

THOMAS
&
HUTTON

TRAFFIC IMPACT ANALYSIS

NEW RIVERSIDE VILLAGE
BEAUFORT COUNTY, SOUTH CAROLINA

Prepared for:
AVTEX COMMERCIAL PROPERTIES, INC.

J – 27796.0002



DECEMBER 2020
UPDATED: MAY 2021

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1. INTRODUCTION

New Riverside Village is a proposed development located southeast of the roundabout at SC 170/Okatie Highway and SC 46/May River Road and New Riverside Road in Beaufort County, South Carolina (**Figure 1**). The mixed-use development will include retail, restaurant, office, and institutional uses as well as townhouses (**Figure 2**). The project is anticipated to be built out by 2023.

The site has two proposed access points on New Riverside Road: a right in/right out access and a full access driveway. Another full access point is proposed on SC 46/May River Road. This study will examine the morning and afternoon peak hour traffic conditions at the following intersections:

- SC 170/Okatie Highway, SC 46/May River Road and New Riverside Road (Roundabout)
- SC 46/May River Road and Stardust Lane
- New Riverside Road and development full access
- New Riverside Road and development right-in/right-out access
- SC 46/May River Road and development full access

2. EXISTING CONDITIONS

Roadway Conditions

SC 46 is an east-west, two-lane roadway that has been widened to four lanes at its intersection with SC 170 and New Riverside Road. The posted speed limit is 35-mph through the study area. The Year 2020 annual average daily traffic (AADT) adjacent to the site is 18,900 according to SCDOT.

New Riverside Road is a four-lane divided roadway as it approaches SC170 and SC 46. Near the roundabout the posted speed limit is 15 mph, while south of the project site, the posted speed limit is 40 mph, and the road transitions to a two-lane roadway.

The intersection of SC 170 and SC 46 and New Riverside Road is a two-lane roundabout. There are slip lanes for southbound to westbound, eastbound to southbound, and westbound to northbound movements at the roundabout.

Traffic Conditions

Traffic operations at intersections are typically evaluated in terms of "Level of Service" or LOS. The LOS is a measurement of delay incurred at an intersection or for a particular movement. LOS is defined by the Transportation Research Board's Highway Capacity Manual (HCM) from which LOS A represents free flow conditions with minimal delays; LOS F represents congested conditions. Generally, a LOS D or better is considered acceptable.

Table 1 shows the HCM criteria for roundabouts, unsignalized, and signalized intersections.

Table 1. Level of Service definitions

LEVEL OF SERVICE	Control Delay per Vehicle (seconds)	
	Unsignalized Intersections and Roundabouts	Signalized Intersections
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

Traffic counts were taken at the study intersections in October 2020. Based on the Traffic Impact Analysis during COVID-19 Pandemic memo released by SCDOT District Six, the morning and afternoon peak hour volumes have seasonal factors applied to them: 1.19 for the AM peak hour and 1.13 for the PM peak hour. The 2020 existing traffic counts with the seasonal factors are shown in **Figure 3**. Capacity analyses were completed based on the adjusted volumes; results are shown in Table 2 and included in Appendix B.

Table 2. Current Levels of Service (2020)

Intersection	Control	2020 AM Peak Hour		2020 PM Peak Hour	
		LOS	DELAY (sec)	LOS	DELAY (sec)
SC 170 & SC 46 & New Riverside Rd	Round-about				
EB approach (SC 170)		A	8	B	11
WB approach (SC 46)		A	8	B	11
NB approach (New Riverside Rd)		B	15	C	16
SB approach (SC 170)		A	2	A	2
Overall Intersection		A	8	A	8
SC 46 & Stardust Ln	Stop				
SB approach (Stardust Ln)		C	20	D	26

All intersections currently operate at acceptable levels of service.

3. HISTORICAL VOLUMES

South Carolina Department of Transportation count station #155 is located on SC 46/May River Road, between SC 170/Okatie Highway and Buck Island Road. Recent count station data is shown in Table 3.

Table 3. SCDOT Count Station Data

Count Station	2009 ADT	2010 ADT	2011 ADT	2012 ADT	2013 ADT	2014 ADT	2015 ADT	2016 ADT	2017 ADT	2018 ADT	2019 ADT
#155 SC 46	10,900	8,800	5,900	8,300	8,500	8,500	10,900	12,400	13,700	14,400	13,100

The traffic volume on SC 46 has had a net increase over the last several years. The growth in traffic volumes on SC 46 over the last ten years is 1.9% at count station #155. For this study, background growth of 2% per year and site-specific traffic generated by May River Crossing will be added to the existing traffic counts to project no-build traffic volumes. Traffic generated by May River Crossing is included in Appendix C. The 2023 no-build volumes are shown in **Figure 4**.

4. TRIP GENERATION

Trips generated by the proposed development are estimated using the standard rates and equations from the Institute of Transportation Engineers, *Trip Generation, 10th Edition*, 2017. The development is a mixed-use site with various land uses, and the NCHRP 8-51 Internal Trip Capture Estimation Tool is utilized to remove the projected internal trips from the generated trips.

Some trips produced by the development are considered pass-by trips. Pass-by trips are defined by ITE as "intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator." Pass-by trips are removed from the generated trips but are included at driveways to the site.

Trip generation is shown in Table 4, and the calculations are included in Appendix C.

Table 4. Trip Generation

ITE Category	Land Use	Daily	AM Peak		PM Peak	
			Enter	Exit	Enter	Exit
820	Shopping Center 33,450 square feet	1,263	19	12	61	66
932	High-Turnover (Sit Down) Restaurant 7,500 square feet	841	41	34	45	28
640	Animal Hospital/Veterinary Clinic 6,500 square feet	140	13	11	11	12
590	Library 15,000 square feet	1,081	13	2	20	102
565	Day Care Center 8,500 square feet	405	50	44	45	50
710	Office 15,000 square feet	146	15	2	3	14
945	Gasoline/Service Station with Convenience Market 12 Vehicle Fueling Positions	2,464	77	74	86	82
881	Pharmacy with Drive-Through Window 2,500 square feet	273	5	5	17	9
220	Multi-Family Housing (Low-Rise) 58 dwelling units	425	6	21	20	12
221	Multi-Family Housing (Mid-Rise) 170 dwelling units	925	16	45	46	29
TOTAL UNADJUSTED TRIPS		7,963	255	250	354	404
INTERNAL TRIPS		-242	-46	-44	-71	-81
PASS-BY TRIPS		-222	-44	-39	-79	-60
TOTAL PRIMARY TRIPS		7,499	165	167	204	263

5. TRIP DISTRIBUTION

The primary site trip distribution patterns are assumed to split in accordance with the directional patterns of traffic in the vicinity of the project and the site layout. For this study, the general distribution assumptions are as follows:

- 30% to/from the east on SC 46
- 15% to/from the west on SC 170
- 39% to/from the north on SC 170
- 1% to/from Stardust Lane
- 15% to/from the residential lots along New Riverside Road

The site-generated trips are assigned to the study intersections and access points based on the trip distribution assumptions and site layout. Site trip distributions are shown in **Figure 5**. Site generated primary trips are shown in **Figure 6**, and site generated pass-by trips are shown in **Figure 7**.

6. FUTURE (NO-BUILD/BUILD OUT) CONDITIONS

The site generated volumes (Figures 6 & 7) are added to the no build volumes (Figure 4) to determine the morning and afternoon build out peak hour volumes (**Figure 8**). Table 5 shows the intersection Levels of Service with and without the proposed development. Synchro reports for the no-build volumes are included in Appendix D. Synchro reports for the build out volumes are included in Appendix E.

Table 5. Future Levels of Service (2023)

Intersection	Control	2023 AM Peak Hour		2023 PM Peak Hour	
		No-Build (LOS/DELAY)	Build Out (LOS/DELAY)	No-Build (LOS/DELAY)	Build Out (LOS/DELAY)
SC 170 & SC 46 & New Riverside Rd	Round-about				
EB approach (SC 170)		A / 9	B / 11	B / 12	C / 15
WB approach (SC 46)		A / 9	A / 9	B / 13	B / 14
NB approach (New Riverside Rd)		C / 19	D / 25	C / 20	D / 32
SB approach (SC 170)		A / 2	A / 2	A / 3	A / 3
Overall Intersection		A / 9	B / 10	A / 10	B / 13
SC 46 & Stardust Ln	Stop				
SB approach (Stardust Ln)		C / 24	D / 29	D / 31	E / 41
New Riverside Road & full access	Stop				
NB approach (full access)		-	C / 15	-	C / 16
New Riverside Road & right-in/right-out access	Stop				
WB approach (RI/RO access)		-	B / 11	-	B / 11
SC 46 & full access	Stop				
NB approach (full access)		-	D / 30	-	F / 93

At build out, the intersections of SC 170/SC 46/New Riverside Road the two development accesses on New Riverside Road will operate at acceptable levels of service during both the AM and PM peak hours. The full access on SC 46 and the intersection of SC 46/Stardust Lane will operate at acceptable levels of service during the AM peak hour but are projected to fall to unacceptable during the PM peak hour which is mainly due to the higher volumes on SC 46.

Turn Lane Analysis

SCDOT Figure 9.5-A – Guidelines for Right-Turn Lanes at Unsignalized Intersections on Two-Lane Highways was consulted for all three accesses into the development. Based on the minimum volume thresholds for right turning and straight through traffic, only the proposed full access on SC 46 is recommended for a right turn lane. The right turn lane analysis is included in Appendix F.

The SCDOT Roadway Design Manual states that left turn lanes are required at all median crossovers, therefore, a left turn lane is recommended on New Riverside Road for the full access into the development. SCDOT Figure 9.5-G – Volume Guidelines for Left-Turn Lanes at Unsignalized Intersections on Two-Lane Highways (40 mph) was consulted for the proposed full access on SC 46. The left turn minimum requirements are met for this proposed access; therefore, a left turn lane is recommended on SC 46 for the full access. The left turn lane analysis is included in Appendix F.

7. SUMMARY / CONCLUSIONS

New Riverside Village is a proposed development located southeast of the roundabout at SC 170/Okatie Highway and SC 46/May River Road and New Riverside Road in Beaufort County, South Carolina. The mixed-use development will include retail, restaurant, office, and institutional uses as well as townhouses. The project is anticipated to be built out by 2023.

The site has two proposed access points on New Riverside Road: a right in/right out access and a full access driveway. Another full access point is proposed on SC 46/May River Road.

At build out, the intersections of SC 170/SC 46/New Riverside Road the two development accesses on New Riverside Road will operate at acceptable levels of service during both the AM and PM peak hours. The full access on SC 46 and the intersection of SC 46/Stardust Lane will operate at acceptable levels of service during the AM peak hour but are projected to fall to unacceptable during the PM peak hour which is mainly due to the higher volumes on SC 46.

Based on the minimum volume thresholds for right turning and straight through traffic, only the proposed full access on SC 46 is recommended for a right turn lane. The two accesses on New Riverside Road do not meet the minimum requires for a right turn lane.

Left turn lanes are recommended on New Riverside Road for the full access into the development and on SC 46 for the full access driveway.



FIGURE 1
PROJECT LOCATION MAP

NEW RIVERSIDE VILLAGE
BEAUFORT COUNTY, SOUTH CAROLINA

27796.0002



SITE DATA TABLE

TOTAL SITE ACREAGE:

35.5ac.

PERVIOUS AREA:

13.7 ac. 39%

IMPERVIOUS AREA:

19.4 ac. 54%

POND

2.4 ac. 7%

BUILDING SUMMARY:

ID	USE	AREA	SF	PARKING RATIO	PARKING REQUIRED	PARKING PROVIDED
PHASE 1						
A	RETAIL / RESTAURANT		8,000		32	
B	RETAIL / RESTAURANT		7,500		30	
C	RESTAURANT		7,500		30	
D	RETAIL / RESTAURANT		10,000		40	
E	RETAIL / RESTAURANT		10,000		40	
F	RETAIL / RESTAURANT		6,000		24	
G	RETAIL / RESTAURANT		6,500		26	
H	LIBRARY		15,000		68	
I	EARLY CHILDHOOD CENTER		8,500		34	
	COMMUNITY PARK	5.5 ac.				
SUBTOTAL		17.5 ac.	79,000	4/1,000 sq. ft.	324	326
OUTPARCELS						
J	OFFICE / RETAIL	1.8 ac.	15,000	4/1,000 sq. ft.	60	60
K	GENERAL STORE	1.5 ac.	5,000	4/1,000 sq. ft.	20	20
L	RESTAURANT	1.8 ac.	4,800	12/1,000 sq. ft.	58	58
SUBTOTAL		5.1 ac.			138	138
SINGLE FAMILY		5.3 ac.				
PHASE 2		7.6 ac.				
TOTAL		35.5 ac.				

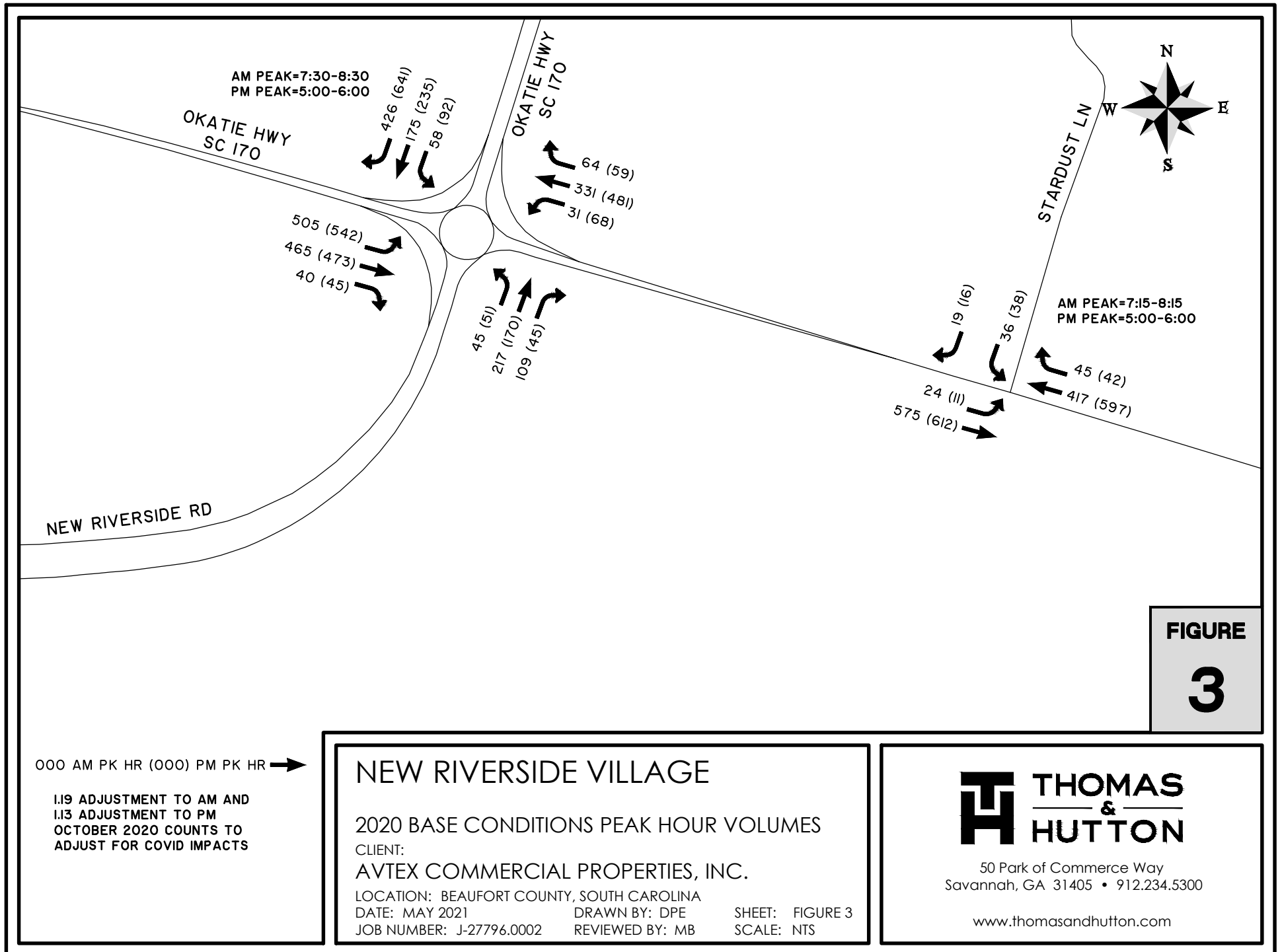
PLAN IS CONCEPTUAL AND SUBJECT TO CHANGE UPON REVIEW OF VARIOUS GOVERNMENTAL AGENCIES.

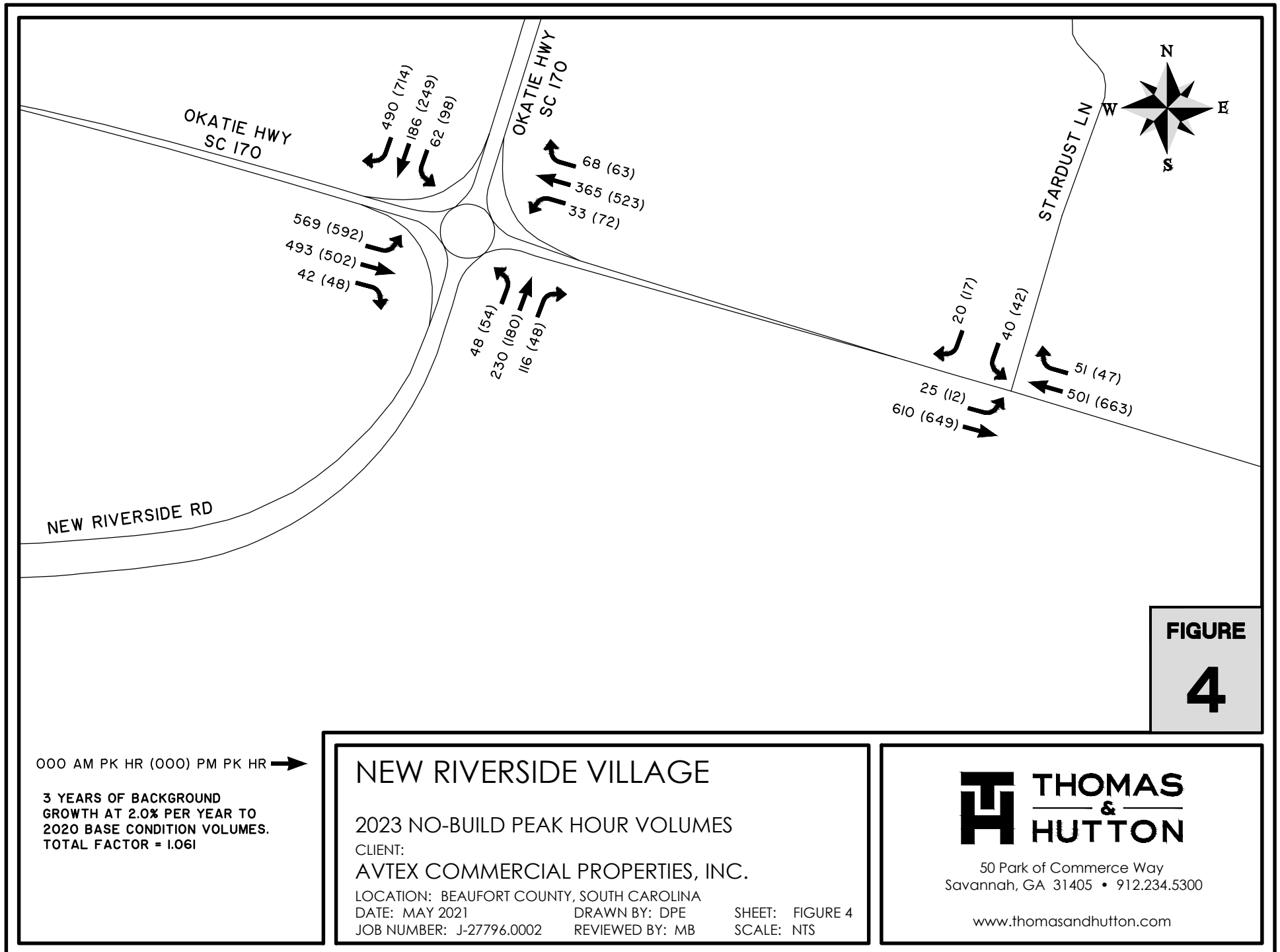
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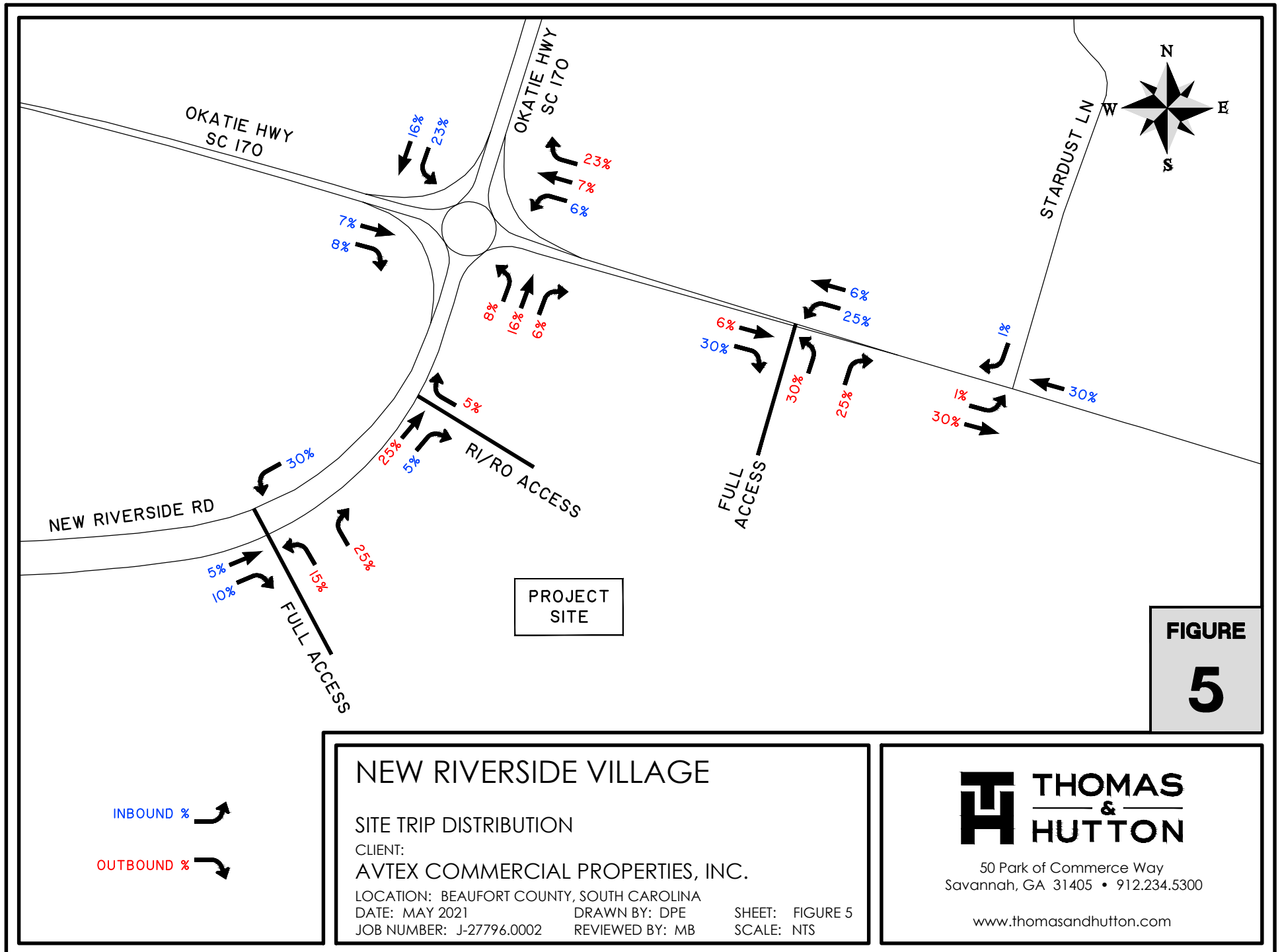
REFER TO THE NARRATIVE FOR PARKING REQUIREMENTS

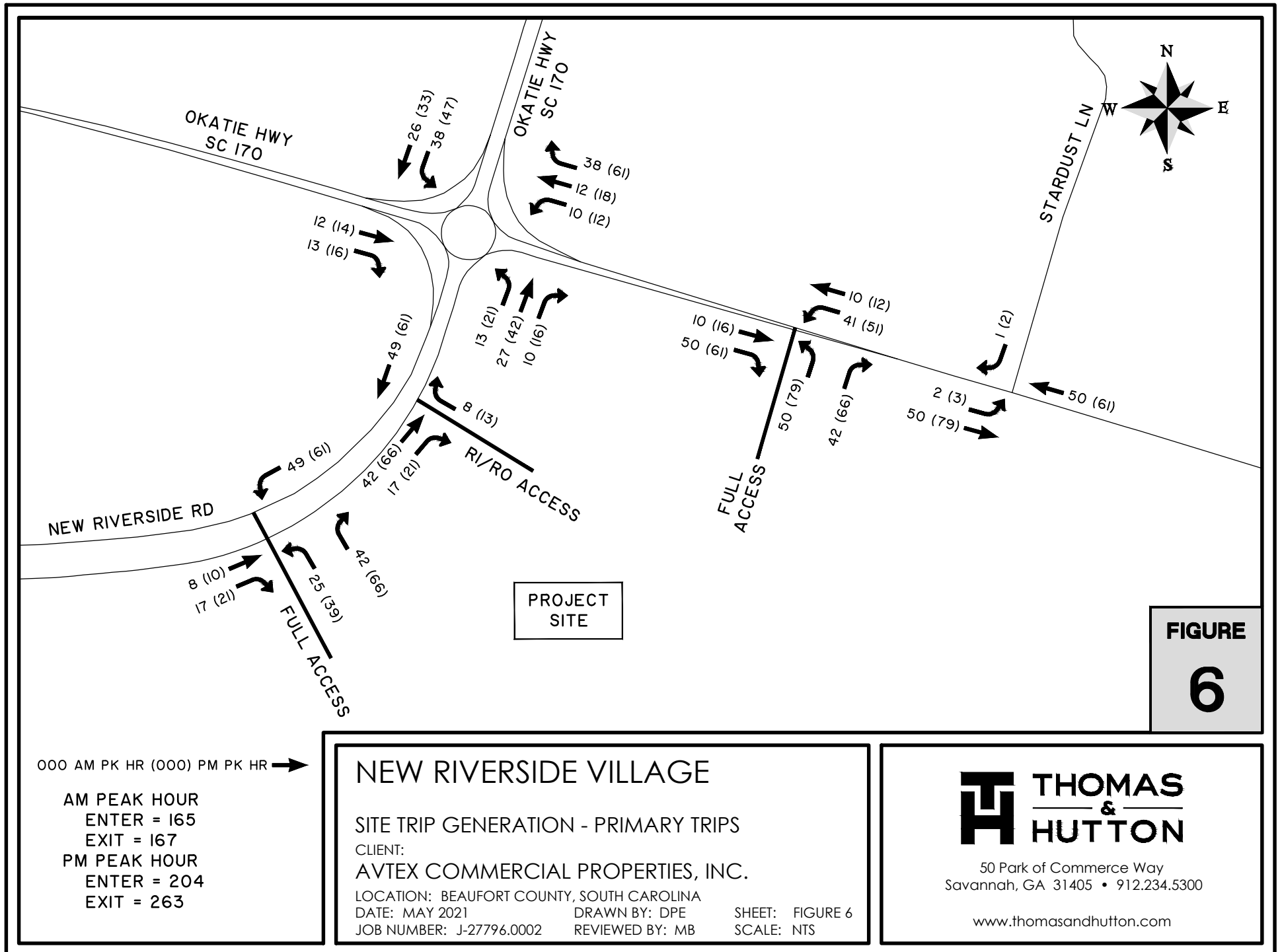
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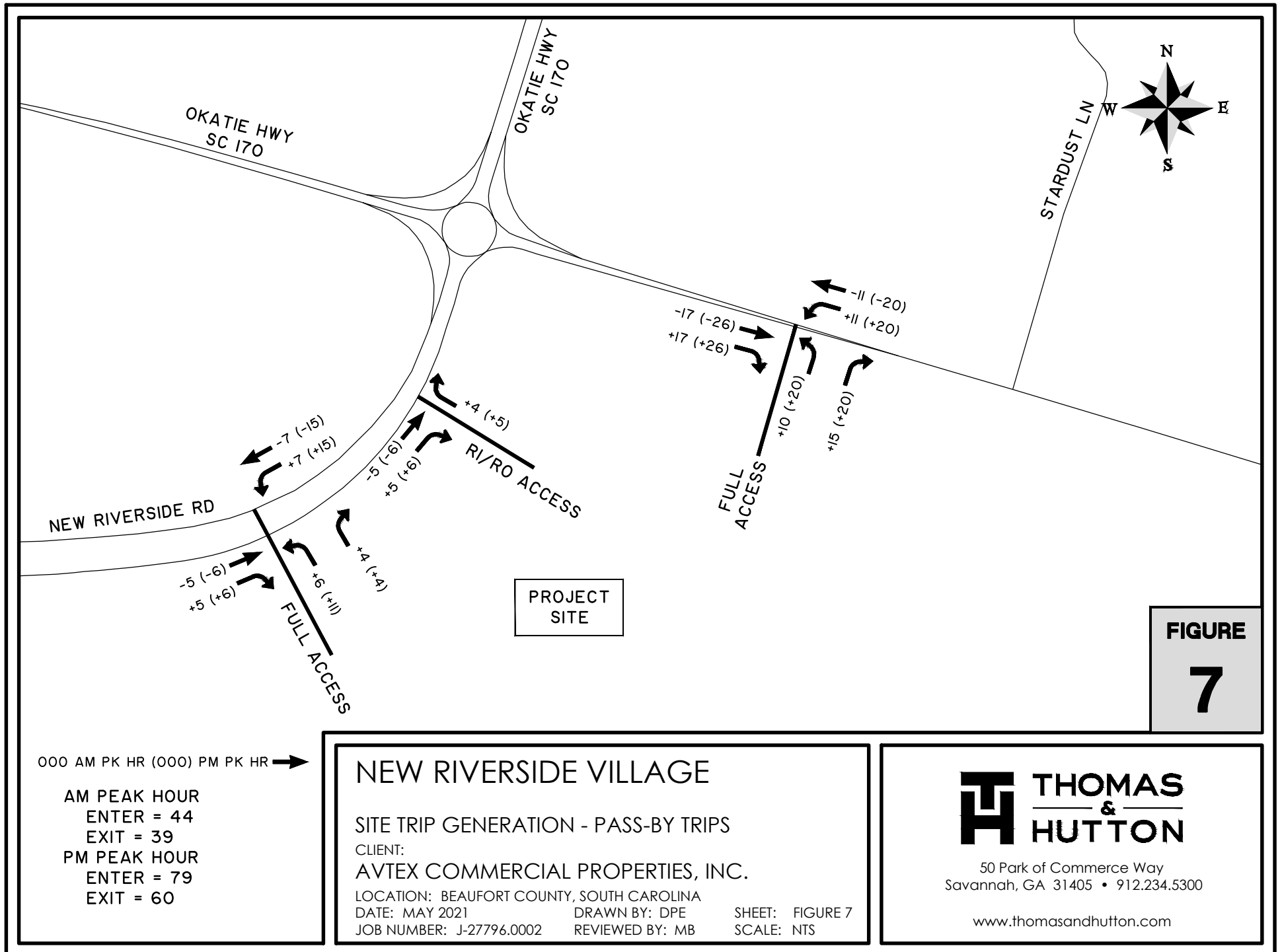
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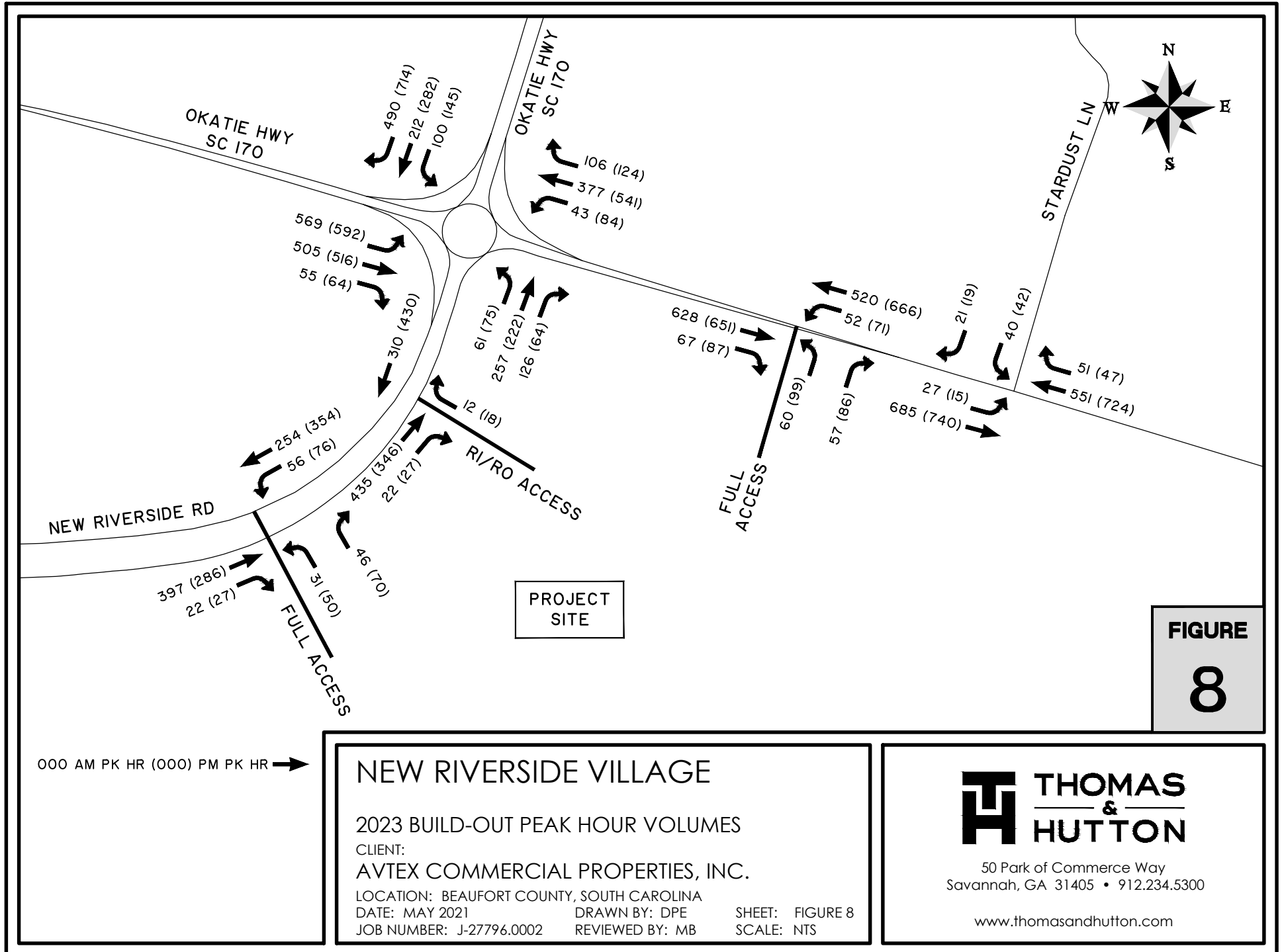














TRAFFIC IMPACT ANALYSIS
NEW RIVERSIDE VILLAGE

APPENDIX A
EXISTING TRAFFIC COUNTS

J – 27796.0002

May 2021

SHORT COUNTS, LLC

ATTACHMENT 8

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : May River Rd @ New Riverside Rd

Site Code :

Start Date : 10/01/2020

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Buses

Start Time	Okatie Hwy Southbound				May River Rd Westbound				New Riverside Rd Northbound				May River Rd Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	8	31	82	0	2	65	9	0	5	27	24	0	85	80	4	0	422
07:15	11	26	98	0	3	75	12	0	4	29	26	0	102	96	11	0	493
07:30	10	32	98	0	6	68	14	0	9	30	28	0	115	101	6	0	517
07:45	11	51	86	0	10	68	10	0	6	35	22	0	108	100	13	0	520
Total	40	140	364	0	21	276	45	0	24	121	100	0	410	377	34	0	1952
08:00	9	31	82	0	4	78	20	0	8	56	17	0	106	100	9	0	520
08:15	19	33	92	0	6	64	10	0	15	61	25	0	95	90	6	0	516
08:30	22	30	89	0	8	46	13	0	10	46	21	0	91	70	9	0	455
08:45	10	46	60	0	7	69	14	0	6	32	16	0	89	69	6	0	424
Total	60	140	323	0	25	257	57	0	39	195	79	0	381	329	30	0	1915
16:00	10	67	90	0	10	88	20	0	12	45	19	0	99	91	4	0	555
16:15	14	48	118	0	17	118	13	0	14	34	11	0	104	97	8	0	596
16:30	20	58	120	0	10	99	12	0	11	39	11	0	115	100	4	0	599
16:45	22	37	136	0	12	120	13	0	19	37	14	0	93	91	7	0	601
Total	66	210	464	0	49	425	58	0	56	155	55	0	411	379	23	0	2351
17:00	20	40	158	0	12	98	10	0	11	33	15	0	122	107	5	0	631
17:15	21	48	176	0	19	92	19	0	14	58	4	0	111	97	13	0	672
17:30	19	60	118	0	13	116	12	0	8	21	12	0	137	112	7	0	635
17:45	21	60	115	0	16	120	11	0	12	38	9	0	110	103	15	0	630
Total	81	208	567	0	60	426	52	0	45	150	40	0	480	419	40	0	2568
Grand Total	247	698	1718	0	155	1384	212	0	164	621	274	0	1682	1504	127	0	8786
Apprch %	9.3	26.2	64.5	0	8.9	79	12.1	0	15.5	58.6	25.9	0	50.8	45.4	3.8	0	
Total %	2.8	7.9	19.6	0	1.8	15.8	2.4	0	1.9	7.1	3.1	0	19.1	17.1	1.4	0	
Passenger Vehicles	243	653	1658	0	148	1355	209	0	149	572	271	0	1623	1486	121	0	8488
% Passenger Vehicles	98.4	93.6	96.5	0	95.5	97.9	98.6	0	90.9	92.1	98.9	0	96.5	98.8	95.3	0	96.6
Heavy Vehicles	3	45	60	0	7	28	3	0	15	49	3	0	58	18	5	0	294
% Heavy Vehicles	1.2	6.4	3.5	0	4.5	2	1.4	0	9.1	7.9	1.1	0	3.4	1.2	3.9	0	3.3
Buses	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	4
% Buses	0.4	0	0	0	0	0.1	0	0	0	0	0	0	0.1	0	0.8	0	0

SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

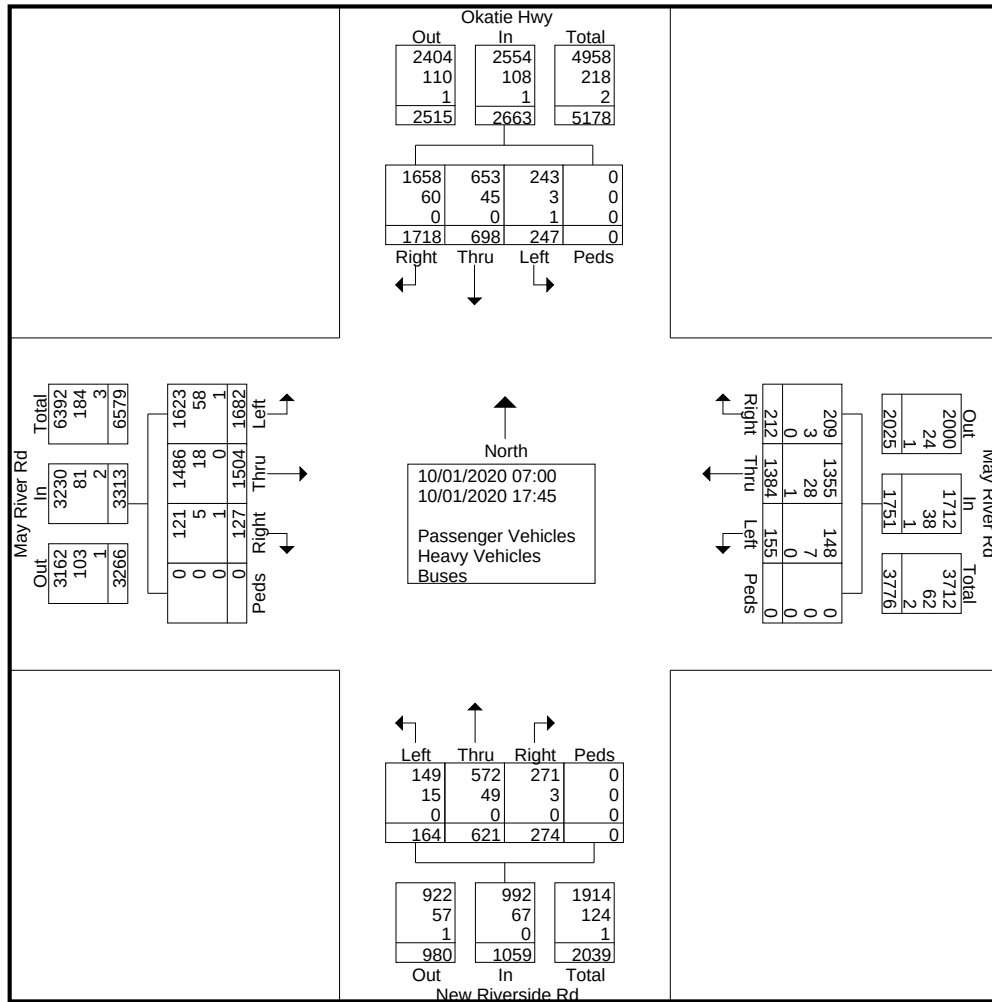
We can't say we're the Best, but you Can!

File Name : May River Rd @ New Riverside Rd

Site Code :

Start Date : 10/01/2020

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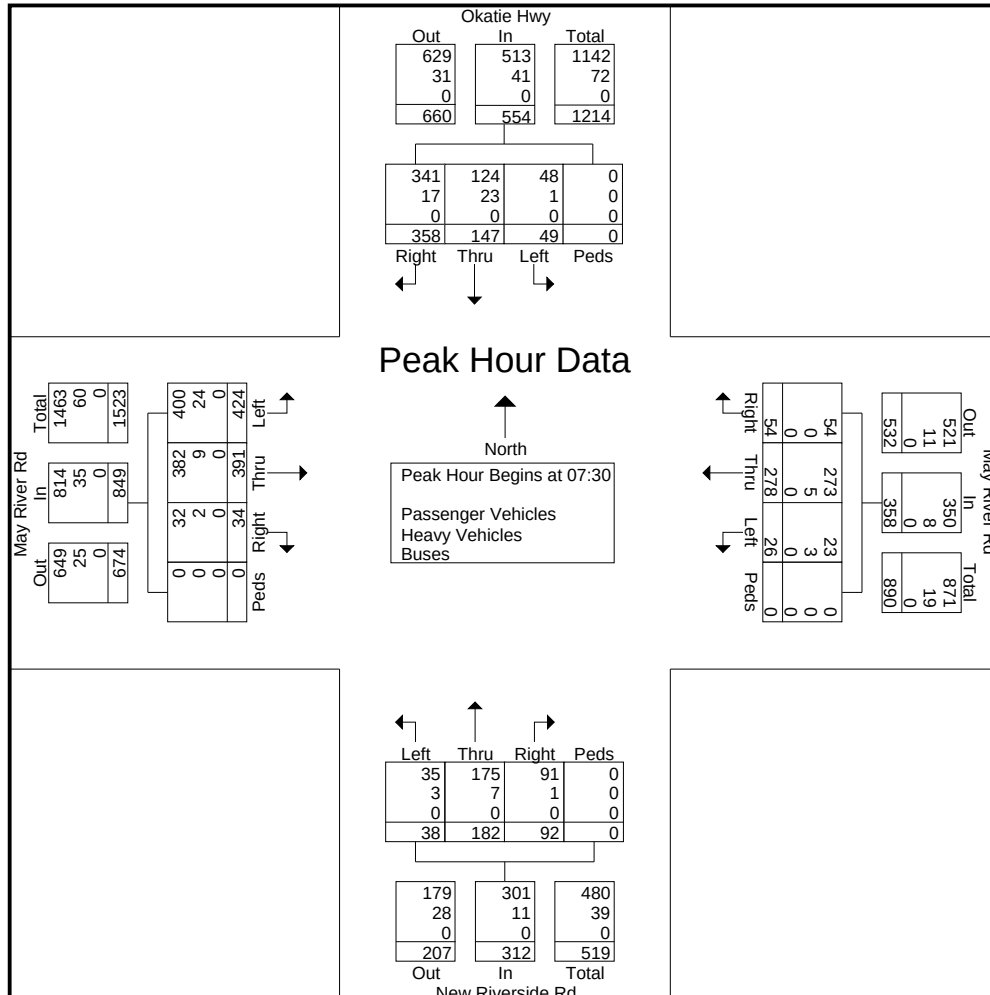
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Page No : 3

	Okatie Hwy Southbound					May River Rd Westbound					New Riverside Rd Northbound					May River Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	10	32	98	0	140	6	68	14	0	88	9	30	28	0	67	115	101	6	0	222	517
07:45	11	51	86	0	148	10	68	10	0	88	6	35	22	0	63	108	100	13	0	221	520
08:00	9	31	82	0	122	4	78	20	0	102	8	56	17	0	81	106	100	9	0	215	520
08:15	19	33	92	0	144	6	64	10	0	80	15	61	25	0	101	95	90	6	0	191	516
Total Volume	49	147	358	0	554	26	278	54	0	358	38	182	92	0	312	424	391	34	0	849	2073
% App. Total	8.8	26.5	64.6	0		7.3	77.7	15.1	0		12.2	58.3	29.5	0		49.9	46.1	4	0		
PHF	.645	.721	.913	.000	.936	.650	.891	.675	.000	.877	.633	.746	.821	.000	.772	.922	.968	.654	.000	.956	.997
Passenger Vehicles	48	124	341	0	513	23	273	54	0	350	35	175	91	0	301	400	382	32	0	814	1978
% Passenger Vehicles																					
Heavy Vehicles	1	23	17	0	41	3	5	0	0	8	3	7	1	0	11	24	9	2	0	35	95
% Heavy Vehicles	2.0	15.6	4.7	0	7.4	11.5	1.8	0	0	2.2	7.9	3.8	1.1	0	3.5	5.7	2.3	5.9	0	4.1	4.6
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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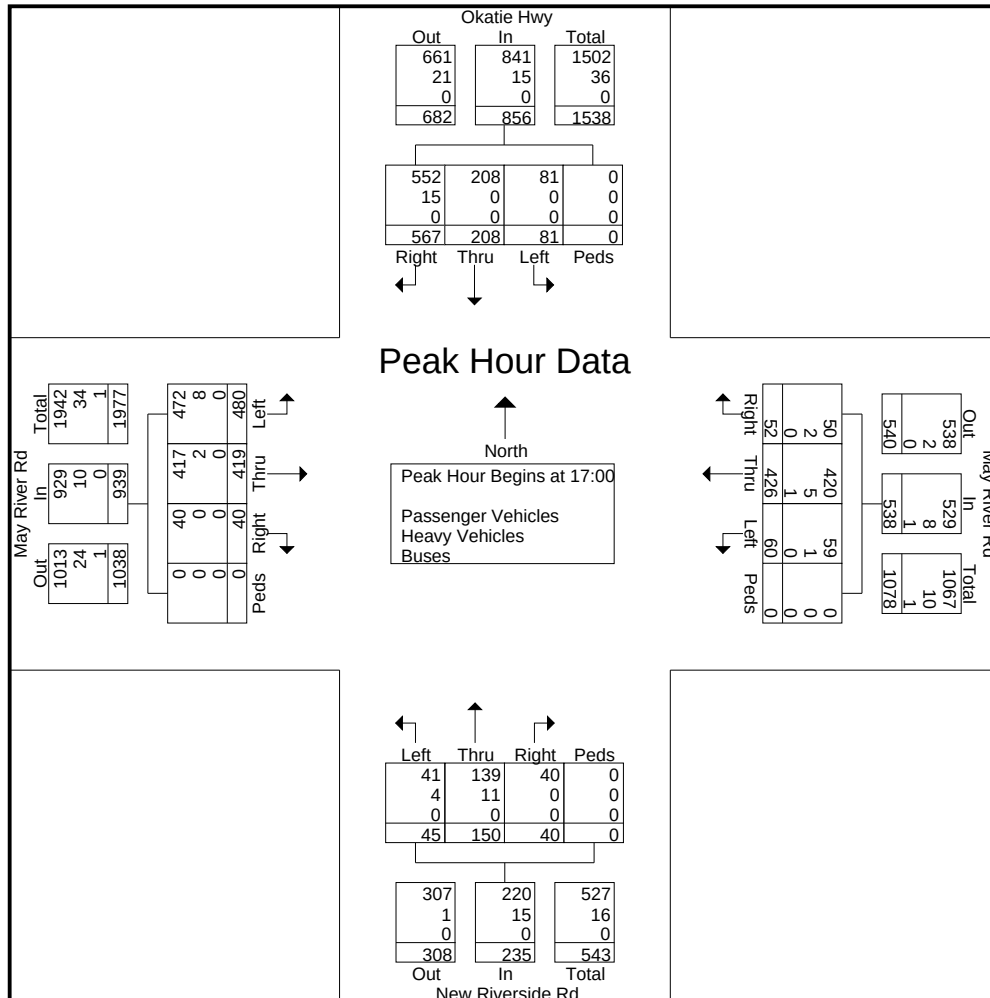
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	Okatie Hwy Southbound					May River Rd Westbound					New Riverside Rd Northbound					May River Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	20	40	158	0	218	12	98	10	0	120	11	33	15	0	59	122	107	5	0	234	631
17:15	21	48	176	0	245	19	92	19	0	130	14	58	4	0	76	111	97	13	0	221	672
17:30	19	60	118	0	197	13	116	12	0	141	8	21	12	0	41	137	112	7	0	256	635
17:45	21	60	115	0	196	16	120	11	0	147	12	38	9	0	59	110	103	15	0	228	630
Total Volume	81	208	567	0	856	60	426	52	0	538	45	150	40	0	235	480	419	40	0	939	2568
% App. Total	9.5	24.3	66.2	0		11.2	79.2	9.7	0		19.1	63.8	17	0		51.1	44.6	4.3	0		
PHF	.964	.867	.805	.000	.873	.789	.888	.684	.000	.915	.804	.647	.667	.000	.773	.876	.935	.667	.000	.917	.955
Passenger Vehicles	81	208	552	0	841	59	420	50	0	529	41	139	40	0	220	472	417	40	0	929	2519
% Passenger Vehicles																					
Heavy Vehicles	0	0	15	0	15	1	5	2	0	8	4	11	0	0	15	8	2	0	0	10	48
% Heavy Vehicles	0	0	2.6	0	1.8	1.7	1.2	3.8	0	1.5	8.9	7.3	0	0	6.4	1.7	0.5	0	0	1.1	1.9
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Buses	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.0



SHORT COUNTS, LLC

ATTACHMENT 8

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Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : May River Rd @ Old Palmetto Bluff Rd

Site Code :

Start Date : 10/01/2020

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Buses

Start Time	Southbound				May River Rd Westbound				Old Palmetto Bluff Rd Northbound				May River Rd Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	0	0	0	0	9	81	0	0	5	0	5	0	0	135	16	0	251
07:15	0	0	0	0	26	97	0	0	14	0	3	0	0	138	12	0	290
07:30	0	0	0	0	33	95	0	0	7	0	8	0	0	161	26	0	330
07:45	0	0	0	0	31	129	0	0	13	0	9	0	0	143	22	0	347
Total	0	0	0	0	99	402	0	0	39	0	25	0	0	577	76	0	1218
08:00	0	0	0	0	33	107	0	0	12	0	19	0	0	140	17	0	328
08:15	0	0	0	0	35	78	0	0	5	0	17	0	0	140	28	0	303
08:30	0	0	0	0	25	84	0	0	4	0	8	0	0	133	31	0	285
08:45	0	0	0	0	21	102	0	0	6	0	5	0	0	125	24	0	283
Total	0	0	0	0	114	371	0	0	27	0	49	0	0	538	100	0	1199
16:00	0	0	0	0	19	139	0	0	18	0	22	0	0	139	11	0	348
16:15	0	0	0	0	28	176	0	0	16	0	19	0	0	118	21	0	378
16:30	0	0	0	0	33	134	0	0	28	0	22	0	0	156	17	0	390
16:45	0	0	0	0	18	170	0	0	21	0	20	0	0	148	12	0	389
Total	0	0	0	0	98	619	0	0	83	0	83	0	0	561	61	0	1505
17:00	0	0	0	0	27	154	0	0	14	0	24	0	0	155	16	0	390
17:15	0	0	0	0	24	160	0	0	39	0	26	0	0	144	13	0	406
17:30	0	0	0	0	17	175	0	0	18	0	18	0	0	159	20	0	407
17:45	0	0	0	0	18	157	0	0	24	0	20	0	0	130	9	0	358
Total	0	0	0	0	86	646	0	0	95	0	88	0	0	588	58	0	1561
Grand Total	0	0	0	0	397	2038	0	0	244	0	245	0	0	2264	295	0	5483
Apprch %	0	0	0	0	16.3	83.7	0	0	49.9	0	50.1	0	0	88.5	11.5	0	
Total %	0	0	0	0	7.2	37.2	0	0	4.5	0	4.5	0	0	41.3	5.4	0	
Passenger Vehicles	0	0	0	0	394	1991	0	0	241	0	243	0	0	2229	292	0	5390
% Passenger Vehicles	0	0	0	0	99.2	97.7	0	0	98.8	0	99.2	0	0	98.5	99	0	98.3
Heavy Vehicles	0	0	0	0	3	44	0	0	3	0	1	0	0	33	3	0	87
% Heavy Vehicles	0	0	0	0	0.8	2.2	0	0	1.2	0	0.4	0	0	1.5	1	0	1.6
Buses	0	0	0	0	0	3	0	0	0	0	1	0	0	2	0	0	6
% Buses	0	0	0	0	0	0.1	0	0	0	0	0.4	0	0	0.1	0	0	0.1

SHORT COUNTS, LLC

ATTACHMENT 8

735 Maryland St
Columbia, SC 29201

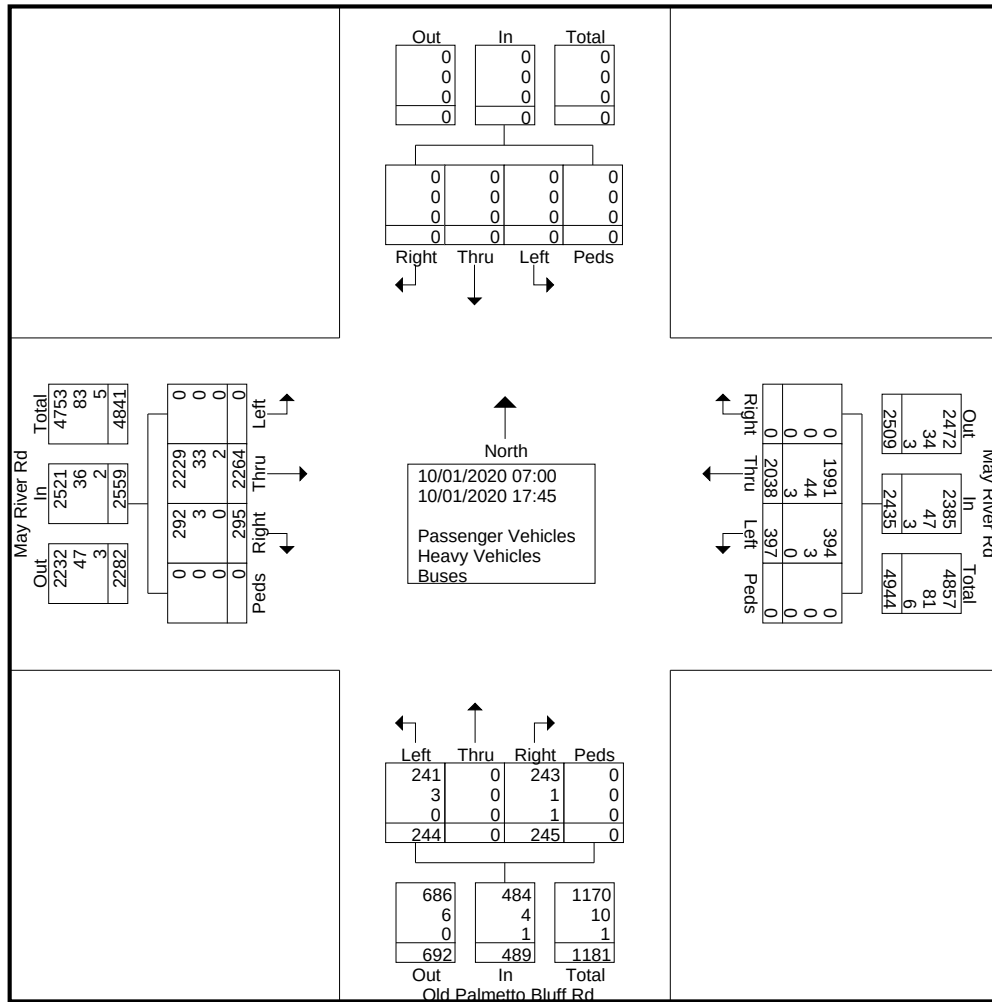
We can't say we're the Best, but you Can!

File Name : May River Rd @ Old Palmetto Bluff Rd

Site Code :

Start Date : 10/01/2020

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735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

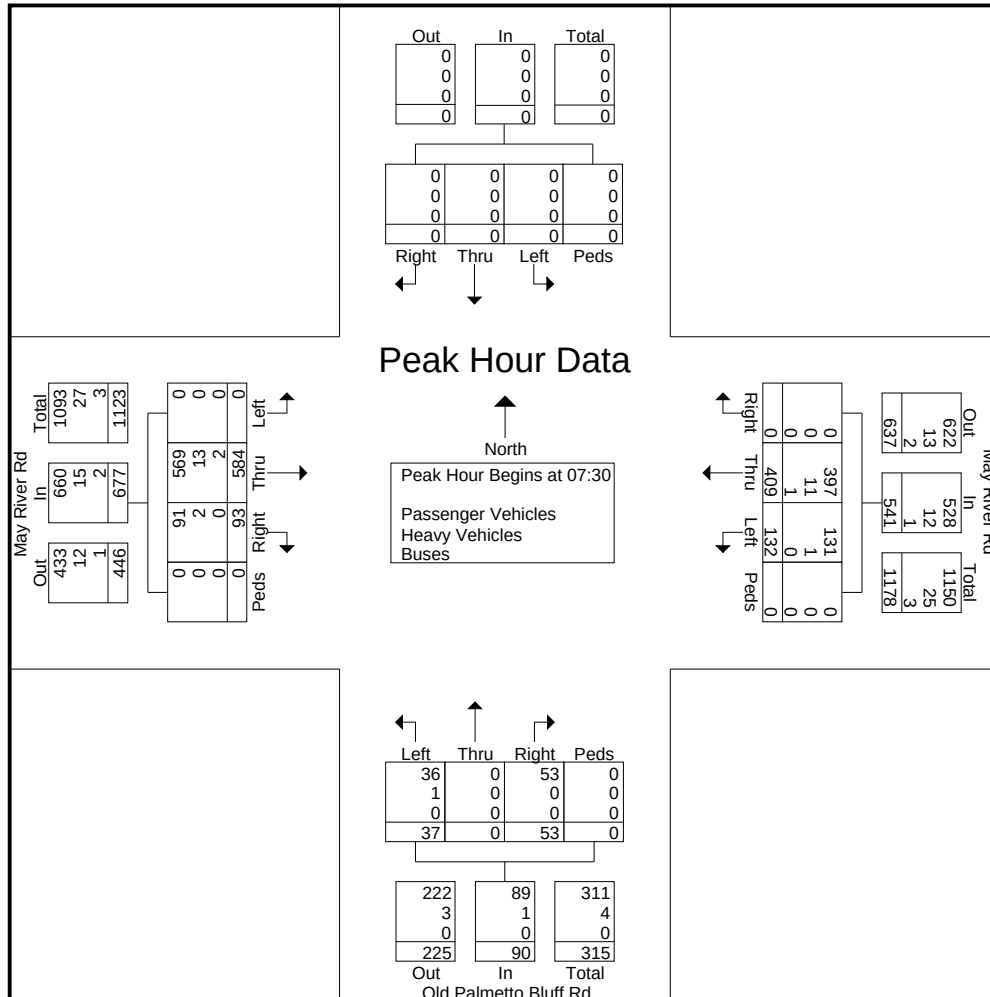
File Name : May River Rd @ Old Palmetto Bluff Rd

Site Code :

Start Date : 10/01/2020

Page No : 3

	Southbound					May River Rd Westbound					Old Palmetto Bluff Rd Northbound					May River Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	33	95	0	0	128	7	0	8	0	15	0	161	26	0	187	330
07:45	0	0	0	0	0	31	129	0	0	160	13	0	9	0	22	0	143	22	0	165	347
08:00	0	0	0	0	0	33	107	0	0	140	12	0	19	0	31	0	140	17	0	157	328
08:15	0	0	0	0	0	35	78	0	0	113	5	0	17	0	22	0	140	28	0	168	303
Total Volume	0	0	0	0	0	132	409	0	0	541	37	0	53	0	90	0	584	93	0	677	1308
% App. Total	0	0	0	0	0	24.4	75.6	0	0	0	41.1	0	58.9	0	0	0	86.3	13.7	0	0	0
PHF	.000	.000	.000	.000	.000	.943	.793	.000	.000	.845	.712	.000	.697	.000	.726	.000	.907	.830	.000	.905	.942
Passenger Vehicles	0	0	0	0	0	131	397	0	0	528	36	0	53	0	89	0	569	91	0	660	1277
% Passenger Vehicles																					
Heavy Vehicles	0	0	0	0	0	1	11	0	0	12	1	0	0	0	1	0	13	2	0	15	28
% Heavy Vehicles	0	0	0	0	0	0.8	2.7	0	0	2.2	2.7	0	0	0	1.1	0	2.2	2.2	0	2.2	2.1
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
% Buses	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.3	0	0	0.3	0.2



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735 Maryland St
Columbia, SC 29201

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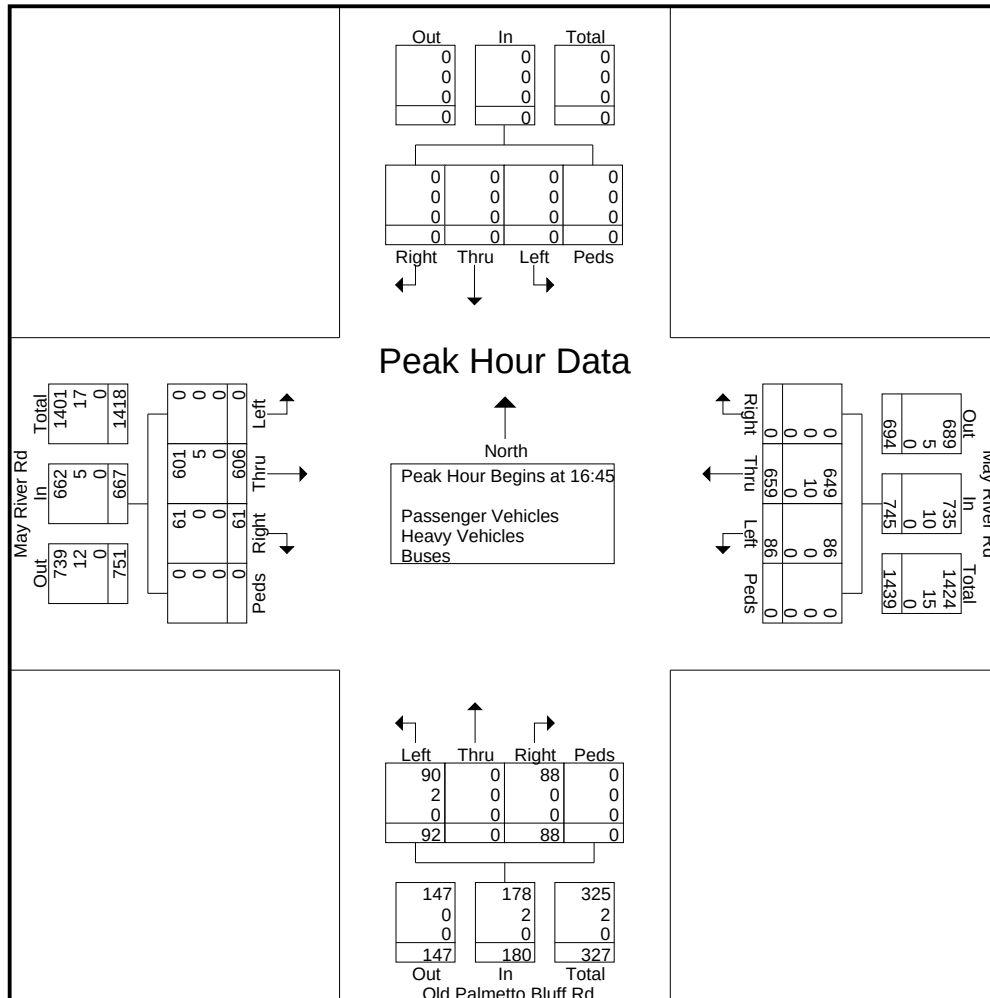
File Name : May River Rd @ Old Palmetto Bluff Rd

Site Code :

Start Date : 10/01/2020

Page No : 4

	Southbound					May River Rd Westbound					Old Palmetto Bluff Rd Northbound					May River Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	18	170	0	0	188	21	0	20	0	41	0	148	12	0	160	389
17:00	0	0	0	0	0	27	154	0	0	181	14	0	24	0	38	0	155	16	0	171	390
17:15	0	0	0	0	0	24	160	0	0	184	39	0	26	0	65	0	144	13	0	157	406
17:30	0	0	0	0	0	17	175	0	0	192	18	0	18	0	36	0	159	20	0	179	407
Total Volume	0	0	0	0	0	86	659	0	0	745	92	0	88	0	180	0	606	61	0	667	1592
% App. Total	0	0	0	0	0	11.5	88.5	0	0		51.1	0	48.9	0		0	90.9	9.1	0		
PHF	.000	.000	.000	.000	.000	.796	.941	.000	.000	.970	.590	.000	.846	.000	.692	.000	.953	.763	.000	.932	.978
Passenger Vehicles	0	0	0	0	0	86	649	0	0	735	90	0	88	0	178	0	601	61	0	662	1575
% Passenger Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	10	0	0	10	2	0	0	0	2	0	5	0	0	5	17
% Heavy Vehicles	0	0	0	0	0	0	1.5	0	0	1.3	2.2	0	0	0	1.1	0	0.8	0	0	0.7	1.1
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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ATTACHMENT 8

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : May River Rd @ Stardust Ln

Site Code :

Start Date : 10/01/2020

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Buses

Start Time	Stardust Ln Southbound				May River Rd Westbound				Northbound				May River Rd Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	10	0	3	0	0	72	4	0	0	0	0	0	4	108	0	0	201
07:15	8	0	2	0	0	84	10	0	0	0	0	0	3	127	0	0	234
07:30	7	0	5	0	0	84	8	0	0	0	0	0	6	136	0	0	246
07:45	9	0	8	0	0	94	9	0	0	0	0	0	8	110	0	0	238
Total	34	0	18	0	0	334	31	0	0	0	0	0	21	481	0	0	919
08:00	6	0	1	0	0	88	11	0	0	0	0	0	3	110	0	0	219
08:15	16	0	2	0	0	72	3	0	0	0	0	0	1	115	0	0	209
08:30	7	0	2	0	0	70	2	0	0	0	0	0	2	116	0	0	199
08:45	10	0	1	0	0	94	5	0	0	0	0	0	0	111	0	0	221
Total	39	0	6	0	0	324	21	0	0	0	0	0	6	452	0	0	848
16:00	8	0	5	0	0	115	10	0	0	0	0	0	0	92	0	0	230
16:15	5	0	5	0	0	143	7	2	0	0	0	0	3	66	0	0	231
16:30	9	0	2	0	0	135	7	0	0	0	0	0	2	101	0	0	256
16:45	8	0	3	0	0	135	11	0	0	0	0	0	0	124	0	0	281
Total	30	0	15	0	0	528	35	2	0	0	0	0	5	383	0	0	998
17:00	12	0	2	0	0	112	11	0	0	0	0	0	1	150	0	0	288
17:15	13	0	3	0	0	134	5	0	0	0	0	0	5	113	0	0	273
17:30	5	0	2	0	0	140	11	0	0	0	0	0	3	151	0	0	312
17:45	4	0	7	0	0	142	10	0	0	0	0	0	1	128	0	0	292
Total	34	0	14	0	0	528	37	0	0	0	0	0	10	542	0	0	1165
Grand Total	137	0	53	0	0	1714	124	2	0	0	0	0	42	1858	0	0	3930
Apprch %	72.1	0	27.9	0	0	93.2	6.7	0.1	0	0	0	0	2.2	97.8	0	0	
Total %	3.5	0	1.3	0	0	43.6	3.2	0.1	0	0	0	0	1.1	47.3	0	0	
Passenger Vehicles	133	0	53	0	0	1678	120	2	0	0	0	0	39	1833	0	0	3858
% Passenger Vehicles	97.1	0	100	0	0	97.9	96.8	100	0	0	0	0	92.9	98.7	0	0	98.2
Heavy Vehicles	4	0	0	0	0	35	4	0	0	0	0	0	2	25	0	0	70
% Heavy Vehicles	2.9	0	0	0	0	2	3.2	0	0	0	0	0	4.8	1.3	0	0	1.8
Buses	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
% Buses	0	0	0	0	0	0.1	0	0	0	0	0	0	2.4	0	0	0	0.1

SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

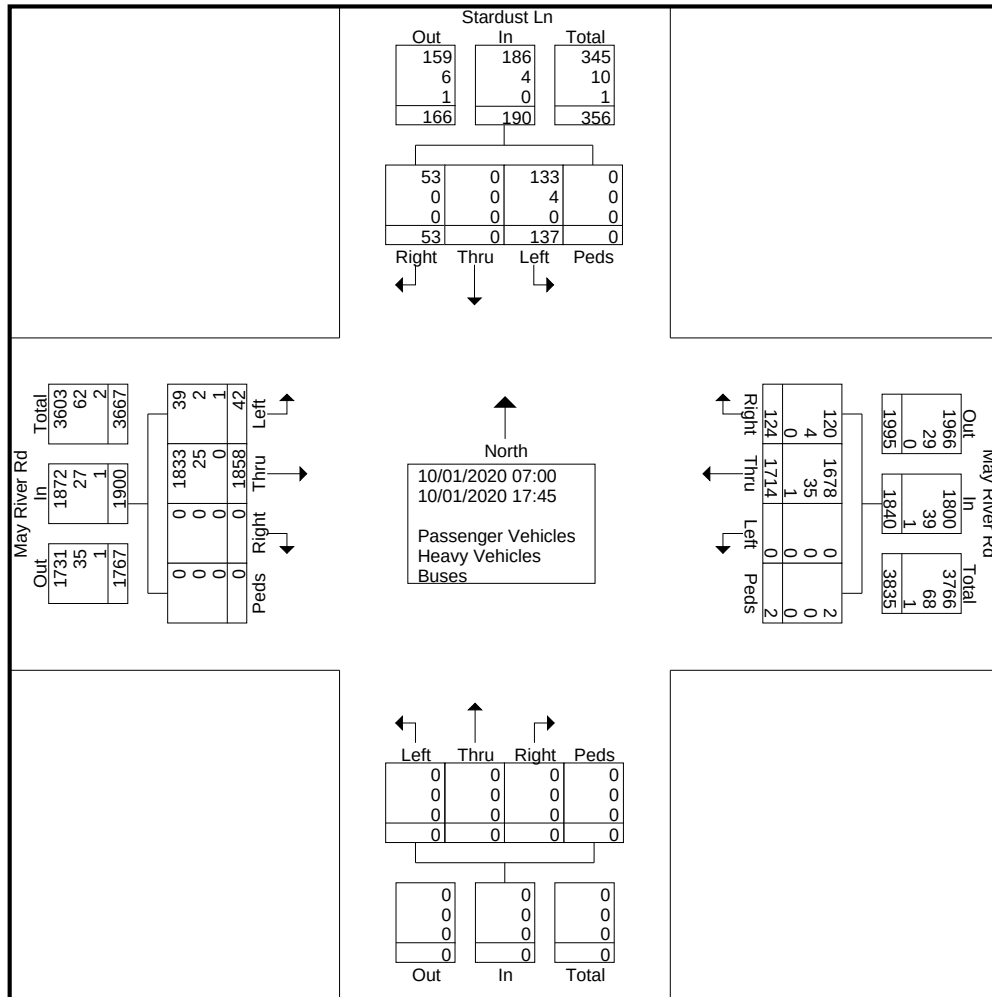
We can't say we're the Best, but you Can!

File Name : May River Rd @ Stardust Ln

Site Code :

Start Date : 10/01/2020

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SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

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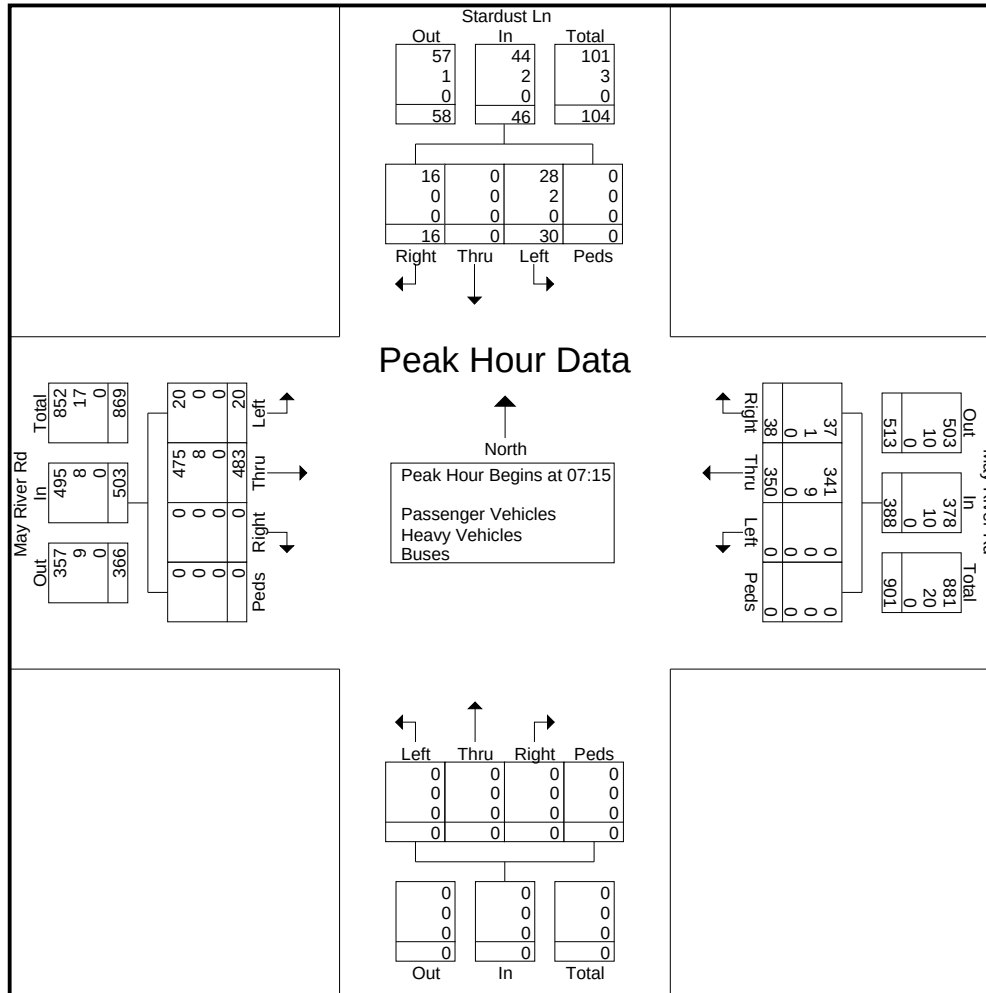
File Name : May River Rd @ Stardust Ln

Site Code :

Start Date : 10/01/2020

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	Stardust Ln Southbound					May River Rd Westbound					Northbound					May River Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	8	0	2	0	10	0	84	10	0	94	0	0	0	0	0	3	127	0	0	130	234
07:30	7	0	5	0	12	0	84	8	0	92	0	0	0	0	0	6	136	0	0	142	246
07:45	9	0	8	0	17	0	94	9	0	103	0	0	0	0	0	8	110	0	0	118	238
08:00	6	0	1	0	7	0	88	11	0	99	0	0	0	0	0	3	110	0	0	113	219
Total Volume	30	0	16	0	46	0	350	38	0	388	0	0	0	0	0	20	483	0	0	503	937
% App. Total	65.2	0	34.8	0		0	90.2	9.8	0		0	0	0	0	0	4	96	0	0		
PHF	.833	.000	.500	.000	.676	.000	.931	.864	.000	.942	.000	.000	.000	.000	.000	.625	.888	.000	.000	.886	.952
Passenger Vehicles	28	0	16	0	44	0	341	37	0	378	0	0	0	0	0	20	475	0	0	495	917
% Passenger Vehicles																					
Heavy Vehicles	2	0	0	0	2	0	9	1	0	10	0	0	0	0	0	0	8	0	0	8	20
% Heavy Vehicles	6.7	0	0	0	4.3	0	2.6	2.6	0	2.6	0	0	0	0	0	0	1.7	0	0	1.6	2.1
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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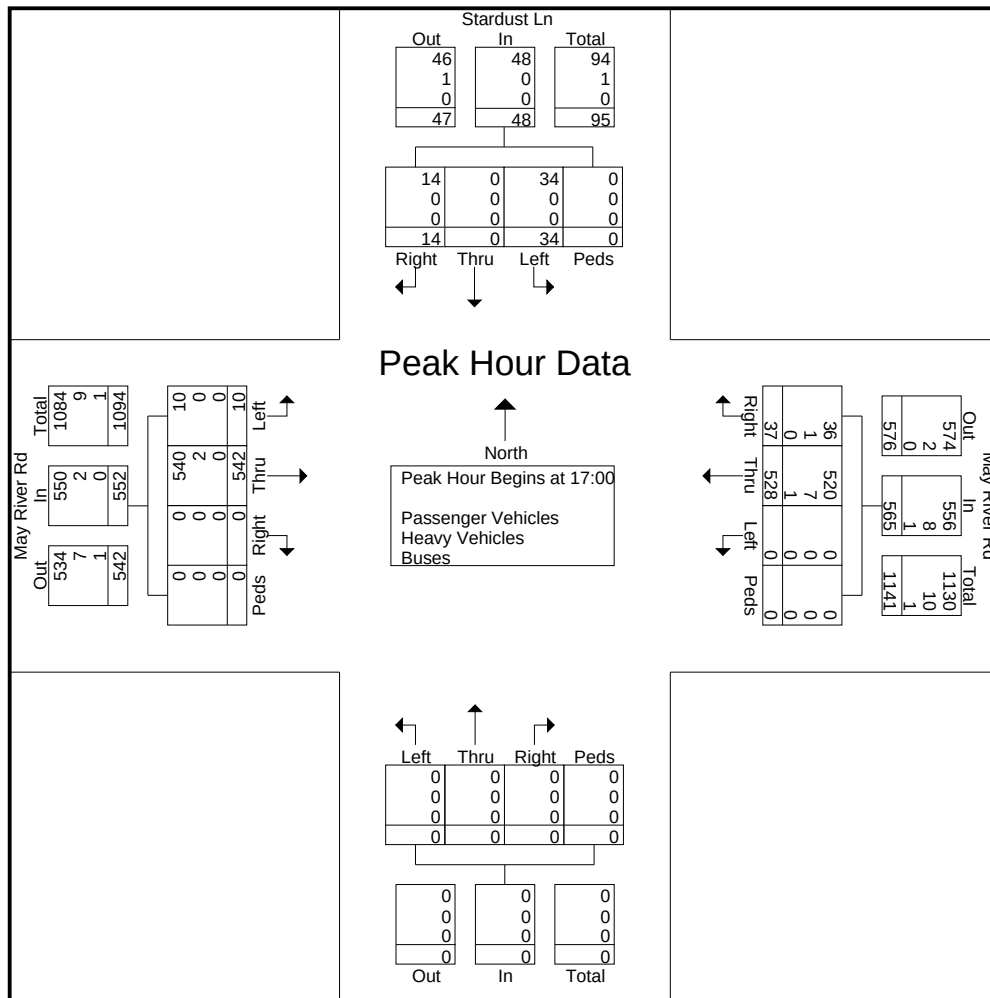
File Name : May River Rd @ Stardust Ln

Site Code :

Start Date : 10/01/2020

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	Stardust Ln Southbound					May River Rd Westbound					Northbound					May River Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	12	0	2	0	14	0	112	11	0	123	0	0	0	0	0	1	150	0	0	151	288
17:15	13	0	3	0	16	0	134	5	0	139	0	0	0	0	0	5	113	0	0	118	273
17:30	5	0	2	0	7	0	140	11	0	151	0	0	0	0	0	3	151	0	0	154	312
17:45	4	0	7	0	11	0	142	10	0	152	0	0	0	0	0	1	128	0	0	129	292
Total Volume	34	0	14	0	48	0	528	37	0	565	0	0	0	0	0	10	542	0	0	552	1165
% App. Total	70.8	0	29.2	0		0	93.5	6.5	0		0	0	0	0	0	1.8	98.2	0	0		
PHF	.654	.000	.500	.000	.750	.000	.930	.841	.000	.929	.000	.000	.000	.000	.000	.500	.897	.000	.000	.896	.933
Passenger Vehicles	34	0	14	0	48	0	520	36	0	556	0	0	0	0	0	10	540	0	0	550	1154
% Passenger Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	0	2	0	0	2	10
% Heavy Vehicles	0	0	0	0	0	0	1.3	2.7	0	1.4	0	0	0	0	0	0	0.4	0	0	0.4	0.9
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Buses	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.1



SHORT COUNTS, LLC

ATTACHMENT 8

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : New Riverside Rd @ Old Palmetto Bluff Rd

Site Code :

Start Date : 10/01/2020

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Buses

Start Time	Old Palmetto Bluff Rd Southbound				Westbound				Old Palmetto Bluff Rd Northbound				New Riverside Rd Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	0	15	15	0	0	0	0	0	1	10	0	0	9	0	1	0	51
07:15	0	17	21	0	0	0	0	0	1	15	0	0	22	0	2	0	78
07:30	0	40	37	0	0	0	0	0	2	15	0	0	25	0	3	0	122
07:45	0	41	28	0	0	0	0	0	1	15	0	0	16	0	2	0	103
Total	0	113	101	0	0	0	0	0	5	55	0	0	72	0	8	0	354
08:00	0	25	23	0	0	0	0	0	1	13	0	0	28	0	1	0	91
08:15	0	51	24	0	0	0	0	0	0	11	0	0	23	0	4	0	113
08:30	0	38	22	0	0	0	0	0	4	16	0	0	19	0	3	0	102
08:45	0	45	24	0	0	0	0	0	0	10	0	0	17	0	2	0	98
Total	0	159	93	0	0	0	0	0	5	50	0	0	87	0	10	0	404
16:00	0	27	16	0	0	0	0	0	3	42	0	0	24	0	3	0	115
16:15	0	36	20	0	0	0	0	0	2	37	0	0	23	0	1	0	119
16:30	0	36	27	0	0	0	0	0	2	51	0	0	23	0	1	0	140
16:45	0	22	23	0	0	0	0	0	0	38	0	0	20	0	0	0	103
Total	0	121	86	0	0	0	0	0	7	168	0	0	90	0	5	0	477
17:00	0	37	15	0	0	0	0	0	2	36	0	0	29	0	1	0	120
17:15	0	17	28	0	0	0	0	0	5	56	0	0	30	0	0	0	136
17:30	0	21	20	0	0	0	0	0	1	35	0	0	22	0	3	0	102
17:45	0	13	19	0	0	0	0	0	4	42	0	0	22	0	0	0	100
Total	0	88	82	0	0	0	0	0	12	169	0	0	103	0	4	0	458
Grand Total	0	481	362	0	0	0	0	0	29	442	0	0	352	0	27	0	1693
Apprch %	0	57.1	42.9	0	0	0	0	0	6.2	93.8	0	0	92.9	0	7.1	0	
Total %	0	28.4	21.4	0	0	0	0	0	1.7	26.1	0	0	20.8	0	1.6	0	
Passenger Vehicles	0	479	355	0	0	0	0	0	28	441	0	0	342	0	27	0	1672
% Passenger Vehicles	0	99.6	98.1	0	0	0	0	0	96.6	99.8	0	0	97.2	0	100	0	98.8
Heavy Vehicles	0	2	7	0	0	0	0	0	1	1	0	0	9	0	0	0	20
% Heavy Vehicles	0	0.4	1.9	0	0	0	0	0	3.4	0.2	0	0	2.6	0	0	0	1.2
Buses	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0.1

SHORT COUNTS, LLC

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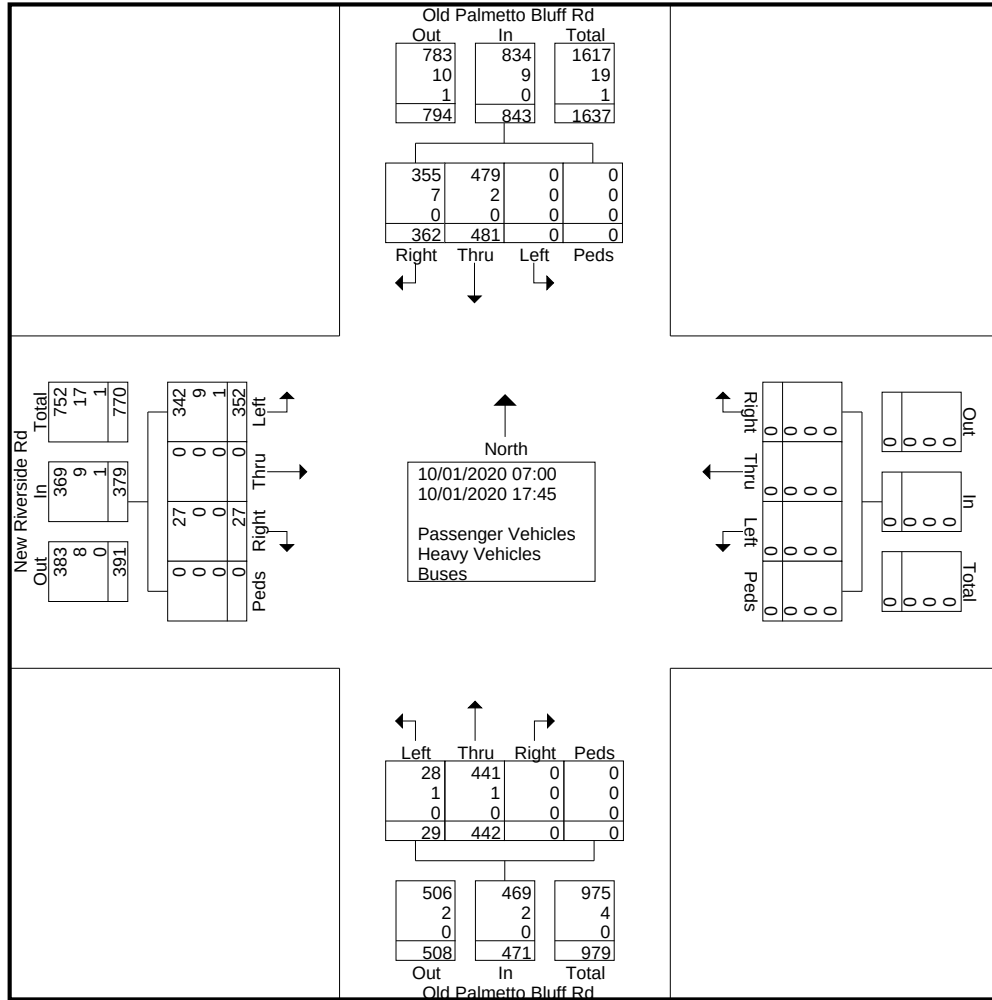
We can't say we're the Best, but you Can!

File Name : New Riverside Rd @ Old Palmetto Bluff Rd

Site Code :

Start Date : 10/01/2020

Page No : 2



SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

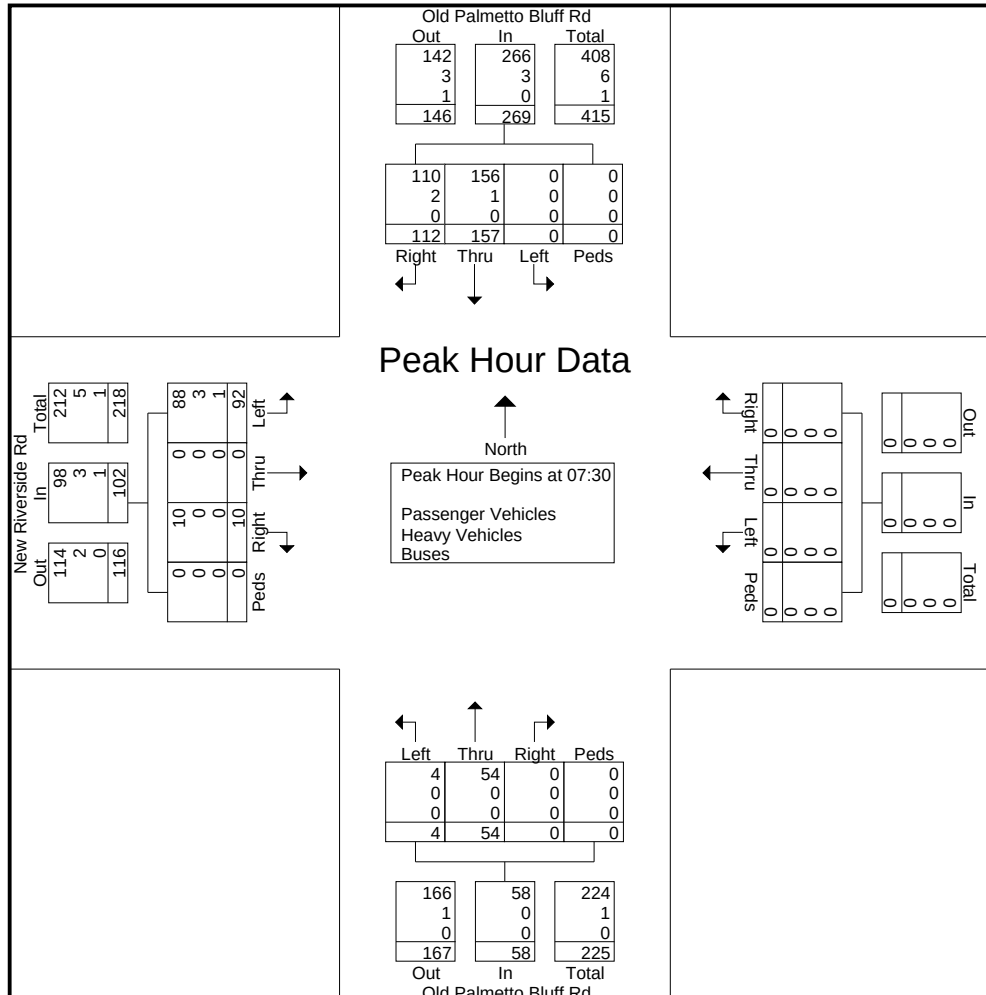
File Name : New Riverside Rd @ Old Palmetto Bluff Rd

Site Code :

Start Date : 10/01/2020

Page No : 3

	Old Palmetto Bluff Rd Southbound					Westbound					Old Palmetto Bluff Rd Northbound					New Riverside Rd Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	40	37	0	77	0	0	0	0	0	2	15	0	0	17	25	0	3	0	28	122
07:45	0	41	28	0	69	0	0	0	0	0	1	15	0	0	16	16	0	2	0	18	103
08:00	0	25	23	0	48	0	0	0	0	0	1	13	0	0	14	28	0	1	0	29	91
08:15	0	51	24	0	75	0	0	0	0	0	0	11	0	0	11	23	0	4	0	27	113
Total Volume	0	157	112	0	269	0	0	0	0	0	4	54	0	0	58	92	0	10	0	102	429
% App. Total	0	58.4	41.6	0		0	0	0	0	0	6.9	93.1	0	0		90.2	0	9.8	0		
PHF	.000	.770	.757	.000	.873	.000	.000	.000	.000	.000	.500	.900	.000	.000	.853	.821	.000	.625	.000	.879	.879
Passenger Vehicles	0	156	110	0	266	0	0	0	0	0	4	54	0	0	58	88	0	10	0	98	422
% Passenger Vehicles																					
Heavy Vehicles	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	6
% Heavy Vehicles	0	0.6	1.8	0	1.1	0	0	0	0	0	0	0	0	0	0	3.3	0	0	0	2.9	1.4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	0	0	0	1.0	0.2



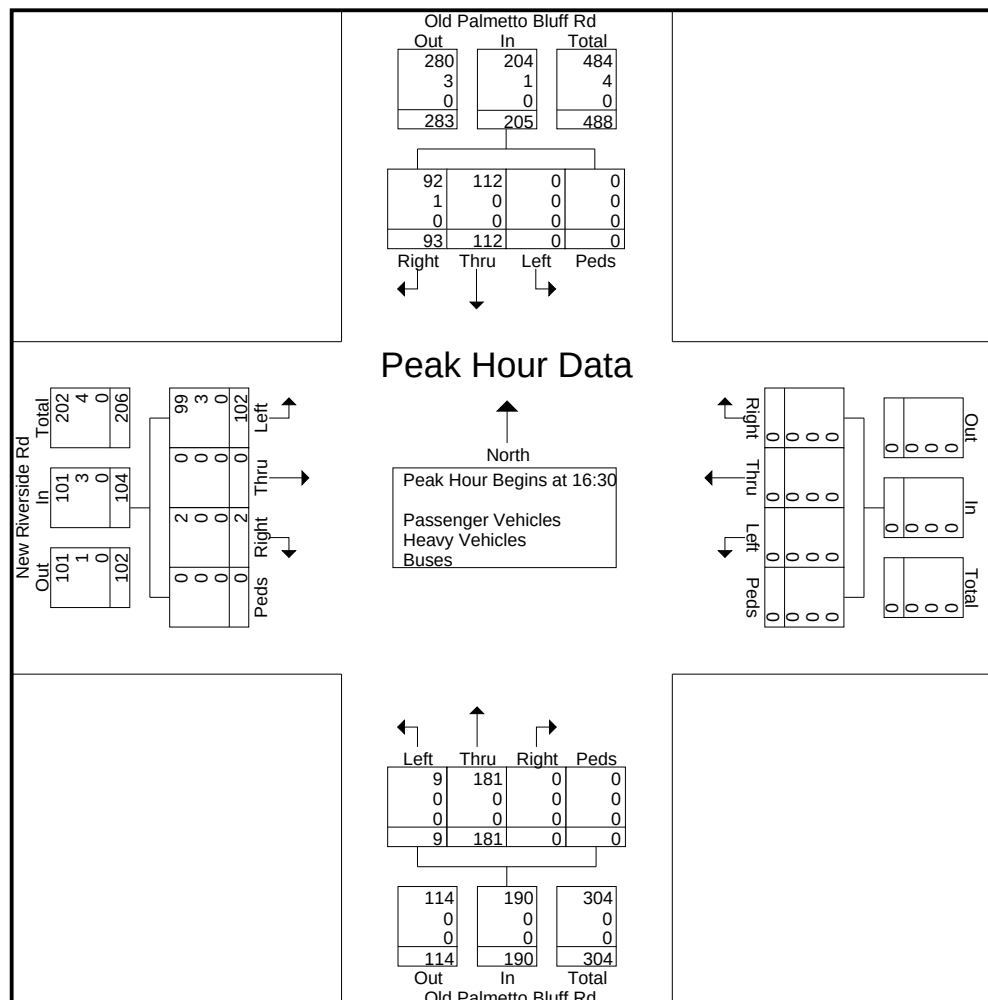
ATTACHMENT 8

We can't say we're the Best, but you Can!

Site Code :

Page No : 4

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 16:30



Short Counts, LLC

735 Maryland St
Columbia, SC 29201

Site Code: New Riverside Rd
Station ID: NB Traffic
Just South of May River Rd
Beaufort County, SC
Latitude: 0' 0.0000 Undefined

Start Time	Thu 01-Oct-20	<-----Quarter		Hour----->		Hour Total	
		1st	2nd	3rd	4th		
12:00 AM		3	0	0	0	3	█
01:00		2	0	1	1	4	█
02:00		0	3	0	1	4	█
03:00		3	0	3	3	9	█
04:00		7	4	6	4	21	█
05:00		6	13	14	23	56	█
06:00		25	37	29	39	130	█
07:00		57	67	72	75	271	█
08:00		102	77	69	51	299	█
09:00		57	42	58	44	201	█
10:00		51	55	57	49	212	█
11:00		53	52	75	55	235	█
12:00 PM		70	51	64	47	232	█
01:00		48	55	43	54	200	█
02:00		41	45	78	69	233	█
03:00		57	77	67	80	281	█
04:00		75	67	76	83	301	█
05:00		72	78	60	66	276	█
06:00		64	40	32	41	177	█
07:00		39	41	32	88	200	█
08:00		120	97	78	56	351	█
09:00		52	68	38	36	194	█
10:00		39	25	33	26	123	█
11:00		18	26	14	23	81	█
Day Total						4094	
Total						4094	
ADT		ADT 4,094	AADT 4,094				

Short Counts, LLC735 Maryland St
Columbia, SC 29201Site Code: New Riverside Rd
Station ID: SB Traffic
Just South of May River Rd
Beaufort County, SC
Latitude: 0' 0.0000 Undefined

Start Time	Thu 01-Oct-20	<-----Quarter		Hour----->		Hour Total	
		1st	2nd	3rd	4th		
12:00 AM		6	2	1	4	13	■
01:00		0	2	4	1	7	
02:00		2	0	1	2	5	■
03:00		2	1	3	0	6	
04:00		0	0	0	2	2	■
05:00		2	1	3	5	11	■
06:00		4	21	31	32	88	■
07:00		43	39	41	70	193	■
08:00		45	48	46	51	190	■
09:00		46	38	33	49	166	■
10:00		35	35	40	51	161	■
11:00		40	46	44	51	181	■
12:00 PM		55	51	66	69	241	■
01:00		57	65	39	54	215	■
02:00		56	48	65	45	214	■
03:00		56	55	70	75	256	■
04:00		82	69	69	53	273	■
05:00		57	81	67	84	289	■
06:00		66	69	42	37	214	■
07:00		33	45	35	120	233	■
08:00		144	107	82	61	394	■
09:00		58	66	43	45	212	■
10:00		47	30	43	31	151	■
11:00		21	25	16	19	81	■
Day Total						3796	
Total						3796	
ADT		ADT 3,796	AADT 3,796				

FROM: Josh Johnson, PE, PTOE, District Six Traffic Engineer 
DATE: September 28, 2020
RE: Traffic Impact Analyses during COVID-19 Pandemic (Update)

On April 23, 2020, I issued guidance regarding conducting a Traffic Impact Analysis (TIA) in SCDOT District Six during the COVID-19 pandemic. That guidance was extended through August 2020, at which time local school districts began to release plans for reopening. The return to in-person instruction for students was expected to increase traffic volumes closer to normal, but updated guidance is needed based on the varying traffic due to the combination of in-person and virtual student instruction. As such, the District Six traffic office has established updated options for conducting TIAs for SCDOT review in Beaufort, Berkeley, Charleston, Colleton, Dorchester, and Jasper counties, as outlined below.

1. Prepare the analysis using turning movement count data collected within the past five (5) years when school was in session with fully in-person instruction. The calculated historical growth rate will be applied to the traffic count to establish the current year traffic volumes.
2. Conduct traffic counts on a typical weekday and apply assigned seasonal factors to establish current year traffic volumes. The seasonal factors applied shall be 1.19 for the AM peak hour volumes and 1.13 for the PM peak hour volumes.
3. Prepare a trip generation memo for review and determination of possible mitigation required, and construct the mitigation determined by the District Traffic Engineer.

Admittedly, the seasonal factors to be applied in option two are higher than expected. Therefore, my office will conduct periodic data analysis throughout the fall semester as necessary to either validate or update the factors. The above values will apply until further notice.

File: D6/Traffic/Correspondence





TRAFFIC IMPACT ANALYSIS
NEW RIVERSIDE VILLAGE

APPENDIX B
SYNCHRO HCM 6th ANALYSIS
HCS 7TH ANALYSIS
2020 PEAK HOUR VOLUMES

J – 27796.0002

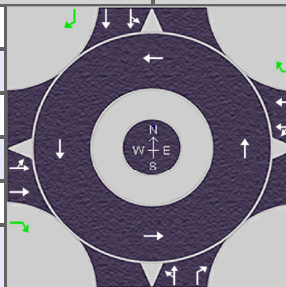
May 2021

HCS7 Roundabouts Report

ATTACHMENT 8

General Information

Analyst	mb
Agency or Co.	SCDOT
Date Performed	5/4/2021
Analysis Year	2020
Time Analyzed	am peak hr base
Project Description	New Riverside Village



Site Information

Intersection	SC 46, Okatie Hwy & N Rvr
E/W Street Name	SC 46
N/S Street Name	New Riverside Road
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.99
Jurisdiction	Beaufort Co.

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	1	0	0	2	0
Lane Assignment	LT		T		LT		T		LT		R		LT		T	
Volume (V), veh/h	0	505	465	40	0	31	331	64	0	45	217	109	0	58	175	426
Percent Heavy Vehicles, %	4	4	4	4	2	2	2	2	4	4	4	4	7	7	7	7
Flow Rate (V_{PCE}), pc/h	0	531	488	42	0	32	341	66	0	47	228	115	0	63	189	460
Right-Turn Bypass	Non-Yielding				Non-Yielding				None				Non-Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436		4.5436	4.5436		4.5436	4.5436		4.5436	4.5436	
Follow-Up Headway (s)	2.5352	2.5352		2.5352	2.5352		2.5352	2.5352		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	479	540	42	175	198	66	275	115		118	134	460
Entry Volume, veh/h	461	519	40	172	194	65	264	111		111	125	430
Circulating Flow (v_c), pc/h	284			806			1082			420		
Exiting Flow (v_{ex}), pc/h	666			388			759			221		
Capacity (C_{pce}), pc/h	1097	1097		682	682		530	530		969	969	
Capacity (c), veh/h	1054	1054		669	669		510	510		906	906	
v/c Ratio (x)	0.44	0.49		0.26	0.29		0.52	0.22		0.12	0.14	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	8.2	9.1		8.5	9.0		17.0	10.1		5.1	5.3	
Lane LOS	A	A	A	A	A	A	C	B		A	A	A
95% Queue, veh	2.3	2.8		1.0	1.2		2.9	0.8		0.4	0.5	
Approach Delay, s/veh	8.4			7.5			15.0			1.8		
Approach LOS	A			A			B			A		
Intersection Delay, s/veh LOS	7.5						A					

HCM 6th TWSC
2: SC 46 & Stardust Ln

2020 Base Conditions AM Peak Hour
AM Peak Hour

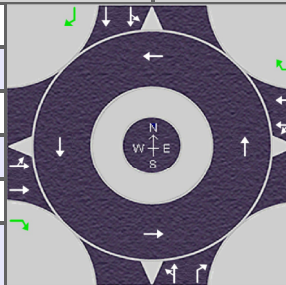
Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	575	417	45	36	19
Future Vol, veh/h	24	575	417	45	36	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	0	85
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	2	3	3	7	1
Mvmt Flow	25	605	439	47	38	20
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	486	0	-	0	1094	439
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	655	-
Critical Hdwy	4.11	-	-	-	6.47	6.21
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	2.209	-	-	-	3.563	3.309
Pot Cap-1 Maneuver	1082	-	-	-	232	620
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	508	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1082	-	-	-	224	620
Mov Cap-2 Maneuver	-	-	-	-	224	-
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	508	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		19.7		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1082	-	-	-	224	620
HCM Lane V/C Ratio	0.023	-	-	-	0.169	0.032
HCM Control Delay (s)	8.4	0	-	-	24.3	11
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6	0.1

HCS7 Roundabouts Report

ATTACHMENT 8

General Information

Analyst	mb
Agency or Co.	SCDOT
Date Performed	5/4/2021
Analysis Year	2020
Time Analyzed	pm peak hr base
Project Description	New Riverside Village



Site Information

Intersection	SC 46, Okatie Hwy & N Rvr
E/W Street Name	SC 46
N/S Street Name	New Riverside Road
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.96
Jurisdiction	Beaufort Co.

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	1	0	0	2	0
Lane Assignment	LT		T		LT		T		LT		R		LT		T	
Volume (V), veh/h	0	542	473	45	0	68	481	59	0	51	170	45	0	92	235	641
Percent Heavy Vehicles, %	1	1	1	1	2	2	2	2	6	6	6	6	2	2	2	2
Flow Rate (V_{PCE}), pc/h	0	570	498	47	0	72	511	63	0	56	188	50	0	98	250	681
Right-Turn Bypass	Non-Yielding				Non-Yielding				None				Non-Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436		4.5436	4.5436		4.5436	4.5436		4.5436	4.5436	
Follow-Up Headway (s)	2.5352	2.5352		2.5352	2.5352		2.5352	2.5352		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	502	566	47	274	309	63	244	50		164	184	681
Entry Volume, veh/h	497	560	47	269	303	62	230	47		160	181	668
Circulating Flow (v_c), pc/h	420			814			1166			639		
Exiting Flow (v_{ex}), pc/h	646			567			758			322		
Capacity (C_{PCE}), pc/h	969	969		677	677		491	491		794	794	
Capacity (c), veh/h	959	959		664	664		464	464		778	778	
v/c Ratio (x)	0.52	0.58		0.40	0.46		0.50	0.10		0.21	0.23	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	10.3	11.8		11.1	12.2		17.7	9.2		6.9	7.2	
Lane LOS	B	B	A	B	B	A	C	A		A	A	A
95% Queue, veh	3.1	3.9		2.0	2.4		2.7	0.3		0.8	0.9	
Approach Delay, s/veh	10.6			10.5			16.2			2.4		
Approach LOS	B			B			C			A		
Intersection Delay, s/veh LOS	8.4						A					

HCM 6th TWSC
2: SC 46 & Stardust Ln

2020 Base Conditions PM Peak Hour
PM Peak Hour

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	612	597	42	38	16
Future Vol, veh/h	11	612	597	42	38	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	0	85
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	2	3	1	1
Mvmt Flow	12	644	628	44	40	17
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	672	0	-	0	1296	628
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	668	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	923	-	-	-	180	485
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	512	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	923	-	-	-	176	485
Mov Cap-2 Maneuver	-	-	-	-	176	-
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	512	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		25.9		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	923	-	-	-	176	485
HCM Lane V/C Ratio	0.013	-	-	-	0.227	0.035
HCM Control Delay (s)	8.9	0	-	-	31.4	12.7
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0.1



TRAFFIC IMPACT ANALYSIS

NEW RIVERSIDE VILLAGE

APPENDIX C

TRIP GENERATION, INTERNAL CAPTURE,
AND PASS-BY CALCULATIONS &
TRAFFIC GENERATED BY MAY RIVER CROSSING

J – 27796.0002

May 2021

ATTACHMENT 8

NEW RIVERSIDE VILLAGE -TRIP GENERATION CALCULATIONS

J27796.0002

ITE LAND USE CODE	ITE LAND USE DESCRIPTION	"X"	SIZE	ADT	AM PEAK HOUR	PM PEAK HOUR
820	Shopping Center A,B,D,E,F	ksf	33.45 ksf	T = 37.75(X) T = 37.75(33.45) T = 1263	T = 0.94(X) T = 0.94(33.45) T = 31	T = 3.81(X) T = 3.81(33.45) T = 127
				Enter 50% 632	Exit 50% 631	Enter 48% 61
					62% 19	38% 12
932	High-Turnover (Sit-Down) Restaurant C	ksf	7.5 ksf	T = 112.18(X) T = 112.18(7.5) T = 841	T = 9.94(X) T = 9.94(7.5) T = 75	T = 9.77(X) T = 9.77(7.5) T = 73
				Enter 50% 420	Exit 50% 421	Enter 62% 45
					55% 41	45% 34
640	Animal Hospital/ Veterinary Clinic G	ksf	6.5 ksf	T = 21.50(X) T = 21.50(6.5) T = 140	T = 3.64(X) T = 3.64(6.5) T = 24	T = 3.53(X) T = 3.53(6.5) T = 23
				Enter 50% 70	Exit 50% 70	Enter 47% 11
					53% 13	47% 11
590	Library H	ksf	15 ksf	T = 72.05(X) T = 72.05(15) T = 1081	T = 1.00(X) T = 1.00(15) T = 15	T = 8.16(X) T = 8.16(15) T = 122
				Enter 50% 541	Exit 50% 540	Enter 16% 20
					86% 13	14% 2
565	Day Care Center I	ksf	8.5 ksf	T = 47.62(X) T = 47.62(8.5) T = 405	T = 11.0(X) T = 11.0(8.5) T = 94	T = 11.12(X) T = 11.12(8.5) T = 95
				Enter 50% 202	Exit 50% 203	Enter 47% 45
					53% 50	47% 44
710	Office J	ksf	15 ksf	T = 9.74(X) T = 9.74(15) T = 146	T = 1.16(X) T = 1.16(15) T = 17	T = 1.15(X) T = 1.15(15) T = 17
				Enter 50% 73	Exit 50% 73	Enter 16% 3
					86% 15	14% 2
945	Gasoline/Service Station with Convenience Market K	Veh Fueling Positions	12 vfp	T = 205.36(X) T = 205.36(12) T = 2464	T = 12.47(X) T = 12.47(12) T = 150	T = 13.99(X) T = 13.99(12) T = 168
				Enter 50% 1232	Exit 50% 1232	Enter 51% 86
					51% 77	49% 74

ATTACHMENT 8

ITE LAND USE CODE	ITE LAND USE DESCRIPTION	"X"	SIZE	ADT		AM PEAK HOUR		PM PEAK HOUR	
881	Pharmacy with Drive-Thru Window L	ksf	2.5 ksf	T = 109.16(X) T = 109.16(2.5) T = 273		T = 3.84(X) T = 3.84(2.5) T = 10		T = 10.29(X) T = 10.29(2.5) T = 26	
				Enter 50% 137	Exit 50% 136	Enter 51% 5	Exit 49% 5	Enter 67% 17	Exit 33% 9
220	Multi Family Housing (Low-Rise)	Dwelling Units	58 Units	T = 7.32(X) T = 7.32(58) T = 425		T = 0.46(X) T = 0.46(58) T = 27		T = 0.56(X) T = 0.56(58) T = 32	
				Enter 50% 212	Exit 50% 213	Enter 23% 6	Exit 77% 21	Enter 63% 20	Exit 37% 12
221	Multi Family Housing (Mid-Rise)	Dwelling Units	170 Units	T = 5.44(X) T = 5.44(170) T = 925		T = 0.36(X) T = 0.36(170) T = 61		T = 0.44(X) T = 0.44(170) T = 75	
				Enter 50% 463	Exit 50% 462	Enter 26% 16	Exit 74% 45	Enter 61% 46	Exit 39% 29
Total Unadjusted Trip Generation Volumes				3982	3981	255	250	354	404
Internal Trips (note internal trips are capped at 20%)									
Office				12	18	6	12	6	6
Retail				29	49	8	13	21	36
Restaurant				47	26	31	10	16	16
Residential				29	32	1	9	28	23
Total Internal Trips				117	125	46	44	71	81
Pass-By Trips									
820	Retail	AM = 0, PM = 34%		18	17	0	0	18	17
811	Retail	AM = 0, PM = 49%		7	3	0	0	7	3
932	Restaurant	AM = 0, PM = 43%		12	5	0	0	12	5
945	Retail	AM = 62%, PM = 56%		86	74	44	39	42	35
Total Pass-By				123	99	44	39	79	60
Primary Trips				3742	3757	165	167	204	263

ATTACHMENT 8

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	New Riverside Village	Organization:	Thomas & Hutton		
Project Location:	Beaufort County, SC	Performed By:	DPE		
Scenario Description:	Full Build Out	Date:	5/3/2021		
Analysis Year:	2023	Checked By:	MB		
Analysis Period:	AM Street Peak Hour	Date:			

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				41	28	13
Retail				192	101	91
Restaurant				75	41	34
Cinema/Entertainment				0		
Residential				88	22	66
Hotel				0		
All Other Land Uses ²				0		
				396	192	204

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.00			1.00		
Retail	1.30			1.30		
Restaurant	1.00			1.00		
Cinema/Entertainment						
Residential	1.10			1.10		
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	8	0	0	0
Retail	1		15	0	0	0
Restaurant	4	5		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	8	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	462	224	238
Internal Capture Percentage	21%	21%	20%
External Vehicle-Trips ⁵	306	146	160
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	21%	92%
Retail	8%	14%
Restaurant	76%	29%
Cinema/Entertainment	N/A	N/A
Residential	4%	14%
Hotel	N/A	N/A

¹ Land Use Codes (LUCs) from <i>Trip Generation Manual</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³ Enter trips assuming no transit or non-motorized trips (as assumed in ITE <i>Trip Generation Manual</i>).
⁴ Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.
⁵ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.
⁶ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

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Project Name:	New Riverside Village
Analysis Period:	AM Street Peak Hour

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	28	28	1.00	13	13
Retail	1.30	101	131	1.30	91	118
Restaurant	1.00	41	41	1.00	34	34
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.10	22	24	1.10	66	73
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	8	0	0	0
Retail	34		15	0	17	0
Restaurant	11	5		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	15	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		42	9	0	0	0
Retail	1		21	0	0	0
Restaurant	4	10		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	22	8	0		0
Hotel	1	5	2	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	6	22	28	22	0	0
Retail	10	121	131	93	0	0
Restaurant	31	10	41	10	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	23	24	21	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	12	1	13	1	0	0
Retail	16	102	118	78	0	0
Restaurant	10	24	34	24	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	10	63	73	57	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

ATTACHMENT 8

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	New Riverside Village	Organization:	Thomas & Hutton		
Project Location:	Beaufort County, SC	Performed By:	DPE		
Scenario Description:	Full Build Out	Date:	5/3/2021		
Analysis Year:	2023	Checked By:	MB		
Analysis Period:	PM Street Peak Hour	Date:			

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				40	14	26
Retail				321	164	157
Restaurant				73	45	28
Cinema/Entertainment				0		
Residential				107	66	41
Hotel				0		
All Other Land Uses ²				0		
				541	289	252

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.00			1.00		
Retail	1.40			1.40		
Restaurant	1.00			1.00		
Cinema/Entertainment						
Residential	1.20			1.20		
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		5	1	0	1	0
Retail	4		13	0	36	0
Restaurant	1	11		0	5	0
Cinema/Entertainment	0	0	0		0	0
Residential	2	21	6	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	691	368	323
Internal Capture Percentage	31%	29%	33%
External Vehicle-Trips ⁵	367	201	166
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	50%	27%
Retail	16%	24%
Restaurant	44%	61%
Cinema/Entertainment	N/A	N/A
Residential	53%	59%
Hotel	N/A	N/A

¹ Land Use Codes (LUCs) from <i>Trip Generation Manual</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³ Enter trips assuming no transit or non-motorized trips (as assumed in ITE <i>Trip Generation Manual</i>).
⁴ Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be
⁵ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.
⁶ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
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Project Name:	New Riverside Village
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	14	14	1.00	26	26
Retail	1.40	164	230	1.40	157	220
Restaurant	1.00	45	45	1.00	28	28
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.20	66	79	1.20	41	49
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		5	1	0	1	0
Retail	4		64	9	57	11
Restaurant	1	11		2	5	2
Cinema/Entertainment	0	0	0		0	0
Residential	2	21	10	0		1
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		18	1	0	3	0
Retail	4		13	0	36	0
Restaurant	4	115		0	13	0
Cinema/Entertainment	1	9	1		3	0
Residential	8	23	6	0		0
Hotel	0	5	2	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	7	7	14	7	0	0
Retail	37	193	230	138	0	0
Restaurant	20	25	45	25	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	42	37	79	31	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	7	19	26	19	0	0
Retail	53	167	220	119	0	0
Restaurant	17	11	28	11	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	29	20	49	17	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

ATTACHMENT 8

Table 7.1a Adjusted Internal Trip Capture Rates for Trip Origins within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Office	0.0%	0.0%
	To Retail	28.0%	20.0%
	To Restaurant	63.0%	4.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	1.0%	2.0%
	To Hotel	0.0%	0.0%
From RETAIL	To Office	29.0%	2.0%
	To Retail	0.0%	0.0%
	To Restaurant	13.0%	29.0%
	To Cinema/Entertainment	0.0%	4.0%
	To Residential	14.0%	26.0%
	To Hotel	0.0%	5.0%
From RESTAURANT	To Office	31.0%	3.0%
	To Retail	14.0%	41.0%
	To Restaurant	0.0%	0.0%
	To Cinema/Entertainment	0.0%	8.0%
	To Residential	4.0%	18.0%
	To Hotel	3.0%	7.0%
From CINEMA/ENTERTAINMENT	To Office	0.0%	2.0%
	To Retail	0.0%	21.0%
	To Restaurant	0.0%	31.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	8.0%
	To Hotel	0.0%	2.0%
From RESIDENTIAL	To Office	2.0%	4.0%
	To Retail	1.0%	42.0%
	To Restaurant	20.0%	21.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	0.0%
	To Hotel	0.0%	3.0%
From HOTEL	To Office	75.0%	0.0%
	To Retail	14.0%	16.0%
	To Restaurant	9.0%	68.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	2.0%
	To Hotel	0.0%	0.0%

ATTACHMENT 8

Table 7.2a Adjusted Internal Trip Capture Rates for Trip Destinations within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Office	0.0%	0.0%
	From Retail	4.0%	31.0%
	From Restaurant	14.0%	30.0%
	From Cinema/Entertainment	0.0%	6.0%
	From Residential	3.0%	57.0%
	From Hotel	3.0%	0.0%
To RETAIL	From Office	32.0%	8.0%
	From Retail	0.0%	0.0%
	From Restaurant	8.0%	50.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	17.0%	10.0%
	From Hotel	4.0%	2.0%
To RESTAURANT	From Office	23.0%	2.0%
	From Retail	50.0%	29.0%
	From Restaurant	0.0%	0.0%
	From Cinema/Entertainment	0.0%	3.0%
	From Residential	20.0%	14.0%
	From Hotel	6.0%	5.0%
To CINEMA/ENTERTAINMENT	From Office	0.0%	1.0%
	From Retail	0.0%	26.0%
	From Restaurant	0.0%	32.0%
	From Cinema/Entertainment	0.0%	0.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To RESIDENTIAL	From Office	0.0%	4.0%
	From Retail	2.0%	46.0%
	From Restaurant	5.0%	16.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To HOTEL	From Office	0.0%	0.0%
	From Retail	0.0%	17.0%
	From Restaurant	4.0%	71.0%
	From Cinema/Entertainment	0.0%	1.0%
	From Residential	0.0%	12.0%
	From Hotel	0.0%	0.0%

ATTACHMENT 8

MAY RIVER CROSSING - TRIP GENERATION CALCULATIONS

J26430.0001

ITE LAND USE CODE	ITE LAND USE DESCRIPTION	"X"	SIZE	ADT	AM PEAK HOUR	PM PEAK HOUR
850	Supermarket	ksf	55.5 ksf	T = 106.78(X) T = 106.78(55.5)	T = 3.82(X) T = 3.82(55.5)	T = 9.24(X) T = 9.24(55.5)
	Bldg's. A, A1			T = 5926	T = 212	T = 513
	Build Out			Enter 50% 2963	Exit 50% 2963	Enter 51% 262
					60% 127 127	40% 85 85
						49% 251 251
						262 251
814	Variety Store	ksf	6.06 ksf	T = 63.47(X) T = 63.47(6.06)	T = 3.18(X) T = 3.18(6.06)	T = 6.84(X) T = 6.84(6.06)
	Bldg. A2			T = 385	T = 19	T = 41
	Nail Salon		2.2 ksf	Enter 50% 192	Exit 50% 193	Enter 52% 21
					57% 11 1	43% 8 1
						48% 20 3
						1 1
879	Arts and Crafts Store	ksf	6.06 ksf	T = 56.55(X) T = 56.55(6.06)	T = 4.65(X) T = 4.65(6.06)	T = 6.21(X) T = 6.21(6.06)
	Bldg. A3			T = 343	T = 28	T = 38
	Hair Salon		1.3 ksf	Enter 50% 171	Exit 50% 172	Enter 46% 17
					49% 14 1	51% 14 1
						54% 21 2
						0 2
816	Hardware/ Paint Store	ksf	5 ksf	T = 9.14(X) T = 9.14(5)	T = 1.08(X) T = 1.08(5)	T = 2.68(X) T = 2.68(5)
	Bldg. A4			T = 46	T = 5	T = 13
				Enter 50% 23	Exit 50% 23	Enter 47% 6
					54% 3	46% 2
						53% 7
						7
911	ATM (Walk-In Bank)	ksf	1.224 ksf	T = 121.3(X) T = 121.3(1.224) *	T = 22.54(X) T = 22.54(1.224)	T = 12.13(X) T = 12.13(1.224)
	Bldg A5			T = 148	T = 28	T = 15
	* No Equation Given, Used 10 times pm peak			Enter 50% 74	Exit 50% 74	Enter 44% 7
					52% 15	48% 13
						56% 8
						8
934	Fast Food Rest. w/ Drive- Through Window	ksf	5 ksf	T = 470.95(X) T = 470.95(5)	T = 40.19(X) T = 40.19(5)	T = 32.67(X) T = 32.67(5)
	Bldg's. B,C			T = 2355	T = 201	T = 163
	B1/B2 ABC Store		2.3 ksf	Enter 50% 1178	Exit 50% 1177	Enter 52% 85
					51% 103 5	49% 98 5
						48% 78 19
						19 19
C1/C2	Retail		1.8 ksf		3	2
C3	Physical Ther		1.8 ksf		4	1
					12	8
						27
						29

ATTACHMENT 8

MAY RIVER COMMONS -TRIP GENERATION CALCULATIONS

p.2

ITE LAND USE CODE	ITE LAND USE DESCRIPTION	"X"	SIZE	ADT		AM PEAK HOUR		PM PEAK HOUR	
931	Quality Restaurant Bldg. E	ksf	7.25 ksf	T = 83.84(X) T = 83.84(7.25)		T = 0.73(X) T = 0.73(7.25)		T = 7.8(X) T = 7.8(7.25)	
				T = 608		T = 5		T = 57	
				Enter 50% 304	Exit 50% 304	Enter 51% 3	Exit 49% 2	Enter 67% 38	Exit 33% 19
ITE LAND USE CODE	ITE LAND USE DESCRIPTION	"X"	SIZE	ADT		AM PEAK HOUR		PM PEAK HOUR	
710	General Office Building Bldg. D3	ksf	15 ksf	T = 9.74(X) T = 9.74(15)		T = 1.16(X) T = 1.16(15)		T = 1.15(X) T = 1.15(15)	
				T = 146		T = 17		T = 17	
				Enter 50% 73	Exit 50% 73	Enter 86% 15	Exit 14% 2	Enter 16% 3	Exit 84% 14
D1	Coffee Shop		2.4 ksf			109	105	52	52
ITE LAND USE CODE	ITE LAND USE DESCRIPTION	"X"	SIZE	ADT		AM PEAK HOUR		PM PEAK HOUR	
750	Office Park Bldg's. F	ksf	44 ksf	T = 11.07(X) T = 11.07(44)		T = 1.44(X) T = 1.44(44)		T = 1.07(X) T = 1.07(44)	
				T = 487		T = 63		T = 47	
				Enter 50% 243	Exit 50% 244	Enter 89% 56	Exit 11% 7	Enter 7% 3	Exit 93% 44
ITE LAND USE CODE	ITE LAND USE DESCRIPTION	"X"	SIZE	ADT		AM PEAK HOUR		PM PEAK HOUR	
932	High-Turnover (Sit-Down) Restaurant Bldg. G	ksf	4.5 ksf	T = 112.18(X) T = 112.18(4.5)		T = 9.94(X) T = 9.94(4.5)		T = 9.77(X) T = 9.77(4.5)	
				T = 505		T = 45		T = 44	
				Enter 50% 253	Exit 50% 252	Enter 55% 25	Exit 45% 20	Enter 62% 27	Exit 38% 17
	Sit-Down Rest't		2.8 ksf			15	13	17	10
ITE LAND USE CODE	ITE LAND USE DESCRIPTION	"X"	SIZE	ADT		AM PEAK HOUR		PM PEAK HOUR	
881	Pharmacy/ Drugstore w/ Drive-Through Adjacent to E	ksf	12 ksf	T = 109.16(X) T = 109.16(12)		T = 3.84(X) T = 3.84(12)		T = 10.29(X) T = 10.29(12)	
				T = 1310		T = 46		T = 123	
				Enter 50% 655	Exit 50% 655	Enter 53% 24	Exit 47% 22	Enter 50% 61	Exit 50% 62
Total Unadjusted Trip Generation Volumes				6129	6130	265 396	213 273	359 530	347 541
Adjustment for Multi-Use Capture				0	0	21 35	21 34	45 76	45 93
Adjustment for Pass-By Trips				0	0	97 47	93 45	98 152	91 151
Total Primary Trips				6129	6130	314	194	302	297
Total Primary Trips - Currently Built						147	99	216	211
Trips to ADD to New Riverside Village No-Build						167	95	86	86



TRAFFIC IMPACT ANALYSIS
NEW RIVERSIDE VILLAGE

APPENDIX D
SYNCHRO HCM 6th ANALYSIS
HCS 7TH ANALYSIS
2023 NO-BUILD PEAK HOUR VOLUMES

J – 27796.0002

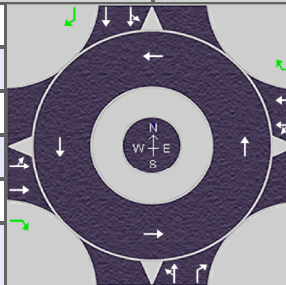
May 2021

HCS7 Roundabouts Report

ATTACHMENT 8

General Information

Analyst	mb
Agency or Co.	SCDOT
Date Performed	5/17/2021
Analysis Year	2023
Time Analyzed	am peak hr no bld
Project Description	New Riverside Village



Site Information

Intersection	SC 46, Okatie Hwy & N Rvr
E/W Street Name	SC 46
N/S Street Name	New Riverside Road
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.99
Jurisdiction	Beaufort Co.

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	1	0	0	2	0
Lane Assignment	LT		T		LT		T		LT		R		LT		T	
Volume (V), veh/h	0	569	493	42	0	33	365	68	0	48	230	116	0	62	186	490
Percent Heavy Vehicles, %	4	4	4	4	2	2	2	2	4	4	4	4	7	7	7	7
Flow Rate (V_{PCE}), pc/h	0	598	518	44	0	34	376	70	0	50	242	122	0	67	201	530
Right-Turn Bypass	Non-Yielding				Non-Yielding				None				Non-Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436		4.5436	4.5436		4.5436	4.5436		4.5436	4.5436	
Follow-Up Headway (s)	2.5352	2.5352		2.5352	2.5352		2.5352	2.5352		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	525	591	44	193	217	70	292	122		126	142	530
Entry Volume, veh/h	504	569	42	189	213	69	281	117		118	133	495
Circulating Flow (v_c), pc/h	302			890			1183			460		
Exiting Flow (v_{ex}), pc/h	707			426			840			235		
Capacity (C_{pce}), pc/h	1079	1079		632	632		484	484		934	934	
Capacity (c), veh/h	1037	1037		619	619		465	465		873	873	
v/c Ratio (x)	0.49	0.55		0.31	0.34		0.60	0.25		0.13	0.15	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	9.1	10.3		9.9	10.5		21.8	11.6		5.4	5.6	
Lane LOS	A	B	A	A	B	A	C	B		A	A	A
95% Queue, veh	2.7	3.4		1.3	1.5		3.9	1.0		0.5	0.5	
Approach Delay, s/veh	9.4			8.7			18.8			1.9		
Approach LOS	A			A			C			A		
Intersection Delay, s/veh LOS	8.6						A					

HCM 6th TWSC
2: SC 46 & Stardust Ln

2023 No-Build AM Peak Hour
AM Peak Hour

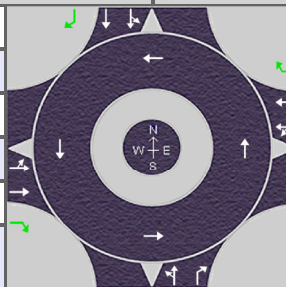
Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↗	↖	↗
Traffic Vol, veh/h	25	610	501	51	40	20
Future Vol, veh/h	25	610	501	51	40	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	0	85
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	2	3	3	7	1
Mvmt Flow	26	642	527	54	42	21
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	581	0	-	0	1221	527
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	694	-
Critical Hdwy	4.11	-	-	-	6.47	6.21
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	2.209	-	-	-	3.563	3.309
Pot Cap-1 Maneuver	998	-	-	-	194	553
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	487	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	998	-	-	-	186	553
Mov Cap-2 Maneuver	-	-	-	-	186	-
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	487	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		23.9		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	998	-	-	-	186	553
HCM Lane V/C Ratio	0.026	-	-	-	0.226	0.038
HCM Control Delay (s)	8.7	0	-	-	29.9	11.8
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8	0.1

HCS7 Roundabouts Report

ATTACHMENT 8

General Information

Analyst	mb
Agency or Co.	SCDOT
Date Performed	5/17/2021
Analysis Year	2023
Time Analyzed	pm peak hr no build
Project Description	New Riverside Village



Site Information

Intersection	SC 46, Okatie Hwy & N Rvr
E/W Street Name	SC 46
N/S Street Name	New Riverside Road
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.96
Jurisdiction	Beaufort Co.

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	1	0	0	2	0
Lane Assignment	LT		T		LT		T		LT		R		LT		T	
Volume (V), veh/h	0	592	502	48	0	72	523	63	0	54	180	48	0	98	249	714
Percent Heavy Vehicles, %	1	1	1	1	2	2	2	2	6	6	6	6	2	2	2	2
Flow Rate (V_{PCE}), pc/h	0	623	528	50	0	76	556	67	0	60	199	53	0	104	265	759
Right-Turn Bypass	Non-Yielding				Non-Yielding				None				Non-Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436		4.5436	4.5436		4.5436	4.5436		4.5436	4.5436	
Follow-Up Headway (s)	2.5352	2.5352		2.5352	2.5352		2.5352	2.5352		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	541	610	50	297	335	67	259	53		173	196	759
Entry Volume, veh/h	536	604	50	291	328	66	244	50		170	192	744
Circulating Flow (v_c), pc/h	445			882			1255			692		
Exiting Flow (v_{ex}), pc/h	685			616			822			341		
Capacity (C_{PCE}), pc/h	947	947		636	636		453	453		756	756	
Capacity (c), veh/h	938	938		624	624		428	428		742	742	
v/c Ratio (x)	0.57	0.64		0.47	0.53		0.57	0.12		0.23	0.26	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	11.7	13.7		13.1	14.6		21.9	10.1		7.4	7.8	
Lane LOS	B	B	A	B	B	A	C	B		A	A	A
95% Queue, veh	3.7	4.9		2.5	3.1		3.5	0.4		0.9	1.0	
Approach Delay, s/veh	12.2			12.6			19.9			2.5		
Approach LOS	B			B			C			A		
Intersection Delay, s/veh LOS	9.7						A					

HCM 6th TWSC
2: SC 46 & Stardust Ln

2023 No-Build PM Peak Hour
PM Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	649	663	47	42	17
Future Vol, veh/h	12	649	663	47	42	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	0	85
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	2	3	1	1
Mvmt Flow	13	683	698	49	44	18
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	747	0	-	0	1407	698
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	709	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	866	-	-	-	154	442
Stage 1	-	-	-	-	495	-
Stage 2	-	-	-	-	490	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	866	-	-	-	150	442
Mov Cap-2 Maneuver	-	-	-	-	150	-
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	490	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		31.4		
HCM LOS				D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	866	-	-	-	150	442
HCM Lane V/C Ratio	0.015	-	-	-	0.295	0.04
HCM Control Delay (s)	9.2	0	-	-	38.7	13.5
HCM Lane LOS	A	A	-	-	E	B
HCM 95th %tile Q(veh)	0	-	-	-	1.2	0.1



TRAFFIC IMPACT ANALYSIS
NEW RIVERSIDE VILLAGE

APPENDIX E
SYNCHRO HCM 6th ANALYSIS
HCS 7TH ANALYSIS
2023 BUILD OUT PEAK HOUR VOLUMES

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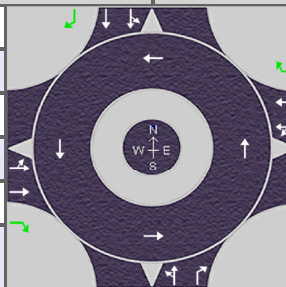
May 2021

HCS7 Roundabouts Report

ATTACHMENT 8

General Information

Analyst	mb
Agency or Co.	SCDOT
Date Performed	5/17/2021
Analysis Year	2023
Time Analyzed	am peak hr bld
Project Description	New Riverside Village



Site Information

Intersection	SC 46, Okatie Hwy & N Rvr
E/W Street Name	SC 46
N/S Street Name	New Riverside Road
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.99
Jurisdiction	Beaufort Co.

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	1	0	0	2	0
Lane Assignment	LT		T		LT		T		LT		R		LT		T	
Volume (V), veh/h	0	569	505	55	0	43	377	106	0	61	257	126	0	100	212	490
Percent Heavy Vehicles, %	4	4	4	4	2	2	2	2	4	4	4	4	7	7	7	7
Flow Rate (V_{PCE}), pc/h	0	598	531	58	0	44	388	109	0	64	270	132	0	108	229	530
Right-Turn Bypass	Non-Yielding				Non-Yielding				None				Non-Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436		4.5436	4.5436		4.5436	4.5436		4.5436	4.5436	
Follow-Up Headway (s)	2.5352	2.5352		2.5352	2.5352		2.5352	2.5352		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	531	598	58	203	229	109	334	132		158	179	530
Entry Volume, veh/h	510	575	56	199	224	107	321	127		148	167	495
Circulating Flow (v_c), pc/h	381			932			1237			496		
Exiting Flow (v_{ex}), pc/h	771			452			868			273		
Capacity (C_{pce}), pc/h	1004	1004		608	608		461	461		904	904	
Capacity (c), veh/h	965	965		596	596		443	443		845	845	
v/c Ratio (x)	0.53	0.60		0.33	0.38		0.72	0.29		0.18	0.20	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	10.5	12.1		10.7	11.5		30.4	12.8		6.0	6.3	
Lane LOS	B	B	A	B	B	A	D	B		A	A	A
95% Queue, veh	3.2	4.1		1.5	1.7		5.7	1.2		0.6	0.7	
Approach Delay, s/veh	10.8			8.9			25.4			2.4		
Approach LOS	B			A			D			A		
Intersection Delay, s/veh LOS	10.3						B					

HCM 6th TWSC
2: SC 46 & Stardust Ln

2023 Build Out AM Peak Hour
AM Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	685	551	51	40	21
Future Vol, veh/h	27	685	551	51	40	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	0	85
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	2	3	3	7	1
Mvmt Flow	28	721	580	54	42	22
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	634	0	-	0	1357	580
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	777	-
Critical Hdwy	4.11	-	-	-	6.47	6.21
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	2.209	-	-	-	3.563	3.309
Pot Cap-1 Maneuver	954	-	-	-	160	516
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	445	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	954	-	-	-	152	516
Mov Cap-2 Maneuver	-	-	-	-	152	-
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	445	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		28.8		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	954	-	-	-	152	516
HCM Lane V/C Ratio	0.03	-	-	-	0.277	0.043
HCM Control Delay (s)	8.9	0	-	-	37.5	12.3
HCM Lane LOS	A	A	-	-	E	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1	0.1

HCM 6th TWSC
3: New Riverside Rd & full access

2023 Build Out AM Peak Hour
AM Peak Hour

Intersection						
Int Delay, s/veh	2					
Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	31	46	397	22	56	254
Future Vol, veh/h	31	46	397	22	56	254
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	14	2	2	14
Mvmt Flow	34	50	432	24	61	276
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	842	444	0	0	456	0
Stage 1	444	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	334	614	-	-	1105	-
Stage 1	646	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	316	614	-	-	1105	-
Mov Cap-2 Maneuver	316	-	-	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	641	-	-	-	-	-
Approach	NB	NE	SW			
HCM Control Delay, s	15	0	1.5			
HCM LOS	C					
Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT	
Capacity (veh/h)	-	-	445	1105	-	
HCM Lane V/C Ratio	-	-	0.188	0.055	-	
HCM Control Delay (s)	-	-	15	8.4	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.7	0.2	-	

HCM 6th TWSC
4: New Riverside Rd & RI/RO access

2023 Build Out AM Peak Hour
AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	12	435	22	0	310
Future Vol, veh/h	0	12	435	22	0	310
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	14	2	2	14
Mvmt Flow	0	13	473	24	0	337
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	485	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	582	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	582	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.3	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	582		-		
HCM Lane V/C Ratio	-	0.022		-		
HCM Control Delay (s)	-	11.3		-		
HCM Lane LOS	-	B		-		
HCM 95th %tile Q(veh)	-	0.1		-		

HCM 6th TWSC
5: full access & SC 46

2023 Build Out AM Peak Hour
AM Peak Hour

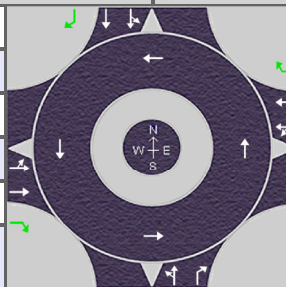
Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	628	67	52	520	60	57
Future Vol, veh/h	628	67	52	520	60	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	150	-	0	85
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	3	2	2
Mvmt Flow	683	73	57	565	65	62
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	756	0	1362	683
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	679	-
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	-	-	855	-	163	449
Stage 1	-	-	-	-	502	-
Stage 2	-	-	-	-	504	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	855	-	152	449
Mov Cap-2 Maneuver	-	-	-	-	152	-
Stage 1	-	-	-	-	502	-
Stage 2	-	-	-	-	470	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.9		30.2	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	152	449	-	-	855	-
HCM Lane V/C Ratio	0.429	0.138	-	-	0.066	-
HCM Control Delay (s)	45.4	14.3	-	-	9.5	-
HCM Lane LOS	E	B	-	-	A	-
HCM 95th %tile Q(veh)	1.9	0.5	-	-	0.2	-

HCS7 Roundabouts Report

ATTACHMENT 8

General Information

Analyst	mb
Agency or Co.	SCDOT
Date Performed	5/17/2021
Analysis Year	2023
Time Analyzed	pm peak hr build
Project Description	New Riverside Village



Site Information

Intersection	SC 46, Okatie Hwy & N Rvr
E/W Street Name	SC 46
N/S Street Name	New Riverside Road
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.96
Jurisdiction	Beaufort Co.

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	1	0	0	2	0
Lane Assignment	LT		T		LT		T		LT		R		LT		T	
Volume (V), veh/h	0	592	516	64	0	84	541	124	0	75	222	64	0	145	282	714
Percent Heavy Vehicles, %	1	1	1	1	2	2	2	2	6	6	6	6	2	2	2	2
Flow Rate (V_{PCE}), pc/h	0	623	543	67	0	89	575	132	0	83	245	71	0	154	300	759
Right-Turn Bypass	Non-Yielding				Non-Yielding				None				Non-Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436		4.5436	4.5436		4.5436	4.5436		4.5436	4.5436	
Follow-Up Headway (s)	2.5352	2.5352		2.5352	2.5352		2.5352	2.5352		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	548	618	67	312	352	132	328	71		213	241	759
Entry Volume, veh/h	543	612	66	306	345	129	309	67		209	236	744
Circulating Flow (v_c), pc/h	543			951			1320			747		
Exiting Flow (v_{ex}), pc/h	768			658			868			389		
Capacity (C_{pce}), pc/h	866	866		598	598		427	427		720	720	
Capacity (c), veh/h	858	858		586	586		403	403		705	705	
v/c Ratio (x)	0.63	0.71		0.52	0.59		0.77	0.17		0.30	0.33	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	14.3	17.5		15.3	17.5		36.8	11.5		8.7	9.3	
Lane LOS	B	C	A	C	C	A	E	B		A	A	A
95% Queue, veh	4.6	6.2		3.0	3.8		6.4	0.6		1.2	1.5	
Approach Delay, s/veh	15.1			13.7			32.3			3.4		
Approach LOS	C			B			D			A		
Intersection Delay, s/veh LOS	12.7						B					

HCM 6th TWSC
2: SC 46 & Stardust Ln

2023 Build Out PM Peak Hour
PM Peak Hour

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	740	724	47	42	19
Future Vol, veh/h	15	740	724	47	42	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	125	0	85
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	2	3	1	1
Mvmt Flow	16	779	762	49	44	20
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	811	0	-	0	1573	762
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	811	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	820	-	-	-	122	406
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	439	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	820	-	-	-	118	406
Mov Cap-2 Maneuver	-	-	-	-	118	-
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	439	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		40.7		
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	820	-	-	-	118	406
HCM Lane V/C Ratio	0.019	-	-	-	0.375	0.049
HCM Control Delay (s)	9.5	0	-	-	52.7	14.3
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.5	0.2

HCM 6th TWSC
3: New Riverside Rd & full access

2023 Build Out PM Peak Hour
PM Peak Hour

Intersection						
Int Delay, s/veh	3					
Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	50	70	286	27	76	354
Future Vol, veh/h	50	70	286	27	76	354
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	6	2	2	1
Mvmt Flow	54	76	311	29	83	385
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	877	326	0	0	340	0
Stage 1	326	-	-	-	-	-
Stage 2	551	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	319	715	-	-	1219	-
Stage 1	731	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	297	715	-	-	1219	-
Mov Cap-2 Maneuver	297	-	-	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	538	-	-	-	-	-
Approach	NB	NE	SW			
HCM Control Delay, s	16.2	0	1.4			
HCM LOS	C					
Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT	
Capacity (veh/h)	-	-	451	1219	-	
HCM Lane V/C Ratio	-	-	0.289	0.068	-	
HCM Control Delay (s)	-	-	16.2	8.2	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	1.2	0.2	-	

HCM 6th TWSC
4: New Riverside Rd & RI/RO access

2023 Build Out PM Peak Hour
PM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	18	346	27	0	430
Future Vol, veh/h	0	18	346	27	0	430
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	6	2	2	1
Mvmt Flow	0	20	376	29	0	467
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	391	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	658	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	658	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.6	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	658		-		
HCM Lane V/C Ratio	-	0.03		-		
HCM Control Delay (s)	-	10.6		-		
HCM Lane LOS	-	B		-		
HCM 95th %tile Q(veh)	-	0.1		-		

HCM 6th TWSC
5: full access & SC 46

2023 Build Out PM Peak Hour
PM Peak Hour

Intersection						
Int Delay, s/veh	10.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	651	87	71	666	99	86
Future Vol, veh/h	651	87	71	666	99	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	150	-	0	85
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	2	2	2	2	2
Mvmt Flow	708	95	77	724	108	93
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	803	0	1586	708
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	878	-
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	-	-	821	-	119	435
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	406	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	821	-	108	435
Mov Cap-2 Maneuver	-	-	-	-	108	-
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	368	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.9		92.7	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	108	435	-	-	821	-
HCM Lane V/C Ratio	0.996	0.215	-	-	0.094	-
HCM Control Delay (s)	159.8	15.5	-	-	9.8	-
HCM Lane LOS	F	C	-	-	A	-
HCM 95th %tile Q(veh)	6.3	0.8	-	-	0.3	-

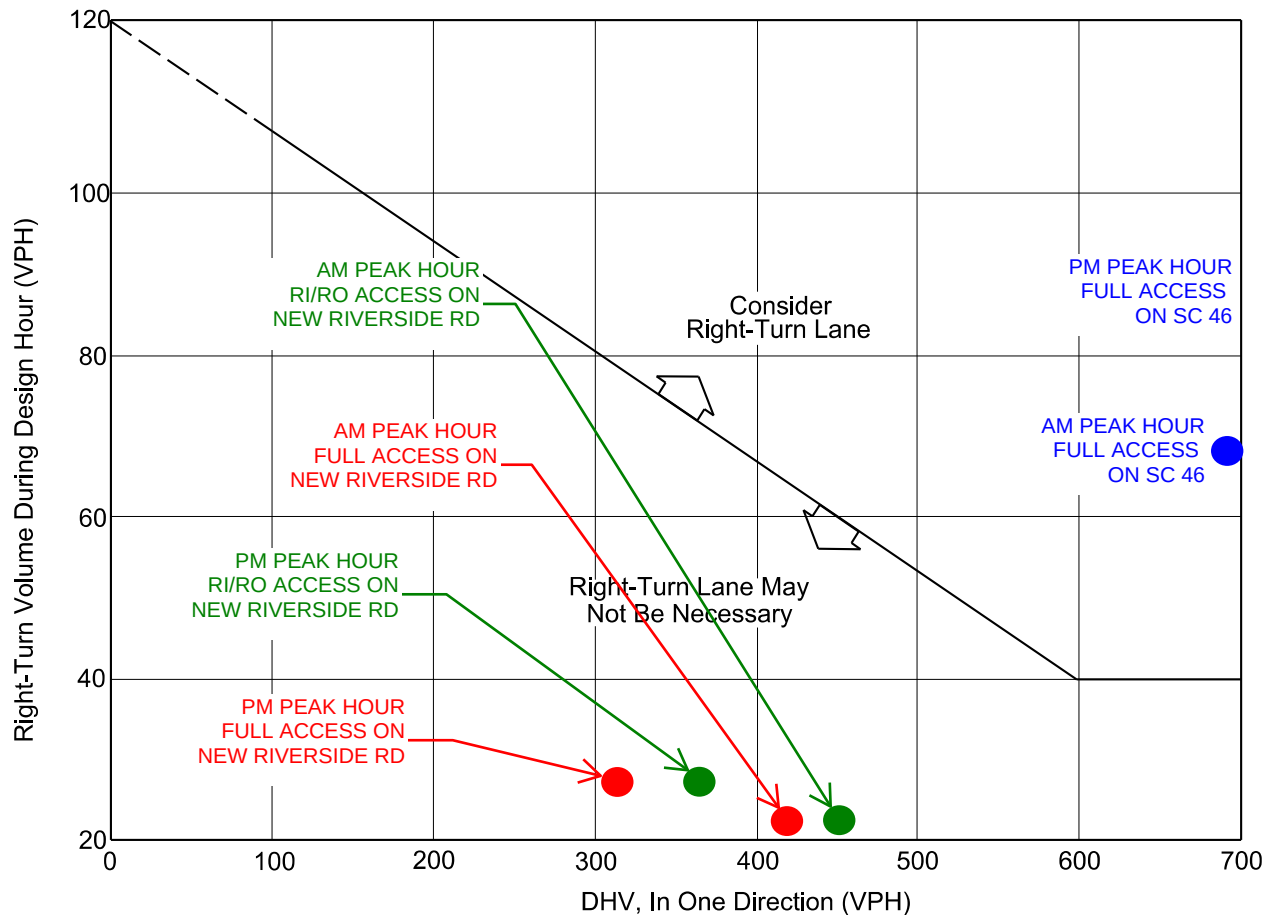


TRAFFIC IMPACT ANALYSIS
NEW RIVERSIDE VILLAGE

APPENDIX F
TURN LANE ANALYSIS FIGURES

J – 27796.0002

May 2021



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

Example

Given:

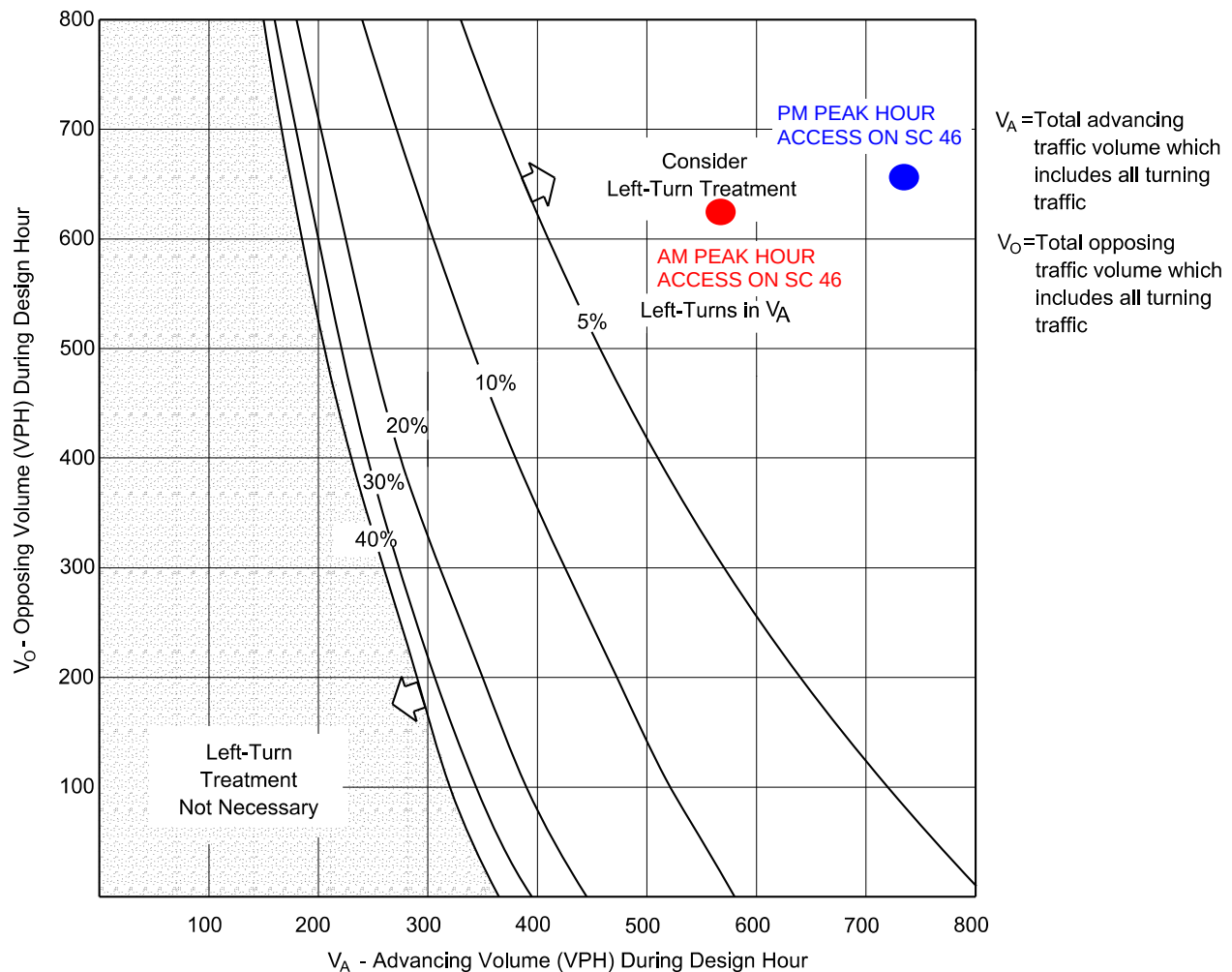
Design Speed	=	35 miles per hour
DHV	=	250 vehicles per hour
Right Turns	=	100 vehicles per hour

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

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

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

Figure 9.5-A



Instructions:

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

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

Figure 9.5-G