Worth Road	2L	Class II	640	NB/EB	Yes	2022	274	0	17	17	1.29%	1.29%	22	22	4	40	18	358	Yes	-	0.56
			2L	Class II	640	SB/WB	Yes	2022	168	0	10	10	1.29%	1.29%	13	13	5	45	16	247	Yes	-	0.39
Pierson Road	South Shore Boulevard	120th Avenue	2L	Class II	800	NB/EB	Yes	2022	209	0	13	13	1.29%	1.29%	17	17	78	40	18	362	Yes	-	0.45
			2L	Class II	800	SB/WB	Yes	2022	214	0	13	13	1.29%	1.29%	17	17	86	45	16	378	Yes	-	0.47
Pierson Road	120th Avenue	Sribling Way	2L	Class II	750	NB/EB	Yes	2022	209	0	13	13	1.29%	1.29%	17	17	134	60	21	441	Yes	-	0.59
			2L	Class II	750	SB/WB	Yes	2022	214	0	13	13	1.29%	1.29%	17	17	182	53	24	490	Yes	-	0.65
Sribling Way	Forest Hill Boulevard	Pierson Road	2L	Class I	880	NB/EB	Yes	2023	762	12	39	51	1.29%	1.29%	50	51	68	30	11	922	No	Yes	1.05
			2L	Class I	880	SB/WB	Yes	2023	573	12	29	41	1.29%	1.29%	38	41	55	26	12	707	Yes	-	0.80
Sribling Way	Pierson Road	SR7	2L	Class I	880	NB/EB	Yes	2024	827	39	34	73	1.29%	1.29%	44	73	69	30	11	1,010	No	Yes	1.15
			2L	Class I	880	SB/WB	Yes	2024	651	39	26	65	1.29%	1.29%	34	65	56	26	12	810	Yes	-	0.92

**Wellington Committed Traffic includes project traffic from Wellington North, Wellington South, Professional Center at Wellington, and Aquatic Center*

Table 9: Quarterly Event - Weekend Peak Hour Capacity Analysis

Roadway			Committed			Direction	Significantly Impacted?	Count Year	Count Year Traffic Volume	1.29% Committed Traffic Growth	Wellington Committed Traffic*	Wellington Athletics Traffic	Project Traffic	2028 Total Traffic	Meets Standard ??	Back-ground Def. ??	Future v/c	Imp Needed for Def.	Imp Capacity	Meets Standard ??
	From	To	Lanes	Facility Type	LOS D/E Service Volume															
Lake Worth Road	South Shore Boulevard	120th Avenue	2L	Class II	880	NB/EB	Yes	2022	423	34	69	26	14	566	Yes	-	0.64	-	-	-
			2L	Class II	880	SB/WB	No	-	-	-	-	-	-	-	-	-	-	-	-	-
120th Avenue	Pierson Road	Project Driveway	2L	Class II	640	NB/EB	Yes	2023	689	46	67	92	34	928	No	Yes	1.45	4L	1,288	Yes
			2L	Class II	640	SB/WB	Yes	2023	543	36	81	88	64	812	No	Yes	1.27	4L	1,288	Yes
120th Avenue	Project Driveway	Lake Worth Road	2L	Class II	640	NB/EB	Yes	2023	621	41	67	53	28	810	No	Yes	1.27	4L	1,288	Yes
			2L	Class II	640	SB/WB	Yes	2023	477	32	81	55	15	660	No	Yes	1.03	4L	1,288	Yes
Pierson Road	Ousley Farms Road	South Shore Boulevard	2L	Class II	750	NB/EB	Yes	2022	228	18	108	18	9	381	Yes	-	0.51	-	-	-
			2L	Class II	750	SB/WB	No	-	-	-	-	-	-	-	-	-	-	-	-	-
Pierson Road	South Shore Boulevard	120th Avenue	2L	Class II	750	NB/EB	Yes	2022	255	20	42	53	28	398	Yes	-	0.53	-	-	-
			2L	Class II	750	SB/WB	Yes	2022	254	20	79	55	15	423	Yes	-	0.56	-	-	-
Pierson Road	120th Avenue	Stribling Way	2L	Class II	750	NB/EB	Yes	2022	255	20	116	73	20	484	Yes	-	0.65	-	-	-
			2L	Class II	750	SB/WB	Yes	2022	254	20	161	70	37	542	Yes	-	0.72	-	-	-
Stribling Way	Forest Hill Boulevard	Pierson Road	2L	Class I	880	NB/EB	Yes	2023	496	33	70	37	10	646	Yes	-	0.73	-	-	-
			2L	Class I	880	SB/WB	Yes	2023	597	40	81	35	18	771	Yes	-	0.88	-	-	-
Stribling Way	Pierson Road	SR7	2L	Class I	880	NB/EB	Yes	2024	697	37	70	37	10	851	Yes	-	0.97	-	-	-
			2L	Class I	880	SB/WB	Yes	2024	464	24	81	35	18	622	Yes	-	0.71	-	-	-

**Wellington Committed Traffic includes project traffic from Wellington North, Wellington South, Professional Center at Wellington, and Aquatic Center.*

WEEKDAY INTERSECTION ANALYSIS

The five intersections listed previously were analyzed based on the criteria stated in Article 9 of the Wellington Unified Land Development Code using *Synchro 12* software. Palm Beach County traffic count data was utilized where available. Existing count data was collected on at intersections where data was missing from the County. Furthermore, count data utilized collected as part of the Wellington South traffic analysis was utilized in the analysis. It should be noted that an equestrian show was occurring at the same time counts were collected, in March of 2023, and therefore the count data collected is representative of peak conditions for both weekday and weekend peak hours. Existing count data is included in the Appendix, for reference.

The following three scenarios were analyzed at each of the intersections:

- Existing Year (2023)
- Background Year (2028)
- Future Year (2028)

The existing count data was collected during peak season and therefore no peak season correction factor (PSCF) was applied. To develop background year traffic volumes existing volumes were grown over a five year period using a 1.29% annual compounding growth rate. This 1.29% annual compounding growth rate was used based on growth rate calculations conducted for the Wellington South project. The Palm Beach County TPS database was utilized to determine the amount of committed development traffic to include, if available. Furthermore, project traffic from the Professional Center at Wellington, Wellington North, Wellington South, Wellington Aquatic Center, Wellington Sports Academy at Village Park, and POD D-2 Orange Point PUD projects were included in the analyses. Committed development data for these projects is included in the Appendix. Project traffic was added to the background year traffic volumes to determine future year traffic volumes at each of the intersections.

The following tables summarize the results of the Synchro analyses for weekday peak hour conditions. Volume development worksheets, *Synchro* output worksheets, and Palm Beach County signal timing data is also included in the Appendix, for reference.

Table 10: Existing Year Weekday Peak Hour Synchro Analyses

#	Intersection	Control Type	Movement	AM Peak Hour		PM Peak Hour	
				Delay (s)	LOS	Delay (s)	LOS
1	120th Avenue & Driveway	TWSC	EB	-	-	-	-
			WB	9.4	A	12.0	B
			NB	-	-	-	-
			SB	-	-	-	-
			Overall	**-**	**-**	**-**	**-**
2	120th Avenue & Lake Worth Road	TWSC	EB	-	-	-	-
			WB	-	-	-	-
			NB	30.6	D	87.7	F
			SB	25.0	D	87.8	F
			Overall	**-**	**-**	**-**	**-**
3	Stribling Way & Forest Hill Boulevard	Signalized	EB	12.3	B	30.8	C
			WB	6.9	A	23.8	C
			NB	74.5	E	63.9	E
			SB	-	-	-	-
			Overall	**13.9**	**B**	**32.8**	**C**
4	Stribling Way & Pierson Road	Roundabout	EB	9.2	A	10.2	B
			WB	-	-	-	-
			NB	6.5	A	19.8	C
			SB	9.5	A	10.4	B
			Overall	**8.6**	**A**	**14.5**	**B**
5	SR7 & Stribling Way	Signalized	EB	153.0	F	70.5	E
			WB	423.0	F	229.2	F
			NB	39.8	D	89.1	F
			SB	54.3	D	78.0	E
			Overall	**89.0**	**F**	**91.6**	**F**

Table 11: Background Year (2028) Weekday Peak Hour Synchro Analyses

#	Intersection	Control Type	Movement	AM Peak Hour		PM Peak Hour	
				Delay (s)	LOS	Delay (s)	LOS
1	120th Avenue & Driveway	TWSC	EB	-	-	-	-
			WB	12.7	B	38.0	E
			NB	-	-	-	-
			SB	-	-	-	-
			Overall	**-**	**-**	**-**	**-**
2	120th Avenue & Lake Worth Road	TWSC	EB	-	-	-	-
			WB	-	-	-	-
			NB	85.0	F	$1241.2	F
			SB	77.2	F	$774.02	F
			Overall	**-**	**-**	**-**	**-**
3	Stribling Way & Forest Hill Boulevard	Signalized	EB	18.3	B	40.7	D
			WB	13.2	B	30.8	C
			NB	75.2	E	64.8	E
			SB	-	-	-	-
			Overall	**20.3**	**C**	**40.0**	**D**
4	Stribling Way & Pierson Road	Roundabout	EB	11.5	B	14.1	B
			WB	-	-	-	-
			NB	8.4	A	58.0	F
			SB	12.4	B	13.8	B
			Overall	**11.1**	**B**	**31.9**	**D**
5	SR7 & Stribling Way	Signalized	EB	150.0	F	96.6	F
			WB	271.1	F	156.7	F
			NB	34.7	C	88.0	F
			SB	66.1	E	184.1	F
			Overall	**76.9**	**E**	**127.6**	**F**

Table 12 Future Year (2028) Weekday Peak Hour Synchro Analyses

#	Intersection	Control Type	Movement	AM Peak Hour		PM Peak Hour	
				Delay (s)	LOS	Delay (s)	LOS
1	120th Avenue & Driveway	TWSC	EB	15.2	C	42.2	E
			WB	13.1	B	46.4	E
			NB	-	-	-	-
			SB	-	-	-	-
			Overall	**-**	**-**	**-**	**-**
2	120th Avenue & Lake Worth Road	TWSC	EB	-	-	-	-
			WB	-	-	-	-
			NB	93.2	F	$2214.0	F
			SB	94.7	F	$961.3	F
			Overall	**-**	**-**	**-**	**-**
3	Stribling Way & Forest Hill Boulevard	Signalized	EB	18.7	B	40.7	D
			WB	13.7	B	32.1	C
			NB	75.2	E	65.1	E
			SB	-	-	-	-
			Overall	**20.8**	**C**	**40.7**	**D**
4	Stribling Way & Pierson Road	Roundabout	EB	11.8	B	14.5	B
			WB	-	-	-	-
			NB	8.7	A	65.0	F
			SB	12.6	B	14.1	B
			Overall	**11.3**	**B**	**34.9**	**D**
5	SR7 & Stribling Way	Signalized	EB	149.4	F	97.6	F
			WB	269.1	F	155.5	F
			NB	34.7	C	88.5	F
			SB	66.9	E	184.1	F
			Overall	**77.2**	**E**	**127.9**	**F**

As illustrated in Table 12 the intersections significantly impacted by the addition of project traffic are expected to operate at or above their respective LOS criteria (LOS for signalized intersections, LOS E for unsignalized intersections and intersections within the Equestrian Preserve Area) during the weekday AM and PM peak hours, with the exception of:

- 120th Avenue & Lake Worth Road (AM & PM peak hour)
- SR7 & Stribling Way (AM & PM peak hour)

However the deficiencies for the intersections of 120th Avenue & Lake Worth Road and SR7 & Stribling Way occur during the background year without the addition of project traffic. According to Florida State Statute 163.3180, because the facilities identified exceed their respective LOS under background conditions, and because the improvements required to address future background conditions will also provide sufficient capacity for the proposed project traffic, the project is not responsible for the proportionate share of these improvements. No feasible improvements are available for the intersection of SR7 & Stribling Way, presently.

QUARTERLY EVENT - WEEKEND INTERSECTION ANALYSIS

The project driveway was analyzed during peak hour weekend conditions for one of the larger equestrian events planned as part of the site. Existing count data was utilized from the Wellington Aquatic Center traffic study and was collected on September 6, 2023.

The following three scenarios were analyzed for the intersection:

- Existing Year (2023)
- Background Year (2028)
- Future Year (2028)

The existing count data was collected outside of peak season and therefore a peak season correction factor (PSCF) was applied. To develop background year traffic volumes existing volumes were grown over a five year period using a 1.29% annual compounding growth rate. This 1.29% annual compounding growth rate was used based on growth rate calculations conducted for the Wellington South project. Furthermore, project traffic from the Professional Center at Wellington, Wellington North, Wellington South, Wellington Aquatic Center, Wellington Sports Academy at Village Park, and POD D-2 Orange Point PUD projects were included in the analyses. Committed development data for these projects is included in the Appendix. Project traffic was added to the background year traffic volumes to determine future year traffic volumes at each of the intersections. Table 13, Table 14, and Table 15 summarize the Synchro analyses results for the existing, background, and future conditions, respectively. Although the delay at the stop-control approach of the intersection will not meet the Level of Service D standard, the volume-to-capacity ratio is below 1.0 which indicates acceptable operation. It is recommended to monitor the intersection and provide special event control when traffic volumes are anticipated to be higher (such as during special events).

Table 13 Existing Weekend Peak Hour Synchro Analyses

#	Intersection	Control Type	Movement	Peak Hour	
				Delay (s)	LOS
1	120th Avenue & Driveway	TWSC	EB	-	-
			WB	19.5	C
			NB	-	-
			SB	-	-
			Overall	-	-

Table 14 Background Year (2028) Weekend Peak Hour Synchro Analyses

#	Intersection	Control Type	Movement	Peak Hour	
				Delay (s)	LOS
1	120th Avenue & Driveway	TWSC	EB	-	-
			WB	$374.5	F
			NB	-	-
			SB	-	-
			Overall	-	-

Table 15: Future Year (2028) Weekend Peak Hour Synchro Analyses – Quarterly Event

#	Intersection	Control Type	Movement	Peak Hour	
				Delay (s)	LOS
1	120th Avenue & Driveway	TWSC	EB	$398.7	F
			WB	$362.9	F
			NB	-	-
			SB	-	-
			Overall	-	-

DRIVEWAY CLASSIFICATION

Access to the site is proposed to be maintained via one main driveway on 120th Avenue and one service access driveway on 120th Avenue. Both driveways operate as full-access driveways. According to the Palm Beach County "Guide to Parking Lot and Street Access Design Criteria and Standards", it is necessary to classify project driveways as minor, intermediate, or major according to the following criteria:

- Minor – Services a maximum daily volume of 500 vehicles.
- Intermediate – Services a daily volume ranging from 501 to 2000 vehicles.
- Major – Services a daily volume of more than 2000 vehicles.

Figure 3 illustrates the expected project traffic driveway volumes on weekdays for the site driveways after full buildout. Using the above criteria, the main driveway is classified as intermediate and the service driveway is classified as minor. Figure 4 illustrates the project traffic driveway volumes on weekends during events.

TURN LANE REQUIREMENTS

The Palm Beach County "Guide to Parking Lot and Street Access Design Criteria and Standards" provides guidance on the provisions of turn lanes at site driveways. According to the standards noted in this document, the volume thresholds for providing exclusive turn lanes are as follows

- Right turn lane – 75 peak hour right turns, with driveway volumes that exceed 1,000 trips per day, and average daily traffic volumes that exceed 10,000 vehicles per day.
- Left turn lane – 30 peak hour left turns

Based on these requirements, and the configuration of the existing driveways the need for exclusive turn lanes are not met at the project driveway. Nonetheless, due to the traffic volumes on 120th Avenue and the two-lane cross-section of the roadway without median, a northbound left-turn lane is recommended at the main driveway entrance on 120th Avenue.

PROPORTIONATE SHARE CALCULATION

Although not required, a proportionate share calculation was conducted for the intersection of 120th Avenue & Lake Worth Road to determine the project's impact on Village-proposed improvements to the intersection. The intersection is not projected to operate at an acceptable level of service with background conditions without the addition of project traffic. Therefore, it was necessary to determine the potential total capacity of the intersection with the inclusion of the proposed north approach left-turn lane. The background scenario traffic volumes were reduced and analyzed in *Synchro 12* to calculate the maximum traffic volume at which the intersection will operate at an acceptable level of service with the existing stop control and existing lane configuration. By reducing each approach volume by 33.1% it was determined that the threshold of capacity for this intersection is 1,572 total vehicles under two-way stop-controlled conditions.

For the intersection to operate at an acceptable level of service during background and future year conditions, it is necessary to signalize the intersection. To determine the maximum intersection volume at which the intersection will operate with an acceptable level of service, background scenario traffic volumes were increased and analyzed using *Synchro 12* software. By increasing each approach volume by 18% it was determined that the threshold of capacity for this intersection is 2,776 total vehicles under signal control conditions.

The project is projected to add 34 vehicles PM peak hour vehicles at this intersection. Comparing the project's trips to the increase in capacity due to signalization, as calculated above, the proportionate share contribution to the signalization of the intersection is 2.82% Proportionate share calculations are included in the Appendix, for reference.

NORTH

LEGEND

Site Location

XX (XX) AM (PM) Volumes

FIGURE 3
Isla Carroll
KH #140957002
Weekday - Project Driveway Volumes

Kimley»Horn

NORTH

LEGEND

Site Location

FIGURE 4
Isla Carroll
KH #140957002
Weekend - Project Driveway Volumes

Kimley»Horn

CONCLUSION

Kimley-Horn and Associates, Inc. has prepared a traffic study to evaluate the potential impact of redevelopment for the project site located at the northwest corner of the intersection of 120th Avenue and 35th Street in Wellington, Florida. No credit was taken for existing traffic generated by the site. However, the site currently generates traffic during events hosted by the National Polo Club. The proposed redevelopment plan is expected to include the addition of 40 single family dwelling units, 6 grooms quarters, 107,011 square feet of air conditioned private recreational space, and equestrian showgrounds uses with an average weekday attendance of 28 attendees and an average weekend attendance of 60 attendees. The proposed site will operate as a private club and the proposed uses on site will operate exclusively for members of the club and their guests.

As shown in the analysis, the site meets the requirements defined in Article 9 of the Wellington Unified Land Development Code, and the addition of a northbound left turn lane is required at the site driveway.

A proportionate share calculation was also conducted at the intersection of 120th Avenue & SR 7 for the proposed improvements. It was determined that the proportionate share for the signalization of this intersection associated with the impact of this project is 2.82%.

Please contact me via telephone at (561) 840-0874 or via e-mail at adam.kerr@kimley-horn.com should you have any questions regarding this evaluation.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Digitally signed
by Adam B Kerr
Date: 2024.10.11
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Adam B. Kerr, P.E.
Transportation Engineer

Florida Registration
Number 64773
Registry No. 35106

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