

The Palmer Traffic Impact Analysis

Bluffton, South Carolina

Prepared for

HL Development, LLC

Prepared by

Kimley»Horn

November 2023

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The Palmer Traffic Impact Analysis

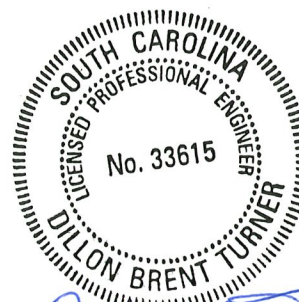
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Dillon Brent Turner

November 22, 2023

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Executive Summary

The Palmer residential development is located along Hampton Lake Drive, east of its intersection with Parklands Drive in Bluffton, SC. Based on the site plan dated October 2, 2023, the development is planned to consist of one site access along Hampton Lake Drive located approximately 1,200 feet east of the intersection of Hampton Lake Drive at Parklands Drive. The proposed development is planned to consist of 200 multifamily dwelling units.

The proposed development is expected to be constructed and occupied by 2026. New trips generated are expected to utilize Hampton Lake Drive to access the site and the surrounding network.

This traffic impact analysis (TIA) evaluates traffic operations under 2023 Existing, 2026 No-Build, and 2026 Build conditions during the AM and PM peak hours at the following study intersections:

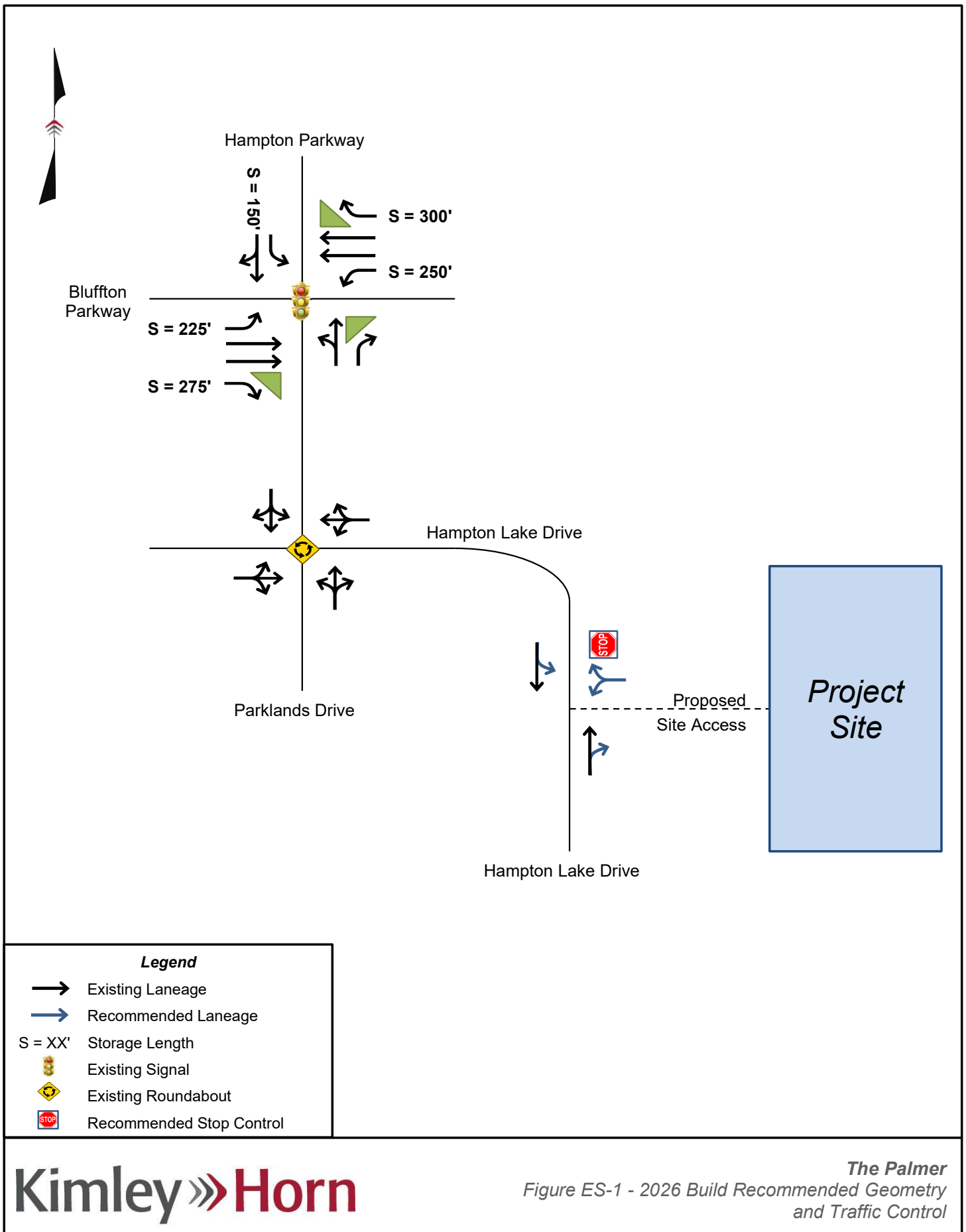
1. Bluffton Parkway at Hampton Lake Drive/Hampton Parkway
2. Hampton Lake Drive at Parklands Drive
3. Hampton Lake Drive at Proposed Site Access

The following improvements are recommended to be constructed by the The Palmer Development based on the results of the traffic analysis:

Hampton Lake Drive at Proposed Site Access

- Construct the proposed site access with one ingress lane and one egress lane and operate under minor street stop control.

Recommended roadway and geometry and intersection control improvements are illustrated in **Figure ES-1**.



1 Introduction

The Palmer residential development is located along Hampton Lake Drive, east of its intersection with Parklands Drive in Bluffton, SC. Based on the site plan dated October 2, 2023, the development is planned to consist of one site access along Hampton Lake Drive located approximately 1,200 feet east of the intersection of Hampton Lake Drive at Parklands Drive. The proposed development is planned to consist of 200 multifamily dwelling units.

The proposed development is expected to be constructed and occupied by 2026. New trips generated are expected to utilize Hampton Lake Drive to access the site and the surrounding network. The location of the proposed development is illustrated in **Figure 1**. The development's conceptual site plan is provided in **Appendix A**.

This traffic impact analysis (TIA) evaluates traffic operations under 2023 Existing, 2026 No-Build, and 2026 Build conditions during the AM and PM peak hours at the following study intersections:

1. Bluffton Parkway at Hampton Lake Drive/Hampton Parkway
2. Hampton Lake Drive at Parklands Drive
3. Hampton Lake Drive at Proposed Site Access



2 Existing Conditions

2.1 Study Area

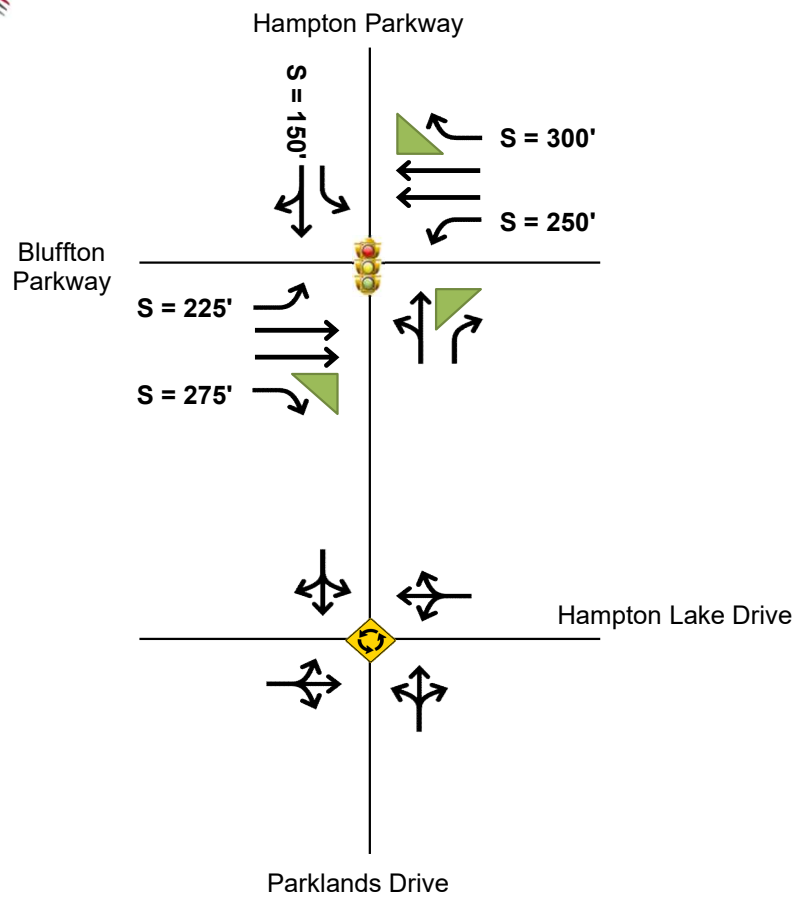
The primary roadways within the vicinity of the proposed site are Bluffton Parkway and Hampton Lake Drive. Key characteristics of each of these roadways are summarized below.

Bluffton Parkway (L-1863) is a four-lane, divided, rural minor arterial with a posted speed limit of 45 miles per hour (mph) within the vicinity of the proposed development. Based on SCDOT count station data, Bluffton Parkway had an Average Annual Daily Traffic of 16,600 vehicles per day in 2022.

Hampton Parkway (L-1527) is a two-lane, undivided, rural local road with a posted speed limit of 35 mph within the vicinity of the proposed development. SCDOT does not provide daily traffic data for Hampton Parkway.

Hampton Lake Drive is a two-lane, undivided, rural local road with a posted speed limit of 30 mph within the vicinity of the proposed development. SCDOT does not provide daily traffic data for Hampton Lake Drive.

The existing geometry and traffic control for the study area intersections is illustrated in **Figure 2**.



Legend

- Existing Laneage
- S = XX' Storage Length
- Existing Signal
- Existing Roundabout

3 Existing and Future No-Build Traffic Volume Development

3.1 Existing Traffic Development

Peak period intersection turning movement and heavy vehicle counts were performed by All Traffic Data Services, Inc. from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on Tuesday, November 7, 2023. Please note, due to the low number of U-turning vehicles at the study intersections, U-turns were considered as left-turns in this TIA.

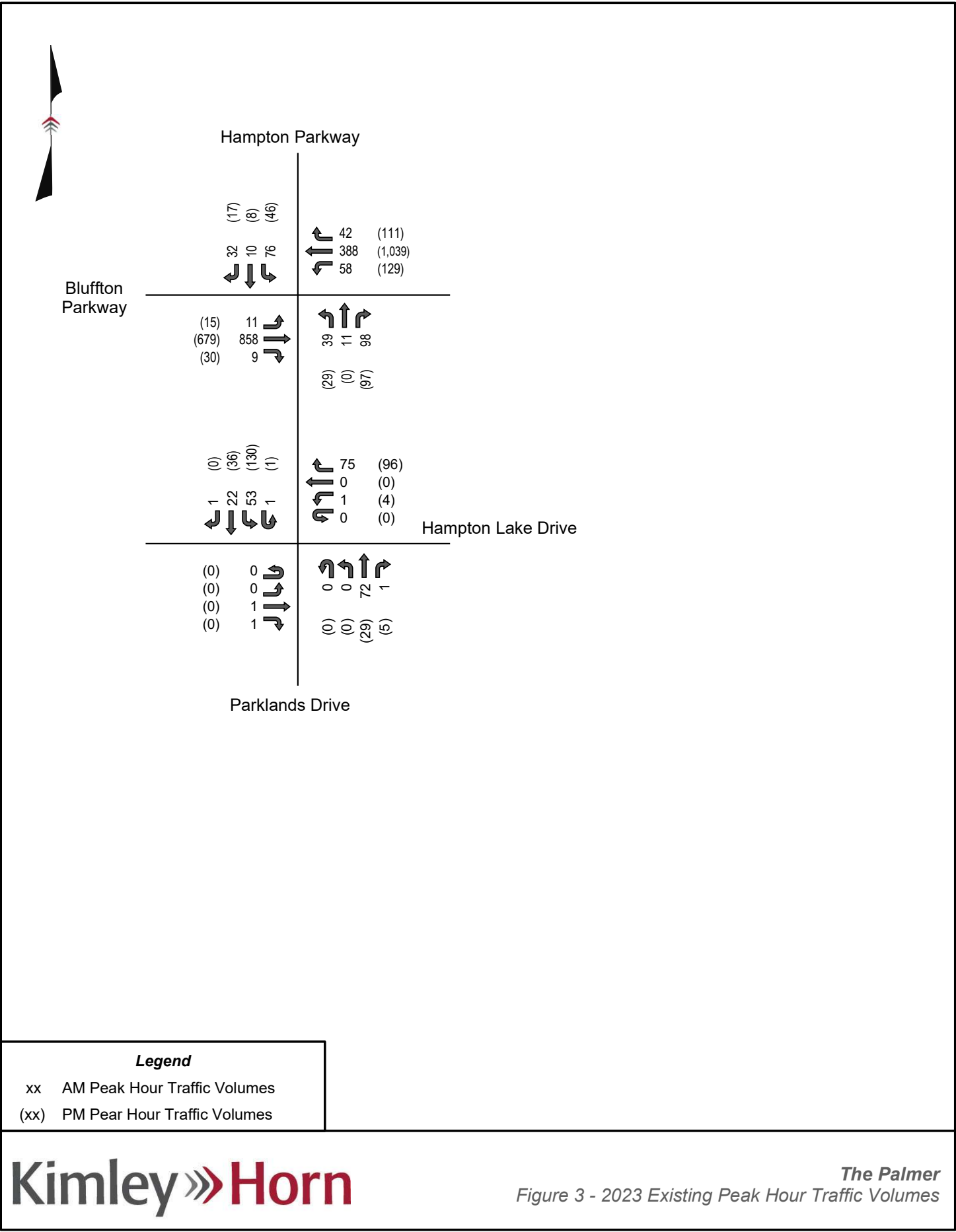
Figure 3 shows the 2023 Existing AM and PM peak hour traffic volumes. The raw turning-movement count data is included in **Appendix B**.

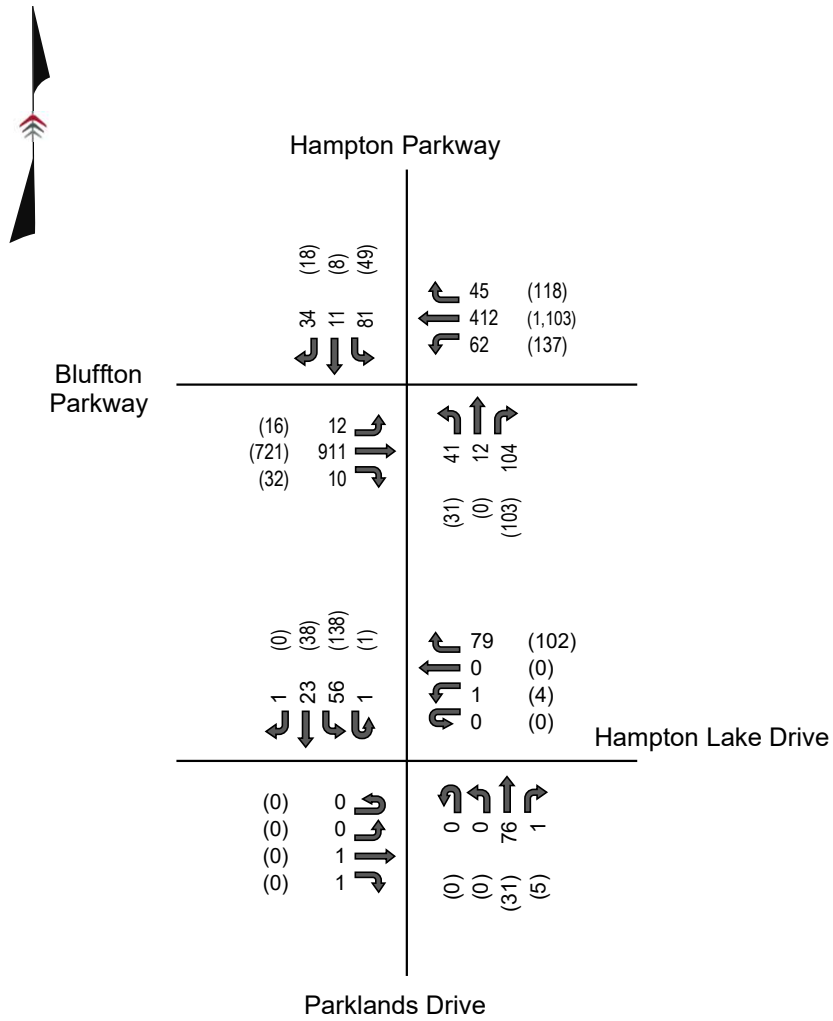
3.2 Future-Year No-Build Traffic Volume Development

Historical traffic growth represents the increase in existing traffic volumes due to usage increases and non-specific growth throughout the area (i.e., that not associated with the subject development). An annual growth rate of 2.0% was established to capture the expected increase in traffic volume associated with the surrounding developments over the next 3 years.

The 2026 No-Build traffic volumes were estimated by increasing the 2023 Existing traffic volumes at a rate of 2.0% for three years.

The 2026 No-Build AM and PM peak hour traffic volumes are shown in **Figure 4**. Worksheets documenting the traffic volume development are provided in **Appendix C**.



**Legend**

xx AM Peak Hour Traffic Volumes

(xx) PM Peak Hour Traffic Volumes

4 Project Traffic

4.1 Trip Generation

The trip generation rates and equations published in the *Institute of Transportation Engineers' (ITE) Trip Generation Manual; 11th Edition* were used to estimate the trip generation potential for the proposed development. The analysis was performed using the information provided for the following land use code (LUC):

- LUC 220 – Multifamily Housing (Low-Rise) – 200 Dwelling Units (DUs)

Internal capture and pass-by trip reductions were not considered in the trip generation analysis.

The estimated trip generation for the The PalmerDevelopment is summarized in **Table 1**, which indicates that the development is anticipated to generate 85 trips (20 in/65 out) during the AM peak hour and 107 trips (67 in/40 out) during the PM peak hour.

Table 1 – Trip Generation Summary

Land Use	Intensity	Units	Daily	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
220 - Multifamily Housing (Low-Rise)	200	DU	1,357	85	20	65	107	67	40
Total Net New External Trips			1,357	85	20	65	107	67	40
Note: Trip generation was calculated using the following data:									
<u>Daily Traffic Generation</u>									
220 - Multifamily Housing (Low-Rise)		ITE 220	=	T = 6.41 * (X) + (75.31); (50 % In; 50 % Out)					
<u>AM Peak-Hour Traffic Generation</u>									
220 - Multifamily Housing (Low-Rise)		ITE 220	=	T = 0.31 * (X) + (22.85); (24 % In; 76 % Out)					
<u>PM Peak-Hour Traffic Generation</u>									
220 - Multifamily Housing (Low-Rise)		ITE 220	=	T = 0.43 * (X) + (20.55); (63 % In; 37 % Out)					

4.2 Trip Distribution & Assignment

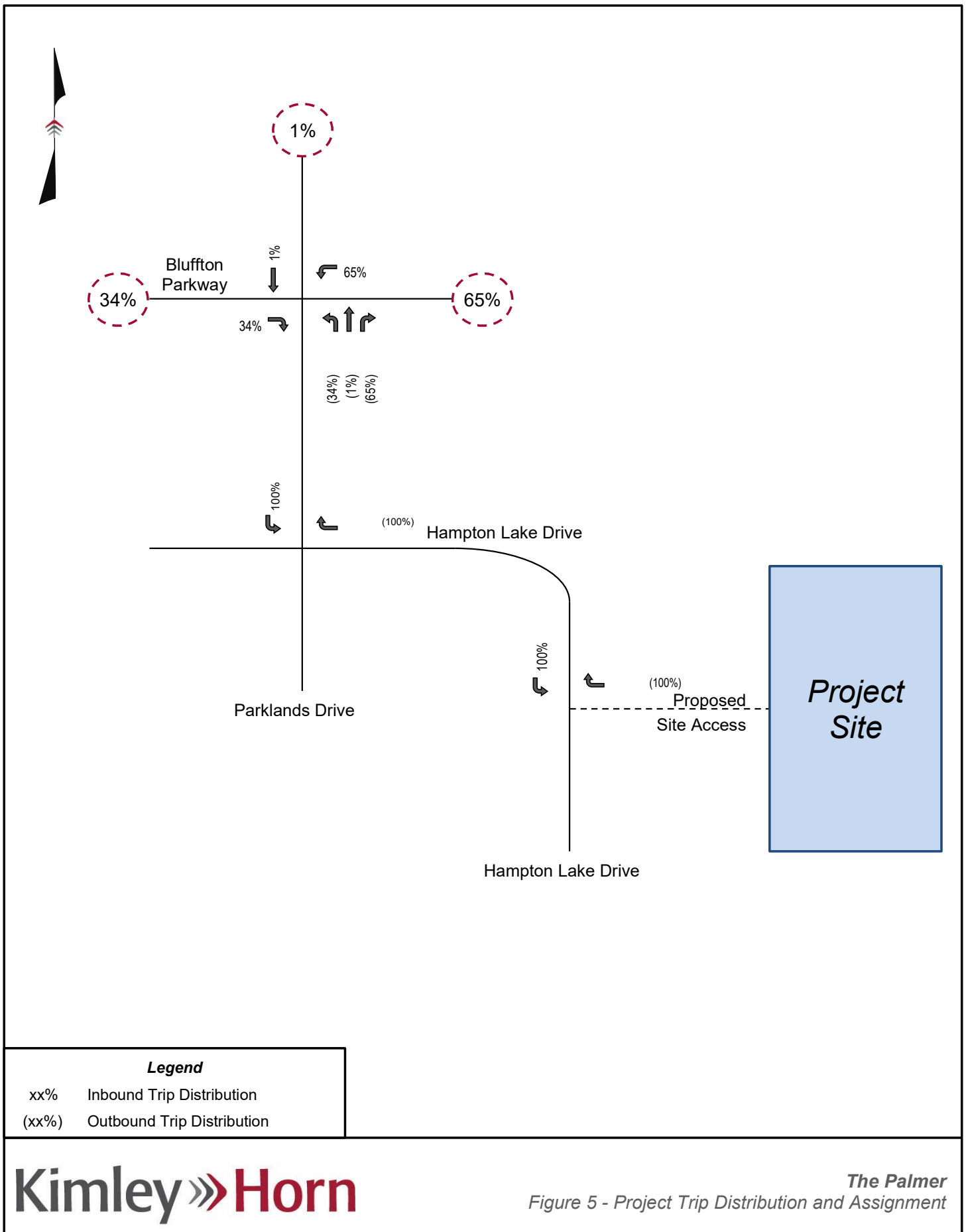
New external trips generated by the proposed development were distributed and assigned to the surrounding roadway network based on existing travel patterns, surrounding land uses, and the proposed site layout. The trip distribution percentages used in this analysis are illustrated in **Figure 5** and include:

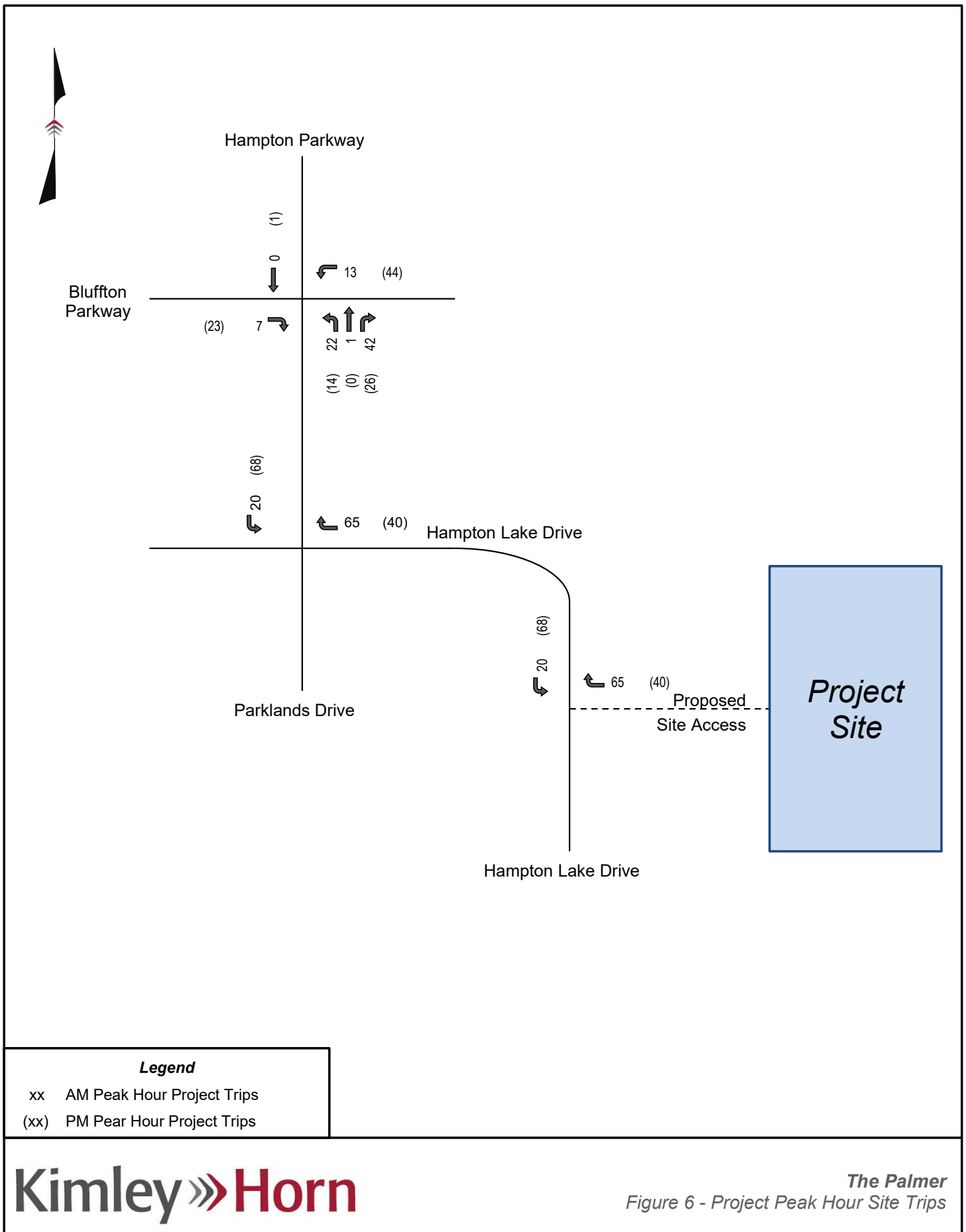
- 65% to/from the East via Bluffton Parkway
- 34% to/from the West via Bluffton Parkway
- 1% to/from the North via Hampton Parkway

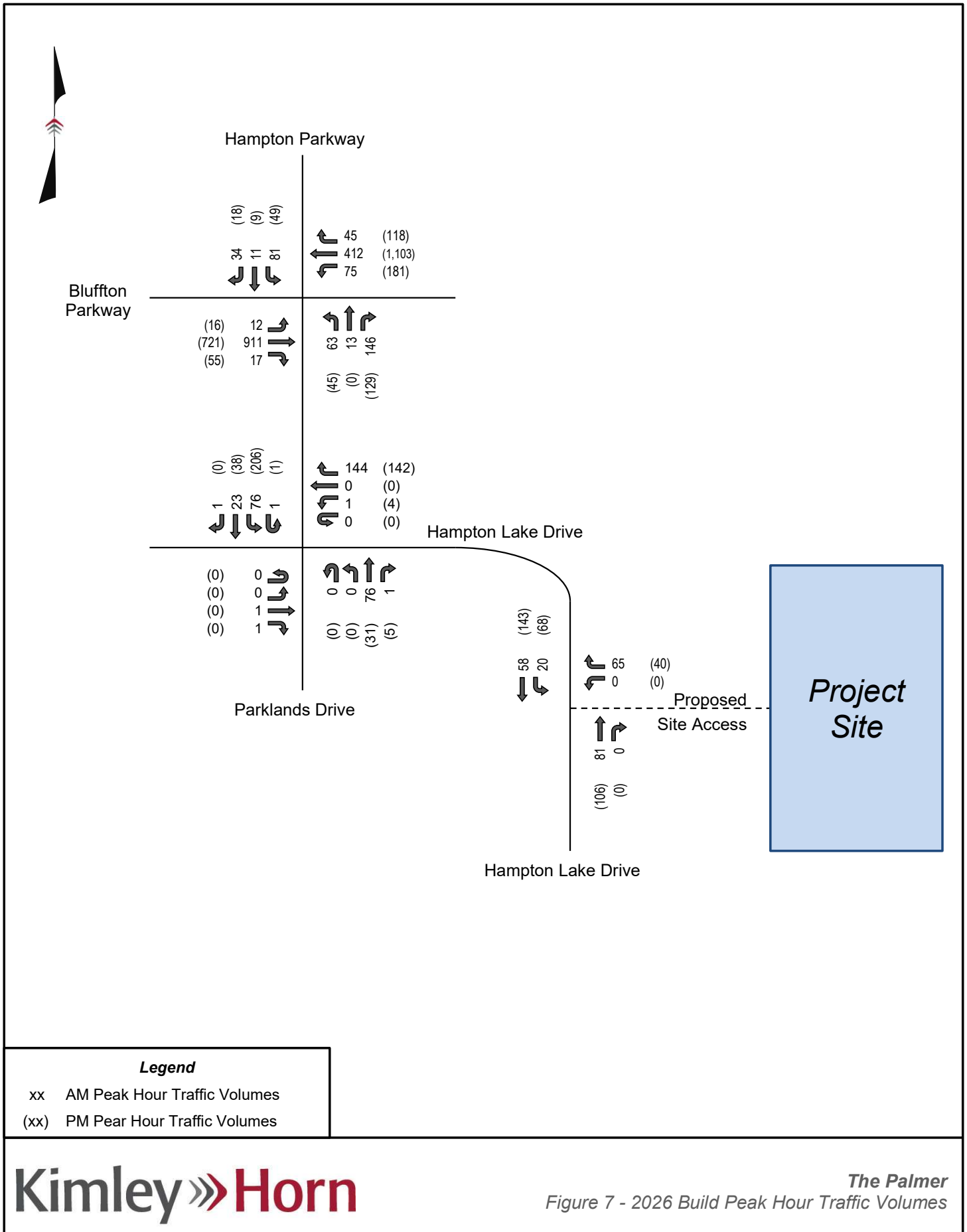
The projected peak hour trips for the proposed development are presented in **Figure 6**.

4.3 Future Build Traffic Development

The estimated peak hour site trips were added to the 2026 No-Build traffic volumes to develop the 2026 Build traffic volumes. The 2026 Build AM and PM peak hour traffic volumes are shown in **Figure 7**.







5 Capacity Analysis

Capacity/level-of-service (LOS) analyses were conducted using *Synchro* Version 11 and *Sidra Intersection* traffic analysis software, which utilizes the methodologies contained within the *Highway Capacity Manual (HCM)*, 6th Edition. Capacity analyses were conducted for the AM and PM peak hours of travel under 2023 Existing, 2026 No-Build, and 2026 Build conditions.

Intersection LOS grades range from LOS A to LOS F, where the specific grades assigned to a given movement or approach are based on driver perception research and defined by the amount of control delay experienced by each vehicle. LOS A operations correspond with ideal, free-flow conditions where vehicles experience little to no delay, whereas LOS F operations are characterized by high vehicular delays and over-capacity conditions. **Table 2** lists the LOS control delay thresholds published in the *HCM* for signalized and unsignalized intersections.

Table 2 – HCM6 Level of Service Criteria

LOS	Control Delay per Vehicle (sec/veh)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	≤ 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

For the purposes of determining required improvements, the 2026 No-Build and 2026 Build conditions are compared in the following subsections. Capacity analysis worksheets are included in **Appendix D**.

5.1 Bluffton Parkway at Hampton Lake Drive/Hampton Parkway

Table 3 summarizes the LOS, control delay, and 95th percentile queue length by movement at the intersection of Bluffton Parkway at Hampton Lake Drive/Hampton Parkway under the 2023 Existing, 2026 No-Build, and 2026 Build conditions.

Table 3 – Bluffton Parkway at Hampton Lake Drive Capacity Analysis Results

Condition	Measure	Bluffton Parkway			Bluffton Parkway			Hampton Lake Drive		Hampton Parkway		Intersection
		EBL	EBT	EBR	WBL	WBT	WBR	NBTL	NBR	SBL	SBTR	
AM Peak Hour												
2023 Existing	LOS (Delay)	A (9.9)			A (6.6)			C (22.4)		C (21.7)		B (10.3)
	Synchro 95th Q	6'	196'	0'	20'	81'	1'	50'	37'	71'	30'	
2026 No-Build	LOS (Delay)	B (10.1)			A (6.6)			C (23.3)		C (22.5)		B (10.5)
	Synchro 95th Q	7'	215'	0'	21'	87'	2'	53'	39'	75'	31'	
2026 Build	LOS (Delay)	B (10.4)			A (6.6)			C (24.5)		C (22.8)		B (10.9)
	Synchro 95th Q	7'	217'	0'	25'	87'	2'	71'	45'	75'	31'	
PM Peak Hour												
2023 Existing	LOS (Delay)	A (9.4)			A (7.9)			C (22.2)		C (21.1)		A (9.1)
	Synchro 95th Q	6'	121'	0'	29'	206'	21'	33'	33'	46'	23'	
2026 No-Build	LOS (Delay)	A (9.6)			A (8.3)			C (23.0)		C (21.9)		A (9.5)
	Synchro 95th Q	7'	135'	0'	32'	234'	22'	35'	38'	49'	23'	
2026 Build	LOS (Delay)	A (10.0)			A (8.4)			C (23.3)		C (21.8)		A (9.7)
	Synchro 95th Q	7'	135'	4'	42'	235'	22'	45'	43'	49'	24'	

Notes:

Delay reported in seconds/vehicle (sec/veh)

Results

As shown in **Table 3**, the subject intersection is anticipated to operate at LOS B for the analyzed conditions during the AM peak hour and LOS A for the analyzed conditions during the PM peak hour. The intersection experiences minimal increases in delay and queuing as a result of the proposed development.

Recommendations

Site traffic associated with the proposed project is expected to have a minimal impact on delay and queuing at this intersection, therefore, no improvements are recommended at this time.

5.2 Hampton Lake Drive at Parklands Drive

Table 4 summarizes the LOS, control delay, 95th percentile queue length, and overall volume to capacity (v/c) ratio at the existing roundabout intersection of Hampton Lake Drive at Parklands Drive under the 2023 Existing, 2026 No-Build, and 2026 Build conditions.

Table 4 – Hampton Lake Drive at Parklands Drive Capacity Analysis Results

Condition	Measure	Hampton Lake Drive	Hampton Lake Drive	Parklands Drive	Hampton Lake Drive	Intersection v/c
		EBLTR	WBLTR	NBLTR	SBLTR	
AM Peak Hour						
2023 Existing	LOS (Delay)	A (3.0)	A (3.6)	A (3.5)	A (3.2)	A (3.4) 0.080
	Sidra 95th Q	0'	9'	8'	8'	
2026 No-Build	LOS (Delay)	A (2.9)	A (3.5)	A (3.4)	A (3.2)	A (3.4) 0.073
	Sidra 95th Q	0'	8'	8'	8'	
2026 Build	LOS (Delay)	A (3.0)	A (4.0)	A (3.5)	A (3.3)	A (3.7) 0.131
	Sidra 95th Q	0'	16'	8'	10'	
PM Peak Hour						
2023 Existing	LOS (Delay)	A (3.3)	A (3.5)	A (3.4)	A (3.9)	A (3.7) 0.144
	Sidra 95th Q	0'	10'	4'	18'	
2026 No-Build	LOS (Delay)	A (3.3)	A (3.5)	A (3.5)	A (3.9)	A (3.7) 0.147
	Sidra 95th Q	0'	11'	4'	18'	
2026 Build	LOS (Delay)	A (3.6)	A (3.8)	A (3.7)	A (4.4)	A (4.1) 0.204
	Sidra 95th Q	0'	15'	4'	27'	

Notes:

Delay reported in seconds/vehicle (sec/veh)

Results

As shown in **Table 4**, the subject intersection is anticipated to operate at LOS A for the analyzed conditions during the AM and PM peak hours. The intersection experiences minimal increases in delay and queuing as a result of the proposed development.

Recommendations

Site traffic associated with the proposed project is expected to have a minimal impact on delay and queuing at this intersection, therefore, no improvements are recommended at this time.

5.3 Hampton Lake Drive at Proposed Site Access

Table 5 summarizes the LOS, control delay, and 95th percentile queue length by movement at the intersection of Hampton Lake Drive at Proposed Site Access under the 2026 Build conditions.

Table 5 – Hampton Lake Drive at Proposed Site Access Capacity Analysis Results

Condition	Measure	Proposed Site Access	Hampton Lake Drive	Hampton Lake Drive
		WBLR	NBTR	SBTL
AM Peak Hour				
2026 Build	LOS (Delay)	A (9.0)	A (0.0)	A (7.4)
	HCM6 95th Q	5'	0'	0'
PM Peak Hour				
2026 Build	LOS (Delay)	A (9.0)	A (0.0)	A (7.6)
	HCM6 95th Q	3'	0'	5'

Notes:

Delay reported in seconds/vehicle (sec/veh)

*Left-turn delay reported for major street approach

Results

As shown in **Table 5**, the westbound approach (Proposed Site Access) is expected to operate with short delays and minimal queuing under the analyzed conditions during the AM and PM peak hours. The southbound approach (Hampton Lake Drive) is expected to operate at LOS A during each of the analyzed conditions during the AM and PM peak hours.

Recommendations

The Proposed Site Access driveway should be constructed with one ingress and one egress lane.

SCDOT turn-lane warrant analyses were conducted for the ingress movements at the Proposed Site Access driveway under the 2026 Build conditions. The results of the turn-lane analyses indicate that there are no auxiliary turn lanes warranted along Hampton Lake Drive.

Worksheets documenting the turn lane warrant analyses are included in **Appendix E**.

6 Conclusion

The Palmer residential development is located along Hampton Lake Drive, east of its intersection with Parklands Drive in Bluffton, SC. Based on the site plan dated October 2, 2023, the development is planned to consist of one site access along Hampton Lake Drive located approximately 1,200 feet east of the intersection of Hampton Lake Drive at Parklands Drive. The proposed development is planned to consist of 200 multifamily dwelling units.

The proposed development is expected to be constructed and occupied by 2026. New trips generated are expected to utilize Hampton Lake Drive to access the site and the surrounding network. The development's conceptual site plan is provided in **Appendix A**.

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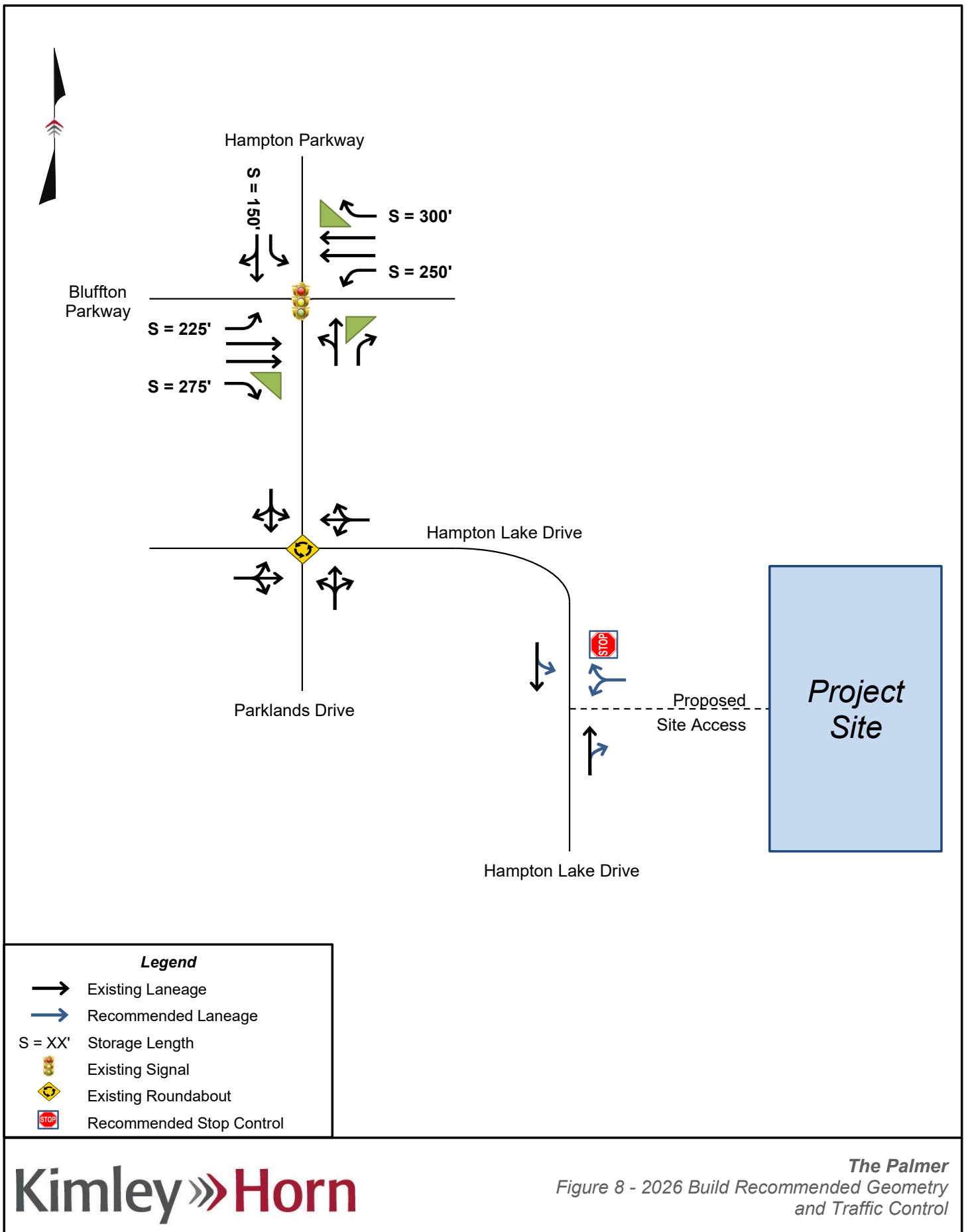
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2. Hampton Lake Drive at Parklands Drive
3. Hampton Lake Drive at Proposed Site Access

The following improvements are recommended to be constructed by the The Palmer Development based on the results of the traffic analysis:

Hampton Lake Drive at Proposed Site Access

- Construct the proposed site access with one ingress lane and one egress lane and operate under minor street stop control.

Recommended roadway and geometry and intersection control improvements are illustrated in **Figure 8**.



Appendix A – Conceptual Site Plan

DEVELOPMENT SUMMARY

TOTAL ACRES	+/-20.037 ACRES
ZONING	BUCKWALTER PUD
TOTAL UNITS	200 UNITS (10.78 Units/AC)
PARKING STANDARD	2.25 SPACES PER UNIT MIN.
REQUIRED PARKING	486 SPACES
PARKING PROVIDED	486 SPACES
(436 STANDARD, 50 GARAGED)	
STORMWATER	+/-2.18 ACRES



PREPARED FOR:
SC BODNER COMPANY
PREPARED BY:



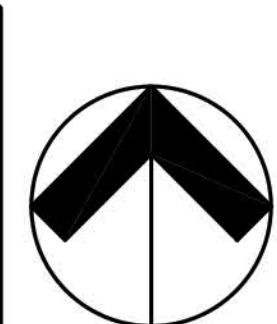
J. K. TILLER ASSOCIATES, INC.
LAND PLANNING LANDSCAPE ARCHITECTURE
181 BLUFFTON ROAD, SUITE 203 181 BLUFFTON ROAD, SUITE 203
Bluffton, SC 29910 Bluffton, SC 29910
Phone 843.815.4800 jktille@jktiller.com Fax 843.815.4802

THE PALMER

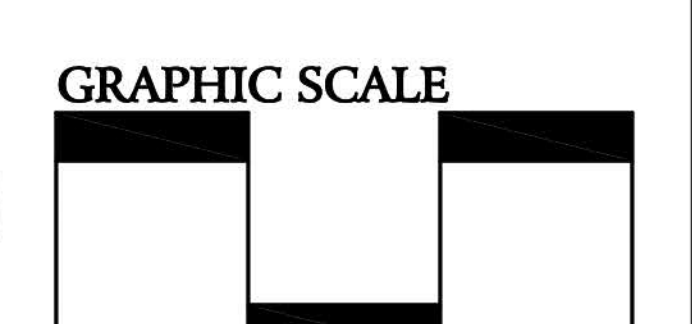
DRAFT CAPACITY PLAN E

TOWN OF BLUFFTON, SOUTH CAROLINA

OCTOBER 2, 2023



NORTH



GRAPHIC SCALE
0 60' 120' 180'

THIS IS A CONCEPTUAL PLAN AND IS SUBJECT TO CHANGE. ALL SURVEY INFORMATION AND SITE BOUNDARIES WERE COMPILED FROM A VARIETY OF UNVERIFIED SOURCES AT VARIOUS TIMES AND AS SUCH ARE INTENDED TO BE USED ONLY AS A GUIDE. ALL PROPERTY LINES, TRACT DIMENSIONS AND NARRATIVE DESCRIPTIONS ARE FOR GRAPHIC REPRESENTATION ONLY, AS AN AID TO SITE LOCATION AND POTENTIAL LAND USE, AND ARE NOT LEGAL REPRESENTATIONS AS TO FUTURE USES OR LOCATIONS. J. K. TILLER ASSOCIATES, INC. ASSUMES NO LIABILITY FOR ITS ACCURACY OR STATE OF COMPLETION, OR FOR ANY DECISIONS (REQUIRING ACCURACY) WHICH THE USER MAY MAKE BASED ON THIS INFORMATION.

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Appendix B – Turning Movement Counts



(303) 216-2439
www.alltrafficdata.net

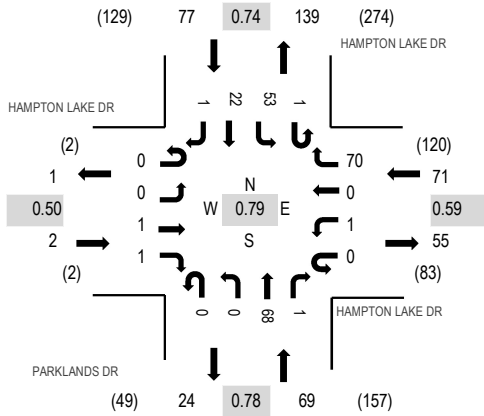
Location: 1 PARKLANDS DR & HAMPTON LAKE DR AM

Date: Tuesday, November 7, 2023

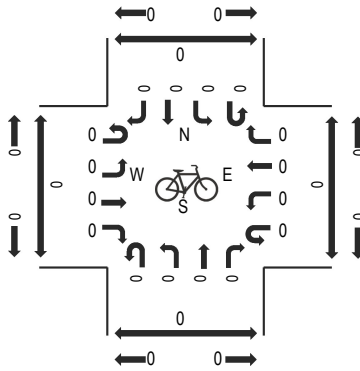
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:30 AM - 08:45 AM

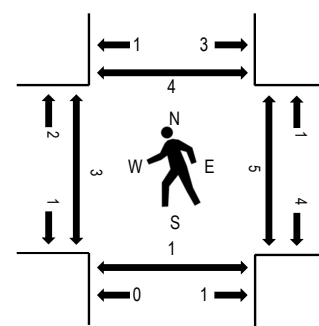
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	HAMPTON LAKE DR Eastbound				HAMPTON LAKE DR Westbound				PARKLANDS DR Northbound				HAMPTON LAKE DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	0	0	9	0	0	16	0	0	4	4	0	33	189	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	11	1	0	15	0	1	7	6	0	41	207	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	13	0	0	29	2	0	9	8	1	62	207	0	0	2	0
7:45 AM	0	0	0	0	0	0	0	16	0	0	25	0	0	6	6	0	53	214	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	12	0	0	24	1	0	10	4	0	51	219	0	0	0	0
8:15 AM	0	0	0	1	0	0	0	10	0	0	15	0	0	9	6	0	41		0	0	0	0
8:30 AM	0	0	0	0	0	0	0	30	0	0	17	0	1	13	7	1	69		0	0	0	0
8:45 AM	0	0	1	0	0	1	0	18	0	0	12	0	0	21	5	0	58		3	5	1	4

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	0	1	1	0	1	0	70	0	0	68	1	1	53	22	1	219
Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	1	0	70	0	0	68	1	1	53	22	1	219

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Peak Hour Factor	0.50				0.59				0.78				0.74				0.79
Peak Hour Factor	0.00	0.00	0.25	0.25	0.00	0.25	0.00	0.58	0.25	0.00	0.80	0.38	0.25	0.63	0.75	0.25	0.79



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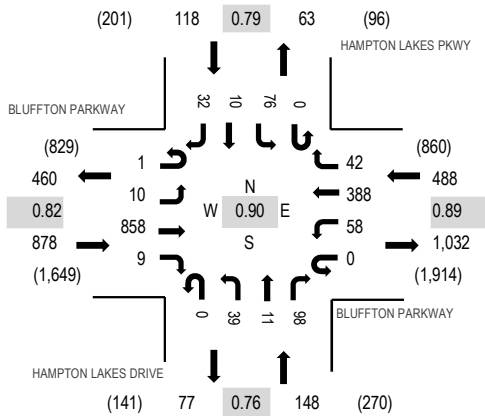
Location: 2 HAMPTON LAKES DRIVE & BLUFFTON PARKWAY AM

Date: Tuesday, November 7, 2023

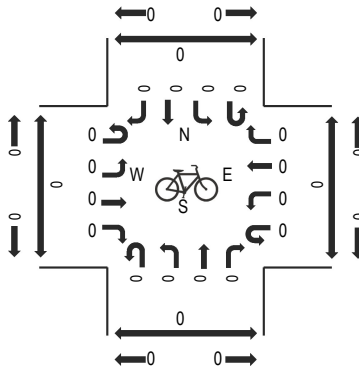
Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

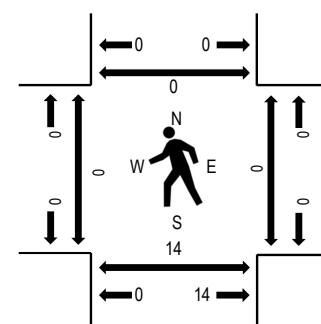
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	BLUFFTON PARKWAY				BLUFFTON PARKWAY				HAMPTON LAKES DRIVE				HAMPTON LAKES PKWY				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	0	1	143	2	0	4	51	1	0	10	1	13	0	9	1	6	242	1,489	0	0	0	0
7:15 AM	0	1	230	2	0	8	56	2	0	9	1	16	0	19	1	7	352	1,621	0	0	0	0
7:30 AM	0	3	281	1	0	8	63	9	0	13	3	33	0	28	1	9	452	1,632	0	0	0	0
7:45 AM	1	3	230	2	0	19	118	11	0	6	1	21	0	17	5	9	443	1,531	0	0	0	0
8:00 AM	0	2	178	2	0	11	110	9	0	11	4	23	0	16	2	6	374	1,491	0	0	0	0
8:15 AM	0	2	169	4	0	20	97	13	0	9	3	21	0	15	2	8	363		0	0	14	0
8:30 AM	0	1	174	7	0	14	94	13	0	11	2	17	0	13	0	5	351		0	1	7	0
8:45 AM	0	3	203	4	1	19	103	6	0	9	1	32	0	12	2	8	403		0	0	7	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Lights	1	10	847	9	0	58	382	40	0	38	11	98	0	76	9	32	1,611
Mediums	0	0	10	0	0	0	5	2	0	1	0	0	0	0	1	0	19
Total	1	10	858	9	0	58	388	42	0	39	11	98	0	76	10	32	1,632

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		0.1%				0.2%				0.0%				0.0%			0.1%
Heavy Vehicle %	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Peak Hour Factor		0.82				0.89				0.76				0.79			0.90
Peak Hour Factor	0.25	0.83	0.82	0.61	0.25	0.80	0.89	0.88	0.00	0.91	0.69	0.74	0.00	0.71	0.50	0.89	0.90



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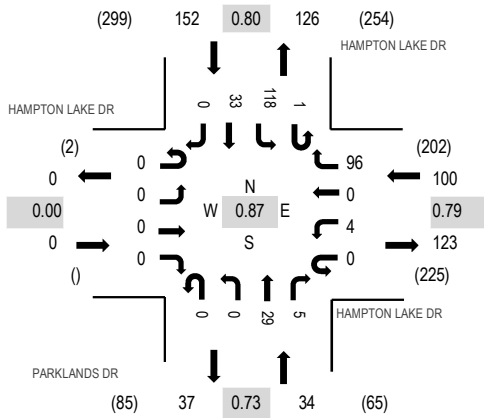
Location: 1 PARKLANDS DR & HAMPTON LAKE DR PM

Date: Tuesday, November 7, 2023

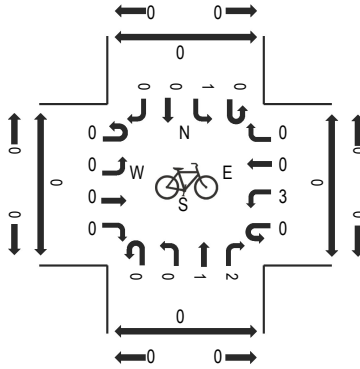
Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

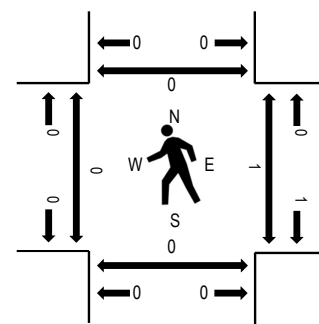
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	HAMPTON LAKE DR Eastbound				HAMPTON LAKE DR Westbound				PARKLANDS DR Northbound				HAMPTON LAKE DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	1	0	31	0	0	7	1	0	29	11	0	80	284	0	4	0	0
4:15 PM	0	0	0	0	0	0	0	20	0	0	6	1	0	26	4	0	57	286	0	1	0	0
4:30 PM	0	0	0	0	0	3	0	18	0	0	5	1	1	37	11	0	76	279	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	25	0	0	8	1	0	27	10	0	71	274	0	0	0	0
5:00 PM	0	0	0	0	0	1	0	33	0	0	10	2	0	28	8	0	82	282	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	19	0	0	6	1	2	17	4	0	50		0	1	0	0
5:30 PM	0	0	0	0	0	1	1	27	0	0	7	0	0	22	12	1	71		0	1	0	0
5:45 PM	0	0	0	0	0	0	0	21	0	0	8	1	0	31	18	0	79		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	0	0	0	0	3	0	95	0	0	28	5	1	117	33	0	282
Mediums	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	4
Total	0	0	0	0	0	4	0	96	0	0	29	5	1	118	33	0	286

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Peak Hour Factor	0.00	0.00	0.00	0.00	0.79	0.42	0.25	0.79	0.73	0.00	0.78	0.63	0.38	0.80	0.58	0.25	0.87
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	0.42	0.25	0.79	0.00	0.00	0.78	0.63	0.38	0.80	0.58	0.25	0.87



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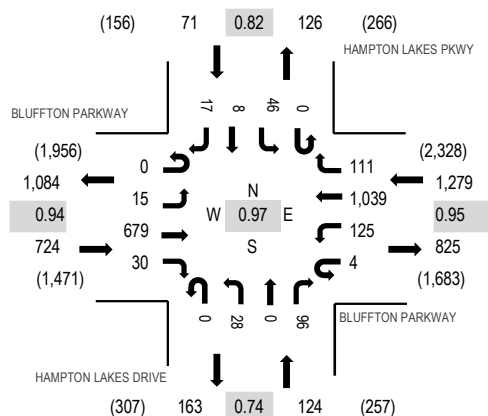
Location: 2 HAMPTON LAKES DRIVE & BLUFFTON PARKWAY PM

Date: Tuesday, November 7, 2023

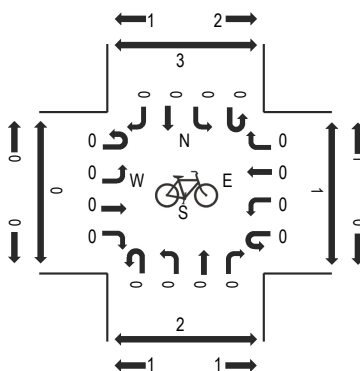
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

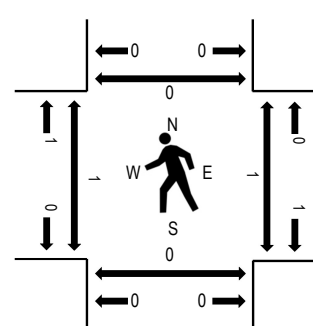
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	BLUFFTON PARKWAY Eastbound				BLUFFTON PARKWAY Westbound				HAMPTON LAKES DRIVE Northbound				HAMPTON LAKES PKWY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	4	166	6	0	31	211	28	0	11	3	31	0	17	1	4	513	2,014	0	0	0	0
4:15 PM	0	6	177	4	0	18	227	28	0	6	0	19	0	13	0	8	506	2,067	0	0	0	0
4:30 PM	0	5	174	8	0	25	201	26	0	4	3	28	0	9	4	3	490	2,116	0	0	0	0
4:45 PM	0	6	184	7	0	35	190	29	0	3	2	23	0	17	5	4	505	2,172	0	0	0	0
5:00 PM	0	2	170	6	3	30	276	28	0	9	0	22	0	12	3	5	566	2,198	0	0	0	0
5:15 PM	0	3	184	16	1	18	263	23	0	5	0	26	0	8	2	6	555		0	1	0	0
5:30 PM	0	5	163	5	0	41	251	32	0	4	0	28	0	12	3	2	546		1	0	0	0
5:45 PM	0	5	162	3	0	36	249	28	0	10	0	20	0	14	0	4	531		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Lights	0	15	675	30	4	125	1,035	111	0	28	0	96	0	46	8	16	2,189
Mediums	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	1	7
Total	0	15	679	30	4	125	1,039	111	0	28	0	96	0	46	8	17	2,198

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.3%				0.0%				0.0%				0.0%				0.1%
Heavy Vehicle %	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Peak Hour Factor	0.94				0.95				0.74				0.82				0.97
Peak Hour Factor	0.00	0.88	0.97	0.58	0.33	0.76	0.94	0.88	0.00	0.70	0.67	0.81	0.00	0.82	0.70	0.63	0.97

Appendix C – Traffic Volume Development Worksheets

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

INTERSECTION: Bluffton Parkway at Hampton Lake Drive
COUNT DATE: November 7, 2023
AM PEAK HOUR FACTOR: 0.90 **AM FUTURE PEAK HOUR FACTOR:** 0.90
PM PEAK HOUR FACTOR: 0.97 **PM FUTURE PEAK HOUR FACTOR:** 0.95

AM Peak Hour

AM 2023 EXISTING TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM Adjusted Turning Movement Counts ¹		1	10	858	9	0	58	388	42	0	39	11	98	0	76	10	32
AM Volume Balancing		-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM 2023 EXISTING TRAFFIC		0	11	858	9	0	58	388	42	0	39	11	98	0	76	10	32
AM Heavy Vehicle Percentage		2%	2%	2%	2%	2%	2%	2%	5%	2%	3%	2%	2%	2%	2%	10%	2%
AM 2026 NO-BUILD TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Annual Growth Rate		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
AM 2026 NO-BUILD TRAFFIC GROWTH		0	1	53	1	0	4	24	3	0	2	1	6	0	5	1	2
AM 2026 NO-BUILD TRAFFIC		0	12	911	10	0	62	412	45	0	41	12	104	0	81	11	34
"SITE TRAFFIC DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering				34%		65%									1%	
	Exiting										34%	1%	65%				
"AM PROJECT TRIPS"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trip	Net New	0	0	0	7	0	13	0	0	0	22	1	42	0	0	0	0
		0	0	0	7	0	13	0	0	0	22	1	42	0	0	0	0
AM TOTAL PROJECT TRIPS		0	0	0	7	0	13	0	0	0	22	1	42	0	0	0	0
AM 2026 BUILD-OUT TRAFFIC		0	12	911	17	0	75	412	45	0	63	13	146	0	81	11	34

PM Peak Hour

PM 2023 EXISTING TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Adjusted Turning Movement Counts ¹		0	15	679	30	4	125	1,039	111	0	28	0	96	0	46	8	17
PM Volume Balancing		0	0	0	0	-4	4	0	0	0	1	0	1	0	0	0	0
PM 2023 EXISTING TRAFFIC		0	15	679	30	0	129	1,039	111	0	29	0	97	0	46	8	17
PM Heavy Vehicle Percentage		2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	6%
PM 2026 NO-BUILD TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Annual Growth Rate		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
PM 2026 NO-BUILD TRAFFIC GROWTH		0	1	42	2	0	8	64	7	0	2	0	6	0	3	0	1
PM 2026 NO-BUILD TRAFFIC		0	16	721	32	0	137	1,103	118	0	31	0	103	0	49	8	18
"SITE TRAFFIC DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering	0%	0%	0%	34%	0%	65%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
	Exiting	0%	0%	0%	0%	0%	0%	0%	0%	0%	34%	1%	65%	0%	0%	0%	0%
"PM PROJECT TRIPS"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trip	Net New	0	0	0	23	0	44	0	0	0	14	0	26	0	0	1	0
		0	0	0	23	0	44	0	0	0	14	0	26	0	0	1	0
PM TOTAL PROJECT TRIPS		0	0	0	23	0	44	0	0	0	14	0	26	0	0	1	0
PM 2026 BUILD-OUT TRAFFIC		0	16	721	55	0	181	1,103	118	0	45	0	129	0	49	9	18

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

INTERSECTION: Hampton Lake Drive at Parklands Drive
 COUNT DATE: November 7, 2023
 AM PEAK HOUR FACTOR: 0.79 AM FUTURE PEAK HOUR FACTOR: 0.90
 PM PEAK HOUR FACTOR: 0.87 PM FUTURE PEAK HOUR FACTOR: 0.90

AM Peak Hour

AM 2023 EXISTING TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM Adjusted Turning Movement Counts ¹		0	0	1	1	0	1	0	70	0	0	68	1	1	53	22	1
AM Volume Balancing		0	0	0	0	0	0	0	5	0	0	4	0	0	0	0	0
AM 2023 EXISTING TRAFFIC		0	0	1	1	0	1	0	75	0	0	72	1	1	53	22	1
AM Heavy Vehicle Percentage		2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
AM 2026 NO-BUILD TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Annual Growth Rate		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
AM 2026 NO-BUILD TRAFFIC GROWTH		0	0	0	0	0	0	0	4	0	0	4	0	0	3	1	0
AM 2026 NO-BUILD TRAFFIC		0	0	1	1	0	1	0	79	0	0	76	1	1	56	23	1
"SITE TRAFFIC DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering														100%		
	Exiting								100%								
"AM PROJECT TRIPS"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Land Use	Type																
Project Trip	Net New	0	0	0	0	0	0	0	65	0	0	0	0	0	20	0	0
AM TOTAL PROJECT TRIPS		0	0	0	0	0	0	0	65	0	0	0	0	0	20	0	0
AM 2026 BUILD-OUT TRAFFIC		0	0	1	1	0	1	0	144	0	0	76	1	1	76	23	1

PM Peak Hour

PM 2023 EXISTING TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Adjusted Turning Movement Counts ¹		0	0	0	0	0	4	0	96	0	0	29	5	1	118	33	0
PM Volume Balancing		0	0	0	0	0	0	0	0	0	0	0	0	0	12	3	0
PM 2023 EXISTING TRAFFIC		0	0	0	0	0	4	0	96	0	0	29	5	1	130	36	0
PM Heavy Vehicle Percentage		2%	2%	2%	2%	2%	25%	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%
PM 2026 NO-BUILD TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Annual Growth Rate		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
PM 2026 NO-BUILD TRAFFIC GROWTH		0	0	0	0	0	0	0	6	0	0	2	0	0	8	2	0
PM 2026 NO-BUILD TRAFFIC		0	0	0	0	0	4	0	102	0	0	31	5	1	138	38	0
"SITE TRAFFIC DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
	Exiting	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
"PM PROJECT TRIPS"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Land Use	Type																
Project Trip	Net New	0	0	0	0	0	0	0	40	0	0	0	0	0	68	0	0
PM TOTAL PROJECT TRIPS		0	0	0	0	0	0	0	40	0	0	0	0	0	68	0	0
PM 2026 BUILD-OUT TRAFFIC		0	0	0	0	0	4	0	142	0	0	31	5	1	206	38	0

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

INTERSECTION: Hampton Lake Drive at Proposed Site Access
 COUNT DATE: November 7, 2023
 AM PEAK HOUR FACTOR: 0.90 AM FUTURE PEAK HOUR FACTOR: 0.90
 PM PEAK HOUR FACTOR: 0.90 PM FUTURE PEAK HOUR FACTOR: 0.90

AM Peak Hour

AM 2023 EXISTING TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
AM Adjusted Turning Movement Counts ¹		0	0	0	0	0	0	0	0	0	0	71	0	0	0	55	0
AM Volume Balancing		0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0
AM 2023 EXISTING TRAFFIC		0	0	0	0	0	0	0	0	0	0	76	0	0	0	55	0
AM Heavy Vehicle Percentage		2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
AM 2026 NO-BUILD TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Annual Growth Rate		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
AM 2026 NO-BUILD TRAFFIC GROWTH		0	0	0	0	0	0	0	0	0	0	5	0	0	0	3	0
AM 2026 NO-BUILD TRAFFIC		0	0	0	0	0	0	0	0	0	0	81	0	0	0	58	0
"SITE TRAFFIC DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering														100%		
	Exiting							100%									
"AM PROJECT TRIPS"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trip	Net New	0	0	0	0	0	0	0	65	0	0	0	0	0	20	0	0
AM TOTAL PROJECT TRIPS		0	0	0	0	0	0	0	65	0	0	0	0	0	20	0	0
AM 2026 BUILD-OUT TRAFFIC		0	0	0	0	0	0	0	65	0	0	81	0	0	20	58	0

PM Peak Hour

PM 2023 EXISTING TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
PM Adjusted Turning Movement Counts ¹		0	0	0	0	0	0	0	0	0	0	100	0	0	0	123	0
PM Volume Balancing		0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
PM 2023 EXISTING TRAFFIC		0	0	0	0	0	0	0	0	0	0	100	0	0	0	135	0
PM Heavy Vehicle Percentage		2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
PM 2026 NO-BUILD TRAFFIC		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Annual Growth Rate		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
PM 2026 NO-BUILD TRAFFIC GROWTH		0	0	0	0	0	0	0	0	0	0	6	0	0	0	8	0
PM 2026 NO-BUILD TRAFFIC		0	0	0	0	0	0	0	0	0	0	106	0	0	0	143	0
"SITE TRAFFIC DISTRIBUTION"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
	Exiting	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
"PM PROJECT TRIPS"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trip	Net New	0	0	0	0	0	0	0	40	0	0	0	0	0	68	0	0
PM TOTAL PROJECT TRIPS		0	0	0	0	0	0	0	40	0	0	0	0	0	68	0	0
PM 2026 BUILD-OUT TRAFFIC		0	0	0	0	0	0	0	40	0	0	106	0	0	68	143	0

Appendix D – Capacity Analysis Worksheets

2023 EXISTING CONDITIONS

Queues

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2023 Existing AM Peak

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	12	953	10	64	431	47	55	109	84	47
v/c Ratio	0.02	0.44	0.01	0.14	0.18	0.04	0.21	0.28	0.33	0.14
Control Delay	3.9	10.2	0.0	4.7	5.9	0.1	26.2	8.1	28.3	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.9	10.2	0.0	4.7	5.9	0.1	26.2	8.1	28.3	12.9
Queue Length 50th (ft)	1	124	0	7	25	0	19	0	30	4
Queue Length 95th (ft)	6	196	0	20	81	1	50	37	71	30
Internal Link Dist (ft)		1332			1663		280			868
Turn Bay Length (ft)	225		275	250		300				
Base Capacity (vph)	744	2379	1100	472	2587	1154	792	961	776	951
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	0.02	0.40	0.01	0.14	0.17	0.04	0.07	0.11	0.11	0.05
Intersection Summary										

HCM 6th Signalized Intersection Summary

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2023 Existing AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	858	9	58	388	42	39	11	98	76	10	32
Future Volume (veh/h)	11	858	9	58	388	42	39	11	98	76	10	32
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	1826	1856	1870	1870	1870	1752	1870
Adj Flow Rate, veh/h	12	953	0	64	431	0	43	12	0	84	11	36
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	5	3	2	2	2	10	2
Cap, veh/h	654	1776		462	1949		250	59		359	55	180
Arrive On Green	0.04	0.50	0.00	0.08	0.55	0.00	0.13	0.15	0.00	0.15	0.15	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1547	900	388	1585	1402	360	1179
Grp Volume(v), veh/h	12	953	0	64	431	0	55	0	0	84	0	47
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1547	1288	0	1585	1402	0	1540
Q Serve(g_s), s	0.2	10.4	0.0	0.9	3.5	0.0	1.3	0.0	0.0	0.0	0.0	1.5
Cycle Q Clear(g_c), s	0.2	10.4	0.0	0.9	3.5	0.0	2.8	0.0	0.0	2.4	0.0	1.5
Prop In Lane	1.00		1.00	1.00		1.00	0.78		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	654	1776		462	1949		284	0		359	0	235
V/C Ratio(X)	0.02	0.54		0.14	0.22		0.19	0.00		0.23	0.00	0.20
Avail Cap(c_a), veh/h	809	2240		531	2240		878	0		935	0	868
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	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.1	9.7	0.0	6.2	6.6	0.0	22.1	0.0	0.0	21.5	0.0	21.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.2	0.0	0.3
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(50%),veh/ln	0.0	2.9	0.0	0.2	0.9	0.0	0.7	0.0	0.0	0.9	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.1	10.0	0.0	6.3	6.7	0.0	22.4	0.0	0.0	21.7	0.0	21.8
LnGrp LOS	A	A		A	A		C	A		C	A	C
Approach Vol, veh/h		965			495			55			131	
Approach Delay, s/veh		9.9			6.6			22.4			21.7	
Approach LOS		A			A			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	33.5		13.7	7.0	36.2		13.7				
Change Period (Y+Rc), s	6.0	* 6.1		6.1	6.0	* 6.1		6.1				
Max Green Setting (Gmax), s	6.0	* 35		31.0	6.0	* 35		31.0				
Max Q Clear Time (g_c+I1), s	2.9	12.4		4.4	2.2	5.5		4.8				
Green Ext Time (p_c), s	0.0	14.9		0.3	0.0	7.8		0.1				

Intersection Summary

HCM 6th Ctrl Delay 10.3

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

MOVEMENT SUMMARY

 **Site: Existing [Hampton Lake Drive at Parklands Drive
Existing AM Peak (Site Folder: General)]**

Parkways Multifamily Development

Site Category: (None)

Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h %		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh ft		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Parklands Drive														
3	L2	1	2.0	1	2.0	0.075	3.5	LOS A	0.3	8.3	0.20	0.08	0.20	34.2
8	T1	72	2.0	91	2.0	0.075	3.5	LOS A	0.3	8.3	0.20	0.08	0.20	34.5
18	R2	1	2.0	1	2.0	0.075	3.5	LOS A	0.3	8.3	0.20	0.08	0.20	33.7
Approach		74	2.0	94	2.0	0.075	3.5	LOS A	0.3	8.3	0.20	0.08	0.20	34.4
East: Hampton Lake Drive														
1	L2	1	2.0	1	2.0	0.080	3.6	LOS A	0.3	8.8	0.23	0.11	0.23	34.3
6	T1	1	2.0	1	2.0	0.080	3.6	LOS A	0.3	8.8	0.23	0.11	0.23	34.5
16	R2	75	2.0	95	2.0	0.080	3.6	LOS A	0.3	8.8	0.23	0.11	0.23	33.8
Approach		77	2.0	97	2.0	0.080	3.6	LOS A	0.3	8.8	0.23	0.11	0.23	33.8
North: Hampton Lake Drive														
7u	U	1	2.0	1	2.0	0.072	3.2	LOS A	0.3	8.1	0.03	0.00	0.03	33.5
7	L2	53	2.0	67	2.0	0.072	3.2	LOS A	0.3	8.1	0.03	0.00	0.03	33.0
4	T1	22	2.0	28	2.0	0.072	3.2	LOS A	0.3	8.1	0.03	0.00	0.03	33.3
14	R2	1	2.0	1	2.0	0.072	3.2	LOS A	0.3	8.1	0.03	0.00	0.03	32.6
Approach		77	2.0	97	2.0	0.072	3.2	LOS A	0.3	8.1	0.03	0.00	0.03	33.1
West: Hampton Lake Drive														
5	L2	1	2.0	1	2.0	0.003	3.0	LOS A	0.0	0.3	0.22	0.07	0.22	33.9
2	T1	1	2.0	1	2.0	0.003	3.0	LOS A	0.0	0.3	0.22	0.07	0.22	34.1
12	R2	1	2.0	1	2.0	0.003	3.0	LOS A	0.0	0.3	0.22	0.07	0.22	33.4
Approach		3	2.0	4	2.0	0.003	3.0	LOS A	0.0	0.3	0.22	0.07	0.22	33.8
All Vehicles		231	2.0	292	2.0	0.080	3.4	LOS A	0.3	8.8	0.15	0.06	0.15	33.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Queues

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2023 Existing PM Peak

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	15	700	31	133	1071	114	30	100	47	26
v/c Ratio	0.03	0.35	0.03	0.23	0.44	0.10	0.12	0.27	0.19	0.09
Control Delay	3.5	10.2	0.1	4.9	6.9	2.0	23.9	7.5	24.8	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.5	10.2	0.1	4.9	6.9	2.0	23.9	7.5	24.8	14.7
Queue Length 50th (ft)	1	80	0	13	73	0	9	0	14	2
Queue Length 95th (ft)	6	121	0	29	206	21	33	33	46	23
Internal Link Dist (ft)		1332			1663		280			868
Turn Bay Length (ft)	225		275	250		300				
Base Capacity (vph)	463	2474	1140	569	2494	1149	830	997	828	986
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	0.03	0.28	0.03	0.23	0.43	0.10	0.04	0.10	0.06	0.03
Intersection Summary										

HCM 6th Signalized Intersection Summary

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2023 Existing PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	679	30	129	1039	111	29	0	97	46	8	17
Future Volume (veh/h)	15	679	30	129	1039	111	29	0	97	46	8	17
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	1811
Adj Flow Rate, veh/h	15	700	0	133	1071	0	30	0	0	47	8	18
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	6
Cap, veh/h	390	1691		592	1950		297	0		337	70	156
Arrive On Green	0.04	0.48	0.00	0.11	0.55	0.00	0.12	0.00	0.00	0.14	0.14	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1218	0	1585	1418	512	1151
Grp Volume(v), veh/h	15	700	0	133	1071	0	30	0	0	47	0	26
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1218	0	1585	1418	0	1663
Q Serve(g_s), s	0.2	7.0	0.0	1.8	10.6	0.0	1.1	0.0	0.0	0.0	0.0	0.8
Cycle Q Clear(g_c), s	0.2	7.0	0.0	1.8	10.6	0.0	1.8	0.0	0.0	1.3	0.0	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.69
Lane Grp Cap(c), veh/h	390	1691		592	1950		273	0		337	0	226
V/C Ratio(X)	0.04	0.41		0.22	0.55		0.11	0.00		0.14	0.00	0.12
Avail Cap(c_a), veh/h	546	2336		618	2336		898	0		977	0	978
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	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.7	9.3	0.0	5.6	8.0	0.0	22.0	0.0	0.0	20.9	0.0	21.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.2
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(50%),veh/ln	0.0	2.0	0.0	0.4	2.6	0.0	0.3	0.0	0.0	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.8	9.5	0.0	5.6	8.2	0.0	22.2	0.0	0.0	21.1	0.0	21.2
LnGrp LOS	A	A		A	A		C	A		C	A	C
Approach Vol, veh/h		715			1204			30			73	
Approach Delay, s/veh		9.4			7.9			22.2			21.1	
Approach LOS		A			A			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	31.0		12.4	7.2	35.0		12.4				
Change Period (Y+Rc), s	6.0	* 6.1		6.1	6.0	* 6.1		6.1				
Max Green Setting (Gmax), s	6.0	* 35		31.0	6.0	* 35		31.0				
Max Q Clear Time (g_c+l1), s	3.8	9.0		3.3	2.2	12.6		3.8				
Green Ext Time (p_c), s	0.0	12.3		0.1	0.0	16.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay 9.1

HCM 6th LOS A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

MOVEMENT SUMMARY

 **Site: Existing [Hampton Lake Drive at Parklands Drive
Existing PM Peak (Site Folder: General)]**

Parkways Multifamily Development
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h %		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh ft		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Parklands Drive														
3	L2	1	2.0	1	2.0	0.035	3.4	LOS A	0.1	3.7	0.29	0.15	0.29	34.2
8	T1	29	3.0	33	3.0	0.035	3.4	LOS A	0.1	3.7	0.29	0.15	0.29	34.4
18	R2	5	2.0	6	2.0	0.035	3.4	LOS A	0.1	3.7	0.29	0.15	0.29	33.7
Approach		35	2.8	40	2.8	0.035	3.4	LOS A	0.1	3.7	0.29	0.15	0.29	34.3
East: Hampton Lake Drive														
1	L2	4	25.0	5	25.0	0.090	4.1	LOS A	0.4	10.2	0.14	0.04	0.14	33.4
6	T1	1	2.0	1	2.0	0.090	3.5	LOS A	0.4	10.2	0.14	0.04	0.14	34.5
16	R2	96	2.0	110	2.0	0.090	3.5	LOS A	0.4	10.2	0.14	0.04	0.14	33.8
Approach		101	2.9	116	2.9	0.090	3.5	LOS A	0.4	10.2	0.14	0.04	0.14	33.8
North: Hampton Lake Drive														
7u	U	1	2.0	1	2.0	0.144	3.9	LOS A	0.7	17.5	0.06	0.01	0.06	33.0
7	L2	130	2.0	149	2.0	0.144	3.9	LOS A	0.7	17.5	0.06	0.01	0.06	32.6
4	T1	36	2.0	41	2.0	0.144	3.9	LOS A	0.7	17.5	0.06	0.01	0.06	32.8
14	R2	1	2.0	1	2.0	0.144	3.9	LOS A	0.7	17.5	0.06	0.01	0.06	32.2
Approach		168	2.0	193	2.0	0.144	3.9	LOS A	0.7	17.5	0.06	0.01	0.06	32.7
West: Hampton Lake Drive														
5	L2	1	2.0	1	2.0	0.003	3.3	LOS A	0.0	0.3	0.32	0.14	0.32	33.7
2	T1	1	2.0	1	2.0	0.003	3.3	LOS A	0.0	0.3	0.32	0.14	0.32	34.0
12	R2	1	2.0	1	2.0	0.003	3.3	LOS A	0.0	0.3	0.32	0.14	0.32	33.3
Approach		3	2.0	3	2.0	0.003	3.3	LOS A	0.0	0.3	0.32	0.14	0.32	33.6
All Vehicles		307	2.4	353	2.4	0.144	3.7	LOS A	0.7	17.5	0.11	0.04	0.11	33.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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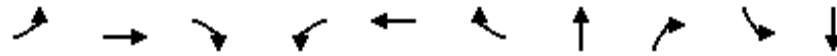
2026 NO-BUILD CONDITIONS

Queues

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2026 No-Build AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	13	1012	11	69	458	50	59	116	90	50
v/c Ratio	0.02	0.48	0.01	0.16	0.18	0.04	0.24	0.30	0.37	0.15
Control Delay	4.1	11.6	0.0	4.9	5.8	0.2	27.3	8.1	30.1	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	11.6	0.0	4.9	5.8	0.2	27.3	8.1	30.1	12.8
Queue Length 50th (ft)	1	137	0	7	27	0	22	0	34	4
Queue Length 95th (ft)	7	215	0	21	87	2	53	39	75	31
Internal Link Dist (ft)		1332			1663		280			868
Turn Bay Length (ft)	225		275	250		300				
Base Capacity (vph)	742	2222	1035	440	2514	1124	737	906	721	890
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	0.02	0.46	0.01	0.16	0.18	0.04	0.08	0.13	0.12	0.06
Intersection Summary										

HCM 6th Signalized Intersection Summary

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2026 No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	911	10	62	412	45	41	12	104	81	11	34
Future Volume (veh/h)	12	911	10	62	412	45	41	12	104	81	11	34
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	1826	1856	1870	1870	1870	1752	1870
Adj Flow Rate, veh/h	13	1012	0	69	458	0	46	13	0	90	12	38
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	5	3	2	2	2	10	2
Cap, veh/h	645	1802		449	1979		241	58		354	56	176
Arrive On Green	0.04	0.51	0.00	0.09	0.56	0.00	0.13	0.15	0.00	0.15	0.15	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1547	877	385	1585	1401	370	1171
Grp Volume(v), veh/h	13	1012	0	69	458	0	59	0	0	90	0	50
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1547	1262	0	1585	1401	0	1541
Q Serve(g_s), s	0.2	11.5	0.0	1.0	3.8	0.0	1.5	0.0	0.0	0.0	0.0	1.7
Cycle Q Clear(g_c), s	0.2	11.5	0.0	1.0	3.8	0.0	3.2	0.0	0.0	2.6	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	0.78		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	645	1802		449	1979		275	0		354	0	231
V/C Ratio(X)	0.02	0.56		0.15	0.23		0.21	0.00		0.25	0.00	0.22
Avail Cap(c_a), veh/h	793	2181		508	2181		850	0		912	0	846
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	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.0	9.9	0.0	6.4	6.6	0.0	23.0	0.0	0.0	22.2	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.1	0.0	0.3	0.0	0.0	0.3	0.0	0.3
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(50%),veh/ln	0.0	3.2	0.0	0.2	1.0	0.0	0.7	0.0	0.0	1.0	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.0	10.2	0.0	6.4	6.7	0.0	23.3	0.0	0.0	22.5	0.0	22.6
LnGrp LOS	A	B		A	A		C	A		C	A	C
Approach Vol, veh/h		1025			527			59			140	
Approach Delay, s/veh		10.1			6.6			23.3			22.5	
Approach LOS		B			A			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	34.7		13.8	7.1	37.6		13.8				
Change Period (Y+Rc), s	6.0	* 6.1		6.1	6.0	* 6.1		6.1				
Max Green Setting (Gmax), s	6.0	* 35		31.0	6.0	* 35		31.0				
Max Q Clear Time (g_c+l1), s	3.0	13.5		4.6	2.2	5.8		5.2				
Green Ext Time (p_c), s	0.0	15.1		0.3	0.0	8.3		0.1				

Intersection Summary

HCM 6th Ctrl Delay 10.5

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

MOVEMENT SUMMARY

 **Site: No-Build [Hampton Lake Drive at Parklands Drive No-Build AM Peak (Site Folder: General)]**

Parkways Multifamily Development
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h %		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh ft		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Parklands Drive														
3	L2	1	2.0	1	2.0	0.069	3.4	LOS A	0.3	7.6	0.19	0.07	0.19	34.3
8	T1	76	2.0	84	2.0	0.069	3.4	LOS A	0.3	7.6	0.19	0.07	0.19	34.5
18	R2	1	2.0	1	2.0	0.069	3.4	LOS A	0.3	7.6	0.19	0.07	0.19	33.8
Approach		78	2.0	87	2.0	0.069	3.4	LOS A	0.3	7.6	0.19	0.07	0.19	34.5
East: Hampton Lake Drive														
1	L2	1	2.0	1	2.0	0.073	3.5	LOS A	0.3	8.0	0.22	0.10	0.22	34.3
6	T1	1	2.0	1	2.0	0.073	3.5	LOS A	0.3	8.0	0.22	0.10	0.22	34.5
16	R2	79	2.0	88	2.0	0.073	3.5	LOS A	0.3	8.0	0.22	0.10	0.22	33.8
Approach		81	2.0	90	2.0	0.073	3.5	LOS A	0.3	8.0	0.22	0.10	0.22	33.8
North: Hampton Lake Drive														
7u	U	1	2.0	1	2.0	0.067	3.2	LOS A	0.3	7.5	0.03	0.00	0.03	33.5
7	L2	56	2.0	62	2.0	0.067	3.2	LOS A	0.3	7.5	0.03	0.00	0.03	33.1
4	T1	23	2.0	26	2.0	0.067	3.2	LOS A	0.3	7.5	0.03	0.00	0.03	33.3
14	R2	1	2.0	1	2.0	0.067	3.2	LOS A	0.3	7.5	0.03	0.00	0.03	32.6
Approach		81	2.0	90	2.0	0.067	3.2	LOS A	0.3	7.5	0.03	0.00	0.03	33.1
West: Hampton Lake Drive														
5	L2	1	2.0	1	2.0	0.003	2.9	LOS A	0.0	0.3	0.21	0.07	0.21	33.9
2	T1	1	2.0	1	2.0	0.003	2.9	LOS A	0.0	0.3	0.21	0.07	0.21	34.1
12	R2	1	2.0	1	2.0	0.003	2.9	LOS A	0.0	0.3	0.21	0.07	0.21	33.4
Approach		3	2.0	3	2.0	0.003	2.9	LOS A	0.0	0.3	0.21	0.07	0.21	33.8
All Vehicles		243	2.0	270	2.0	0.073	3.4	LOS A	0.3	8.0	0.15	0.06	0.15	33.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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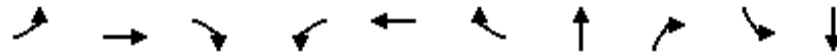
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Queues

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2026 No-Build PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	759	34	144	1161	124	33	108	52	27
v/c Ratio	0.04	0.38	0.04	0.26	0.47	0.11	0.14	0.29	0.21	0.09
Control Delay	3.6	10.4	0.1	5.2	7.2	1.9	24.3	8.2	25.4	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	10.4	0.1	5.2	7.2	1.9	24.3	8.2	25.4	14.6
Queue Length 50th (ft)	2	88	0	14	83	0	9	0	15	2
Queue Length 95th (ft)	7	135	0	32	234	22	35	38	49	23
Internal Link Dist (ft)		1332			1663		280			868
Turn Bay Length (ft)	225		275	250		300				
Base Capacity (vph)	432	2346	1087	544	2393	1110	817	983	812	969
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	0.04	0.32	0.03	0.26	0.49	0.11	0.04	0.11	0.06	0.03
Intersection Summary										

HCM 6th Signalized Intersection Summary

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2026 No-Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	721	32	137	1103	118	31	0	103	49	8	18
Future Volume (veh/h)	16	721	32	137	1103	118	31	0	103	49	8	18
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	1811
Adj Flow Rate, veh/h	17	759	0	144	1161	0	33	0	0	52	8	19
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	6
Cap, veh/h	367	1727		571	1976		293	0		334	67	159
Arrive On Green	0.04	0.49	0.00	0.11	0.56	0.00	0.12	0.00	0.00	0.14	0.14	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1212	0	1585	1418	492	1168
Grp Volume(v), veh/h	17	759	0	144	1161	0	33	0	0	52	0	27
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1212	0	1585	1418	0	1660
Q Serve(g_s), s	0.2	7.9	0.0	2.0	12.2	0.0	1.2	0.0	0.0	0.0	0.0	0.8
Cycle Q Clear(g_c), s	0.2	7.9	0.0	2.0	12.2	0.0	2.1	0.0	0.0	1.5	0.0	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.70
Lane Grp Cap(c), veh/h	367	1727		571	1976		269	0		334	0	227
V/C Ratio(X)	0.05	0.44		0.25	0.59		0.12	0.00		0.16	0.00	0.12
Avail Cap(c_a), veh/h	511	2254		591	2254		865	0		944	0	941
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	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.0	9.5	0.0	5.7	8.3	0.0	22.9	0.0	0.0	21.7	0.0	21.8
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.3	0.0	0.1	0.0	0.0	0.2	0.0	0.2
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(50%),veh/ln	0.0	2.2	0.0	0.4	3.0	0.0	0.4	0.0	0.0	0.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.0	9.7	0.0	5.8	8.6	0.0	23.0	0.0	0.0	21.9	0.0	22.0
LnGrp LOS	A	A		A	A		C	A		C	A	C
Approach Vol, veh/h		776			1305			33			79	
Approach Delay, s/veh		9.6			8.3			23.0			21.9	
Approach LOS		A			A			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	32.5		12.7	7.4	36.5		12.7				
Change Period (Y+Rc), s	6.0	* 6.1		6.1	6.0	* 6.1		6.1				
Max Green Setting (Gmax), s	6.0	* 35		31.0	6.0	* 35		31.0				
Max Q Clear Time (g_c+l1), s	4.0	9.9		3.5	2.2	14.2		4.1				
Green Ext Time (p_c), s	0.0	13.1		0.1	0.0	16.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay 9.5

HCM 6th LOS A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

MOVEMENT SUMMARY

 **Site: No-Build [Hampton Lake Drive at Parklands Drive No-Build PM Peak (Site Folder: General)]**

Parkways Multifamily Development
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: Parklands Drive														
3	L2	1	2.0	1	2.0	0.036	3.4	LOS A	0.1	3.8	0.29	0.15	0.29	34.2
8	T1	31	3.0	34	3.0	0.036	3.5	LOS A	0.1	3.8	0.29	0.15	0.29	34.4
18	R2	5	2.0	6	2.0	0.036	3.4	LOS A	0.1	3.8	0.29	0.15	0.29	33.7
Approach		37	2.8	41	2.8	0.036	3.5	LOS A	0.1	3.8	0.29	0.15	0.29	34.3
East: Hampton Lake Drive														
1	L2	4	25.0	4	25.0	0.092	4.1	LOS A	0.4	10.5	0.14	0.04	0.14	33.4
6	T1	1	2.0	1	2.0	0.092	3.5	LOS A	0.4	10.5	0.14	0.04	0.14	34.5
16	R2	102	2.0	113	2.0	0.092	3.5	LOS A	0.4	10.5	0.14	0.04	0.14	33.8
Approach		107	2.9	119	2.9	0.092	3.5	LOS A	0.4	10.5	0.14	0.04	0.14	33.8
North: Hampton Lake Drive														
7u	U	1	2.0	1	2.0	0.147	3.9	LOS A	0.7	18.0	0.06	0.01	0.06	33.0
7	L2	138	2.0	153	2.0	0.147	3.9	LOS A	0.7	18.0	0.06	0.01	0.06	32.6
4	T1	38	2.0	42	2.0	0.147	3.9	LOS A	0.7	18.0	0.06	0.01	0.06	32.8
14	R2	1	2.0	1	2.0	0.147	3.9	LOS A	0.7	18.0	0.06	0.01	0.06	32.2
Approach		178	2.0	198	2.0	0.147	3.9	LOS A	0.7	18.0	0.06	0.01	0.06	32.7
West: Hampton Lake Drive														
5	L2	1	2.0	1	2.0	0.003	3.3	LOS A	0.0	0.3	0.33	0.14	0.33	33.7
2	T1	1	2.0	1	2.0	0.003	3.3	LOS A	0.0	0.3	0.33	0.14	0.33	34.0
12	R2	1	2.0	1	2.0	0.003	3.3	LOS A	0.0	0.3	0.33	0.14	0.33	33.3
Approach		3	2.0	3	2.0	0.003	3.3	LOS A	0.0	0.3	0.33	0.14	0.33	33.6
All Vehicles		325	2.4	361	2.4	0.147	3.7	LOS A	0.7	18.0	0.11	0.04	0.11	33.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: US HCM 6.
 Delay Model: HCM Delay Formula (Geometric Delay is not included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: Traditional M1.
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

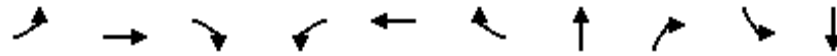
2026 BUILD CONDITIONS

Queues

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2026 No-Build AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	13	1012	19	83	458	50	84	162	90	50
v/c Ratio	0.02	0.56	0.02	0.21	0.21	0.05	0.35	0.39	0.38	0.15
Control Delay	4.1	12.7	0.1	5.4	6.3	0.2	29.6	8.0	30.6	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	12.7	0.1	5.4	6.3	0.2	29.6	8.0	30.6	12.8
Queue Length 50th (ft)	1	137	0	9	27	0	32	0	35	4
Queue Length 95th (ft)	7	217	0	25	87	2	71	45	75	31
Internal Link Dist (ft)		1332			1663		280			868
Turn Bay Length (ft)	225		275	250		300				
Base Capacity (vph)	681	2109	988	398	2419	1086	715	919	697	881
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	0.02	0.48	0.02	0.21	0.19	0.05	0.12	0.18	0.13	0.06
Intersection Summary										

HCM 6th Signalized Intersection Summary

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2026 No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	911	17	75	412	45	63	13	146	81	11	34
Future Volume (veh/h)	12	911	17	75	412	45	63	13	146	81	11	34
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	1826	1856	1870	1870	1870	1752	1870
Adj Flow Rate, veh/h	13	1012	0	83	458	0	70	14	0	90	12	38
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	5	3	2	2	2	10	2
Cap, veh/h	646	1789		456	1988		251	42		359	56	176
Arrive On Green	0.04	0.50	0.00	0.09	0.56	0.00	0.13	0.15	0.00	0.15	0.15	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1547	924	281	1585	1400	370	1171
Grp Volume(v), veh/h	13	1012	0	83	458	0	84	0	0	90	0	50
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1547	1205	0	1585	1400	0	1541
Q Serve(g_s), s	0.2	11.7	0.0	1.2	3.9	0.0	2.8	0.0	0.0	0.0	0.0	1.7
Cycle Q Clear(g_c), s	0.2	11.7	0.0	1.2	3.9	0.0	4.5	0.0	0.0	2.7	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	0.83		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	646	1789		456	1988		271	0		359	0	232
V/C Ratio(X)	0.02	0.57		0.18	0.23		0.31	0.00		0.25	0.00	0.22
Avail Cap(c_a), veh/h	792	2158		502	2158		828	0		908	0	837
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	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.0	10.2	0.0	6.5	6.6	0.0	24.0	0.0	0.0	22.5	0.0	22.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.1	0.0	0.5	0.0	0.0	0.3	0.0	0.3
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(50%),veh/ln	0.0	3.3	0.0	0.3	1.0	0.0	1.1	0.0	0.0	1.1	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.0	10.5	0.0	6.5	6.6	0.0	24.5	0.0	0.0	22.8	0.0	22.8
LnGrp LOS	A	B		A	A		C	A		C	A	C
Approach Vol, veh/h		1025			541			84			140	
Approach Delay, s/veh		10.4			6.6			24.5			22.8	
Approach LOS		B			A			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	34.8		13.9	7.2	38.1		13.9				
Change Period (Y+Rc), s	6.0	* 6.1		6.1	6.0	* 6.1		6.1				
Max Green Setting (Gmax), s	6.0	* 35		31.0	6.0	* 35		31.0				
Max Q Clear Time (g_c+I1), s	3.2	13.7		4.7	2.2	5.9		6.5				
Green Ext Time (p_c), s	0.0	15.0		0.3	0.0	8.3		0.2				

Intersection Summary

HCM 6th Ctrl Delay 10.9

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC 3: Hampton Lake Drive & Proposed Site Access

Parkways Multifamily Development

2026 No-Build AM Peak

Intersection						
Int Delay, s/veh	3.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	65	81	0	20	58
Future Vol, veh/h	0	65	81	0	20	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	72	90	0	22	64
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	198	90	0	0	90	0
Stage 1	90	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	791	968	-	-	1505	-
Stage 1	934	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	779	968	-	-	1505	-
Mov Cap-2 Maneuver	779	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9	0		1.9		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	968	1505	-	
HCM Lane V/C Ratio	-	-	0.075	0.015	-	
HCM Control Delay (s)	-	-	9	7.4	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	

MOVEMENT SUMMARY

 **Site: Build [Hampton Lake Drive at Parklands Drive Build AM Peak (Site Folder: General)]**

Parkways Multifamily Development
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: Parklands Drive														
3	L2	1	2.0	1	2.0	0.070	3.5	LOS A	0.3	7.7	0.22	0.10	0.22	34.2
8	T1	76	2.0	84	2.0	0.070	3.5	LOS A	0.3	7.7	0.22	0.10	0.22	34.4
18	R2	1	2.0	1	2.0	0.070	3.5	LOS A	0.3	7.7	0.22	0.10	0.22	33.7
Approach		78	2.0	87	2.0	0.070	3.5	LOS A	0.3	7.7	0.22	0.10	0.22	34.4
East: Hampton Lake Drive														
1	L2	1	2.0	1	2.0	0.131	4.0	LOS A	0.6	15.4	0.23	0.11	0.23	34.1
6	T1	1	2.0	1	2.0	0.131	4.0	LOS A	0.6	15.4	0.23	0.11	0.23	34.3
16	R2	144	2.0	160	2.0	0.131	4.0	LOS A	0.6	15.4	0.23	0.11	0.23	33.6
Approach		146	2.0	162	2.0	0.131	4.0	LOS A	0.6	15.4	0.23	0.11	0.23	33.6
North: Hampton Lake Drive														
7u	U	1	2.0	1	2.0	0.083	3.3	LOS A	0.4	9.5	0.03	0.00	0.03	33.3
7	L2	76	2.0	84	2.0	0.083	3.3	LOS A	0.4	9.5	0.03	0.00	0.03	32.9
4	T1	23	2.0	26	2.0	0.083	3.3	LOS A	0.4	9.5	0.03	0.00	0.03	33.1
14	R2	1	2.0	1	2.0	0.083	3.3	LOS A	0.4	9.5	0.03	0.00	0.03	32.5
Approach		101	2.0	112	2.0	0.083	3.3	LOS A	0.4	9.5	0.03	0.00	0.03	32.9
West: Hampton Lake Drive														
5	L2	1	2.0	1	2.0	0.003	3.0	LOS A	0.0	0.3	0.24	0.08	0.24	33.9
2	T1	1	2.0	1	2.0	0.003	3.0	LOS A	0.0	0.3	0.24	0.08	0.24	34.1
12	R2	1	2.0	1	2.0	0.003	3.0	LOS A	0.0	0.3	0.24	0.08	0.24	33.4
Approach		3	2.0	3	2.0	0.003	3.0	LOS A	0.0	0.3	0.24	0.08	0.24	33.8
All Vehicles		328	2.0	364	2.0	0.131	3.7	LOS A	0.6	15.4	0.17	0.07	0.17	33.6

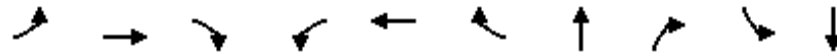
Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: US HCM 6.
 Delay Model: HCM Delay Formula (Geometric Delay is not included).
 Queue Model: HCM Queue Formula.
 Gap-Acceptance Capacity: Traditional M1.
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Queues

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2026 No-Build PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	759	58	191	1161	124	47	136	52	28
v/c Ratio	0.04	0.45	0.07	0.37	0.47	0.11	0.19	0.34	0.21	0.09
Control Delay	3.6	11.2	0.7	6.0	7.2	1.9	25.1	8.3	25.5	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	11.2	0.7	6.0	7.2	1.9	25.1	8.3	25.5	14.9
Queue Length 50th (ft)	2	88	0	20	83	0	14	0	15	3
Queue Length 95th (ft)	7	135	4	42	235	22	45	43	49	24
Internal Link Dist (ft)		1332			1663		280			868
Turn Bay Length (ft)	225		275	250		300				
Base Capacity (vph)	434	2381	1101	523	2439	1129	828	1006	813	987
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	0.04	0.32	0.05	0.37	0.48	0.11	0.06	0.14	0.06	0.03
Intersection Summary										

HCM 6th Signalized Intersection Summary

Parkways Multifamily Development

1: Hampton Lake Drive/Hampton Parkway & Bluffton Parkway

2026 No-Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	721	55	181	1103	118	45	0	129	49	9	18
Future Volume (veh/h)	16	721	55	181	1103	118	45	0	129	49	9	18
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	1811
Adj Flow Rate, veh/h	17	759	0	191	1161	0	47	0	0	52	9	19
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	6
Cap, veh/h	364	1699		572	1967		297	0		343	75	159
Arrive On Green	0.04	0.48	0.00	0.12	0.55	0.00	0.12	0.00	0.00	0.14	0.14	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1213	0	1585	1418	536	1131
Grp Volume(v), veh/h	17	759	0	191	1161	0	47	0	0	52	0	28
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1213	0	1585	1418	0	1667
Q Serve(g_s), s	0.2	8.1	0.0	2.8	12.3	0.0	1.8	0.0	0.0	0.0	0.0	0.8
Cycle Q Clear(g_c), s	0.2	8.1	0.0	2.8	12.3	0.0	2.6	0.0	0.0	1.5	0.0	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.68
Lane Grp Cap(c), veh/h	364	1699		572	1967		274	0		343	0	235
V/C Ratio(X)	0.05	0.45		0.33	0.59		0.17	0.00		0.15	0.00	0.12
Avail Cap(c_a), veh/h	507	2239		582	2239		858	0		942	0	939
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	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.1	9.9	0.0	6.0	8.4	0.0	23.0	0.0	0.0	21.7	0.0	21.7
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.3	0.0	0.2	0.0	0.0	0.2	0.0	0.2
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(50%),veh/ln	0.1	2.3	0.0	0.6	3.1	0.0	0.6	0.0	0.0	0.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.1	10.1	0.0	6.2	8.8	0.0	23.3	0.0	0.0	21.8	0.0	21.9
LnGrp LOS	A	B		A	A		C	A		C	A	C
Approach Vol, veh/h		776			1352			47			80	
Approach Delay, s/veh		10.0			8.4			23.3			21.8	
Approach LOS		A			A			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	32.2		13.0	7.4	36.5		13.0				
Change Period (Y+Rc), s	6.0	* 6.1		6.1	6.0	* 6.1		6.1				
Max Green Setting (Gmax), s	6.0	* 35		31.0	6.0	* 35		31.0				
Max Q Clear Time (g_c+l1), s	4.8	10.1		3.5	2.2	14.3		4.6				
Green Ext Time (p_c), s	0.0	13.0		0.2	0.0	16.1		0.1				

Intersection Summary

HCM 6th Ctrl Delay 9.7

HCM 6th LOS A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC 3: Hampton Lake Drive & Proposed Site Access

Parkways Multifamily Development
2026 No-Build PM Peak

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	40	106	0	68	143
Future Vol, veh/h	0	40	106	0	68	143
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	44	118	0	76	159
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	429	118	0	0	118	0
Stage 1	118	-	-	-	-	-
Stage 2	311	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	583	934	-	-	1470	-
Stage 1	907	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	550	934	-	-	1470	-
Mov Cap-2 Maneuver	550	-	-	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	701	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9	0		2.4		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	934	1470	-	
HCM Lane V/C Ratio	-	-	0.048	0.051	-	
HCM Control Delay (s)	-	-	9	7.6	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-	

MOVEMENT SUMMARY

 **Site: Build [Hampton Lake Drive at Parklands Drive Build PM Peak (Site Folder: General)]**

Parkways Multifamily Development
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h %		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh ft		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Parklands Drive														
3	L2	1	2.0	1	2.0	0.039	3.7	LOS A	0.2	4.0	0.36	0.21	0.36	34.1
8	T1	31	3.0	34	3.0	0.039	3.8	LOS A	0.2	4.0	0.36	0.21	0.36	34.3
18	R2	5	2.0	6	2.0	0.039	3.7	LOS A	0.2	4.0	0.36	0.21	0.36	33.6
Approach		37	2.8	41	2.8	0.039	3.7	LOS A	0.2	4.0	0.36	0.21	0.36	34.2
East: Hampton Lake Drive														
1	L2	4	25.0	4	25.0	0.126	4.4	LOS A	0.6	14.9	0.14	0.05	0.14	33.3
6	T1	1	2.0	1	2.0	0.126	3.8	LOS A	0.6	14.9	0.14	0.05	0.14	34.4
16	R2	142	2.0	158	2.0	0.126	3.8	LOS A	0.6	14.9	0.14	0.05	0.14	33.6
Approach		147	2.6	163	2.6	0.126	3.8	LOS A	0.6	14.9	0.14	0.05	0.14	33.6
North: Hampton Lake Drive														
7u	U	1	2.0	1	2.0	0.204	4.4	LOS A	1.0	26.5	0.06	0.01	0.06	32.7
7	L2	206	2.0	229	2.0	0.204	4.4	LOS A	1.0	26.5	0.06	0.01	0.06	32.3
4	T1	38	2.0	42	2.0	0.204	4.4	LOS A	1.0	26.5	0.06	0.01	0.06	32.5
14	R2	1	2.0	1	2.0	0.204	4.4	LOS A	1.0	26.5	0.06	0.01	0.06	31.8
Approach		246	2.0	273	2.0	0.204	4.4	LOS A	1.0	26.5	0.06	0.01	0.06	32.3
West: Hampton Lake Drive														
5	L2	1	2.0	1	2.0	0.003	3.6	LOS A	0.0	0.3	0.38	0.19	0.38	33.6
2	T1	1	2.0	1	2.0	0.003	3.6	LOS A	0.0	0.3	0.38	0.19	0.38	33.8
12	R2	1	2.0	1	2.0	0.003	3.6	LOS A	0.0	0.3	0.38	0.19	0.38	33.1
Approach		3	2.0	3	2.0	0.003	3.6	LOS A	0.0	0.3	0.38	0.19	0.38	33.5
All Vehicles		433	2.3	481	2.3	0.204	4.1	LOS A	1.0	26.5	0.12	0.04	0.12	32.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

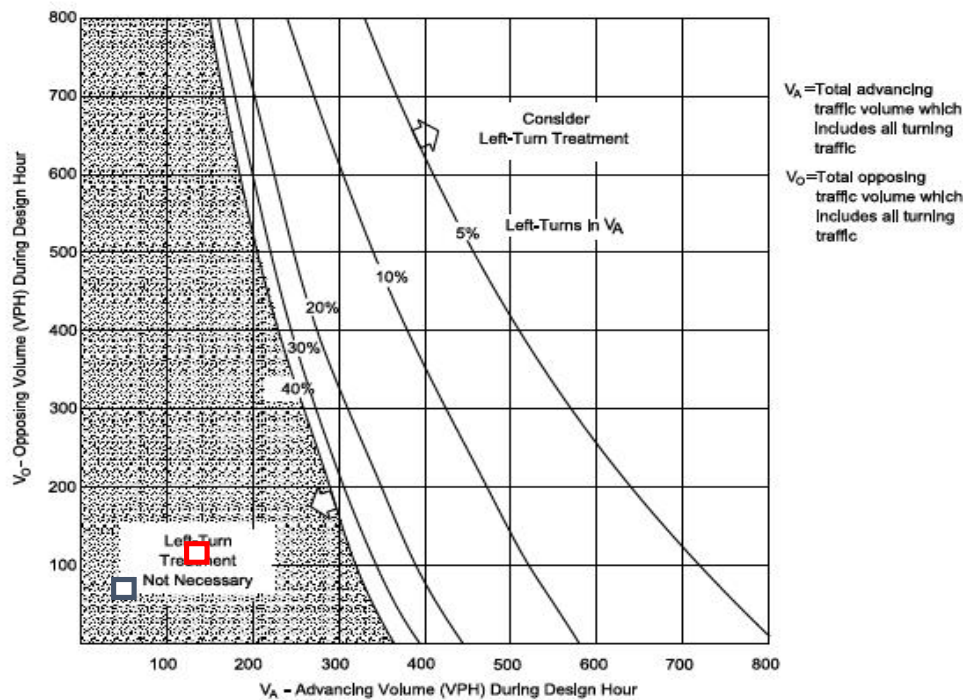
Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Appendix E – Turn Lane Warrant Analyses



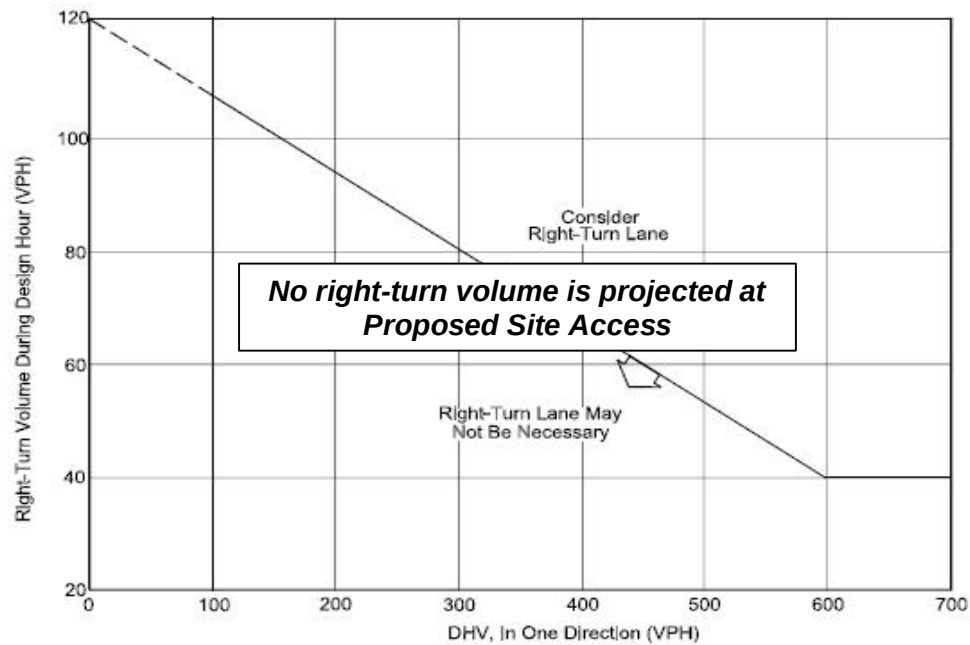
Instructions:

1. The family of curves represents the percent of left turns in the advancing volume (V_A). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of 5, the designer should estimate where the curve lies.
2. Read V_A and V_O into the chart and locate the intersection of the two volumes.
3. Note the location of the point in #2 relative to the line in #1. If the point is to the right of the line, then a left-turn lane is warranted. If the point is to the left of the line, then a left-turn lane is not warranted based on traffic volumes.

VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (40 mph)
Figure 9.5-G

Hampton Lake Drive at Proposed Site Access

Southbound	Left	V_A	V_O	LTs	LT %
■	2026 Build AM	58	81	20	26%
■	2026 Build PM	143	106	67	32%



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Example

Given:

Design Speed	=	35 miles per hour
DHV	=	250 vehicles per hour
Right Turns	=	100 vehicles per hour

Problem: Determine if a right-turn lane is necessary.

Solution: To read the vertical axis, use $100 - 20 = 80$ vehicles per hour. The figure indicates that a right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS Figure 9.5-A

Hampton Lake Drive at Proposed Site Access

Northbound	Right	DHV	RTs
2026 Build AM	-	-	-
2026 Build PM	-	-	-