COASTAL HIGH SCHOOL

2024
March

Project No:
171003002

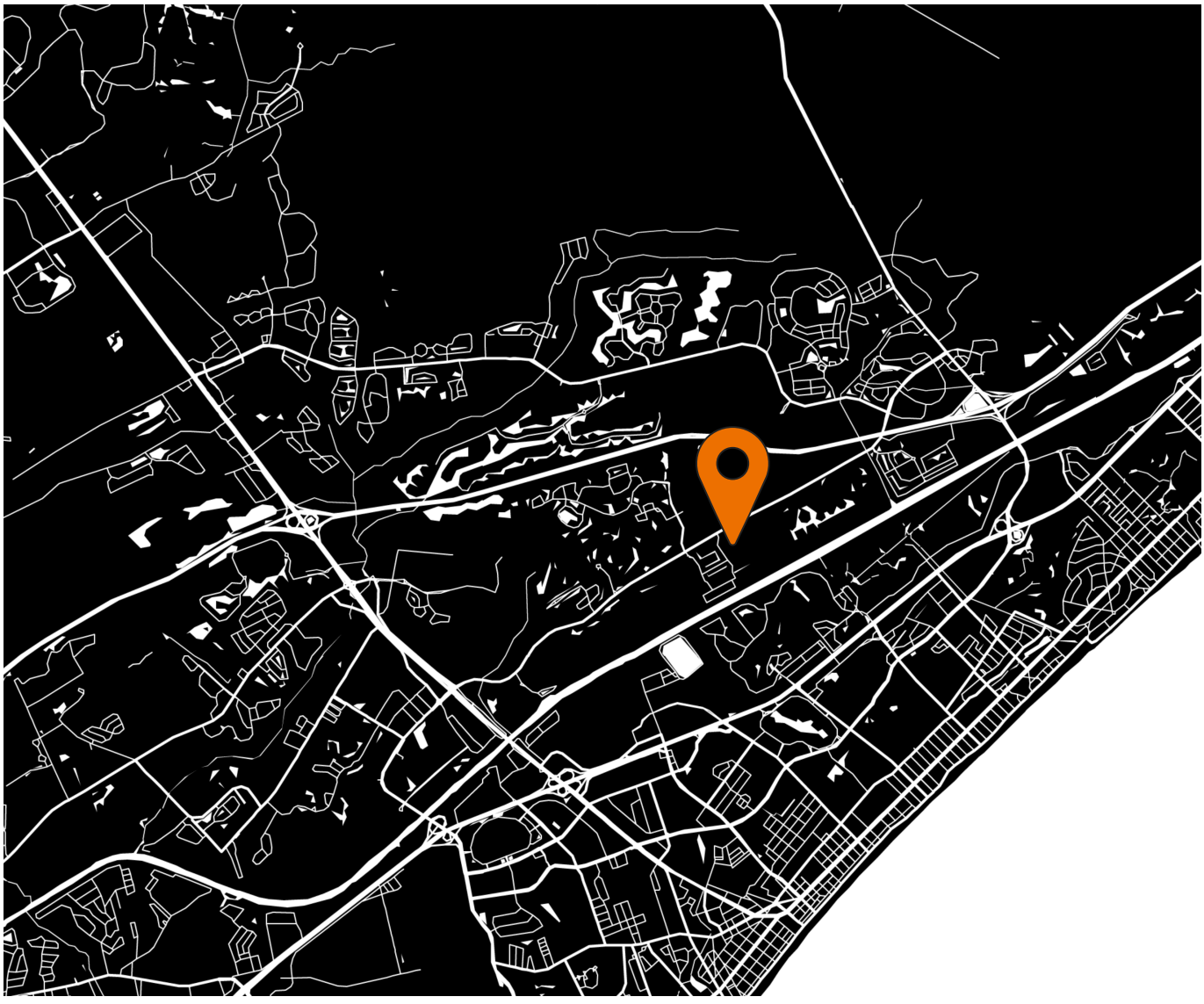
DRAFT

PREPARED FOR: **PARADIGM DESIGN**

415 LEONARD STREET NW, SUITE 200 // GRAND RAPIDS, MI, 49504

TRAFFIC IMPACT ANALYSIS

ALONG RIVER OAKS DRIVE
IN HORRY COUNTY, SOUTH CAROLINA



PREPARED BY: **STANTEC CONSULTING SERVICES INC.** // N. CHARLESTON, SC

COASTAL HIGH SCHOOL

TRAFFIC IMPACT ANALYSIS

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March 2024

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A traffic impact analysis was conducted for the Coastal High School development in accordance with SCDOT and Horry County guidelines.

The proposed Coastal High School development is located along River Oaks Drive and will consist of a 520-student high school and a 300-student middle school. The proposed high school is anticipated to be operational by 2025.

Access to the development is proposed to be provided via one full access driveway along River Oaks Avenue aligned opposite of Village Parkway, which meets the SCDOT spacing requirements.

The extent of the roadway network analyzed consisted of the two (2) intersections of:

1. River Oaks Drive & Village Parkway; and
2. River Oaks Drive & Augusta Plantation Drive/Biltmore Drive.

The operation of each of these intersections (in terms of average vehicular delay and level of service) was analyzed with and without the project traffic anticipated to be generated by the Coastal High School development.

Based on the turn lane criteria in SCDOT's *Roadway Design Manual*, an exclusive westbound left-turn lane and an eastbound right-turn lane along River Oaks Drive are recommended at Project Driveway #1. Per the criteria documented in SCDOT's *Access and Roadside Management Standards,* it is recommended that the exclusive left-turn lane consist of a total of 330 feet, with 150 feet of storage and a 180-foot taper. Per the criteria documented in SCDOT's *Access and Roadside Management Standards,* it is recommended that the exclusive right-turn lane consist of a total of 330 feet, with 150 feet of storage and a 180-foot taper.

The results of the analysis indicate that the study intersections currently operate and are expected to continue to operate at an acceptable level of service with the proposed Coastal High School development, with two exceptions:

The intersection of River Oaks Drive & Village Parkway/Project Driveway is projected to experience undesirable delay in the 2027 Build Conditions with the proposed Coastal High School development. Based on the significant increase in delay anticipated with the proposed development, mitigation alternatives were evaluated, which indicated that signalization of the intersection is anticipated to mitigate this delay. A cursory review indicates that peak hour signal warrants are likely to be met. Therefore, it is recommended to install a signal at this intersection when warranted. The Coastal High School development is projected to generate approximately 15% of the total traffic at this intersection and that percentage will likely decrease with the planned RIDE4 Horry County projects in the study area. Therefore, coordination between the County, SCDOT, and nearby developments may be required to determine shared responsibility of the installation of the signal.

The intersection of River Oaks Drive & Augusta Plantation Drive/Biltmore Drive is projected to experience undesirable delay in the AM peak hour of 2027 Build Conditions with the proposed Coastal High School development. Mitigation alternatives were evaluated; however, it was determined that given the built-out nature of the intersection in existing conditions, that additional geometric improvements (maintaining the existing two-lane capacity along River Oaks Drive) were limited. There is planned Horry County project to widen River Oaks Drive in the future and this widening is anticipated to mitigate the delay experienced at this intersection and provide acceptable LOS. Therefore, no improvements to mitigate this delay are recommended at this time.

1.0 INTRODUCTION

1.1 PROJECT BACKGROUND

The purpose of this report is to document the procedures and findings of a traffic impact analysis for the proposed Coastal High School development in accordance with SCDOT and Horry County guidelines. The proposed Coastal High School development is located along River Oaks Drive, as shown in **Exhibit 1.1**, and will consist of a 520-student high school and a 300-student middle school. The proposed high school is anticipated to be operational by 2025.

Access to the development will be provided through one full access driveway along River Oaks Drive which will align with Village Parkway, as shown in the site plan in **Exhibit 1.2**.

The traffic impact analysis considers the weekday AM peak hour (between 7:00 AM and 9:00 AM), the weekday school release midday (MD) peak hour (between 2:00 PM and 4:00 PM), and the weekday PM peak hour (between 4:00 PM and 6:00 PM) as the study time frames. The extent of the existing roadway network to be studied consists of the two (2) intersections of:

1. River Oaks Drive & Village Parkway; and
2. River Oaks Drive & Augusta Plantation Drive/Biltmore Drive.

1.2 EXISTING ROADWAY CONDITIONS

River Oaks Drive is a two-lane local roadway that primarily serves residential land uses. The posted speed limit ranges from 35 to 45 mph. Based upon existing turning movement counts, the percentage of heavy vehicles along River Oaks Drive is approximately 4%.

Augusta Plantation Drive is a four-lane local roadway that primarily serves residential and institutional land uses and the posted speed limit ranges between 15 mph in the school zone to 35 mph. Based upon existing turning movement counts, the percentage of heavy vehicles along Augusta Plantation Drive is approximately 3%.

Village Parkway is a two-lane local roadway that primarily serves residential land uses and the posted speed limit is 25 mph. Based upon existing turning movement counts, the percentage of heavy vehicles along Village Parkway is approximately 2%.

Biltmore Drive is a two-lane local roadway that primarily serves residential land uses and the posted speed limit is 25 mph. Based upon existing turning movement counts, the percentage of heavy vehicles along Biltmore Drive is approximately 4%.

Exhibit 1.1 – Coastal High School Location Map

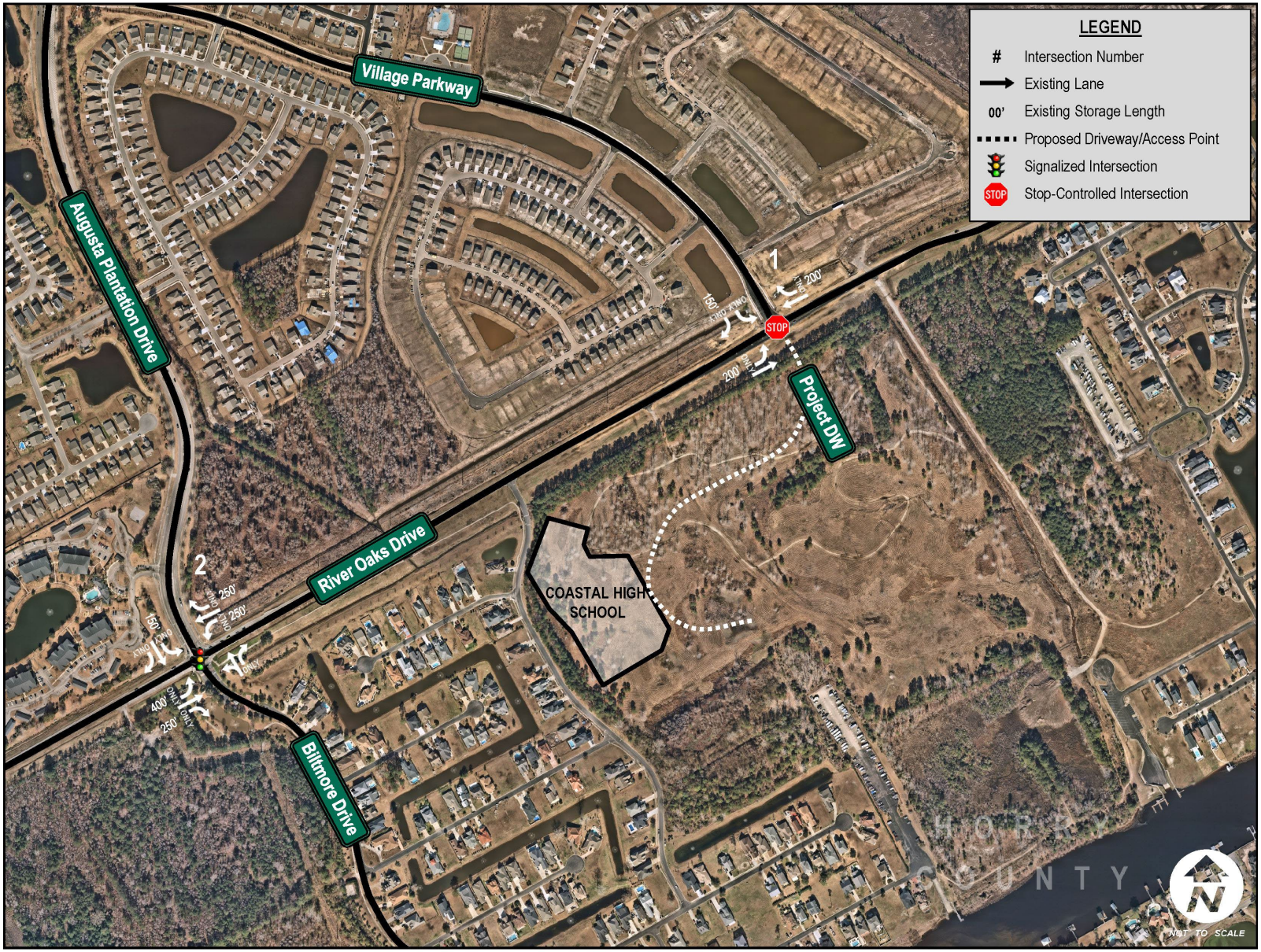
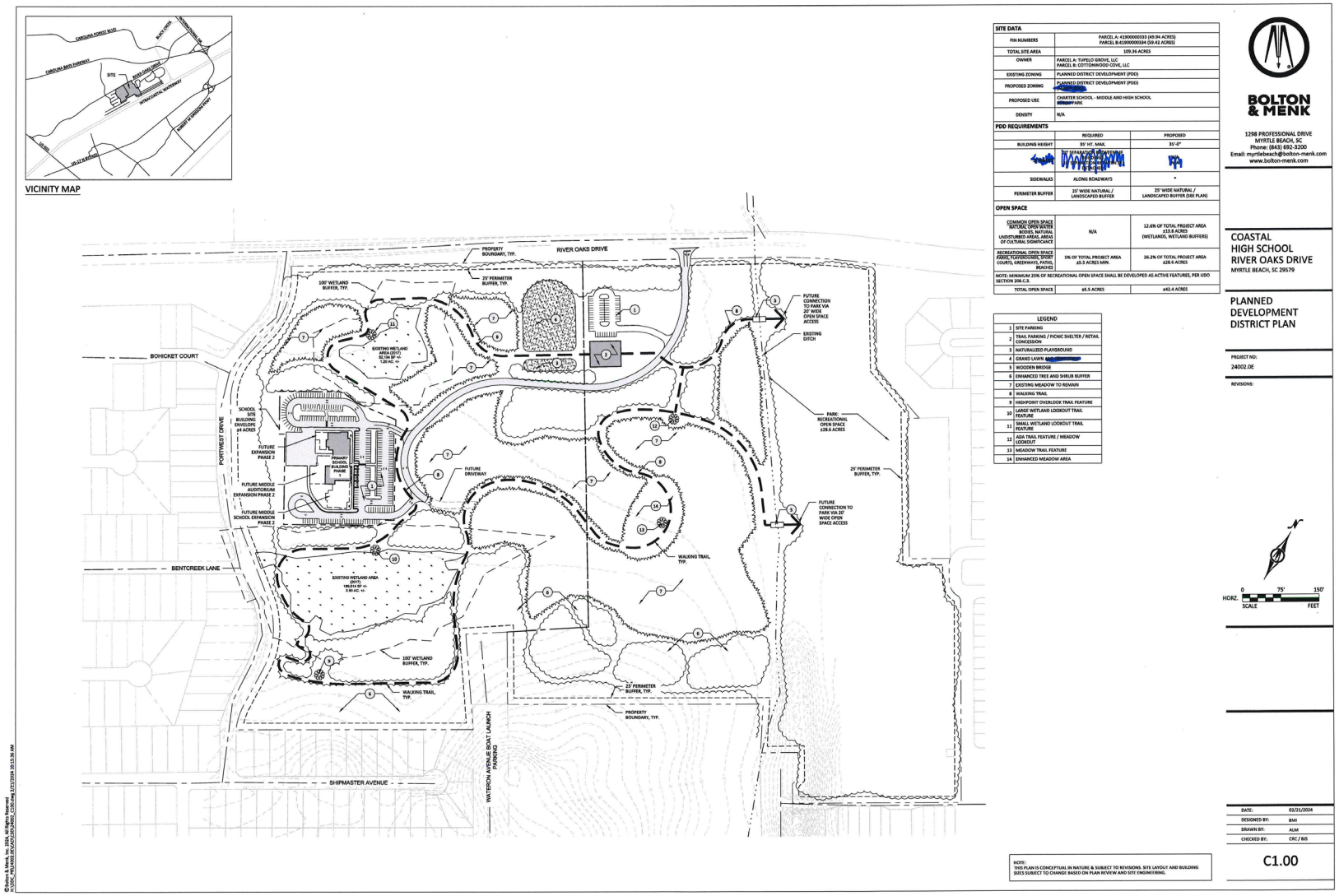


Exhibit 1.2 – Coastal High School Site Plan



2.0 DRIVEWAY SPACING REVIEW

Access to the development will be provided through one proposed full access driveway along River Oaks Drive that will align with Village Parkway; therefore, a driveway spacing review was not necessary.

3.0 PROJECT TRAFFIC

3.1 PROPOSED LAND USES

Project Traffic in this analysis is defined as the vehicle trips anticipated to be generated by the proposed Coastal High School development. These trips were distributed and assigned throughout the study roadway network.

The Coastal High School development is proposed to consist of a 520-student high school and a 300-student middle school.

3.2 TRIP GENERATION ESTIMATES

The trip generation potential for the development was estimated using information contained in ITE's *Trip Generation Manual*, 11th Edition (2021) reference. The estimates utilized land use codes (LUC) 525 – High School and LUC 522 – Middle School.

Due to the nature of the proposed Coastal High School development, internal capture trips, pass-by trips, and multimodal reduction were not considered in the trip generation estimates.

The trip generation estimates for the development are shown below in **Table 3.1** and documented in **Appendix A**.

3.3 TRIP DISTRIBUTIN & ASSIGNMENT

3.3.1 New External Traffic

New external traffic expected to be generated by the Coastal High School development was distributed and assigned to the roadway network based upon existing travel patterns in the area. The general distribution of project trips was assumed to be:

- 25% to/from the east via River Oaks Drive;
- 25% to/from the west via River Oaks Drive;
- 15% to/from the north via Village Parkway;
- 30% to/from the north via Augusta Plantation Drive; and
- 5% to/from the south via Biltmore Drive.

The assignment of new external project traffic anticipated to be generated by the Coastal High School development is illustrated in **Exhibit 3.1** and the AM and PM peak hour project traffic volumes are illustrated in **Exhibit 3.2**.

Table 3.1 – Trip Generation Estimates

Land Use	ITE LUC	Scale	Daily	Weekday AM Peak Period		Weekday MD Peak Period		Weekday PM Peak Period	
				Enter	Exit	Enter	Exit	Enter	Exit
High School	525	520 Students	1,009	237	111	67	143	35	38
Middle School	522	300 Students	654	109	92	59	70	22	23
New, External Trips			**1,663**	**346**	**203**	**126**	**213**	**57**	**61**

Exhibit 3.1 - Project Traffic Distribution and Assignment

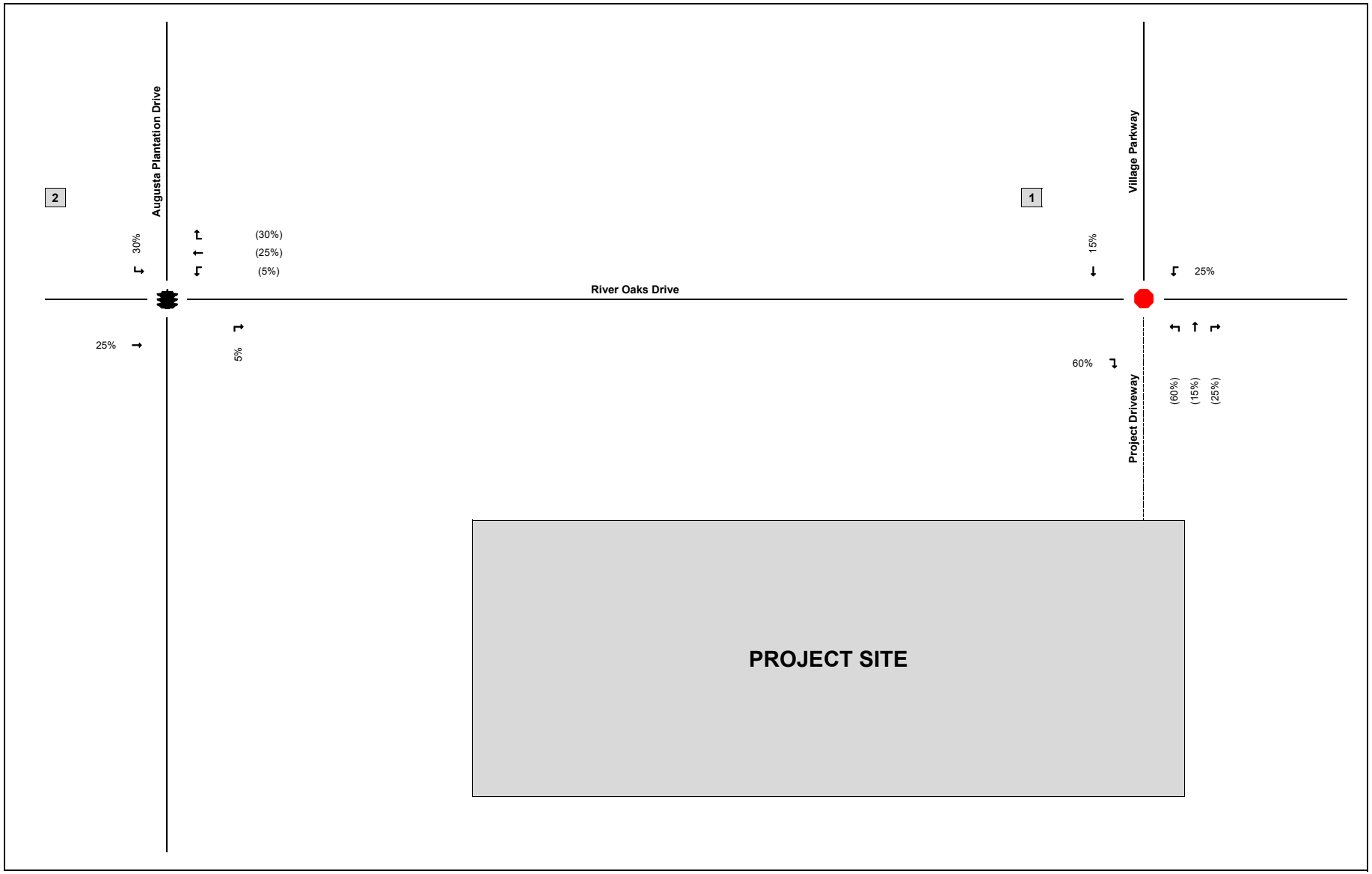


Exhibit 3.2 – Peak Hour Project Traffic Volumes

4.0 TRAFFIC VOLUME DEVELOPMENT

4.1 EXISTING TRAFFIC VOLUMES

The traffic impact analysis considers the weekday AM peak hour (between 7:00 AM and 9:00 AM), the weekday school release midday (MD) peak hour (between 2:00 PM and 4:00 PM), and the weekday PM peak hour (between 4:00 PM and 6:00 PM) as the study time frames. The extent of the existing roadway network to be studied consists of the two (2) intersections of:

1. River Oaks Drive & Village Parkway; and
2. River Oaks Drive & Augusta Plantation Drive/Biltmore Drive.

Existing 2024 traffic volumes were collected at these study area intersections during the AM, MD, and PM peak periods listed above.

The raw traffic volume counts are provided in **Appendix B** and the 2024 existing peak hour traffic volumes are illustrated in **Exhibit 4.1**.

4.2 FUTURE TRAFFIC PROJECTIONS

Future 2027 No Build traffic volumes were developed by adding *background traffic growth* to the collected existing study area peak hour volumes. *Background traffic growth* is growth anticipated to occur in the study area regardless of the proposed Coastal High School development.

Based on the historical growth rates along SC 31 and Robert Grissom Parkway, and the Grand Strand Area Transportation Study (GSATS) projected growth in these areas, and the observations that the adjacent land use along SC 31, Robert Grissom Parkway, River Oaks Drive, and Carolina Forest Boulevard has potential for significant increase in development, a 3.5% annual growth rate was utilized to project future background traffic growth. This aligns with the growth rate utilized on the adjacent SC 31 interchange justification report analysis recently performed for Horry County.

Future 2027 No Build peak hour traffic volumes, illustrated in **Exhibit 4.2**, were developed by adding the *background traffic growth* (assuming 3.5% annual growth of the existing traffic volumes) to the 2024 existing peak hour traffic volumes.

Future 2027 Build peak hour traffic volumes, illustrated in **Exhibit 4.3,** were developed by adding the Coastal High School project traffic volumes (shown in **Exhibit 3.2**) to the 2027 No Build traffic volumes.

Volume development worksheets for each intersection are documented in **Appendix C**.

Exhibit 4.1 – 2024 Existing Peak Hour Traffic Volumes

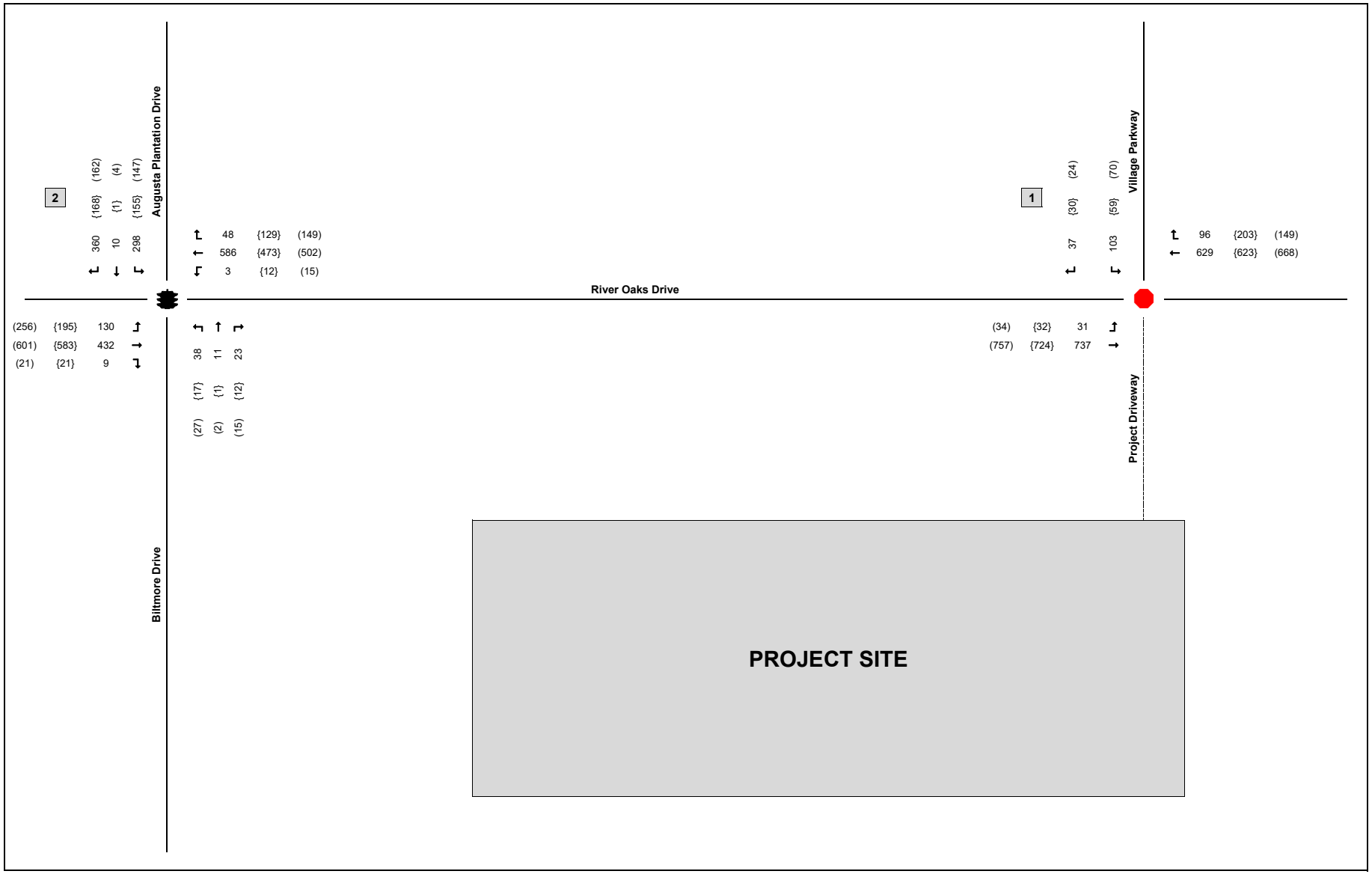


Exhibit 4.2 – 2027 No Build Peak Hour Traffic Volumes

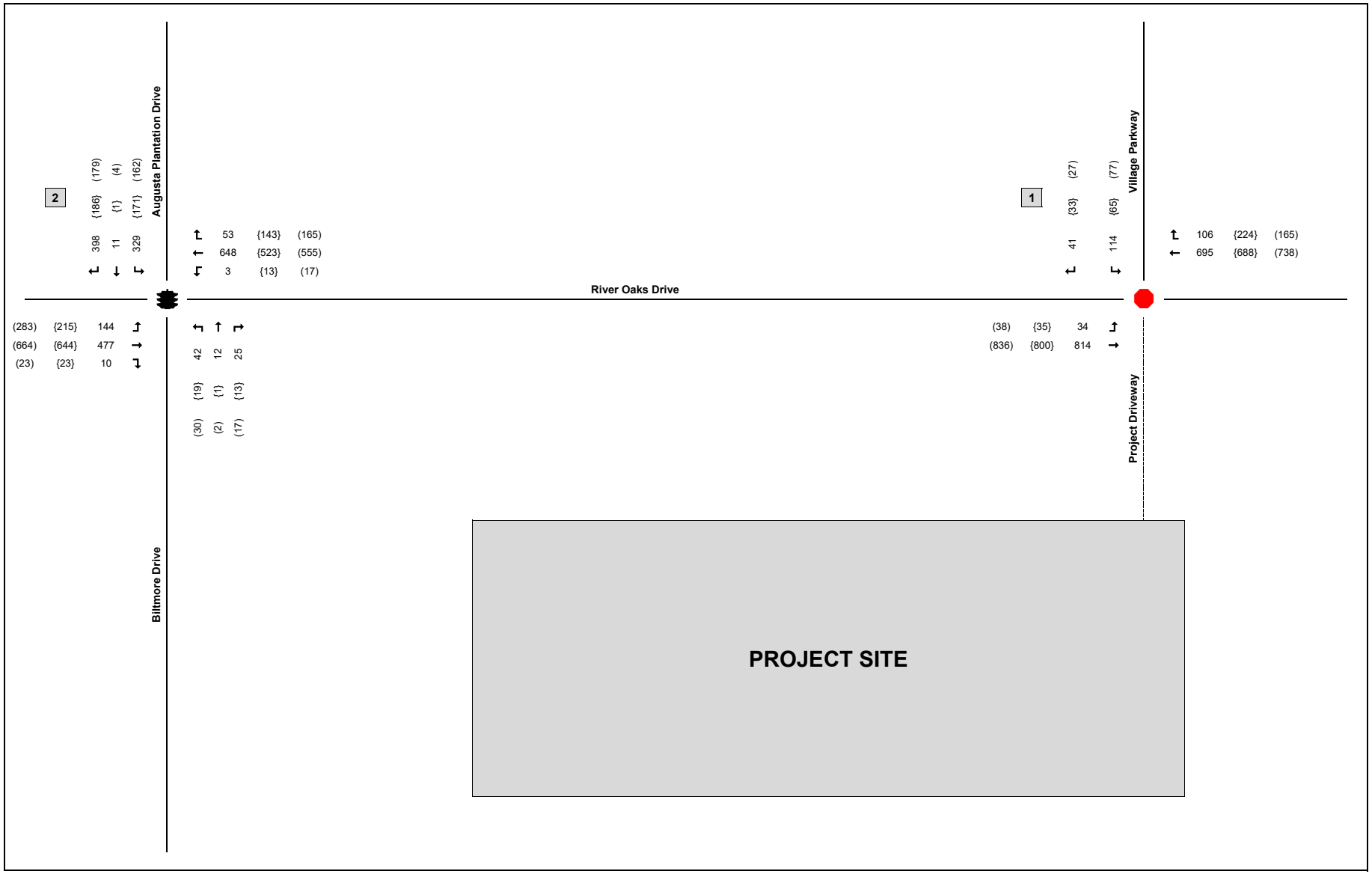
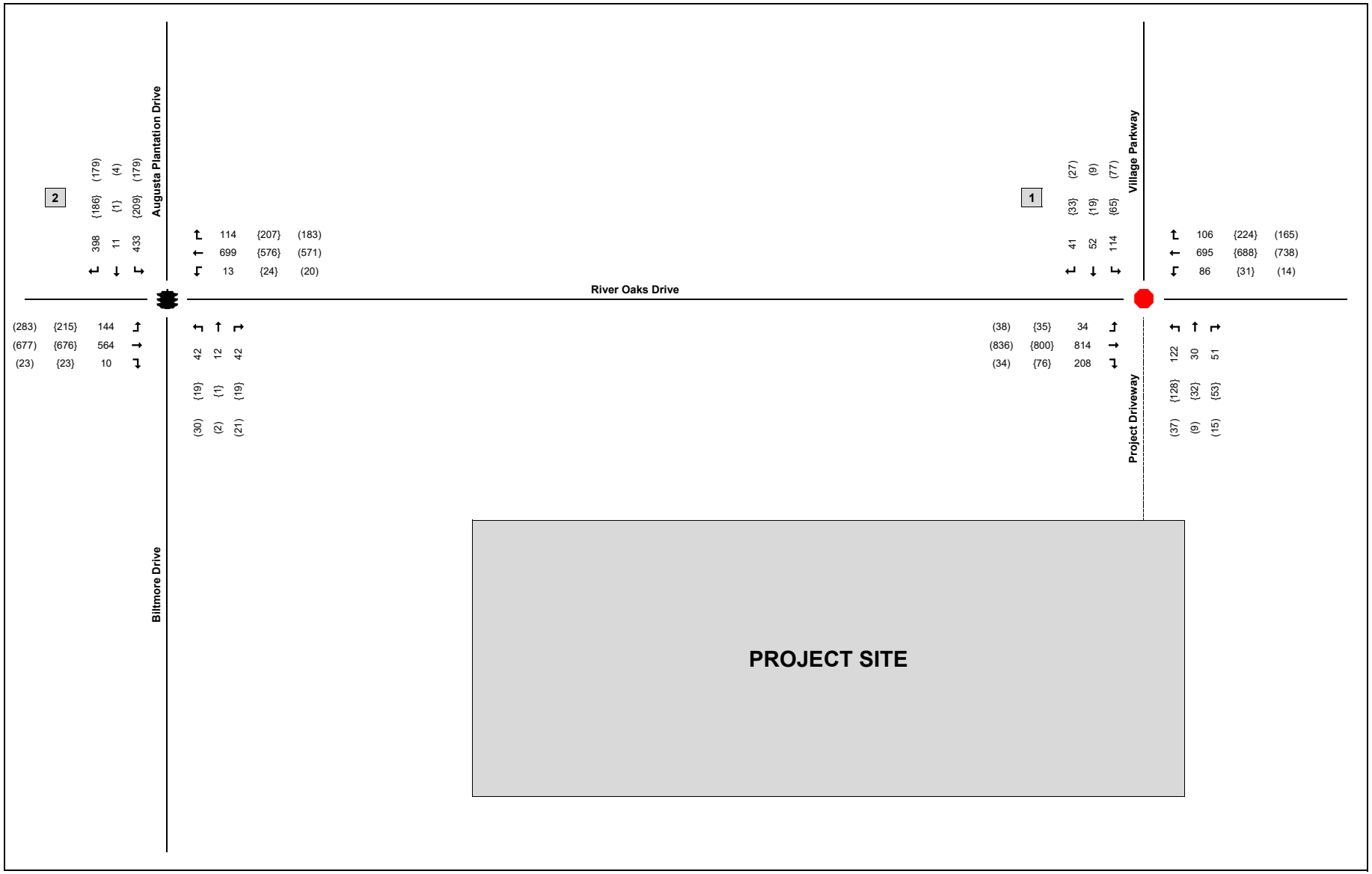


Exhibit 4.3 – 2027 Build Peak Hour Traffic Volumes



5.0 TRAFFIC IMPACT ANALYSIS

A traffic impact analysis was conducted for the Coastal High School development which analyzed the need for turn lanes at the project driveways as well as the operation of study area intersections according to *Highway Capacity Manual (HCM) 6th Edition* methodologies.

5.1 TURN LANE ANALYSIS

5.1.1 Right-Turn Lanes

The need for exclusive right-turn lanes is based upon the criteria documented in *Section 9.5.1.1* of SCDOT's *Roadway Design Manual* (2021), which consists of nine considerations, listed below:

1. *At a free-flowing leg of any unsignalized intersection on a two-lane urban or rural highway which satisfies the criteria in Figure 9.5-A;*
2. *at a free-flowing leg of any unsignalized intersection on a high-speed (50 mph or greater), four-lane urban or rural highway which satisfies the criteria in Figure 9.5-B;*
3. *at the free-flowing leg of any unsignalized intersection on a six-lane urban or rural highway;*
4. *at any intersection where a capacity analysis determines a right-turn lane is necessary to meet the overall level-of-service criteria;*
5. *as a general rule, at any signalized intersection where the projected right-turning volume is greater than 300 vehicles per hour and where there are greater than 300 vehicles per hour per lane on the mainline (A traffic analysis will be required if the turning volumes are greater than 300 vehicles per hour);*
6. *for uniformity of intersection design along the highway if other intersections have right-turn lanes;*
7. *at any intersection where the mainline is curved to the left and where the mainline curve requires superelevation;*
8. *at railroad crossings where the railroad is paralleled to the facility and is located close to the intersection and where a right-turn lane would be desirable to store queued vehicles avoiding interference with the movement of through traffic; or*
9. *at any intersection where the crash experience, existing traffic operations, sight distance restrictions (e.g., intersection beyond a crest vertical curve), or engineering judgement indicates a significant conflict related to right-turning vehicles;*

Table 5.1 below details whether the previously mentioned criteria for exclusive right-turn lanes are satisfied for each driveway. An "✖" indicates that the criteria is not met or is not applicable, and a "✓" indicates that it is applicable and met.

Table 5.1 – Right-Turn Lane Criteria Warrants

Criteria	Project Driveway	Reference/Note
1	✓	**Appendix H**
2	✖	Not a 4-lane hwy
3	✖	Not a 6-lane hwy
4	✖	**Table 5.4**
5	✖	**Exhibit 4.3**
6	✓	Typically provided
7	✖	Mainline not curved
8	N/A	No railroad crossing
9	N/A	No crash data provided

Based on SCDOT's *Roadway Design Manual* considerations and the Horry County Land Development Regulations, an exclusive eastbound right-turn lane along River Oaks Drive **is recommended** at Project Driveway #1.

Per the criteria documented in *Section 5D-4* of SCDOT's *Access and Roadside Management Standards (ARMS,* 2008*),* it is recommended that the exclusive right-turn lane consist of a total of 330 feet, with 150 feet of storage and a 180-foot taper.

5.1.2 Left-Turn Lanes

The need for exclusive left-turn lanes is based upon the criteria documented in *Section 9.5.1.2* of SCDOT's *Roadway Design Manual* (2021), which consists of nine considerations, listed below:

1. *At any unsignalized intersection on principal, high-speed rural highways with other arterials or collectors;*
2. *at any unsignalized intersection on a two-lane urban or rural highway that satisfies the criteria in Figures 9.5-C, 9.5-D, 9.5-E, 9.5-F, or 9.5-G;*
3. *at any intersection where a capacity analysis determines a left-turn lane is necessary to meet the level of service criteria;*
4. *at any signalized intersection where the left-turn volume is 300 vehicles per hour or more, conduct a traffic review to determine if dual left-turn lanes are required;*
5. *as a general rule, at any intersection where the left-turning volume is 100 vehicles per hour (for a single turn lane) or 300 vehicles per hour (for a dual turn lane);*
6. *at all entrances to major residential, commercial, and industrial developments;*
7. *at all median crossovers;*
8. *for uniformity of intersection design along the highway if other intersections have left-turn lanes (i.e., to satisfy driver expectancy); or*
9. *at any intersection where the crash experience, existing traffic operations, sight distance restrictions (e.g., intersection beyond a crest vertical curve), or engineering judgement indicates a significant conflict related to left-turning vehicles;*

Table 5.2 below details whether the previously mentioned criteria for exclusive left-turn lanes are satisfied for each driveway. An "✖" indicates that the criteria is not met or is not applicable, and a "✓" indicates that it is applicable and met.

Table 5.2 – Left-Turn Lane Criteria Warrants

Criteria	Project Driveway	Reference/Note
1	✖	Not arterial or collector
2	✓	**Appendix H**
3	✖	**Table 5.4**
4	✖	**Exhibit 4.4**
5	✖	**Exhibit 4.4**
6	✖	Not major development
7	✖	No median
8	✖	Not typically provided
9	✖	No crash data provided

Based on SCDOT's *Roadway Design Manual* considerations and the Horry County Land Development Regulations, an exclusive westbound left-turn lane along River Oaks Drive **is recommended** at Project Driveway #1.

Per the criteria documented in *Section 5D-4* of SCDOT's *Access and Roadside Management Standards (ARMS,* 2008*),* it is recommended that the exclusive left-turn lane consist of a total of 330 feet, with 150 feet of storage and a 180-foot taper.

5.2 INTERSECTION LOS ANALYSIS

Using the existing and projected peak hour traffic volumes previously discussed, intersection analysis was conducted for the study and project driveway intersections considering 2024 Existing Conditions, 2027 No Build Conditions, and 2027 Build Conditions. The analysis was conducted using the Transportation Research Board's *Highway Capacity Manual (HCM) 6th Edition* methodologies of the *Synchro*, Version 11 software for stop-controlled and signalized intersection analysis.

Intersection level of service (LOS) grades range from LOS A to LOS F, which are directly related to the level of control delay at the intersection and characterize the operational conditions of the intersection traffic flow. LOS A operations typically represent ideal, free-flow conditions where vehicles experience little to no delays, and LOS F operations typically represent poor, forced-flow (bumper-to-bumper) conditions with high vehicular delays, and are generally considered undesirable. **Table 5.3** summarizes the HCM 6th Edition control delay thresholds associated with each LOS grade for unsignalized and signalized intersections. Level of service A through D is considered to be acceptable LOS, while LOS E and F is considered to be undesirable.

Table 5.3 – HCM 6th Edition Intersection LOS Criteria

LOS	Control Delay per Vehicle (s)	
	Unsignalized	Signalized
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

As part of the intersection analysis, SCDOT's default *Synchro* parameters were utilized. The existing 2024 traffic counts' peak hour factors (PHF) were utilized in the analysis of existing conditions. Future-year 2027 conditions were analyzed utilizing existing PHF, but with a minimum PHF of 0.90 and maximum PHF of 0.95 considered. The existing 2024 heavy vehicle percentages, as previously discussed, were utilized in the analysis, with a minimum percentage of 2% considered.

Existing lane geometry was utilized for the analysis of 2024 Existing Conditions and 2027 No Build Conditions. The 2027 Build Conditions were analyzed both with existing lane geometry and with any proposed improvements resulting from this impact analysis (including any proposed exclusive turn lanes per the results of **Section 5.1**) to illustrate their anticipated impact on traffic operations.

The results of the intersection analysis for existing and future-year conditions for the weekday AM, MD, and PM peak hour time periods are summarized in **Table 5.4.**

For signalized intersections, the overall intersection LOS and delay results are evaluated for acceptable operation, while for two-way stop-controlled (TWSC) intersections, the LOS and delay results are evaluated for the worst-case minor-street approaches only, per *HCM 6th Edition* methodologies for TWSC intersections.

Table 5.4 – Peak Hour Intersection Analysis Results

	Intersection	Control	LOS/Delay (seconds/vehicle)											
			AM Peak Hour				Midday Peak Hour				PM Peak Hour			
			2024 Existing	**2027 No Build**	**2027 Build**	**2027 Build** *w/ proposed improvements*	**2024 Existing**	**2027 No Build**	**2027 Build**	**2027 Build** *w/ proposed improvements*	**2024 Existing**	**2027 No Build**	**2027 Build**	**2027 Build** *w/ proposed improvements*
1	River Oaks Drive & Village Parkway/Project Driveway	TWSC	C/20.2 (SB) - -	C/23.9 (SB) - -	F* (SB) F* (NB)	*Signalized* B/13.3	C/16.9 (SB) - -	C/18.9 (SB) - -	F* (SB) F* (NB)	*Signalized* B/11.0	C/19.1 (SB) - -	C/21.9 (SB) - -	F* (SB) F/211.5 (NB)	*Signalized* A/9.4
2	River Oaks Drive & Augusta Plantation Dr/Biltmore Dr	SIGNAL	C/30.9	D/38.3	E/60.0	-	B/18.3	C/20.9	C/23.9	-	C/20.6	C/24.7	C/26.5	-

As shown in **Table 5.4**, the results of the analysis indicate that the study intersections currently operate and are expected to continue to operate at an acceptable LOS with the proposed Coastal High School development, with two exceptions:

The intersection of River Oaks Drive & Village Parkway/Project Driveway is projected to experience undesirable delay in the 2027 Build Conditions with the proposed Coastal High School development. Based on the significant increase in delay anticipated with the proposed development, mitigation alternatives were evaluated, which indicated that signalization of the intersection is anticipated to mitigate this delay. A cursory review indicates that peak hour signal warrants are likely to be met. Therefore, it is recommended to install a signal at this intersection when warranted. The Coastal High School development is projected to generate approximately 15% of the total traffic at this intersection and that percentage will likely decrease with the planned RIDE4 Horry County projects in the study area. Therefore, coordination between the County, SCDOT, and nearby developments may be required to determine shared responsibility of the installation of the signal.

The intersection of River Oaks Drive & Augusta Plantation Drive/Biltmore Drive is projected to experience undesirable delay in the AM peak hour of 2027 Build Conditions with the proposed Coastal High School development. Mitigation alternatives were evaluated; however, it was determined that given the built-out nature of the intersection in existing conditions, that additional geometric improvements (maintaining the existing two-lane capacity along River Oaks Drive) were limited. There is planned Horry County project to widen River Oaks Drive in the future and this widening is anticipated to mitigate the delay experienced at this intersection and provide acceptable LOS. Therefore, no improvements to mitigate this delay are recommended at this time.

Worksheets documenting the intersection analyses are provided in **Appendix D** for 2024 Existing Conditions, **Appendix E** for 2027 No Build Conditions, **Appendix F** for 2027 Build Conditions, and in **Appendix G** for 2027 Build Conditions with proposed improvements.

6.0 SUMMARY OF FINDINGS AND RECOMMENDATIONS

A traffic impact analysis was conducted for the Coastal High School development in accordance with SCDOT and Horry County guidelines.

The proposed Coastal High School development is located along River Oaks Drive and will consist of a 520-student high school and a 300-student middle school. The proposed high school is anticipated to be operational by 2025.

Access to the development is proposed to be provided via one full access driveway along River Oaks Avenue aligned opposite of Village Parkway, which meets the SCDOT spacing requirements.

The extent of the roadway network analyzed consisted of the two (2) intersections of:

1. River Oaks Drive & Village Parkway; and
2. River Oaks Drive & Augusta Plantation Drive/Biltmore Drive.

The operation of each of these intersections (in terms of average vehicular delay and level of service) was analyzed with and without the project traffic anticipated to be generated by the Coastal High School development.

Based on the turn lane criteria in SCDOT's *Roadway Design Manual*, an exclusive westbound left-turn lane and an eastbound right-turn lane along River Oaks Drive are recommended at Project Driveway #1. Per the criteria documented in SCDOT's *Access and Roadside Management Standards,* it is recommended that the exclusive left-turn lane consist of a total of 330 feet, with 150 feet of storage and a 180-foot taper. Per the criteria documented in SCDOT's *Access and Roadside Management Standards,* it is recommended that the exclusive right-turn lane consist of a total of 330 feet, with 150 feet of storage and a 180-foot taper.

The results of the analysis indicate that the study intersections currently operate and are expected to continue to operate at an acceptable level of service with the proposed Coastal High School development, with two exceptions:

The intersection of River Oaks Drive & Village Parkway/Project Driveway is projected to experience undesirable delay in the 2027 Build Conditions with the proposed Coastal High School development. Based on the significant increase in delay anticipated with the proposed development, mitigation alternatives were evaluated, which indicated that signalization of the intersection is anticipated to mitigate this delay. A cursory review indicates that peak hour signal warrants are likely to be met. Therefore, it is recommended to install a signal at this intersection when warranted. The Coastal High School development is projected to generate approximately 15% of the total traffic at this intersection and that percentage will likely decrease with the planned RIDE4 Horry County projects in the study area. Therefore, coordination between the County, SCDOT, and nearby developments may be required to determine shared responsibility of the installation of the signal.

The intersection of River Oaks Drive & Augusta Plantation Drive/Biltmore Drive is projected to experience undesirable delay in the AM peak hour of 2027 Build Conditions with the proposed Coastal High School development. Mitigation alternatives were evaluated; however, it was determined that given the built-out nature of the intersection in existing conditions, that additional geometric improvements (maintaining the existing two-lane capacity along River Oaks Drive) were limited. There is planned Horry County project to widen River Oaks Drive in the future and this widening is anticipated to mitigate the delay experienced at this intersection and provide acceptable LOS. Therefore, no improvements to mitigate this delay are recommended at this time.

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COASTAL HIGH SCHOOL TRAFFIC IMPACT ANALYSIS

APPENDICES

Appendix A TRIP GENERATION WORKSHEETS

TRIP GENERATION ESTIMATES

Coastal High School

Weekday Daily

TRIP GENERATION CHARACTERISTICS						DIRECT. DISTRIB.		GROSS TRIPS			INTERNAL CAPTURE TRIPS				PASS-BY CAPTURE TRIPS				NEW EXTERNAL TRIPS		
Land Use	Ed.	LUC	Scale	Unit	Equation/Rate	In	Out	In	Out	Total	%	In	Out	Trips	%	In	Out	Trips	In	Out	Total
High School	11th	525	520	Students	T = 1.94 (X)	50%	50%	504	505	1,009	0%	0	0	0	0%	0	0	0	504	505	1,009
Middle School	11th	522	300	Students	Ln(T) = 0.97 Ln(X) + 0.95	50%	50%	327	327	654	0%	0	0	0	0%	0	0	0	327	327	654
.							Total:	831	832	1,663	0%	0	0	0	0%	0	0	0	831	832	1,663

Weekday AM Peak Hour

TRIP GENERATION CHARACTERISTICS						DIRECT. DISTRIB.		GROSS TRIPS			INTERNAL CAPTURE TRIPS				PASS-BY CAPTURE TRIPS				NEW EXTERNAL TRIPS		
Land Use	Ed.	LUC	Scale	Unit	Equation/Rate	In	Out	In	Out	Total	%	In	Out	Trips	%	In	Out	Trips	In	Out	Total
High School	11th	525	520	Students	Ln(T) = 0.71 Ln(X) + 1.41	68%	32%	237	111	348	0%	0	0	0	0%	0	0	0	237	111	348
Middle School	11th	522	300	Students	T = 0.67 (X)	54%	46%	109	92	201	0%	0	0	0	0%	0	0	0	109	92	201
							Total:	346	203	549	0%	0	0	0	0%	0	0	0	346	203	549

Weekday School Release Peak Hour

TRIP GENERATION CHARACTERISTICS						DIRECT. DISTRIB.		GROSS TRIPS			INTERNAL CAPTURE TRIPS				PASS-BY CAPTURE TRIPS				NEW EXTERNAL TRIPS		
Land Use	Ed.	LUC	Scale	Unit	Equation/Rate	In	Out	In	Out	Total	%	In	Out	Trips	%	In	Out	Trips	In	Out	Total
High School	11th	525	520	Students	Ln(T) = 0.74 Ln(X) + 0.72	32%	68%	67	143	210	0%	0	0	0	0%	0	0	0	67	143	210
Middle School	11th	522	300	Students	T = 0.33 (X) + 29.58	46%	54%	59	70	129	0%	0	0	0	0%	0	0	0	59	70	129
							Total:	126	213	339	0%	0	0	0	0%	0	0	0	126	213	339

Weekday PM Peak Hour

TRIP GENERATION CHARACTERISTICS						DIRECT. DISTRIB.		GROSS TRIPS			INTERNAL CAPTURE TRIPS				PASS-BY CAPTURE TRIPS				NEW EXTERNAL TRIPS		
Land Use	Ed.	LUC	Scale	Unit	Equation/Rate	In	Out	In	Out	Total	%	In	Out	Trips	%	In	Out	Trips	In	Out	Total
High School	11th	525	520	Students	T = 0.14 (X)	48%	52%	35	38	73	0%	0	0	0	0%	0	0	0	35	38	73
Middle School	11th	522	300	Students	T = 0.15 (X)	48%	52%	22	23	45	0%	0	0	0	0%	0	0	0	22	23	45
							Total:	57	61	118	0%	0	0	0	0%	0	0	0	57	61	118

Appendix B TRAFFIC VOLUME DATA

Peak Hour Turning Movement Count

Myrtle Beach, SC

Click here for Map

Marr Traffic DATA COLLECTION

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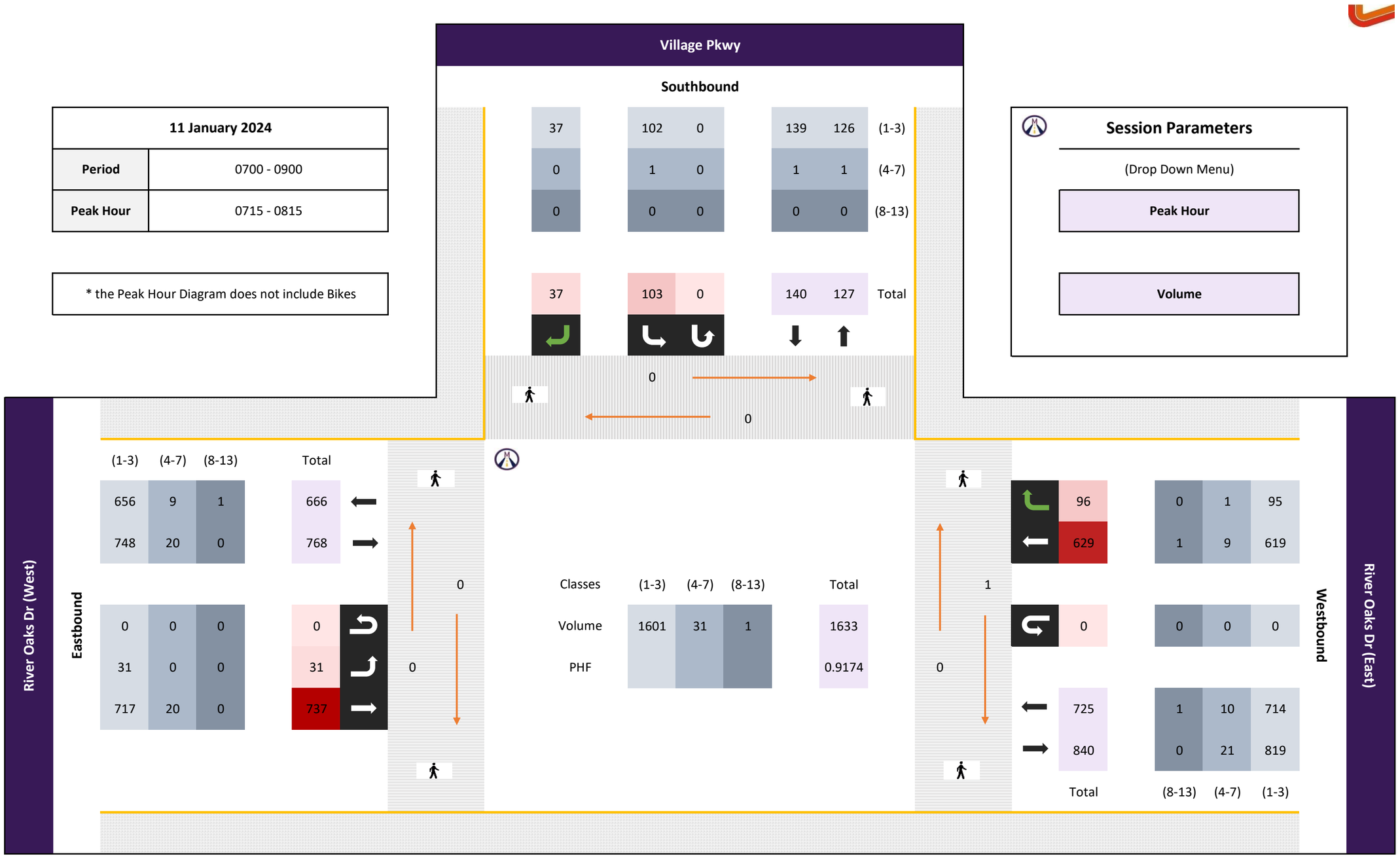
11 January 2024	
Period	0700 - 0900
Peak Hour	0715 - 0815

* the Peak Hour Diagram does not include Bikes



Session Parameters

(Drop Down Menu)

Peak Hour

Volume

All vehicles

							Southbound						Eastbound						Westbound						
							Village Pkwy						River Oaks Dr (West)						River Oaks Dr (East)						
Time						App Total	Left 1.1		Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total		Thru 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total
0715 - 0730	-	-	-	-	-	0	24	-	10	-	0	34	10	154	-	-	0	164	-	168	28	-	0	196	394
0730 - 0745	-	-	-	-	-	0	32	-	10	-	0	42	6	227	-	-	0	233	-	147	23	-	0	170	445
0745 - 0800	-	-	-	-	-	0	25	-	7	-	0	32	7	177	-	-	0	184	-	156	14	-	0	170	386
0800 - 0815	-	-	-	-	-	0	22	-	10	-	0	32	8	179	-	-	0	187	-	158	31	-	0	189	408
Total	0	0	0	0	0	0	103	0	37	0	0	140	31	737	0	0	0	768	0	629	96	0	0	725	1633
Approach %	0.00	0.00	0.00	0.00	0.00	-	73.57	0.00	26.43	0.00	0.00	-	4.04	95.96	0.00	0.00	0.00	-	0.00	86.76	13.24	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.80	0.00	0.93	0.00	0.00	**0.83**	0.78	0.81	0.00	0.00	0.00	**0.82**	0.00	0.94	0.77	0.00	0.00	**0.92**	**0.92**

Passenger Vehicles (1-3)

							Southbound						Eastbound						Westbound						
							Village Pkwy						River Oaks Dr (West)						River Oaks Dr (East)						
Time						App Total	Left 1.1		Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total		Thru 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total
0715 - 0730	-	-	-	-	-	0	23	-	10	-	0	33	10	148	-	-	0	158	-	167	27	-	0	194	385
0730 - 0745	-	-	-	-	-	0	32	-	10	-	0	42	6	223	-	-	0	229	-	146	23	-	0	169	440
0745 - 0800	-	-	-	-	-	0	25	-	7	-	0	32	7	174	-	-	0	181	-	155	14	-	0	169	382
0800 - 0815	-	-	-	-	-	0	22	-	10	-	0	32	8	172	-	-	0	180	-	151	31	-	0	182	394
Total	0	0	0	0	0	0	102	0	37	0	0	139	31	717	0	0	0	748	0	619	95	0	0	714	1601
Approach %	0.00	0.00	0.00	0.00	0.00	-	73.38	0.00	26.62	0.00	0.00	-	4.14	95.86	0.00	0.00	0.00	-	0.00	86.69	13.31	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.80	0.00	0.93	0.00	0.00	**0.83**	0.78	0.80	0.00	0.00	0.00	**0.82**	0.00	0.93	0.77	0.00	0.00	**0.92**	**0.91**

Single Unit Trucks (4-7)

							Southbound						Eastbound						Westbound						
							Village Pkwy						River Oaks Dr (West)						River Oaks Dr (East)						
Time						App Total	Left 1.1		Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total		Thru 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total
0715 - 0730	-	-	-	-	-	0	1	-	0	-	0	1	0	6	-	-	0	6	-	1	1	-	0	2	9
0730 - 0745	-	-	-	-	-	0	0	-	0	-	0	0	0	4	-	-	0	4	-	1	0	-	0	1	5
0745 - 0800	-	-	-	-	-	0	0	-	0	-	0	0	0	3	-	-	0	3	-	1	0	-	0	1	4
0800 - 0815	-	-	-	-	-	0	0	-	0	-	0	0	0	7	-	-	0	7	-	6	0	-	0	6	13
Total	0	0	0	0	0	0	1	0	0	0	0	1	0	20	0	0	0	20	0	9	1	0	0	10	31
Approach %	0.00	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	90.00	10.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.00	0.00	0.00	**0.25**	0.00	0.71	0.00	0.00	0.00	**0.71**	0.00	0.38	0.25	0.00	0.00	**0.42**	**0.60**

Combination Trucks (8-13)

							Southbound						Eastbound						Westbound						
							Village Pkwy						River Oaks Dr (West)						River Oaks Dr (East)						
Time						App Total	Left 1.1		Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total		Thru 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total
0715 - 0730	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
0730 - 0745	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
0745 - 0800	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
0800 - 0815	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	1	0	-	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.25	0.00	0.00	0.00	**0.25**	**0.25**

Bikes

							Southbound						Eastbound						Westbound						
							Village Pkwy						River Oaks Dr (West)						River Oaks Dr (East)						
Time						App Total	Left 1.1		Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total		Thru 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total
0715 - 0730	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
0730 - 0745	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
0745 - 0800	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
0800 - 0815	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
Total	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
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Peak Hour Turning Movement Count

Myrtle Beach, SC

Click here for Map

Marr Traffic DATA COLLECTION

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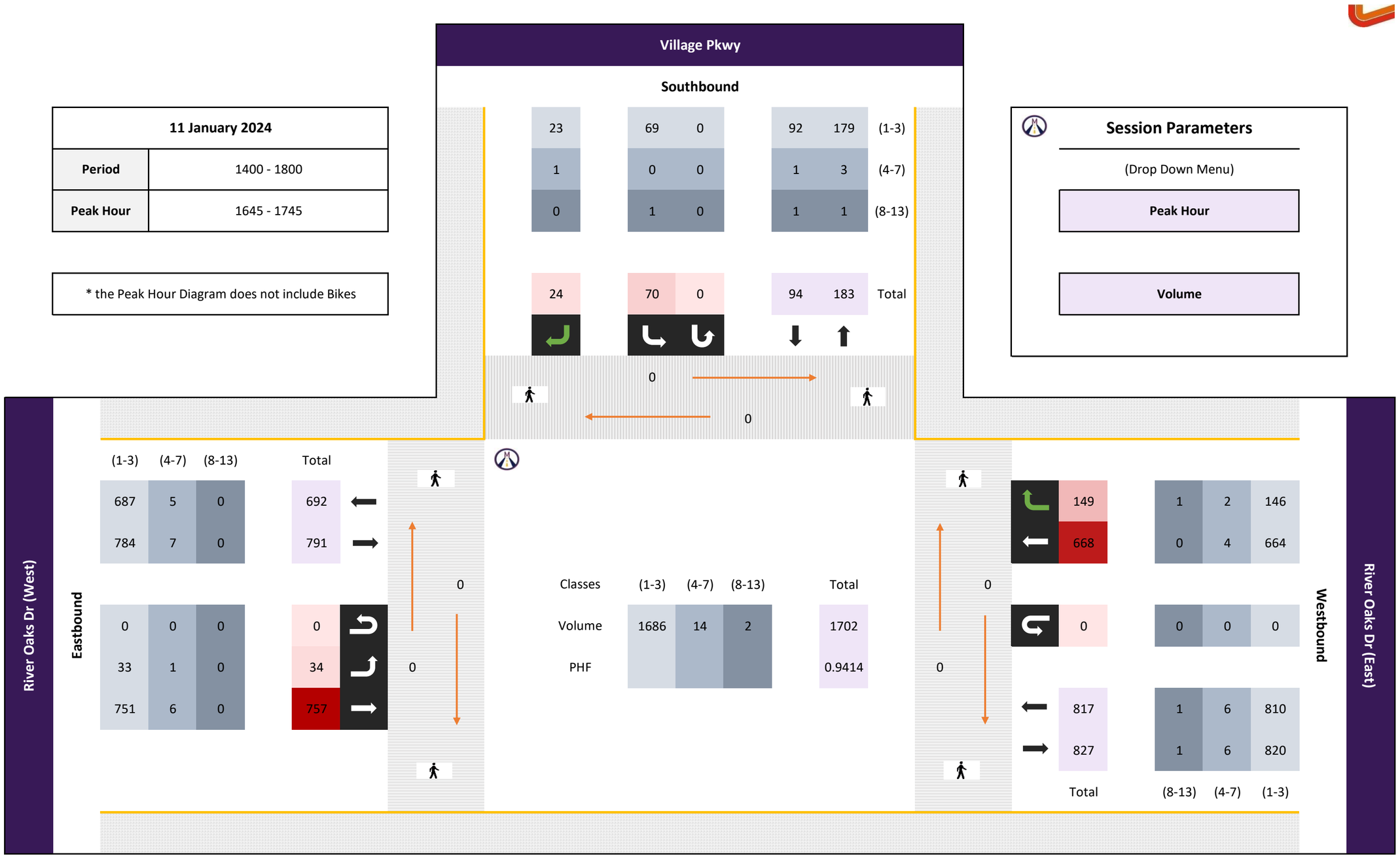
11 January 2024	
Period	1400 - 1800
Peak Hour	1645 - 1745

* the Peak Hour Diagram does not include Bikes



Session Parameters

(Drop Down Menu)

Peak Hour

Volume

All vehicles

							Southbound						Eastbound						Westbound						
							Village Pkwy						River Oaks Dr (West)						River Oaks Dr (East)						
Time						App Total	Left 1.1		Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total		Thru 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total
1645 - 1700	-	-	-	-	-	0	21	-	5	-	0	26	10	167	-	-	0	177	-	139	29	-	0	168	371
1700 - 1715	-	-	-	-	-	0	20	-	7	-	0	27	13	205	-	-	0	218	-	166	29	-	0	195	440
1715 - 1730	-	-	-	-	-	0	21	-	6	-	0	27	4	195	-	-	0	199	-	178	48	-	0	226	452
1730 - 1745	-	-	-	-	-	0	8	-	6	-	0	14	7	190	-	-	0	197	-	185	43	-	0	228	439
Total	0	0	0	0	0	0	70	0	24	0	0	94	34	757	0	0	0	791	0	668	149	0	0	817	1702
Approach %	0.00	0.00	0.00	0.00	0.00	-	74.47	0.00	25.53	0.00	0.00	-	4.30	95.70	0.00	0.00	0.00	-	0.00	81.76	18.24	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.83	0.00	0.86	0.00	0.00	**0.87**	0.65	0.92	0.00	0.00	0.00	**0.91**	0.00	0.90	0.78	0.00	0.00	**0.90**	**0.94**

Passenger Vehicles (1-3)

							Southbound						Eastbound						Westbound						
							Village Pkwy						River Oaks Dr (West)						River Oaks Dr (East)						
Time						App Total	Left 1.1		Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total		Thru 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total
1645 - 1700	-	-	-	-	-	0	21	-	5	-	0	26	9	164	-	-	0	173	-	139	28	-	0	167	366
1700 - 1715	-	-	-	-	-	0	20	-	6	-	0	26	13	205	-	-	0	218	-	165	28	-	0	193	437
1715 - 1730	-	-	-	-	-	0	20	-	6	-	0	26	4	194	-	-	0	198	-	177	48	-	0	225	449
1730 - 1745	-	-	-	-	-	0	8	-	6	-	0	14	7	188	-	-	0	195	-	183	42	-	0	225	434
Total	0	0	0	0	0	0	69	0	23	0	0	92	33	751	0	0	0	784	0	664	146	0	0	810	1686
Approach %	0.00	0.00	0.00	0.00	0.00	-	75.00	0.00	25.00	0.00	0.00	-	4.21	95.79	0.00	0.00	0.00	-	0.00	81.98	18.02	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.82	0.00	0.96	0.00	0.00	**0.88**	0.63	0.92	0.00	0.00	0.00	**0.90**	0.00	0.91	0.76	0.00	0.00	**0.90**	**0.94**

Single Unit Trucks (4-7)

							Southbound						Eastbound						Westbound						
							Village Pkwy						River Oaks Dr (West)						River Oaks Dr (East)						
Time						App Total	Left 1.1		Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total		Thru 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total
1645 - 1700	-	-	-	-	-	0	0	-	0	-	0	0	1	3	-	-	0	4	-	0	0	-	0	0	4
1700 - 1715	-	-	-	-	-	0	0	-	1	-	0	1	0	0	-	-	0	0	-	1	1	-	0	2	3
1715 - 1730	-	-	-	-	-	0	0	-	0	-	0	0	0	1	-	-	0	1	-	1	0	-	0	1	2
1730 - 1745	-	-	-	-	-	0	0	-	0	-	0	0	0	2	-	-	0	2	-	2	1	-	0	3	5
Total	0	0	0	0	0	0	0	0	1	0	0	1	1	6	0	0	0	7	0	4	2	0	0	6	14
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	0.00	-	14.29	85.71	0.00	0.00	0.00	-	0.00	66.67	33.33	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	0.00	**0.25**	0.25	0.50	0.00	0.00	0.00	**0.44**	0.00	0.50	0.50	0.00	0.00	**0.50**	**0.70**

Combination Trucks (8-13)

							Southbound						Eastbound						Westbound						
							Village Pkwy						River Oaks Dr (West)						River Oaks Dr (East)						
Time						App Total	Left 1.1		Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total		Thru 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total
1645 - 1700	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	1	-	0	1	1
1700 - 1715	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
1715 - 1730	-	-	-	-	-	0	1	-	0	-	0	1	0	0	-	-	0	0	-	0	0	-	0	0	1
1730 - 1745	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
Approach %	0.00	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.00	0.00	0.00	**0.25**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	0.00	**0.25**	**0.50**

Bikes

							Southbound						Eastbound						Westbound						
							Village Pkwy						River Oaks Dr (West)						River Oaks Dr (East)						
Time						App Total	Left 1.1		Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total		Thru 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total
1645 - 1700	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
1700 - 1715	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
1715 - 1730	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
1730 - 1745	-	-	-	-	-	0	0	-	0	-	0	0	0	0	-	-	0	0	-	0	0	-	0	0	0
Total	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
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Peak Hour Turning Movement Count

Myrtle Beach, SC

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

11 January 2024	
Period	0700 - 0900
Peak Hour	0715 - 0815

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume

All vehicles

Time	Northbound Biltmore Dr Left 2.1	Thru 2.2	Right 2.3		U-Turn 2.4	App Total	Southbound Augusta Plantation Dr Left 2.5	Thru 2.6	Right 2.7		U-Turn 2.8	App Total	Eastbound River Oaks Dr (West) Left 2.9	Thru 2.10	Right 2.11		U-Turn 2.12	App Total	Westbound River Oaks Dr (East) Left 2.13	Thru 2.14	Right 2.15		U-Turn 2.16	App Total	Int Total
0715 - 0730	9	9	3	-	0	21	86	5	115	-	0	206	47	78	2	-	0	127	0	137	9	-	0	146	500
0730 - 0745	15	2	6	-	0	23	103	4	134	-	0	241	33	115	3	-	0	151	1	171	9	-	0	181	596
0745 - 0800	11	0	6	-	0	17	73	1	53	-	0	127	22	91	1	-	0	114	0	139	17	-	0	156	414
0800 - 0815	3	0	8	-	0	11	36	0	58	-	0	94	28	148	3	-	0	179	2	139	13	-	0	154	438
Total	38	11	23	0	0	72	298	10	360	0	0	668	130	432	9	0	0	571	3	586	48	0	0	637	1948
Approach %	52.78	15.28	31.94	0.00	0.00	-	44.61	1.50	53.89	0.00	0.00	-	22.77	75.66	1.58	0.00	0.00	-	0.47	91.99	7.54	0.00	0.00	-	
PHF	0.63	0.31	0.72	0.00	0.00	**0.78**	0.72	0.50	0.67	0.00	0.00	**0.69**	0.69	0.73	0.75	0.00	0.00	**0.80**	0.38	0.86	0.71	0.00	0.00	**0.88**	**0.82**

Passenger Vehicles (1-3)

Time	Northbound Biltmore Dr Left 2.1	Thru 2.2	Right 2.3		U-Turn 2.4	App Total	Southbound Augusta Plantation Dr Left 2.5	Thru 2.6	Right 2.7		U-Turn 2.8	App Total	Eastbound River Oaks Dr (West) Left 2.9	Thru 2.10	Right 2.11		U-Turn 2.12	App Total	Westbound River Oaks Dr (East) Left 2.13	Thru 2.14	Right 2.15		U-Turn 2.16	App Total	Int Total
0715 - 0730	8	9	2	-	0	19	83	5	112	-	0	200	47	76	2	-	0	125	0	136	9	-	0	145	489
0730 - 0745	15	2	6	-	0	23	102	4	132	-	0	238	32	112	3	-	0	147	1	171	9	-	0	181	589
0745 - 0800	10	0	6	-	0	16	72	1	53	-	0	126	22	89	1	-	0	112	0	138	17	-	0	155	409
0800 - 0815	3	0	8	-	0	11	36	0	58	-	0	94	27	141	3	-	0	171	2	132	13	-	0	147	423
Total	36	11	22	0	0	69	293	10	355	0	0	658	128	418	9	0	0	555	3	577	48	0	0	628	1910
Approach %	52.17	15.94	31.88	0.00	0.00	-	44.53	1.52	53.95	0.00	0.00	-	23.06	75.32	1.62	0.00	0.00	-	0.48	91.88	7.64	0.00	0.00	-	
PHF	0.60	0.31	0.69	0.00	0.00	**0.75**	0.72	0.50	0.67	0.00	0.00	**0.69**	0.68	0.74	0.75	0.00	0.00	**0.81**	0.38	0.84	0.71	0.00	0.00	**0.87**	**0.81**

Single Unit Trucks (4-7)

Time	Northbound Biltmore Dr Left 2.1	Thru 2.2	Right 2.3		U-Turn 2.4	App Total	Southbound Augusta Plantation Dr Left 2.5	Thru 2.6	Right 2.7		U-Turn 2.8	App Total	Eastbound River Oaks Dr (West) Left 2.9	Thru 2.10	Right 2.11		U-Turn 2.12	App Total	Westbound River Oaks Dr (East) Left 2.13	Thru 2.14	Right 2.15		U-Turn 2.16	App Total	Int Total
0715 - 0730	1	0	1	-	0	2	3	0	3	-	0	6	0	2	0	-	0	2	0	1	0	-	0	1	11
0730 - 0745	0	0	0	-	0	0	1	0	2	-	0	3	1	3	0	-	0	4	0	0	0	-	0	0	7
0745 - 0800	1	0	0	-	0	1	1	0	0	-	0	1	0	2	0	-	0	2	0	1	0	-	0	1	5
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	1	7	0	-	0	8	0	6	0	-	0	6	14
Total	2	0	1	0	0	3	5	0	5	0	0	10	2	14	0	0	0	16	0	8	0	0	0	8	37
Approach %	66.67	0.00	33.33	0.00	0.00	-	50.00	0.00	50.00	0.00	0.00	-	12.50	87.50	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.50	0.00	0.25	0.00	0.00	**0.38**	0.42	0.00	0.42	0.00	0.00	**0.42**	0.50	0.50	0.00	0.00	0.00	**0.50**	0.00	0.33	0.00	0.00	0.00	**0.33**	**0.66**

Combination Trucks (8-13)

Time	Northbound Biltmore Dr Left 2.1	Thru 2.2	Right 2.3		U-Turn 2.4	App Total	Southbound Augusta Plantation Dr Left 2.5	Thru 2.6	Right 2.7		U-Turn 2.8	App Total	Eastbound River Oaks Dr (West) Left 2.9	Thru 2.10	Right 2.11		U-Turn 2.12	App Total	Westbound River Oaks Dr (East) Left 2.13	Thru 2.14	Right 2.15		U-Turn 2.16	App Total	Int Total
0715 - 0730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.25	0.00	0.00	0.00	**0.25**	**0.25**

Bikes

Time	Northbound Biltmore Dr Left 2.1	Thru 2.2	Right 2.3		U-Turn 2.4	App Total	Southbound Augusta Plantation Dr Left 2.5	Thru 2.6	Right 2.7		U-Turn 2.8	App Total	Eastbound River Oaks Dr (West) Left 2.9	Thru 2.10	Right 2.11		U-Turn 2.12	App Total	Westbound River Oaks Dr (East) Left 2.13	Thru 2.14	Right 2.15		U-Turn 2.16	App Total	Int Total
0715 - 0730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	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
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Peak Hour Turning Movement Count

Myrtle Beach, SC

Click here for Map

Marr Traffic DATA COLLECTION

www.marrtraffic.com

11 January 2024	
Period	1400 - 1800
Peak Hour	1645 - 1745

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume

All vehicles

Time	Northbound Biltmore Dr Left 2.1	Thru 2.2	Right 2.3		U-Turn 2.4	App Total	Southbound Augusta Plantation Dr Left 2.5	Thru 2.6	Right 2.7		U-Turn 2.8	App Total	Eastbound River Oaks Dr (West) Left 2.9	Thru 2.10	Right 2.11		U-Turn 2.12	App Total	Westbound River Oaks Dr (East) Left 2.13	Thru 2.14	Right 2.15		U-Turn 2.16	App Total	Int Total
1645 - 1700	3	1	6	-	0	10	35	0	39	-	0	74	48	126	2	-	0	176	1	106	36	-	0	143	403
1700 - 1715	9	0	2	-	0	11	42	2	39	-	0	83	58	181	8	-	0	247	6	139	31	-	0	176	517
1715 - 1730	6	0	3	-	0	9	39	0	42	-	0	81	66	146	4	-	0	216	1	118	48	-	0	167	473
1730 - 1745	9	1	4	-	0	14	31	2	42	-	0	75	84	148	7	-	0	239	7	139	34	-	0	180	508
Total	27	2	15	0	0	44	147	4	162	0	0	313	256	601	21	0	0	878	15	502	149	0	0	666	1901
Approach %	61.36	4.55	34.09	0.00	0.00	-	46.96	1.28	51.76	0.00	0.00	-	29.16	68.45	2.39	0.00	0.00	-	2.25	75.38	22.37	0.00	0.00	-	
PHF	0.75	0.50	0.63	0.00	0.00	**0.79**	0.88	0.50	0.96	0.00	0.00	**0.94**	0.76	0.83	0.66	0.00	0.00	**0.89**	0.54	0.90	0.78	0.00	0.00	**0.93**	**0.92**

Passenger Vehicles (1-3)

Time	Northbound Biltmore Dr Left 2.1	Thru 2.2	Right 2.3		U-Turn 2.4	App Total	Southbound Augusta Plantation Dr Left 2.5	Thru 2.6	Right 2.7		U-Turn 2.8	App Total	Eastbound River Oaks Dr (West) Left 2.9	Thru 2.10	Right 2.11		U-Turn 2.12	App Total	Westbound River Oaks Dr (East) Left 2.13	Thru 2.14	Right 2.15		U-Turn 2.16	App Total	Int Total
1645 - 1700	3	1	6	-	0	10	35	0	39	-	0	74	48	122	2	-	0	172	1	106	36	-	0	143	399
1700 - 1715	9	0	2	-	0	11	42	2	38	-	0	82	58	181	8	-	0	247	6	137	31	-	0	174	514
1715 - 1730	6	0	3	-	0	9	38	0	42	-	0	80	66	146	4	-	0	216	1	117	48	-	0	166	471
1730 - 1745	9	1	4	-	0	14	31	2	42	-	0	75	84	146	7	-	0	237	7	137	34	-	0	178	504
Total	27	2	15	0	0	44	146	4	161	0	0	311	256	595	21	0	0	872	15	497	149	0	0	661	1888
Approach %	61.36	4.55	34.09	0.00	0.00	-	46.95	1.29	51.77	0.00	0.00	-	29.36	68.23	2.41	0.00	0.00	-	2.27	75.19	22.54	0.00	0.00	-	
PHF	0.75	0.50	0.63	0.00	0.00	**0.79**	0.87	0.50	0.96	0.00	0.00	**0.95**	0.76	0.82	0.66	0.00	0.00	**0.88**	0.54	0.91	0.78	0.00	0.00	**0.93**	**0.92**

Single Unit Trucks (4-7)

Time	Northbound Biltmore Dr Left 2.1	Thru 2.2	Right 2.3		U-Turn 2.4	App Total	Southbound Augusta Plantation Dr Left 2.5	Thru 2.6	Right 2.7		U-Turn 2.8	App Total	Eastbound River Oaks Dr (West) Left 2.9	Thru 2.10	Right 2.11		U-Turn 2.12	App Total	Westbound River Oaks Dr (East) Left 2.13	Thru 2.14	Right 2.15		U-Turn 2.16	App Total	Int Total
1645 - 1700	0	0	0	-	0	0	0	0	0	-	0	0	0	4	0	-	0	4	0	0	0	-	0	0	4
1700 - 1715	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	0	2	2
1715 - 1730	0	0	0	-	0	0	1	0	0	-	0	1	0	0	0	-	0	0	0	1	0	-	0	1	2
1730 - 1745	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	0	2	0	2	0	-	0	2	4
Total	0	0	0	0	0	0	1	0	0	0	0	1	0	6	0	0	0	6	0	5	0	0	0	5	12
Approach %	0.00	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.25	0.00	0.00	0.00	0.00	**0.25**	0.00	0.38	0.00	0.00	0.00	**0.38**	0.00	0.63	0.00	0.00	0.00	**0.63**	**0.75**

Combination Trucks (8-13)

Time	Northbound Biltmore Dr Left 2.1	Thru 2.2	Right 2.3		U-Turn 2.4	App Total	Southbound Augusta Plantation Dr Left 2.5	Thru 2.6	Right 2.7		U-Turn 2.8	App Total	Eastbound River Oaks Dr (West) Left 2.9	Thru 2.10	Right 2.11		U-Turn 2.12	App Total	Westbound River Oaks Dr (East) Left 2.13	Thru 2.14	Right 2.15		U-Turn 2.16	App Total	Int Total
1645 - 1700	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1700 - 1715	0	0	0	-	0	0	0	0	1	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	1
1715 - 1730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1730 - 1745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.25	0.00	0.00	**0.25**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.25**

Bikes

Time	Northbound Biltmore Dr Left 2.1	Thru 2.2	Right 2.3		U-Turn 2.4	App Total	Southbound Augusta Plantation Dr Left 2.5	Thru 2.6	Right 2.7		U-Turn 2.8	App Total	Eastbound River Oaks Dr (West) Left 2.9	Thru 2.10	Right 2.11		U-Turn 2.12	App Total	Westbound River Oaks Dr (East) Left 2.13	Thru 2.14	Right 2.15		U-Turn 2.16	App Total	Int Total
1645 - 1700	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1700 - 1715	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1715 - 1730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1730 - 1745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	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
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**

Appendix C TRAFFIC VOLUME DEVELOPMENT WORKSHEETS

1 - River Oaks Drive & Village Parkway												
					TOTAL PROJECT TRAFFIC							
Traffic Control: TWSC					IN	OUT		IN	OUT		IN	OUT
Date Counted: 1/11/2024				AM	**346**	**203**	MD	**126**	**213**	PM	**57**	**61**

AM PEAK HOUR 7:15 AM - 8:15 AM	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
2024 Existing Traffic Volumes	**31**	**737**	**0**	**0**	**629**	**96**	**0**	**0**	**0**	**103**	**0**	**37**
Years to Buildout	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Background Traffic	3	77	0	0	66	10	0	0	0	11	0	4
Vested Traffic												
2027 No Build Traffic Volumes	**34**	**814**	**0**	**0**	**695**	**106**	**0**	**0**	**0**	**114**	**0**	**41**
Inbound Project Traffic %			60%	25%							15%	
Outbound Project Traffic %							60%	15%	25%			
2027 Project Traffic	0	0	208	86	0	0	122	30	51	0	52	0
2027 Pass-By Traffic												
2027 Build Traffic Volumes	**34**	**814**	**208**	**86**	**695**	**106**	**122**	**30**	**51**	**114**	**52**	**41**

MIDDAY PEAK HOUR 3:15 PM - 4:15 PM	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
2024 Existing Traffic Volumes	**32**	**724**	**0**	**0**	**623**	**203**	**0**	**0**	**0**	**59**	**0**	**30**
Years to Buildout	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Background Traffic	3	76	0	0	65	21	0	0	0	6	0	3
Vested Traffic												
2027 No Build Traffic Volumes	**35**	**800**	**0**	**0**	**688**	**224**	**0**	**0**	**0**	**65**	**0**	**33**
Inbound Project Traffic %			60%	25%							15%	
Outbound Project Traffic %							60%	15%	25%			
2027 Project Traffic	0	0	76	31	0	0	128	32	53	0	19	0
2027 Pass-By Traffic												
2027 Build Traffic Volumes	**35**	**800**	**76**	**31**	**688**	**224**	**128**	**32**	**53**	**65**	**19**	**33**

PM PEAK HOUR 4:45 PM - 5:45 PM	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
2024 Existing Traffic Volumes	**34**	**757**	**0**	**0**	**668**	**149**	**0**	**0**	**0**	**70**	**0**	**24**
Years to Buildout	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Background Traffic	4	79	0	0	70	16	0	0	0	7	0	3
Vested Traffic												
2027 No Build Traffic Volumes	**38**	**836**	**0**	**0**	**738**	**165**	**0**	**0**	**0**	**77**	**0**	**27**
Inbound Project Traffic %			60%	25%							15%	
Outbound Project Traffic %							60%	15%	25%			
2027 Project Traffic	0	0	34	14	0	0	37	9	15	0	9	0
2027 Pass-By Traffic												
2027 Build Traffic Volumes	**38**	**836**	**34**	**14**	**738**	**165**	**37**	**9**	**15**	**77**	**9**	**27**

2 - River Oaks Drive & Augusta Plantation Drive/Biltmore Drive

TOTAL PROJECT TRAFFIC

Traffic Control: Signal					IN	OUT		IN	OUT		IN	OUT
Date Counted: 1/11/2024				AM	**346**	**203**	MD	**126**	**213**	PM	**57**	**61**
AM PEAK HOUR 7:15 AM - 8:15 AM	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
2024 Existing Traffic Volumes	**130**	**432**	**9**	**3**	**586**	**48**	**38**	**11**	**23**	**298**	**10**	**360**
Years to Buildout	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Background Traffic	14	45	1	0	62	5	4	1	2	31	1	38
Vested Traffic												
2027 No Build Traffic Volumes	**144**	**477**	**10**	**3**	**648**	**53**	**42**	**12**	**25**	**329**	**11**	**398**
Inbound Project Traffic %		25%							5%	30%		
Outbound Project Traffic %				5%	25%	30%						
2027 Project Traffic	0	87	0	10	51	61	0	0	17	104	0	0
2027 Pass-By Traffic												
2027 Build Traffic Volumes	**144**	**564**	**10**	**13**	**699**	**114**	**42**	**12**	**42**	**433**	**11**	**398**

MIDDAY PEAK HOUR 3:15 PM - 4:15 PM	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
2024 Existing Traffic Volumes	**195**	**583**	**21**	**12**	**473**	**129**	**17**	**1**	**12**	**155**	**1**	**168**
Years to Buildout	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Background Traffic	20	61	2	1	50	14	2	0	1	16	0	18
Vested Traffic												
2027 No Build Traffic Volumes	**215**	**644**	**23**	**13**	**523**	**143**	**19**	**1**	**13**	**171**	**1**	**186**
Inbound Project Traffic %		25%							5%	30%		
Outbound Project Traffic %				5%	25%	30%						
2027 Project Traffic	0	32	0	11	53	64	0	0	6	38	0	0
2027 Pass-By Traffic												
2027 Build Traffic Volumes	**215**	**676**	**23**	**24**	**576**	**207**	**19**	**1**	**19**	**209**	**1**	**186**

PM PEAK HOUR 4:45 PM - 5:45 PM	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
2024 Existing Traffic Volumes	**256**	**601**	**21**	**15**	**502**	**149**	**27**	**2**	**15**	**147**	**4**	**162**
Years to Buildout	3	3	3	3	3	3	3	3	3	3	3	3
Yearly Growth Rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Background Traffic	27	63	2	2	53	16	3	0	2	15	0	17
Vested Traffic												
2027 No Build Traffic Volumes	**283**	**664**	**23**	**17**	**555**	**165**	**30**	**2**	**17**	**162**	**4**	**179**
Inbound Project Traffic %		25%							5%	30%		
Outbound Project Traffic %				5%	25%	30%						
2027 Project Traffic	0	13	0	3	16	18	0	0	4	17	0	0
2027 Pass-By Traffic												
2027 Build Traffic Volumes	**283**	**677**	**23**	**20**	**571**	**183**	**30**	**2**	**21**	**179**	**4**	**179**

Appendix D ANALYSIS WORKSHEETS: 2024 EXISTING CONDITIONS

Intersection	
Int Delay, s/veh	1.9

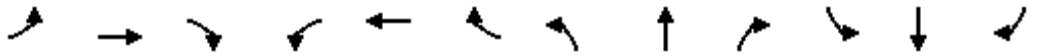
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	737	629	96	103	37
Future Vol, veh/h	31	737	629	96	103	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	150
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	34	801	684	104	112	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	788	0	-	0	1553	684
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	869	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	827	-	-	-	125	449
Stage 1	-	-	-	-	501	-
Stage 2	-	-	-	-	410	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	827	-	-	-	120	449
Mov Cap-2 Maneuver	-	-	-	-	316	-
Stage 1	-	-	-	-	480	-
Stage 2	-	-	-	-	410	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	20.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	827	-	-	-	316	449
HCM Lane V/C Ratio	0.041	-	-	-	0.354	0.09
HCM Control Delay (s)	9.5	-	-	-	22.5	13.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6	0.3

102: Biltmore Drive/Augusta Plantation Drive & River Oaks Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	432	9	3	586	48	38	11	23	298	10	360
Future Volume (veh/h)	130	432	9	3	586	48	38	11	23	298	10	360
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	1856	1856	1856	1870	1870	1870	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	159	527	11	4	715	59	46	13	28	363	12	439
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	2	2	2	4	4	4	2	2	2
Cap, veh/h	236	901	764	323	787	667	116	23	108	457	622	636
Arrive On Green	0.07	0.49	0.49	0.00	0.42	0.42	0.07	0.07	0.07	0.20	0.33	0.33
Sat Flow, veh/h	1767	1856	1572	1781	1870	1585	761	326	1560	1781	1870	1585
Grp Volume(v), veh/h	159	527	11	4	715	59	59	0	28	363	12	439
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1781	1870	1585	1087	0	1560	1781	1870	1585
Q Serve(g_s), s	4.9	20.7	0.4	0.1	36.3	2.3	4.9	0.0	1.7	18.3	0.4	23.2
Cycle Q Clear(g_c), s	4.9	20.7	0.4	0.1	36.3	2.3	5.3	0.0	1.7	18.3	0.4	23.2
Prop In Lane	1.00		1.00	1.00		1.00	0.78		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	236	901	764	323	787	667	138	0	108	457	622	636
V/C Ratio(X)	0.67	0.58	0.01	0.01	0.91	0.09	0.43	0.00	0.26	0.79	0.02	0.69
Avail Cap(c_a), veh/h	306	1045	885	474	1016	861	138	0	108	498	665	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	18.7	13.5	17.7	27.5	17.6	46.2	0.0	44.7	32.1	22.7	25.1
Incr Delay (d2), s/veh	3.8	0.6	0.0	0.0	9.8	0.1	2.1	0.0	1.3	8.0	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	8.2	0.1	0.1	16.9	0.8	1.5	0.0	0.7	8.6	0.2	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	19.3	13.5	17.8	37.2	17.7	48.3	0.0	45.9	40.2	22.7	27.9
LnGrp LOS	C	B	B	B	D	B	D	A	D	D	C	C
Approach Vol, veh/h		697			778			87			814	
Approach Delay, s/veh		20.8			35.7			47.5			33.3	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	55.2		39.6	13.0	48.6	26.6	13.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	57.0		36.0	11.0	55.0	23.0	7.0				
Max Q Clear Time (g_c+I1), s	2.1	22.7		25.2	6.9	38.3	20.3	7.3				
Green Ext Time (p_c), s	0.0	3.3		1.3	0.1	4.3	0.3	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			30.9									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	1.1

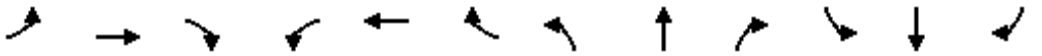
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	724	623	203	59	30
Future Vol, veh/h	32	724	623	203	59	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	150
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	4	4
Mvmt Flow	34	770	663	216	63	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	879	0	-	0	1501	663
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	838	-
Critical Hdwy	4.12	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.218	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	769	-	-	-	133	458
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	421	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	769	-	-	-	127	458
Mov Cap-2 Maneuver	-	-	-	-	325	-
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	421	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	769	-	-	-	325	458
HCM Lane V/C Ratio	0.044	-	-	-	0.193	0.07
HCM Control Delay (s)	9.9	-	-	-	18.7	13.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7	0.2

102: Biltmore Drive/Augusta Plantation Drive & River Oaks Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	583	21	12	473	129	17	1	12	155	1	168
Future Volume (veh/h)	195	583	21	12	473	129	17	1	12	155	1	168
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	1796	1796	1796	1870	1870	1870
Adj Flow Rate, veh/h	203	607	22	12	493	134	18	1	12	161	1	175
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	7	7	7	2	2	2
Cap, veh/h	369	775	657	248	606	513	190	7	102	382	510	595
Arrive On Green	0.10	0.41	0.41	0.01	0.32	0.32	0.07	0.07	0.07	0.11	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1089	110	1522	1781	1870	1585
Grp Volume(v), veh/h	203	607	22	12	493	134	19	0	12	161	1	175
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1200	0	1522	1781	1870	1585
Q Serve(g_s), s	4.2	16.8	0.5	0.3	14.5	3.7	0.7	0.0	0.4	4.7	0.0	4.6
Cycle Q Clear(g_c), s	4.2	16.8	0.5	0.3	14.5	3.7	0.9	0.0	0.4	4.7	0.0	4.6
Prop In Lane	1.00		1.00	1.00		1.00	0.95		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	369	775	657	248	606	513	197	0	102	382	510	595
V/C Ratio(X)	0.55	0.78	0.03	0.05	0.81	0.26	0.10	0.00	0.12	0.42	0.00	0.29
Avail Cap(c_a), veh/h	453	999	847	494	999	847	434	0	407	461	968	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	15.2	10.4	14.4	18.6	15.0	26.5	0.0	26.3	20.8	15.8	13.1
Incr Delay (d2), s/veh	1.3	3.1	0.0	0.1	2.7	0.3	0.2	0.0	0.5	0.7	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	1.4	6.2	0.1	0.1	5.6	1.3	0.3	0.0	0.2	1.9	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	18.3	10.4	14.5	21.3	15.2	26.7	0.0	26.8	21.6	15.8	13.4
LnGrp LOS	B	B	B	B	C	B	C	A	C	C	B	B
Approach Vol, veh/h		832			639			31			337	
Approach Delay, s/veh		17.1			19.9			26.7			17.3	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	30.8		22.3	12.2	25.4	12.3	10.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	32.0		31.0	9.0	32.0	9.0	16.0				
Max Q Clear Time (g_c+I1), s	2.3	18.8		6.6	6.2	16.5	6.7	2.9				
Green Ext Time (p_c), s	0.0	3.1		0.5	0.1	2.9	0.1	0.1				

Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	1.2

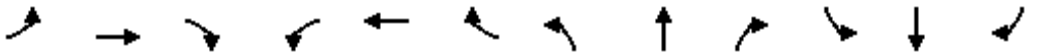
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	757	668	149	70	24
Future Vol, veh/h	34	757	668	149	70	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	150
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	823	726	162	76	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	888	0	-	0	1623	726
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	897	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	763	-	-	-	113	425
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	398	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	763	-	-	-	108	425
Mov Cap-2 Maneuver	-	-	-	-	302	-
Stage 1	-	-	-	-	456	-
Stage 2	-	-	-	-	398	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	19.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	763	-	-	-	302	425
HCM Lane V/C Ratio	0.048	-	-	-	0.252	0.061
HCM Control Delay (s)	10	-	-	-	20.9	14
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1	0.2

102: Biltmore Drive/Augusta Plantation Drive & River Oaks Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	256	601	21	15	502	149	27	2	15	147	4	162
Future Volume (veh/h)	256	601	21	15	502	149	27	2	15	147	4	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	278	653	23	16	546	162	29	2	16	160	4	176
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	387	849	719	260	644	546	174	9	96	349	481	605
Arrive On Green	0.12	0.45	0.45	0.02	0.34	0.34	0.06	0.06	0.06	0.10	0.26	0.26
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1113	141	1585	1781	1870	1585
Grp Volume(v), veh/h	278	653	23	16	546	162	31	0	16	160	4	176
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1254	0	1585	1781	1870	1585
Q Serve(g_s), s	6.1	19.3	0.5	0.4	17.8	4.9	1.4	0.0	0.6	5.2	0.1	5.1
Cycle Q Clear(g_c), s	6.1	19.3	0.5	0.4	17.8	4.9	1.5	0.0	0.6	5.2	0.1	5.1
Prop In Lane	1.00		1.00	1.00		1.00	0.94		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	387	849	719	260	644	546	182	0	96	349	481	605
V/C Ratio(X)	0.72	0.77	0.03	0.06	0.85	0.30	0.17	0.00	0.17	0.46	0.01	0.29
Avail Cap(c_a), veh/h	436	911	772	476	882	748	407	0	386	406	882	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	15.1	10.0	14.7	19.9	15.7	29.7	0.0	29.3	23.4	18.2	14.1
Incr Delay (d2), s/veh	5.0	3.8	0.0	0.1	5.8	0.3	0.4	0.0	0.8	0.9	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	2.4	7.3	0.2	0.1	7.5	1.7	0.5	0.0	0.3	2.1	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	18.9	10.0	14.8	25.7	16.0	30.1	0.0	30.1	24.4	18.2	14.4
LnGrp LOS	B	B	A	B	C	B	C	A	C	C	B	B
Approach Vol, veh/h		954			724			47			340	
Approach Delay, s/veh		18.6			23.3			30.1			19.1	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	35.8		22.9	14.2	28.6	12.9	10.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	32.0		31.0	10.0	31.0	9.0	16.0				
Max Q Clear Time (g_c+I1), s	2.4	21.3		7.1	8.1	19.8	7.2	3.5				
Green Ext Time (p_c), s	0.0	3.0		0.6	0.2	2.9	0.1	0.1				

Intersection Summary												
HCM 6th Ctrl Delay			20.6									
HCM 6th LOS			C									

Appendix E ANALYSIS WORKSHEETS: 2027 NO BUILD CONDITIONS

Intersection	
Int Delay, s/veh	2.2

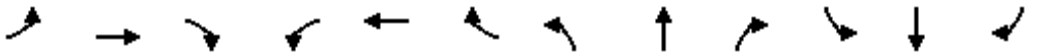
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	814	695	106	114	41
Future Vol, veh/h	34	814	695	106	114	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	150
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	37	885	755	115	124	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	870	0	-	0	1714	755
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	959	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	770	-	-	-	~ 99	409
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	372	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	770	-	-	-	~ 94	409
Mov Cap-2 Maneuver	-	-	-	-	284	-
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	372	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	23.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	770	-	-	-	284	409
HCM Lane V/C Ratio	0.048	-	-	-	0.436	0.109
HCM Control Delay (s)	9.9	-	-	-	27.1	14.9
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	2.1	0.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	477	10	3	648	53	42	12	25	329	11	398
Future Volume (veh/h)	144	477	10	3	648	53	42	12	25	329	11	398
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	1856	1856	1856	1870	1870	1870	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	176	582	12	4	790	65	51	15	30	401	13	485
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	2	2	2	4	4	4	2	2	2
Cap, veh/h	225	966	819	322	852	722	94	10	71	440	581	602
Arrive On Green	0.07	0.52	0.52	0.00	0.46	0.46	0.05	0.05	0.05	0.21	0.31	0.31
Sat Flow, veh/h	1767	1856	1572	1781	1870	1585	776	228	1560	1781	1870	1585
Grp Volume(v), veh/h	176	582	12	4	790	65	66	0	30	401	13	485
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1781	1870	1585	1004	0	1560	1781	1870	1585
Q Serve(g_s), s	5.5	24.0	0.4	0.1	43.6	2.5	5.0	0.0	2.0	23.0	0.5	29.9
Cycle Q Clear(g_c), s	5.5	24.0	0.4	0.1	43.6	2.5	5.0	0.0	2.0	23.0	0.5	29.9
Prop In Lane	1.00		1.00	1.00		1.00	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	966	819	322	852	722	104	0	71	440	581	602
V/C Ratio(X)	0.78	0.60	0.01	0.01	0.93	0.09	0.63	0.00	0.42	0.91	0.02	0.81
Avail Cap(c_a), veh/h	264	1000	847	461	991	840	104	0	71	440	581	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	18.3	12.7	17.3	28.1	16.9	53.0	0.0	50.8	37.5	26.2	30.3
Incr Delay (d2), s/veh	12.1	1.0	0.0	0.0	13.1	0.1	11.9	0.0	3.9	23.0	0.0	7.9
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	2.8	9.6	0.1	0.1	20.9	1.0	2.2	0.0	0.9	12.6	0.2	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.4	19.3	12.7	17.3	41.2	17.0	64.9	0.0	54.7	60.5	26.2	38.2
LnGrp LOS	D	B	B	B	D	B	E	A	D	E	C	D
Approach Vol, veh/h		770			859			96			899	
Approach Delay, s/veh		23.1			39.2			61.7			48.0	
Approach LOS		C			D			E			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	63.0		40.0	13.6	55.9	29.0	11.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	59.0		34.0	10.0	58.0	23.0	5.0				
Max Q Clear Time (g_c+I1), s	2.1	26.0		31.9	7.5	45.6	25.0	7.0				
Green Ext Time (p_c), s	0.0	3.8		0.4	0.1	4.3	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			38.3									
HCM 6th LOS			D									

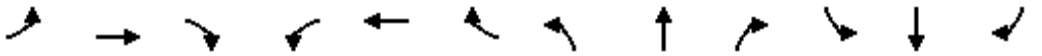
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	800	688	224	65	33
Future Vol, veh/h	35	800	688	224	65	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	150
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	4	4
Mvmt Flow	37	851	732	238	69	35

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	970	0	-	0	1657	732
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	925	-
Critical Hdwy	4.12	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.218	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	710	-	-	-	106	418
Stage 1	-	-	-	-	472	-
Stage 2	-	-	-	-	383	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	710	-	-	-	100	418
Mov Cap-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	383	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	18.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	710	-	-	-	291	418
HCM Lane V/C Ratio	0.052	-	-	-	0.238	0.084
HCM Control Delay (s)	10.4	-	-	-	21.2	14.4
HCM Lane LOS	B	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	644	23	13	523	143	19	1	13	171	1	186
Future Volume (veh/h)	215	644	23	13	523	143	19	1	13	171	1	186
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	1796	1796	1796	1870	1870	1870
Adj Flow Rate, veh/h	226	678	24	14	551	151	20	1	14	180	1	196
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	7	7	7	2	2	2
Cap, veh/h	356	824	699	226	652	553	174	6	93	380	504	595
Arrive On Green	0.11	0.44	0.44	0.01	0.35	0.35	0.06	0.06	0.06	0.12	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1076	99	1522	1781	1870	1585
Grp Volume(v), veh/h	226	678	24	14	551	151	21	0	14	180	1	196
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1175	0	1522	1781	1870	1585
Q Serve(g_s), s	4.9	20.7	0.6	0.3	17.7	4.5	1.0	0.0	0.6	5.8	0.0	5.7
Cycle Q Clear(g_c), s	4.9	20.7	0.6	0.3	17.7	4.5	1.1	0.0	0.6	5.8	0.0	5.7
Prop In Lane	1.00		1.00	1.00		1.00	0.95		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	356	824	699	226	652	553	180	0	93	380	504	595
V/C Ratio(X)	0.63	0.82	0.03	0.06	0.84	0.27	0.12	0.00	0.15	0.47	0.00	0.33
Avail Cap(c_a), veh/h	414	918	778	448	918	778	393	0	374	419	890	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	16.0	10.4	15.0	19.6	15.3	29.2	0.0	29.0	22.8	17.4	14.5
Incr Delay (d2), s/veh	2.5	5.6	0.0	0.1	5.2	0.3	0.3	0.0	0.7	0.9	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	1.7	8.3	0.2	0.1	7.4	1.6	0.3	0.0	0.2	2.3	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.5	21.6	10.4	15.2	24.8	15.5	29.5	0.0	29.7	23.7	17.4	14.8
LnGrp LOS	B	C	B	B	C	B	C	A	C	C	B	B
Approach Vol, veh/h		928			716			35			377	
Approach Delay, s/veh		20.0			22.7			29.6			19.1	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	34.7		23.6	12.9	28.7	13.6	10.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	32.0		31.0	9.0	32.0	9.0	16.0				
Max Q Clear Time (g_c+I1), s	2.3	22.7		7.7	6.9	19.7	7.8	3.1				
Green Ext Time (p_c), s	0.0	2.9		0.6	0.1	3.0	0.1	0.1				

Intersection Summary												
HCM 6th Ctrl Delay			20.9									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	1.4

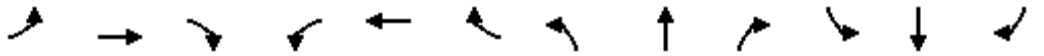
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	836	738	165	77	27
Future Vol, veh/h	38	836	738	165	77	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	150
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	909	802	179	84	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	981	0	-	0	1793	802
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	991	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	704	-	-	-	89	384
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	359	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	704	-	-	-	84	384
Mov Cap-2 Maneuver	-	-	-	-	269	-
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	359	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	21.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	704	-	-	-	269	384
HCM Lane V/C Ratio	0.059	-	-	-	0.311	0.076
HCM Control Delay (s)	10.4	-	-	-	24.3	15.1
HCM Lane LOS	B	-	-	-	C	C
HCM 95th %tile Q(veh)	0.2	-	-	-	1.3	0.2

102: Biltmore Drive/Augusta Plantation Drive & River Oaks Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	664	23	17	555	165	30	2	17	162	4	179
Future Volume (veh/h)	283	664	23	17	555	165	30	2	17	162	4	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	308	722	25	18	603	179	33	2	18	176	4	195
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	892	756	236	679	576	161	7	90	344	475	609
Arrive On Green	0.13	0.48	0.48	0.02	0.36	0.36	0.06	0.06	0.06	0.11	0.25	0.25
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1106	122	1585	1781	1870	1585
Grp Volume(v), veh/h	308	722	25	18	603	179	35	0	18	176	4	195
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1228	0	1585	1781	1870	1585
Q Serve(g_s), s	7.1	23.5	0.6	0.5	21.6	5.8	1.8	0.0	0.8	6.3	0.1	6.2
Cycle Q Clear(g_c), s	7.1	23.5	0.6	0.5	21.6	5.8	1.9	0.0	0.8	6.3	0.1	6.2
Prop In Lane	1.00		1.00	1.00		1.00	0.94		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	375	892	756	236	679	576	168	0	90	344	475	609
V/C Ratio(X)	0.82	0.81	0.03	0.08	0.89	0.31	0.21	0.00	0.20	0.51	0.01	0.32
Avail Cap(c_a), veh/h	417	892	756	431	787	667	371	0	356	367	813	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	15.9	9.9	15.5	21.3	16.3	32.6	0.0	32.1	25.6	19.9	15.4
Incr Delay (d2), s/veh	11.4	5.7	0.0	0.1	10.9	0.3	0.6	0.0	1.1	1.2	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	3.4	9.4	0.2	0.2	10.1	2.1	0.6	0.0	0.3	2.6	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.5	21.6	9.9	15.7	32.3	16.6	33.2	0.0	33.1	26.8	19.9	15.7
LnGrp LOS	C	C	A	B	C	B	C	A	C	C	B	B
Approach Vol, veh/h		1055			800			53			375	
Approach Delay, s/veh		22.7			28.4			33.2			20.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	40.0		24.1	15.3	31.9	14.0	10.1				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	32.0		31.0	11.0	30.0	9.0	16.0				
Max Q Clear Time (g_c+I1), s	2.5	25.5		8.2	9.1	23.6	8.3	3.9				
Green Ext Time (p_c), s	0.0	2.5		0.6	0.2	2.3	0.0	0.1				

Intersection Summary												
HCM 6th Ctrl Delay			24.7									
HCM 6th LOS			C									

Appendix F ANALYSIS WORKSHEETS: 2027 BUILD CONDITIONS

Intersection	
Int Delay, s/veh	249.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	814	208	86	695	106	122	30	51	114	52	41
Future Vol, veh/h	34	814	208	86	695	106	122	30	51	114	52	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	150	150	-	200	50	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	90	90	92	92	90	90	90	92	90	92
Heavy Vehicles, %	3	3	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	885	231	96	755	115	136	33	57	124	58	45

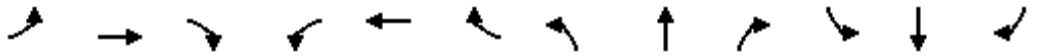
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	870	0	0	1116	0	0	2015	2021	885	2067	2137	755
Stage 1	-	-	-	-	-	-	959	959	-	947	947	-
Stage 2	-	-	-	-	-	-	1056	1062	-	1120	1190	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	770	-	-	626	-	-	~ 44	58	344	~ 40	~ 49	409
Stage 1	-	-	-	-	-	-	309	335	-	314	340	-
Stage 2	-	-	-	-	-	-	272	300	-	251	261	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	770	-	-	626	-	-	-	47	344	~ 12	~ 39	409
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	47	-	~ 12	~ 39	-
Stage 1	-	-	-	-	-	-	294	319	-	299	288	-
Stage 2	-	-	-	-	-	-	164	254	-	179	248	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.2		$ 2833.1
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	103	770	-	-	626	-	-	12	64
HCM Lane V/C Ratio	-	0.874	0.048	-	-	0.153	-	-	10.326	1.599
HCM Control Delay (s)	-	132.2	9.9	-	-	11.8	-	-	$ 4811.1	$ 438.2
HCM Lane LOS	-	F	A	-	-	B	-	-	F	F
HCM 95th %tile Q(veh)	-	5.1	0.2	-	-	0.5	-	-	16.8	9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

102: Biltmore Drive/Augusta Plantation Drive & River Oaks Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	564	10	13	699	114	42	12	42	433	11	398
Future Volume (veh/h)	144	564	10	13	699	114	42	12	42	433	11	398
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	1856	1856	1856	1870	1870	1870	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	176	688	12	16	852	139	51	15	51	528	13	485
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	2	2	2	4	4	4	2	2	2
Cap, veh/h	193	949	804	251	842	713	86	10	65	476	608	634
Arrive On Green	0.08	0.51	0.51	0.01	0.45	0.45	0.04	0.04	0.04	0.23	0.32	0.32
Sat Flow, veh/h	1767	1856	1572	1781	1870	1585	776	228	1560	1781	1870	1585
Grp Volume(v), veh/h	176	688	12	16	852	139	66	0	51	528	13	485
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1781	1870	1585	1004	0	1560	1781	1870	1585
Q Serve(g_s), s	7.8	34.6	0.5	0.6	54.0	6.3	5.0	0.0	3.9	28.0	0.6	31.7
Cycle Q Clear(g_c), s	7.8	34.6	0.5	0.6	54.0	6.3	5.0	0.0	3.9	28.0	0.6	31.7
Prop In Lane	1.00		1.00	1.00		1.00	0.77		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	193	949	804	251	842	713	95	0	65	476	608	634
V/C Ratio(X)	0.91	0.73	0.01	0.06	1.01	0.19	0.69	0.00	0.78	1.11	0.02	0.76
Avail Cap(c_a), veh/h	193	949	804	360	842	713	95	0	65	476	608	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	22.8	14.4	20.6	33.0	19.9	58.4	0.0	57.0	41.6	27.5	31.1
Incr Delay (d2), s/veh	41.5	2.8	0.0	0.1	34.1	0.1	19.7	0.0	45.5	74.8	0.0	5.5
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	4.5	14.7	0.2	0.2	30.6	2.4	2.5	0.0	2.4	23.1	0.3	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.4	25.6	14.5	20.7	67.1	20.0	78.1	0.0	102.5	116.5	27.5	36.7
LnGrp LOS	E	C	B	C	F	C	E	A	F	F	C	D
Approach Vol, veh/h		876			1007			117			1026	
Approach Delay, s/veh		35.6			59.9			88.7			77.6	
Approach LOS		D			E			F			E	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	67.3		45.0	15.0	60.0	34.0	11.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	54.0		39.0	9.0	54.0	28.0	5.0				
Max Q Clear Time (g_c+I1), s	2.6	36.6		33.7	9.8	56.0	30.0	7.0				
Green Ext Time (p_c), s	0.0	4.1		0.9	0.0	0.0	0.0	0.0				

Intersection Summary			
HCM 6th Ctrl Delay		60.0	
HCM 6th LOS		E	

Intersection	
Int Delay, s/veh	135.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	800	76	31	688	224	128	32	53	65	19	33
Future Vol, veh/h	35	800	76	31	688	224	128	32	53	65	19	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	150	150	-	200	50	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	90	90	94	94	90	90	90	94	90	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	4	2	4
Mvmt Flow	37	851	84	34	732	238	142	36	59	69	21	35

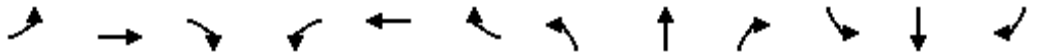
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	970	0	0	935	0	0	1872	1963	851	1815	1809	732
Stage 1	-	-	-	-	-	-	925	925	-	800	800	-
Stage 2	-	-	-	-	-	-	947	1038	-	1015	1009	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.14	6.52	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.14	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.14	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.536	4.018	3.336
Pot Cap-1 Maneuver	710	-	-	732	-	-	~ 55	63	360	~ 60	79	418
Stage 1	-	-	-	-	-	-	323	348	-	376	397	-
Stage 2	-	-	-	-	-	-	314	308	-	285	318	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	710	-	-	732	-	-	~ 36	57	360	~ 24	71	418
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 36	57	-	~ 24	71	-
Stage 1	-	-	-	-	-	-	306	330	-	356	379	-
Stage 2	-	-	-	-	-	-	259	294	-	202	301	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	$ 974.9	$ 675.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	36	120	710	-	-	732	-	-	24	147
HCM Lane V/C Ratio	3.951	0.787	0.052	-	-	0.047	-	-	2.881	0.382
HCM Control Delay (s)	$ 1555.4	100.8	10.4	-	-	10.2	-	-	$ 1189.5	43.9
HCM Lane LOS	F	F	B	-	-	B	-	-	F	E
HCM 95th %tile Q(veh)	16.5	4.6	0.2	-	-	0.1	-	-	8.6	1.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

102: Biltmore Drive/Augusta Plantation Drive & River Oaks Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	676	23	24	576	207	19	1	19	209	1	186
Future Volume (veh/h)	215	676	23	24	576	207	19	1	19	209	1	186
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	1796	1796	1796	1870	1870	1870
Adj Flow Rate, veh/h	226	712	24	25	606	218	20	1	20	220	1	196
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	7	7	7	2	2	2
Cap, veh/h	331	845	716	224	695	589	161	6	87	387	506	590
Arrive On Green	0.10	0.45	0.45	0.02	0.37	0.37	0.06	0.06	0.06	0.13	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1076	99	1522	1781	1870	1585
Grp Volume(v), veh/h	226	712	24	25	606	218	21	0	20	220	1	196
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1175	0	1522	1781	1870	1585
Q Serve(g_s), s	5.1	23.7	0.6	0.6	21.2	7.0	1.1	0.0	0.9	7.8	0.0	6.2
Cycle Q Clear(g_c), s	5.1	23.7	0.6	0.6	21.2	7.0	1.2	0.0	0.9	7.8	0.0	6.2
Prop In Lane	1.00		1.00	1.00		1.00	0.95		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	331	845	716	224	695	589	167	0	87	387	506	590
V/C Ratio(X)	0.68	0.84	0.03	0.11	0.87	0.37	0.13	0.00	0.23	0.57	0.00	0.33
Avail Cap(c_a), veh/h	377	852	722	413	852	722	365	0	347	387	825	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	17.1	10.7	15.5	20.5	16.1	31.8	0.0	31.7	24.9	18.7	15.8
Incr Delay (d2), s/veh	4.2	7.7	0.0	0.2	8.4	0.4	0.3	0.0	1.3	2.0	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	2.0	10.0	0.2	0.2	9.4	2.5	0.4	0.0	0.4	3.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.4	24.7	10.8	15.7	29.0	16.5	32.1	0.0	33.0	26.9	18.7	16.1
LnGrp LOS	B	C	B	B	C	B	C	A	C	C	B	B
Approach Vol, veh/h		962			849			41			417	
Approach Delay, s/veh		23.1			25.4			32.6			21.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	37.7		25.0	13.2	32.1	15.0	10.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	32.0		31.0	9.0	32.0	9.0	16.0				
Max Q Clear Time (g_c+I1), s	2.6	25.7		8.2	7.1	23.2	9.8	3.2				
Green Ext Time (p_c), s	0.0	2.4		0.6	0.1	2.9	0.0	0.1				

Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	32.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	836	34	14	738	165	37	9	15	77	9	27
Future Vol, veh/h	38	836	34	14	738	165	37	9	15	77	9	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	150	150	-	200	50	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	90	90	92	92	90	90	90	92	90	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	909	38	16	802	179	41	10	17	84	10	29

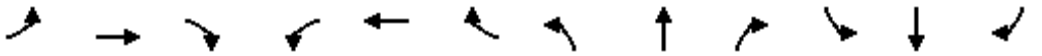
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	981	0	0	947	0	0	1934	2004	909	1858	1863	802
Stage 1	-	-	-	-	-	-	991	991	-	834	834	-
Stage 2	-	-	-	-	-	-	943	1013	-	1024	1029	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	704	-	-	725	-	-	50	60	333	~ 56	73	384
Stage 1	-	-	-	-	-	-	296	324	-	362	383	-
Stage 2	-	-	-	-	-	-	315	316	-	284	311	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	704	-	-	725	-	-	~ 39	55	333	~ 43	67	384
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 39	55	-	~ 43	67	-
Stage 1	-	-	-	-	-	-	279	305	-	341	375	-
Stage 2	-	-	-	-	-	-	277	309	-	246	293	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	211.5	$ 449.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	39	115	704	-	-	725	-	-	43	174
HCM Lane V/C Ratio	1.054	0.232	0.059	-	-	0.021	-	-	1.946	0.226
HCM Control Delay (s)	$ 319.1	45.5	10.4	-	-	10.1	-	-	$ 646.2	31.6
HCM Lane LOS	F	E	B	-	-	B	-	-	F	D
HCM 95th %tile Q(veh)	4.1	0.8	0.2	-	-	0.1	-	-	8.7	0.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

102: Biltmore Drive/Augusta Plantation Drive & River Oaks Drive

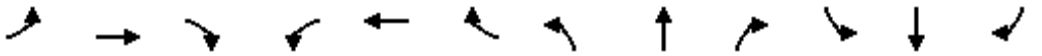


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	677	23	20	571	183	30	2	21	179	4	179
Future Volume (veh/h)	283	677	23	20	571	183	30	2	21	179	4	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	308	736	25	22	621	199	33	2	23	195	4	195
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	894	757	230	693	587	157	7	89	354	484	612
Arrive On Green	0.13	0.48	0.48	0.02	0.37	0.37	0.06	0.06	0.06	0.12	0.26	0.26
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1107	122	1585	1781	1870	1585
Grp Volume(v), veh/h	308	736	25	22	621	199	35	0	23	195	4	195
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1228	0	1585	1781	1870	1585
Q Serve(g_s), s	7.3	25.0	0.6	0.6	23.1	6.7	1.9	0.0	1.0	7.2	0.1	6.4
Cycle Q Clear(g_c), s	7.3	25.0	0.6	0.6	23.1	6.7	2.0	0.0	1.0	7.2	0.1	6.4
Prop In Lane	1.00		1.00	1.00		1.00	0.94		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	362	894	757	230	693	587	164	0	89	354	484	612
V/C Ratio(X)	0.85	0.82	0.03	0.10	0.90	0.34	0.21	0.00	0.26	0.55	0.01	0.32
Avail Cap(c_a), veh/h	377	894	757	412	784	665	357	0	343	354	784	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	16.6	10.2	16.0	21.9	16.8	33.9	0.0	33.4	26.4	20.3	15.9
Incr Delay (d2), s/veh	16.3	6.3	0.0	0.2	12.0	0.3	0.6	0.0	1.5	1.8	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	3.9	10.3	0.2	0.2	11.0	2.4	0.6	0.0	0.4	3.1	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	22.9	10.3	16.1	34.0	17.1	34.5	0.0	34.9	28.2	20.3	16.2
LnGrp LOS	C	C	B	B	C	B	C	A	C	C	C	B
Approach Vol, veh/h		1069			842			58			394	
Approach Delay, s/veh		25.2			29.5			34.7			22.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	41.3		25.1	15.4	33.4	15.0	10.1
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	32.0		31.0	10.0	31.0	9.0	16.0
Max Q Clear Time (g_c+I1), s	2.6	27.0		8.4	9.3	25.1	9.2	4.0
Green Ext Time (p_c), s	0.0	2.1		0.6	0.1	2.2	0.0	0.1

Intersection Summary		
HCM 6th Ctrl Delay		26.5
HCM 6th LOS		C

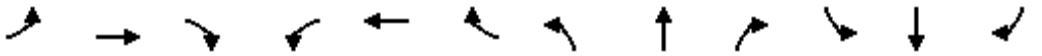
Appendix G ANALYSIS WORKSHEETS: 2027 BUILD CONDITIONS W/ PROPOSED IMPROVEMENTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	814	208	86	695	106	122	30	51	114	52	41
Future Volume (veh/h)	34	814	208	86	695	106	122	30	51	114	52	41
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	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	885	231	96	755	115	136	33	57	124	58	45
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92	0.90	0.90	0.90	0.92	0.90	0.92
Percent Heavy Veh, %	3	3	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	339	1070	914	255	1079	914	325	122	211	335	193	150
Arrive On Green	0.58	0.58	0.58	0.58	0.58	0.58	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	703	1856	1585	628	1870	1585	1291	616	1063	1307	976	758
Grp Volume(v), veh/h	37	885	231	96	755	115	136	0	90	124	0	103
Grp Sat Flow(s),veh/h/ln	703	1856	1585	628	1870	1585	1291	0	1679	1307	0	1734
Q Serve(g_s), s	2.1	20.6	3.8	7.8	15.3	1.8	5.4	0.0	2.4	4.7	0.0	2.7
Cycle Q Clear(g_c), s	17.4	20.6	3.8	28.4	15.3	1.8	8.0	0.0	2.4	7.2	0.0	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.44
Lane Grp Cap(c), veh/h	339	1070	914	255	1079	914	325	0	333	335	0	343
V/C Ratio(X)	0.11	0.83	0.25	0.38	0.70	0.13	0.42	0.00	0.27	0.37	0.00	0.30
Avail Cap(c_a), veh/h	343	1079	922	258	1088	922	481	0	535	492	0	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	9.1	5.6	20.6	8.0	5.1	21.7	0.0	18.1	21.1	0.0	18.2
Incr Delay (d2), s/veh	0.1	5.4	0.1	0.9	2.0	0.1	0.9	0.0	0.4	0.7	0.0	0.5
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	0.3	6.2	0.8	1.0	4.0	0.3	1.6	0.0	0.9	1.4	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	14.5	5.7	21.5	10.0	5.2	22.5	0.0	18.5	21.8	0.0	18.7
LnGrp LOS	B	B	A	C	B	A	C	A	B	C	A	B
Approach Vol, veh/h		1153			966			226			227	
Approach Delay, s/veh		12.8			10.6			20.9			20.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.6		36.8		16.6		36.8				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		17.0		31.0		17.0		31.0				
Max Q Clear Time (g_c+I1), s		9.2		30.4		10.0		22.6				
Green Ext Time (p_c), s		0.6		0.4		0.5		4.4				

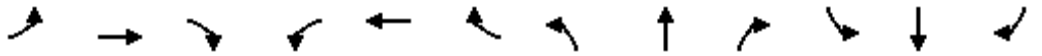
Intersection Summary												
HCM 6th Ctrl Delay			13.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	800	76	31	688	224	128	32	53	65	19	33
Future Volume (veh/h)	35	800	76	31	688	224	128	32	53	65	19	33
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	1841	1870	1841
Adj Flow Rate, veh/h	37	851	84	34	732	238	142	36	59	69	21	35
Peak Hour Factor	0.94	0.94	0.90	0.90	0.94	0.94	0.90	0.90	0.90	0.94	0.90	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	4	2	4
Cap, veh/h	351	1037	879	275	1037	879	367	117	192	330	116	193
Arrive On Green	0.55	0.55	0.55	0.55	0.55	0.55	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	724	1870	1585	648	1870	1585	1348	638	1045	1280	630	1051
Grp Volume(v), veh/h	37	851	84	34	732	238	142	0	95	69	0	56
Grp Sat Flow(s),veh/h/ln	724	1870	1585	648	1870	1585	1348	0	1682	1280	0	1681
Q Serve(g_s), s	1.8	17.0	1.1	2.1	13.1	3.6	4.6	0.0	2.2	2.3	0.0	1.3
Cycle Q Clear(g_c), s	14.9	17.0	1.1	19.1	13.1	3.6	5.8	0.0	2.2	4.5	0.0	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.62	1.00		0.63
Lane Grp Cap(c), veh/h	351	1037	879	275	1037	879	367	0	309	330	0	309
V/C Ratio(X)	0.11	0.82	0.10	0.12	0.71	0.27	0.39	0.00	0.31	0.21	0.00	0.18
Avail Cap(c_a), veh/h	455	1306	1106	368	1306	1106	589	0	587	541	0	587
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.9	8.3	4.8	16.2	7.5	5.4	18.3	0.0	16.2	18.1	0.0	15.8
Incr Delay (d2), s/veh	0.1	3.5	0.0	0.2	1.3	0.2	0.7	0.0	0.6	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	0.2	4.3	0.2	0.3	2.9	0.6	1.3	0.0	0.8	0.6	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	11.8	4.8	16.4	8.8	5.5	18.9	0.0	16.7	18.4	0.0	16.1
LnGrp LOS	B	B	A	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h		972			1004			237			125	
Approach Delay, s/veh		11.2			8.2			18.1			17.4	
Approach LOS		B			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.4		31.4		14.4		31.4				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		16.0		32.0		16.0		32.0				
Max Q Clear Time (g_c+I1), s		6.5		21.1		7.8		19.0				
Green Ext Time (p_c), s		0.3		4.3		0.6		5.1				

Intersection Summary												
HCM 6th Ctrl Delay			11.0									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	836	34	14	738	165	37	9	15	77	9	27
Future Volume (veh/h)	38	836	34	14	738	165	37	9	15	77	9	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	909	38	16	802	179	41	10	17	84	10	29
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92	0.90	0.90	0.90	0.92	0.90	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	358	1091	925	286	1091	925	318	79	134	330	54	155
Arrive On Green	0.58	0.58	0.58	0.58	0.58	0.58	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	678	1870	1585	592	1870	1585	1368	622	1058	1383	423	1227
Grp Volume(v), veh/h	41	909	38	16	802	179	41	0	27	84	0	39
Grp Sat Flow(s),veh/h/ln	678	1870	1585	592	1870	1585	1368	0	1680	1383	0	1650
Q Serve(g_s), s	1.9	16.3	0.4	0.9	12.9	2.2	1.1	0.0	0.6	2.4	0.0	0.9
Cycle Q Clear(g_c), s	14.9	16.3	0.4	17.2	12.9	2.2	2.0	0.0	0.6	3.0	0.0	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.74
Lane Grp Cap(c), veh/h	358	1091	925	286	1091	925	318	0	213	330	0	209
V/C Ratio(X)	0.11	0.83	0.04	0.06	0.74	0.19	0.13	0.00	0.13	0.25	0.00	0.19
Avail Cap(c_a), veh/h	486	1446	1226	399	1446	1226	674	0	650	689	0	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	7.0	3.7	14.0	6.3	4.0	17.1	0.0	16.0	17.4	0.0	16.2
Incr Delay (d2), s/veh	0.1	3.3	0.0	0.1	1.4	0.1	0.2	0.0	0.3	0.4	0.0	0.4
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	0.2	3.2	0.1	0.1	2.1	0.3	0.3	0.0	0.2	0.7	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	10.3	3.7	14.1	7.7	4.2	17.2	0.0	16.3	17.8	0.0	16.6
LnGrp LOS	B	B	A	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h		988			997			68			123	
Approach Delay, s/veh		10.1			7.1			16.9			17.4	
Approach LOS		B			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.2		30.1		11.2		30.1				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		16.0		32.0		16.0		32.0				
Max Q Clear Time (g_c+I1), s		5.0		19.2		4.0		18.3				
Green Ext Time (p_c), s		0.3		4.9		0.1		5.7				

Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									

Appendix H TURN LANE ANALYSIS WORKSHEETS

Stantec

Study Area Information

County:	Horry County	Date:	2/28/2024
SCDOT Engineering District:	District 5	Analyst:	CT
Analysis Year:	2027	Agency:	**Stantec Consulting Services Inc.**

Intersection:	River Oaks Drive & Village Parkway/Project DW #1
Left Turn Movement:	Westbound Left-Turn Lane
Right Turn Movement:	Eastbound Right-Turn Lane

Posted Speed Limit:	45 *mph*	Median:	N/A
# of Approach Lanes:	1	Urban or Rural?	Urban

Volume Information & Calculations

Left Turn Lane Volume Calculations

Movement		Volume (vph) AM	SR	PM
Advancing	Left	86	31	14
	Through	695	688	738
	Right	106	224	165
Opposing	Left	34	35	38
	Through	814	800	836
	Right	208	76	34

	AM	SR	PM
Advancing Volume:	887	943	917
Opposing Volume:	1,056	911	908
Left Turn Volume:	86	31	14
% Left Turns in Advancing Volume:	9.7%	3.3%	1.5%

Right Turn Lane Volume Calculations

Movement		Volume (vph) AM	SR	PM
Advancing	Left	34	35	38
	Through	814	800	836
	Right	208	76	34

Adjustment to Right Turn Volume[1] Include? No

	AM	SR	PM
Advancing Volume:	1,056	911	908
Right Turn Volume:	208	76	34

Turn Lane Warrant Met?

Left Turn Lane Warrant		Right Turn Lane Warrant	
Applicable Warrant Chart:	**Fig 9.5-F**	Applicable Warrant Chart:	**Fig 9.5-A**
Warrant Satisfied:	**Yes**	Warrant Satisfied:	**Yes**

Recommended Turn Lane Length

Turning Truck%:	2%	Turning Truck%:	2%

Left Turn Lane			Right Turn Lane		
Storage Length (ft):	**150**	ft	Storage Length:	**150**	ft
Taper Length (ft):	**180**	ft	Taper Length:	**180**	ft
Total Left Turn Lane (ft):	**330**	ft	Total Left Turn Lane:	**330**	ft

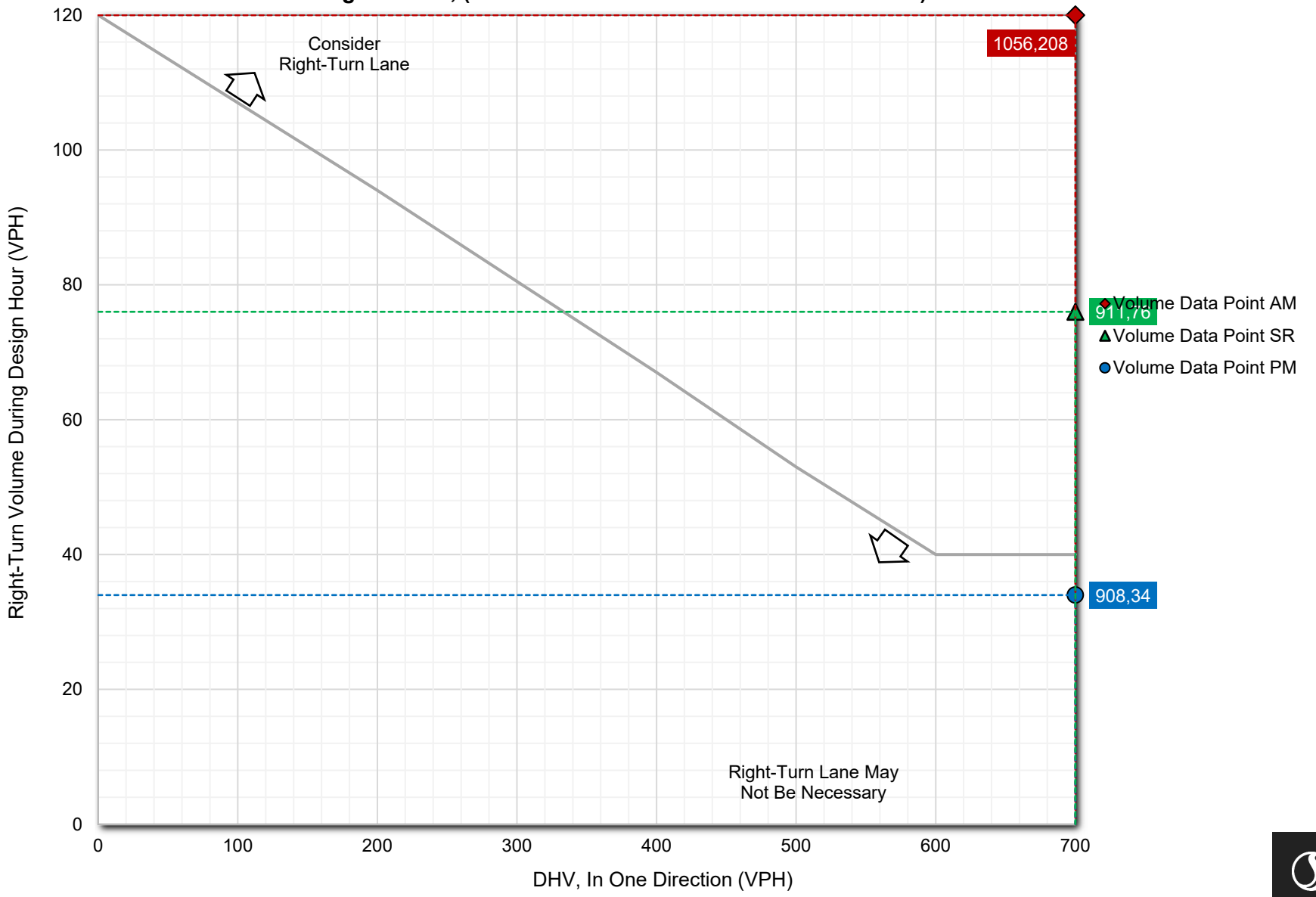
Consider providing dual-turn lanes if the turning volumes are greater than 300 vehicles per hour. A traffic analysis will be required if the turning volumes are greater than 300 vehicles per hour.

The traffic designer should review the design to determine if longer turn lane lengths are required.

Source: SCDOT Roadway Design Manual (2021), SCDOT Access and Roadside Management Standards (2008), and TRB Highway Research Record 211, Volume Warrants for Left Turn Storage Lanes at Unsignalized Grade Intersections.

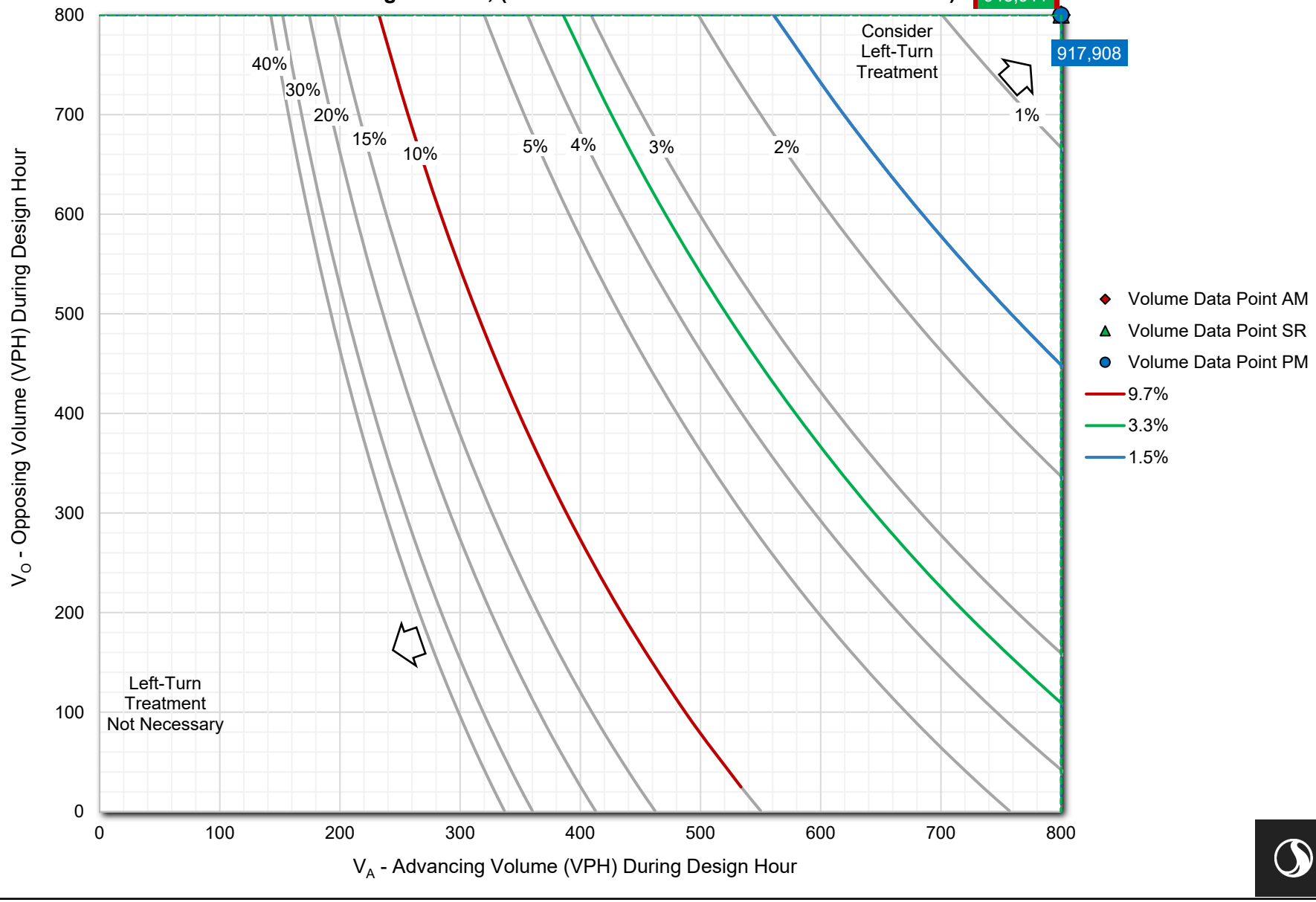
GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS

Figure 9.5-A, (SCDOT ROADWAY DESIGN MANUAL 2021)



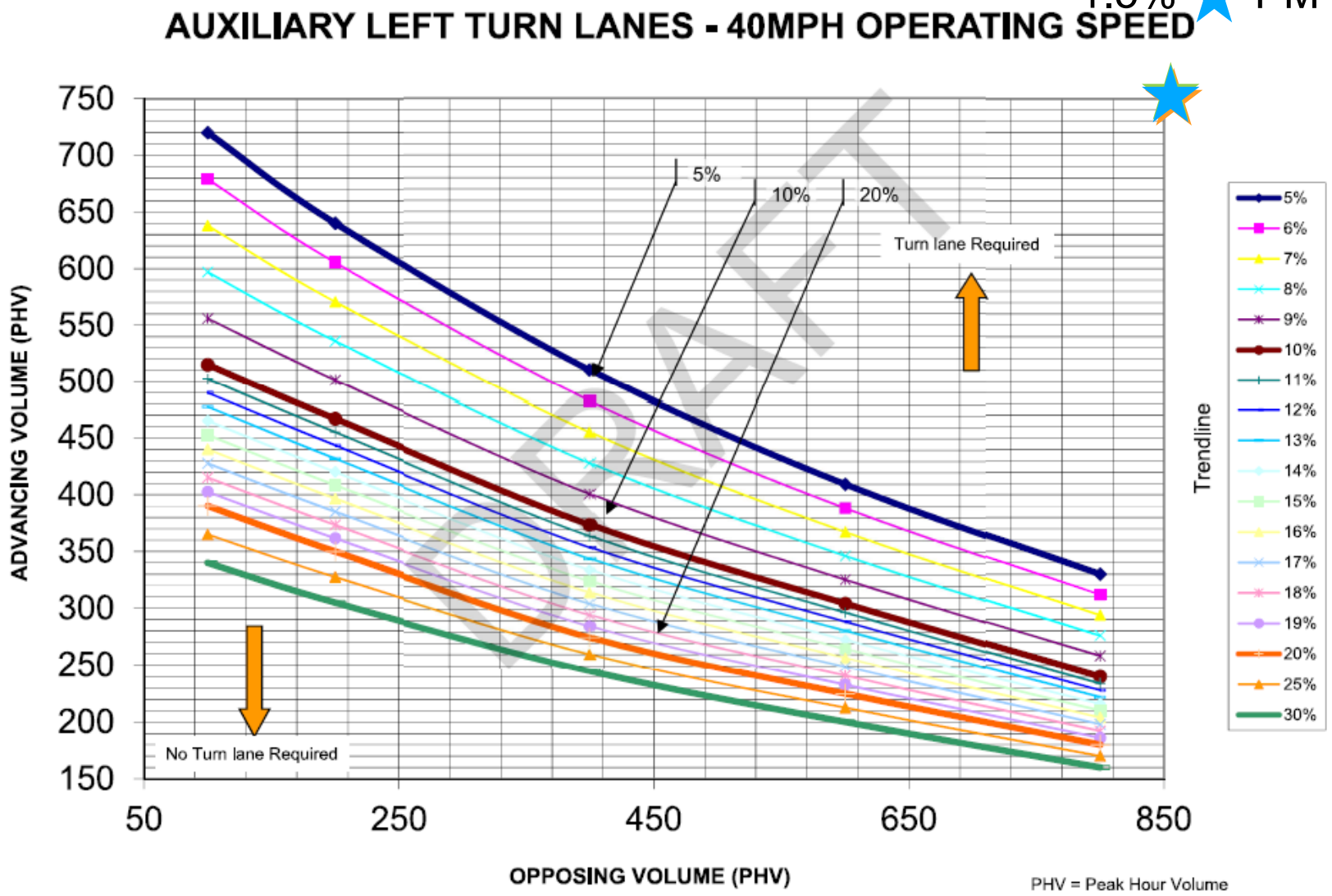
VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (45 mph)

Figure 9.5-F, (SCDOT ROADWAY DESIGN MANUAL 2021)

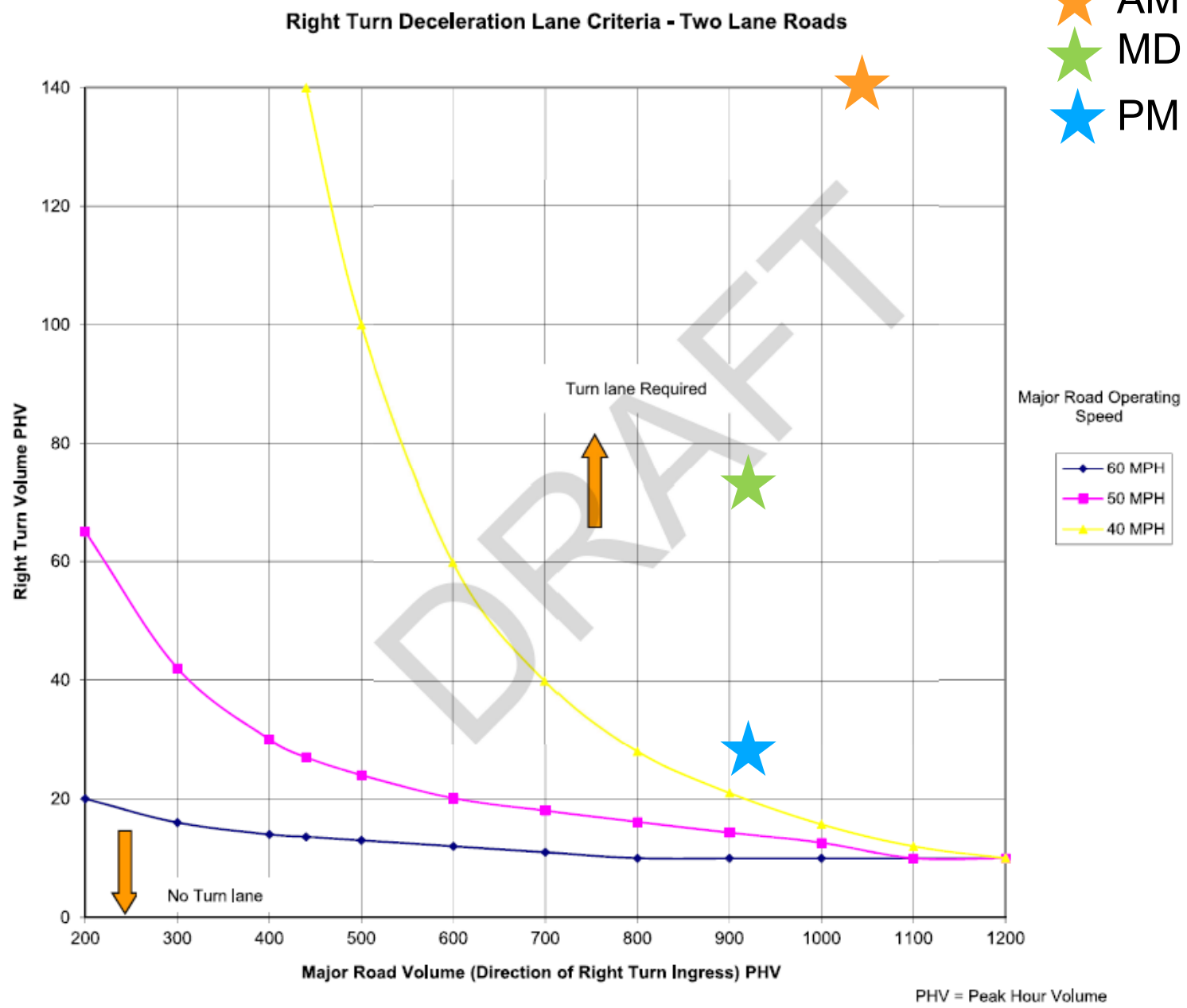


River Oaks Drive & Project DW #1

9.7% AM Peak Hour
3.3% MD Peak Hour
1.5% PM Peak Hour



River Oaks Drive & Project DW #1



AM Peak Hour

MD Peak Hour

PM Peak Hour

PHV = Peak Hour Volume