

**Silvestri Property
Cocoa, Florida**

Traffic Impact Study

**Prepared for: Taylor Morrison
By: LTG, Inc.
April 2023**



PROFESSIONAL ENGINEERING CERTIFICATION

I hereby certify that I am a Professional Engineer properly registered in the State of Florida practicing with LTG, Inc., a corporation authorized to operate as an engineering business, F030424608005, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluations, findings, opinions, conclusions, or technical advice attached hereto for:

PROJECT: Silvestri Property – Traffic Impact Study
LOCATION: Cocoa, Florida
CLIENT: Taylor Morrison
JOB #: 5799.03

I hereby acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of Transportation Engineering as applied through professional judgment and experience.

Prepared by:

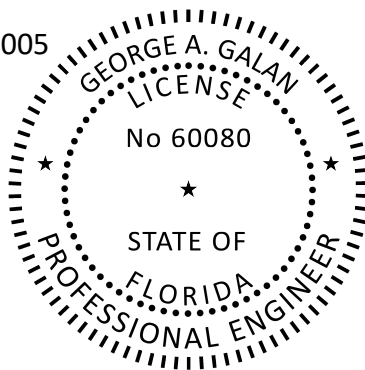
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1

INTRODUCTION

LTG Inc. has been retained by Taylor Morrison to prepare a Traffic Impact Study (TIS) for the proposed Silvestri Property residential development located on the northwest quadrant of James Road and Friday Road in the City of Cocoa, Florida. The proposed development consists of 385 single-family detached dwelling units. The number of dwelling units has been reduced from 418 dwelling units to 385 dwelling units since the methodology letter was submitted. Figure 1 shows the location of the project relative to the surrounding road network. The anticipated build-out year for the proposed development is 2026. Access to the site will be provided via two full access driveways along the James Road Extension. A conceptual site plan for the development is included as Appendix A.

Study Area

The study area includes the following intersections and roadway segments as approved in the submitted methodology. The approved methodology is included as Appendix B.

Intersections:

Unsignalized Intersections

- Friday Road at James Road
- James Road Extension at Project Driveway 1 (future conditions)
- James Road Extension at Project Driveway 2 (future conditions)

Signalized Intersections

- SR 524 at I-95 SB Ramps
- SR 524 at I-95 NB Ramps
- SR 524 at Friday Road
- SR 524 at Cox Road

Roadway Segments:

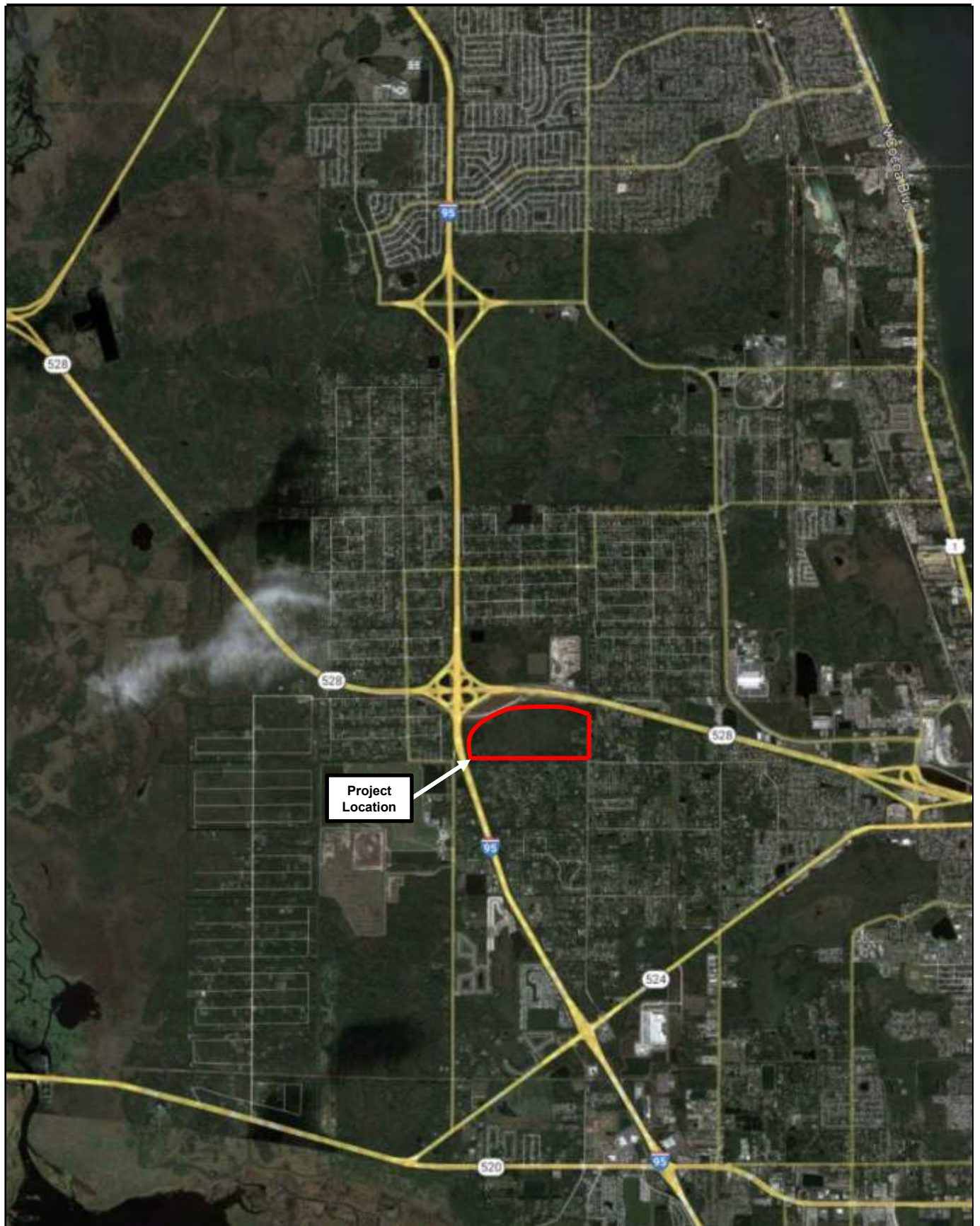
- SR 524 from I-95 to Industry Road
- Friday Road from SR 524 to James Road
- James Road from Friday Road to Cox Road
- Cox Road from SR 524 to James Road
- Westminster Drive from SR 524 to James Road

Study Procedures

Standard engineering and planning procedures were used to determine the impacts of this project. Reference data was obtained from the Florida Department of Transportation (FDOT), the Space Coast Transportation Planning Organization (SCTPO), the City of Cocoa, and the Brevard County Planning Department.

Planned Roadway Improvements

FDOT's Five Year Work Program, SCTPO Transportation Improvement Program, and the Brevard County Capital Improvement Plan were reviewed to ascertain if there were any programmed or planned roadway improvements funded for construction within the next five (5) years within the area of interest. According to the Brevard County Capital Improvement Plan, the southbound approach at the intersection of SR 524 and Friday Road is currently funded to be reconfigured to an exclusive southbound right-turn lane and a shared left-through lane. This improvement will be included in the build-out analysis.



Silvestri Property



NTS

Project Location

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Figure: 1



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EXISTING ROADWAY ANALYSIS

Turning movement counts for the AM and PM peak hours were conducted at the study area intersections on October 20th, 2022. FDOT's Seasonal Factor (SF) for Brevard County was applied to the raw data. Figures 2a-2c graphically depict the existing AM and PM peak hour traffic volumes at the study area intersections. The raw turning movement counts and the FDOT SF are included as Appendix C.

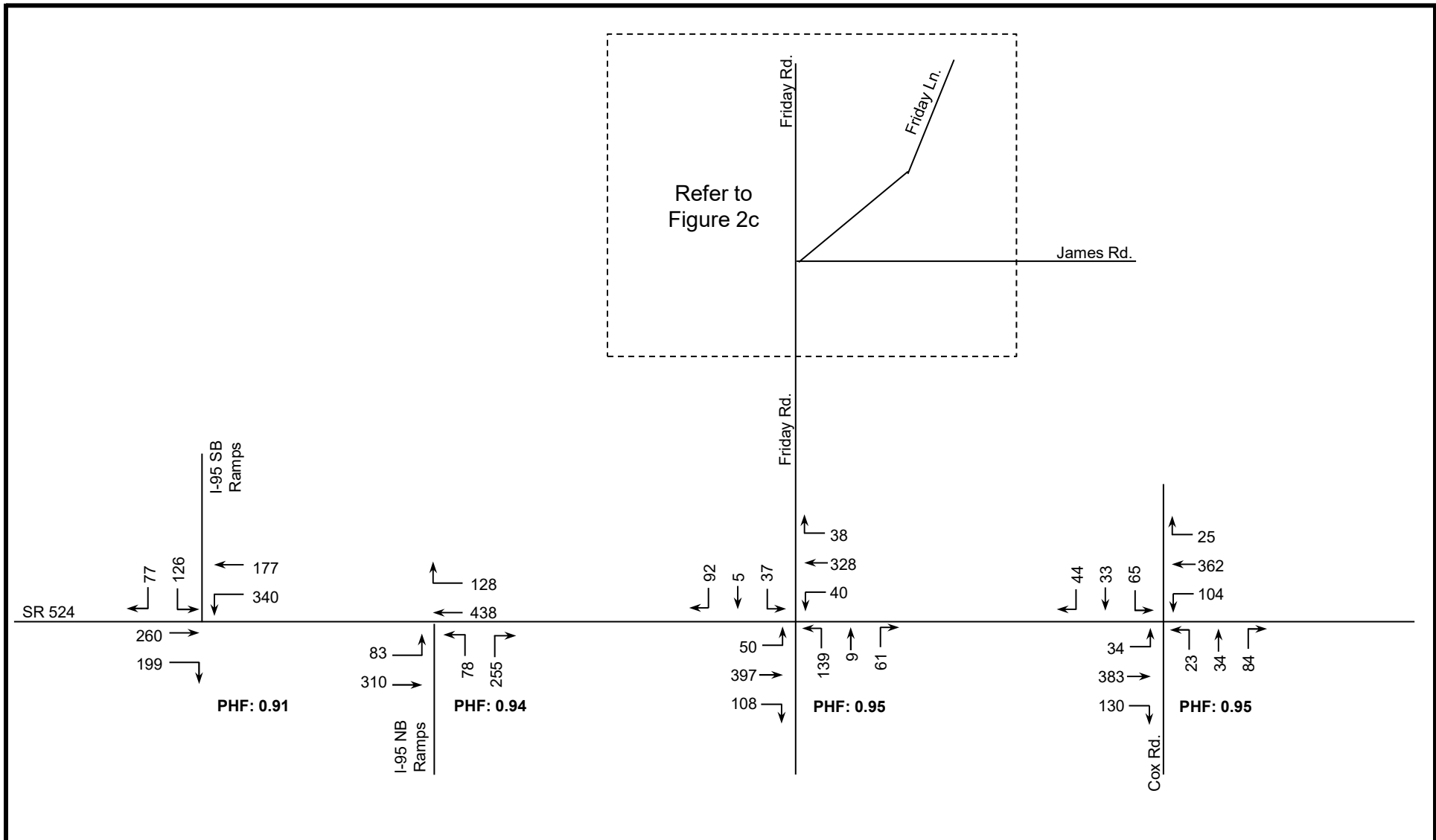
Signalized Intersection Analysis

The Level of Service (LOS) at a signalized intersection is based on the average control delay per vehicle for the various movements within the intersection. The operating conditions at the signalized intersections were evaluated using the agencies' signal timings, and *Synchro 11 (Synchro) software*. This software utilizes the procedures outlined in Chapter 19 of the *Highway Capacity Manual, 6th Edition*, titled "Signalized Intersections." Table 1 shows the existing AM and PM peak hour level of service (LOS) at the signalized intersections. The Synchro summary sheets are included as Appendix D. The signal timings are included as Appendix E.

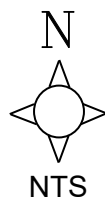
Table 1
Existing AM and PM Peak Hour LOS – Signalized Intersections
Silvestri Property

Intersection	Adopted LOS	AM Peak Hour			PM Peak Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
SR 524 at I-95 SB Ramps	D	18.9	B	No	11.7	B	No
SR 524 at I-95 NB Ramps	D	23.0	C	No	75.2	E	Yes
SR 524 at Friday Road	D	21.5	C	No	28.0	C	No
SR 524 at Cox Road	D	18.4	B	No	26.5	C	No

As indicated in the table, all signalized intersections currently operate within the adopted LOS and with v/c ratios less than 1.0 except for SR 524 at I-95 NB Ramps is anticipated to operate outside the adopted LOS with a v/c ratio greater than 1.0 during PM peak hour.



Silvestri Property



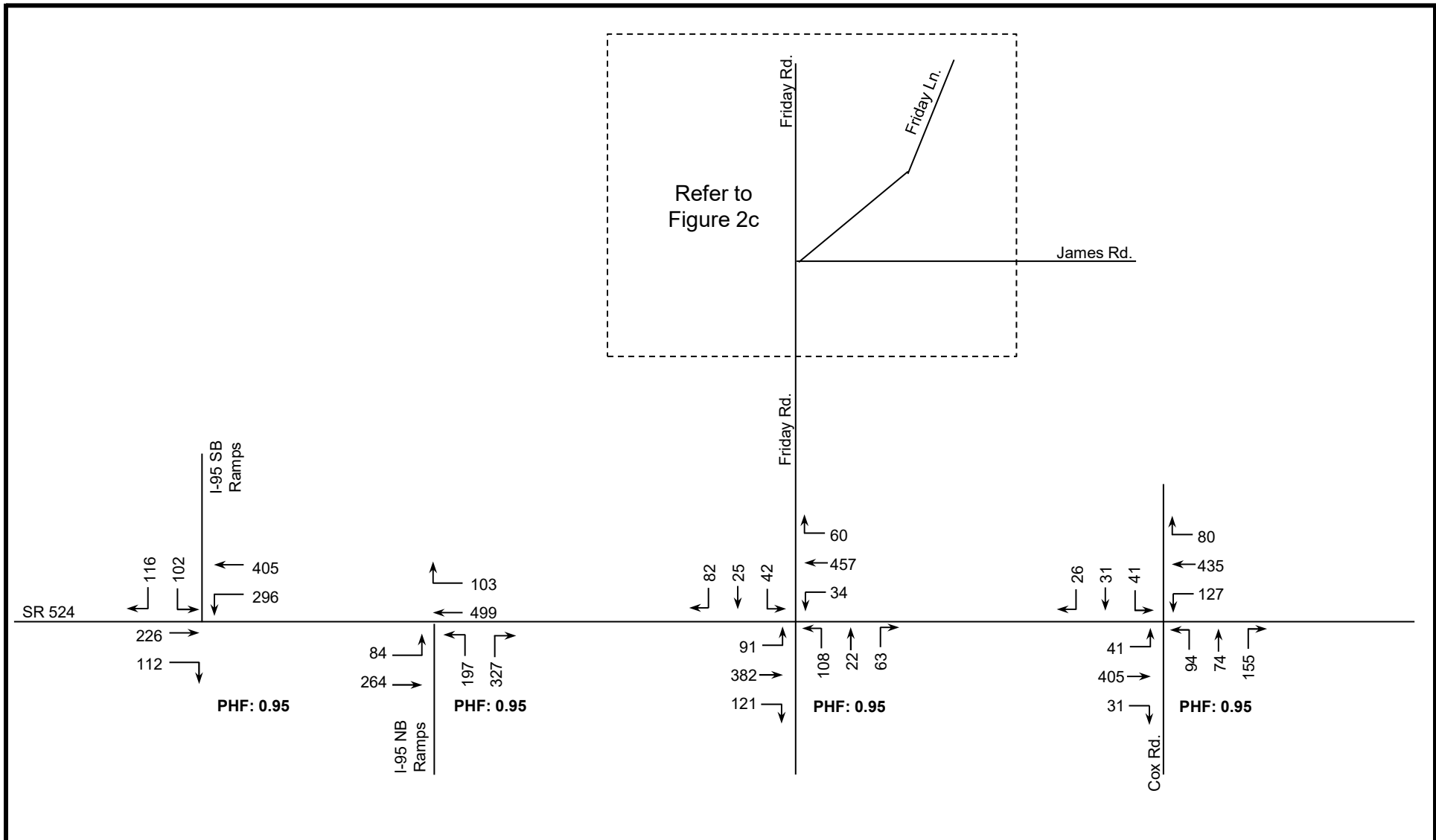
**Existing AM
Peak Hour Traffic Volumes**

Project No.: 5799.03

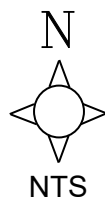
Figure: 2a



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Silvestri Property



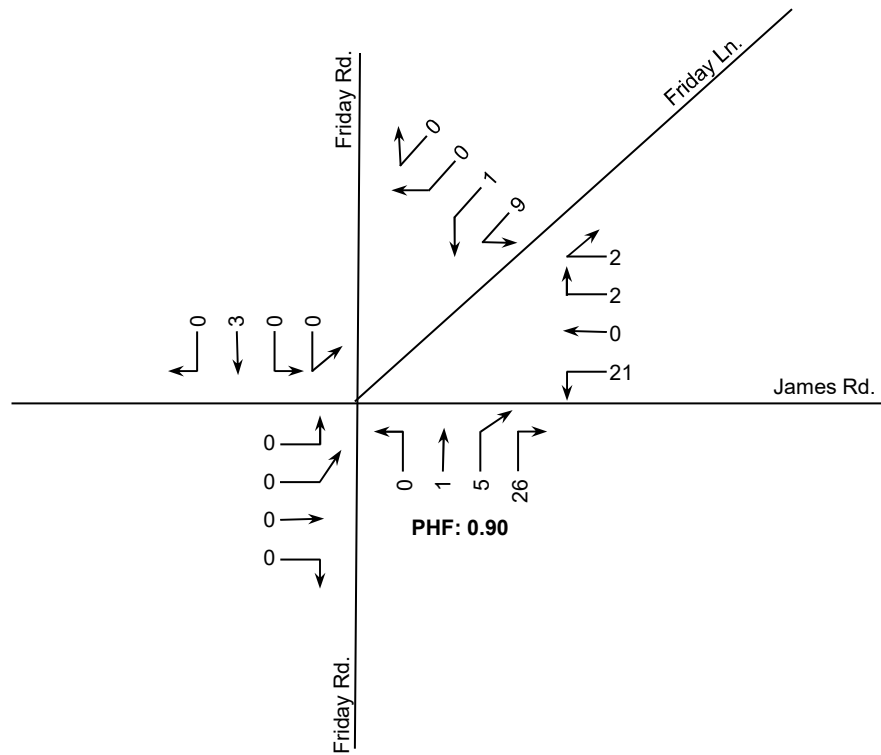
Existing PM Peak Hour Traffic Volumes

Project No.: 5799.03

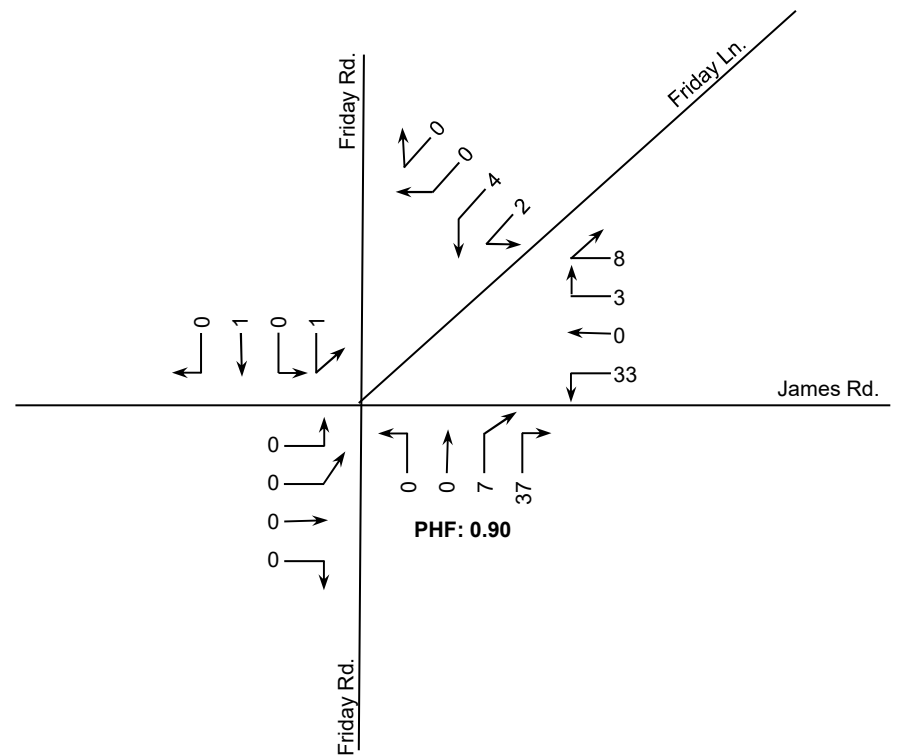
Figure: 2b



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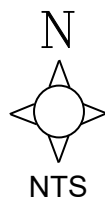


AM Peak Hour



PM Peak Hour

Silvestri Property



Existing AM & PM Peak Hour Traffic Volumes

Project No.: 5799.03

Figure: 2c



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Unsignalized Intersection Analysis

The unsignalized intersection was analyzed using *Synchro 11* (Synchro) software. This software utilizes the procedures outlined in Chapter 21 of the *Highway Capacity Manual, 6th Edition*, titled "All-Way Stop-Controlled Intersections". Table 2 shows the existing AM and PM peak hour LOS at the unsignalized intersection. The Synchro summary sheets are included as Appendix F.

Table 2
Existing AM and PM Peak Hour LOS – Unsignalized Intersection
Silvestri Property

Intersection	Adopted LOS	AM Peak Hour				PM Peak Hour			
		Critical Approach	Delay (sec.)	LOS	V/C Ratio	Critical Approach	Delay (sec.)	LOS	V/C Ratio
Friday Road at James Road	E	N/A ¹	N/A ¹	A	N/A ¹	N/A ¹	N/A ¹	A	N/A ¹

¹ The HCM 6th methodology is not compatible with intersections with more than 4 legs. Therefore, critical approach, delay, and v/c ratio are not reported.

As indicated in the table, the unsignalized intersection currently operates within the adopted LOS.

Roadway Segment Analysis

Roadway LOS describes the operating condition determined from the number of vehicles passing over a given section of roadway during a specified time period. It is a qualitative measure of several factors which include speed, travel time, traffic interruptions, freedom to maneuver, driver comfort, convenience, safety, and vehicle operating costs. Six levels of service have been established as standards by which to gauge roadway performance, designated by the letters A through F. The level of service categories are defined as follows:

<i>Level of Service A:</i>	Free flow, individual users virtually unaffected by the presence of others
<i>Level of Service B:</i>	Stable flow with a high degree of freedom to select operating conditions
<i>Level of Service C:</i>	Flow remains stable, but with significant interactions with others
<i>Level of Service D:</i>	High-density stable flow in which the freedom to maneuver is severely restricted
<i>Level of Service E:</i>	This condition represents the capacity level of the road
<i>Level of Service F:</i>	Forced flow in which the traffic exceeds the amount that can be served

The 2021 Annual Average Daily Traffic (AADT) for the roadway segments was obtained from the SCTPO Historical Counts from 2012-2021. The 2021 Annual Average Daily Traffic (AADT) for the roadway segment of Westminster Drive from SR 524 to James Road obtained from Brevard County Traffic Engineering and the summary report is included in the Appendix G. The existing PM peak hour two-way LOS for the roadway segments is shown in Table 3. As indicated in the table, all roadway segments currently operate within the peak hour two-way capacities.

Table 3
Existing PM Peak Hour Two-Way LOS – Roadway Segments
Silvestri Property

Roadway	Segment		Location ID	Jurisdiction	Classification	No. of Lanes	Speed Limit (MPH)	Adopted LOS	Current MAV ¹	Peak Hour Two-Way Capacity at Adopted LOS ²	2021 AADT	Existing PM Peak Hour Two-Way Volume ³	Existing V/C Ratio	Existing Volume Exceeds Peak Capacity?
SR 524	I-95	Cox Road	73	FDOT	Urban Minor Arterial	2	55	D	18,590	1,680	13,300	1,090	0.65	No
	Cox Road	Industry Road	76			2	55	D	19,470	1,760	14,630	1,234	0.70	No
Friday Road	SR 524	James Road	64	Brevard County	Urban Local	2	45	E	17,700	1,600	3,150	304	0.19	No
James Road	Friday Road	Cox Road	N/A	Brevard County	Urban Local	2	35	E	15,600 ⁶	1,410	927 ^{4/5}	83 ⁴	0.06	No
Cox Road	SR 524	James Road	69	Brevard County	Urban Major Collector	2	45	E	17,700	1,600	2,580	252	0.16	No
Westminster Drive	SR 524	James Road	N/A	Brevard County	Urban Local	2	25	E	15,600 ⁶	1,410	1,511 ⁷	145 ⁷	0.10	No

¹Obtained from SCTPO Historical Counts from 2012-2021.
²Obtained from Table 4 in the FDOT QLOS Handbook.
³Determined by taking the average of two days of counts provided by the SCTPO Transportation Data Management System.
⁴Determined using collected TMC data.
⁵2022 AADT.
⁶Based upon comparable roadway segment of Rosetine Street (Link ID 74) reported in SCTPO Historical Counts from 2012-2021.
⁷Obtained from the highest AADT count provided by Brevard County traffic engineering multiplied by seasonal factor of 1.01.

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FUTURE ROADWAY CONDITIONS

The following documents the procedures used to determine the future traffic conditions for 2026.

Background Traffic Growth Rates

Historical growth rates were used to determine the background traffic. FDOT *Traffic Trends* software was used to calculate historical growth rates using the past five (5) years of data obtained from the SCTPO (included as Appendix H). When existing growth rates fall below the two percent (2%) threshold, a minimum growth rate of 2% was applied to the existing traffic volumes. The historical and applied growth rates used in the analysis are provided in Table 4.

Table 4
Historical Growth Rates
Silvestri Property

Roadway	Segment		Average Annual Growth Rate	Applied Growth Rate
SR 524	I-95	Cox Road	4.09%	4.09%
	Cox Road	Industry Road	1.53%	2.00%
Friday Road	SR 524	James Road	0.00%	2.00%
James Road	Friday Road	Cox Road	-	2.00%
Cox Road	SR 524	James Road	0.00%	2.00%
Westminster Drive	SR 524	James Road	-	2.00%

Vested Traffic

Vested trips from approved developments in the study area were provided by the City of Cocoa to be included in background growth. The following approved developments were included in the analysis: Arbours at Cocoa, Cirrus Apartments, Dollar General, Integra Preserve, and Retreat at Cocoa Commons. Where applicable, vested trips were applied to the study area intersections and roadway segments. The applied vested trips are included as Appendix I.

4

BUILD-OUT ROADWAY ANALYSIS

Trip Generation

The development will consist of 385 single-family detached dwelling units. The daily, AM peak hour, and PM peak hour trip generation for the development was determined using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. The trip generation for the development is summarized in Table 5.

Table 5
Trip Generation
Silvestri Property

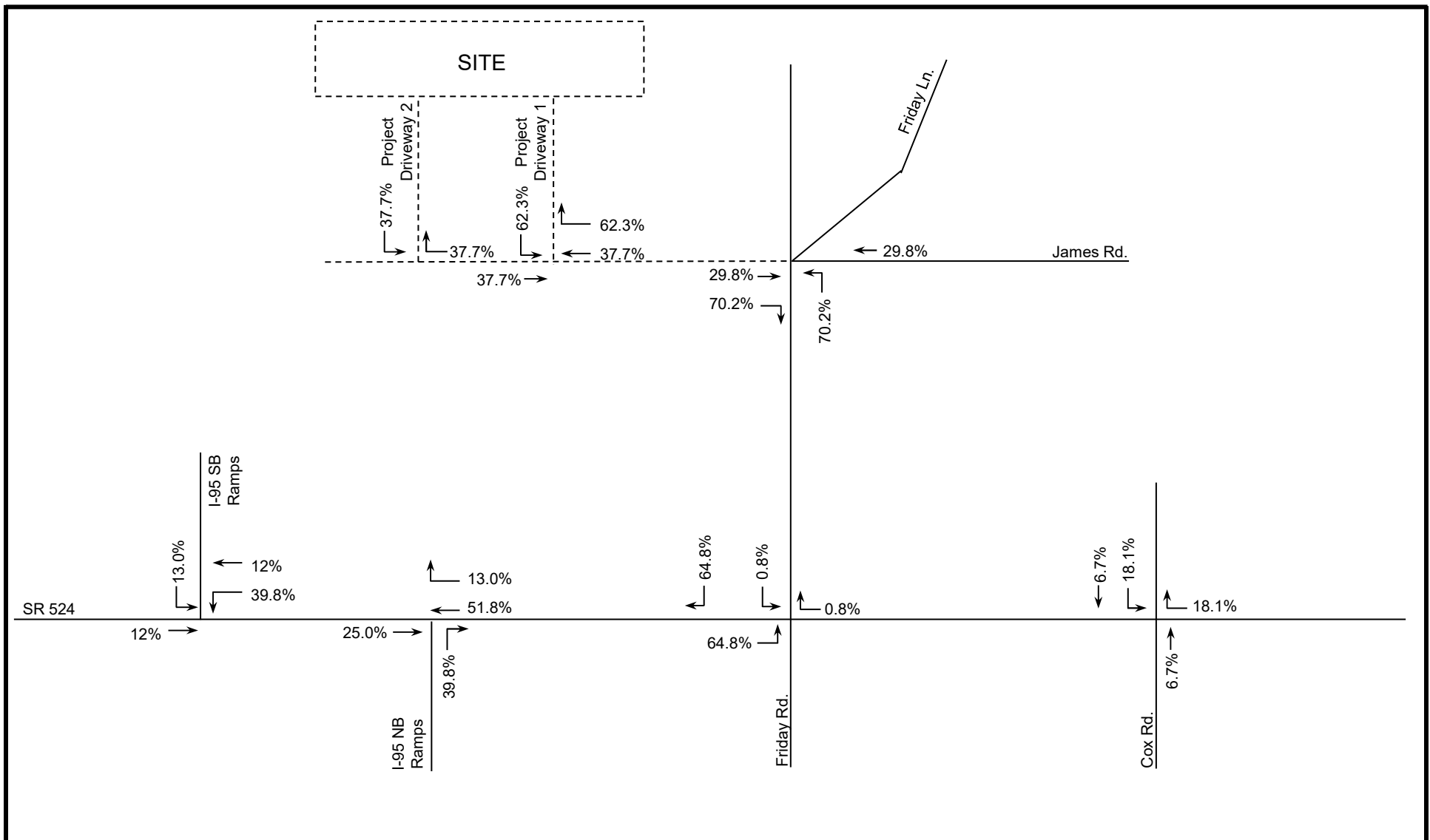
Time Period	Land Use	ITE LUC	Trip Rate Equation	Size	Units	Percent Entering	Percent Exiting	Trips Entering	Trips Exiting	Total Trips
Daily	Single-Family Detached Housing	210	$\text{Ln}(T) = 0.92 \text{ Ln}(X) + 2.68$	385	DU	50%	50%	1,744	1,744	3,488
AM Peak Hour			$\text{Ln}(T) = 0.91 \text{ Ln}(X) + 0.12$			26%	74%	66	188	254
PM Peak Hour			$\text{Ln}(T) = 0.94 \text{ Ln}(X) + 0.27$			63%	37%	222	131	353

Trip Distribution

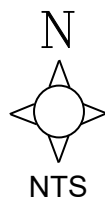
The process of determining the directional flow of traffic associated with a new development is called trip distribution. The Central Florida Regional Planning Model (CFRPM) version 6.1 was used to obtain project trip distribution. Manual modifications were made to the model distribution in the vicinity of the site based on Brevard County request. These modifications are illustrated in Figures 3a-3b.

Trip Assignment

The final step in the analysis was to assign the project traffic to the roadway network. Figures 4a-4c graphically depict the build-out AM and PM peak hour traffic volumes at the study area intersections.



Silvestri Property



Project Distribution – Intersections

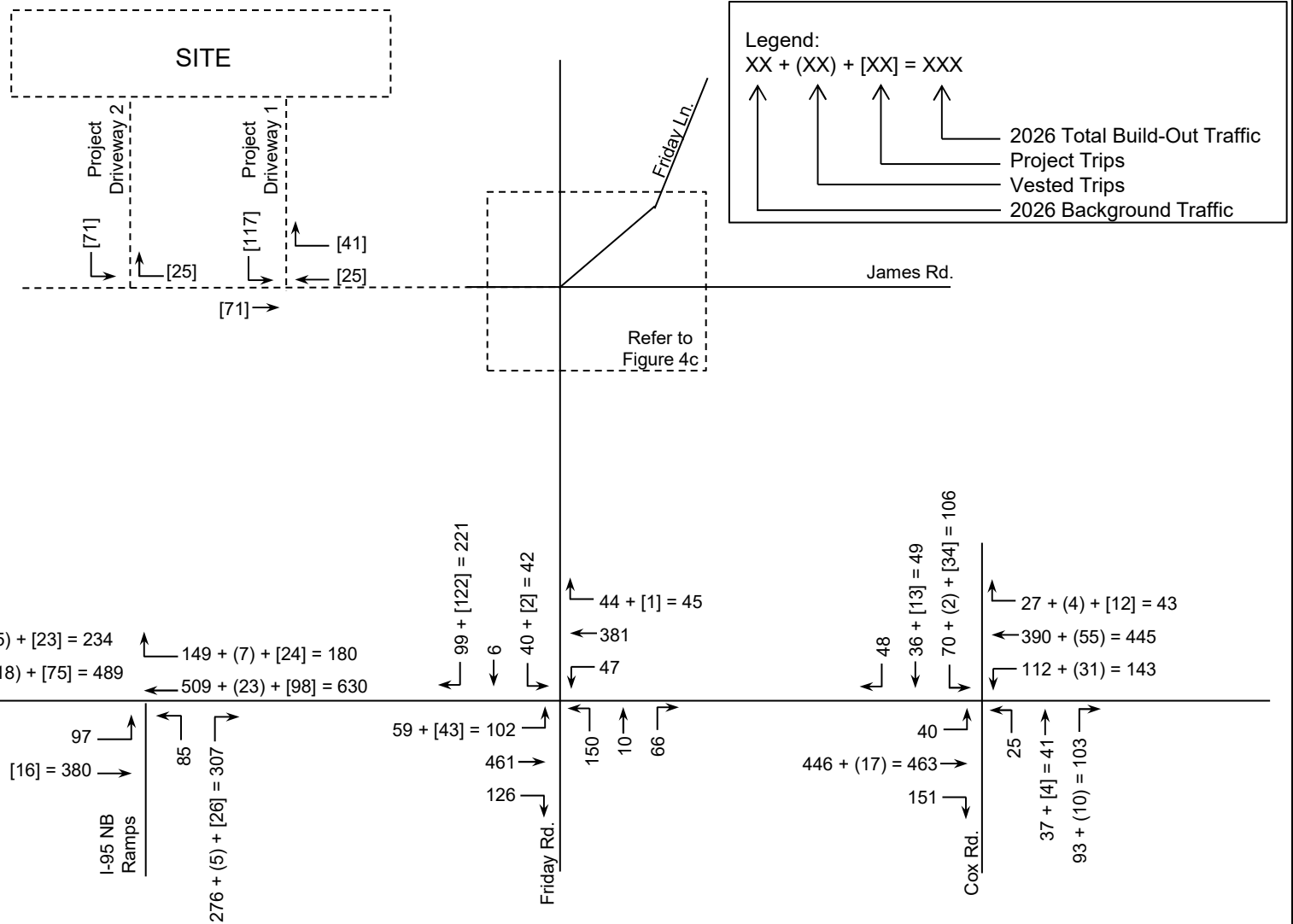
Project No.: 5799.03

Figure: 3b

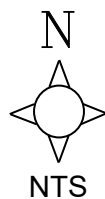


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AM Peak Hour		
Enter	Exit	Total
66	188	254



Silvestri Property



2026 Build-Out AM Peak Hour Traffic Volumes

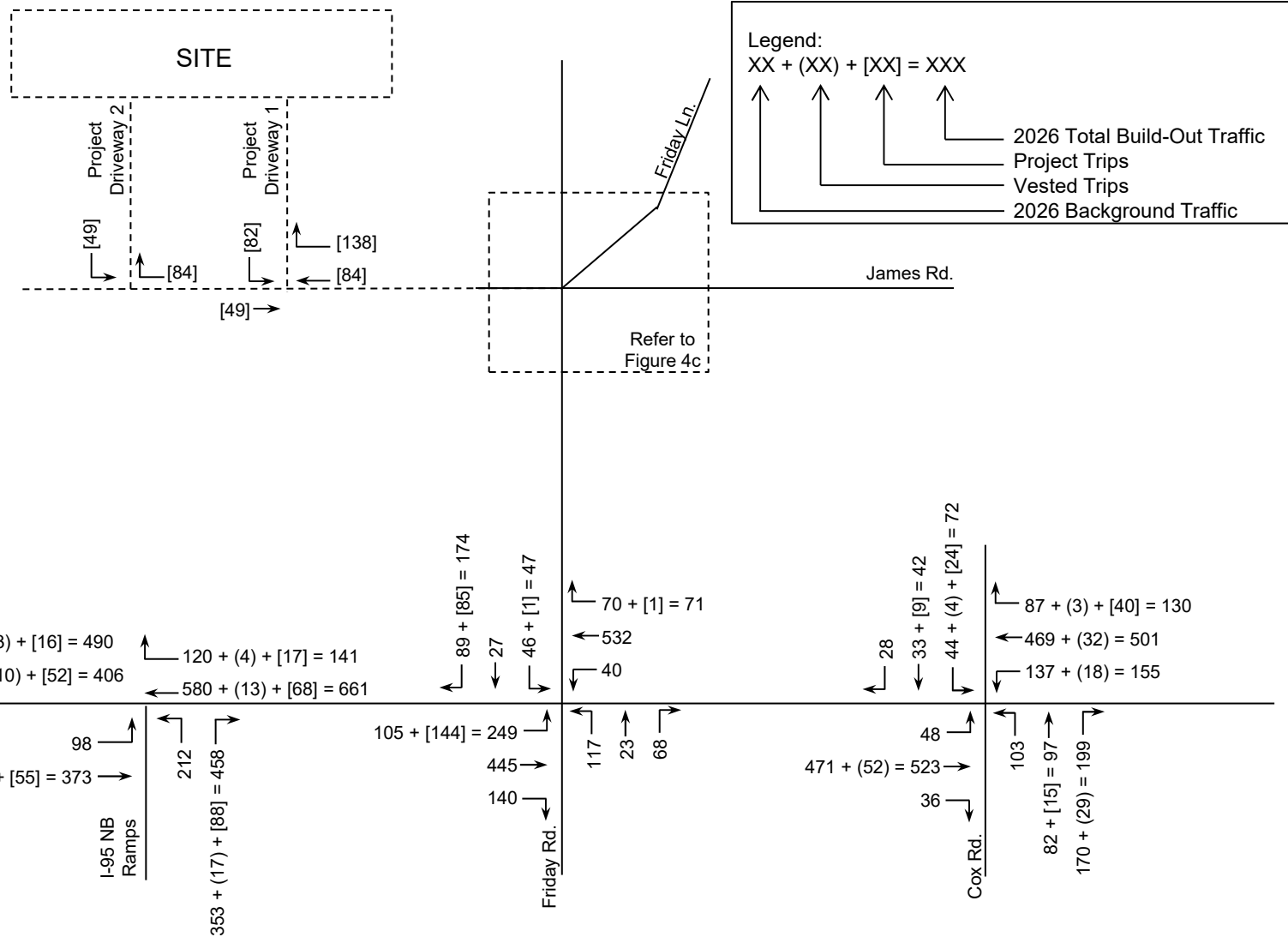
Project No.: 5799.03

Figure: 4a

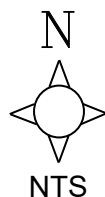


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PM Peak Hour		
Enter	Exit	Total
222	131	353



Silvestri Property



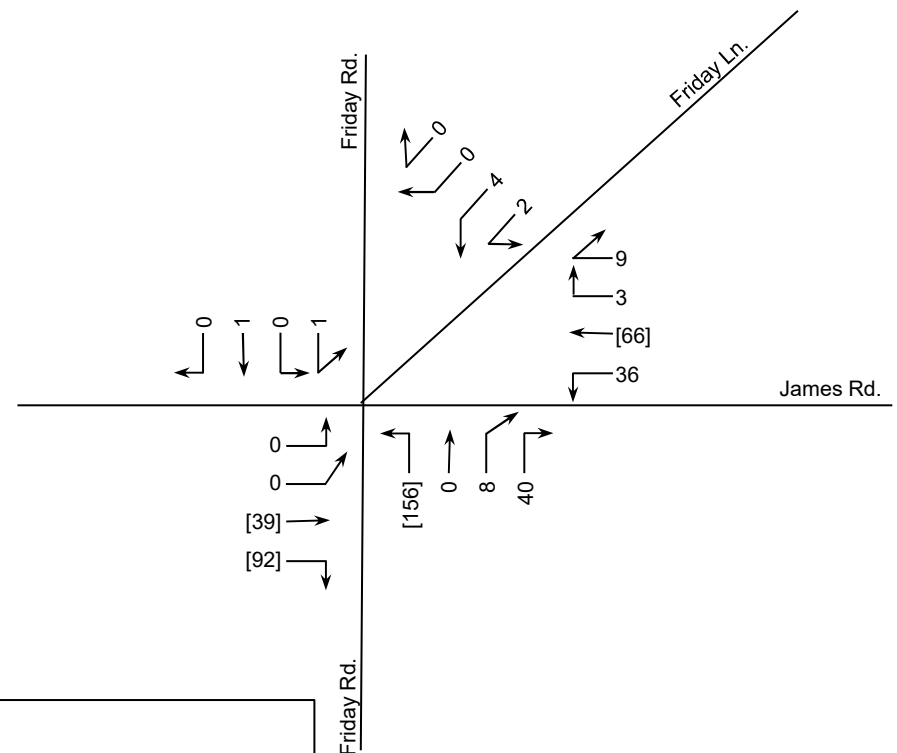
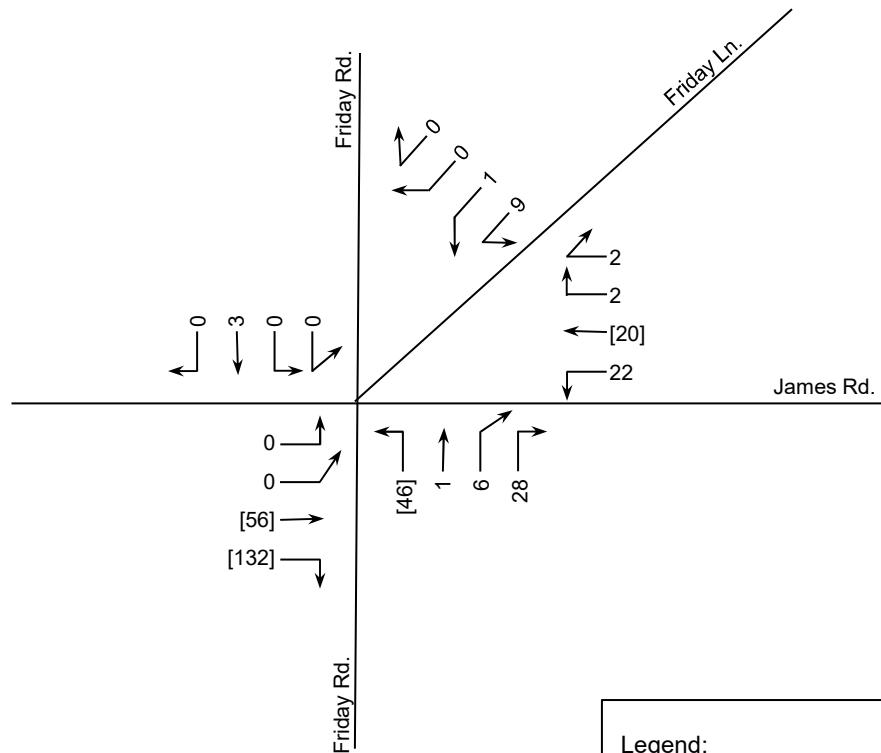
2026 Build-Out PM Peak Hour Traffic Volumes

Project No.: 5799.03

Figure: 4b



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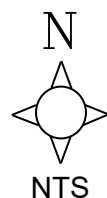
Legend:
 $XX + (XX) + [XX] = XXX$

↑ 2026 Total Build-Out Traffic
 ↑ Project Trips
 ↑ Vested Trips
 ↑ 2026 Background Traffic

AM Peak Hour		
Enter	Exit	Total
66	188	254

PM Peak Hour		
Enter	Exit	Total
222	131	353

Silvestri Property



2026 Build-Out AM & PM Peak Hour Traffic Volumes

Project No.: 5799.03

Figure: 4c



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Signalized Intersection Analysis

The signalized intersections were analyzed to determine the operational LOS at the time of build-out. Table 6 shows the projected LOS for the signalized intersections under build-out conditions. The HCS and Synchro summary sheets are included as Appendix J.

Table 6
Build-Out AM and PM Peak Hour LOS – Signalized Intersections
Silvestri Property

Intersection	Adopted LOS	AM Peak Hour			PM Peak Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
SR 524 at I-95 SB Ramps	D	22.6	C	No	14.1	B	No
SR 524 at I-95 NB Ramps	D	29.4	C	Yes	139.3	F	Yes
SR 524 at Friday Road	D	63.4	E	Yes	67.3	E	Yes
SR 524 at Cox Road	D	22.0	C	No	31.8	C	No

As indicated in the table, SR 524 at I-95 NB Ramps and SR 524 at Friday Road are anticipated to operate with a v/c ratio greater than 1.0 and/or outside adopted level of services (LOS). The following improvement are recommended to allow the intersections to operate with v/c ratios less than 1.0 and within their adopted LOS:

SR 524 at I-95 NB Ramps:

- Add free-flow yield for northbound right-turn approach.

SR 524 at Friday Road:

- Add second eastbound through lane with receiving lane.
- Optimize splits.

Table 7 shows the AM and PM peak hour LOS under build-out conditions with the proposed intersection improvements. The Synchro summary sheets are included as Appendix K.

Table 7
Build-Out AM and PM Peak Hour LOS – Signalized Intersections Improved
Silvestri Property

Intersection	Adopted LOS	AM Peak Hour			PM Peak Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
SR 524 at I-95 NB Ramps	D	9.3	A	No	21.4	C	No
SR 524 at Friday Road	D	25.4	C	No	22.0	C	No

Unsignalized Intersection Analysis

The unsignalized intersections were analyzed to determine the operational LOS at the time of build-out. While Synchro was used to analyze the intersection of Friday Road at James Road, HCS was used to analyze the project driveways. Table 8 shows the projected LOS for the unsignalized intersections under build-out conditions. The Synchro and HCS summary sheets are included as Appendix L.

Table 8
Build-Out AM and PM Peak Hour LOS – Unsignalized Intersections
Silvestri Property

Intersection	Adopted LOS	AM Peak Hour				PM Peak Hour			
		Critical Approach	Delay (sec.)	LOS	V/C Ratio	Critical Approach	Delay (sec.)	LOS	V/C Ratio
Friday Road at James Road	E	N/A	N/A	A	N/A	N/A	N/A	A	N/A
James Road at Project Driveway 1	E	SB	9.9	A	0.15	SB	10.3	B	0.12
James Road at Project Driveway 2	E	SB	8.9	A	0.08	SB	9.0	A	0.06

As indicated in the table, the unsignalized intersections are anticipated to operate within the adopted LOS and with v/c ratios less than 1.0.

Roadway Segment Analysis

The traffic analysis for the roadway segments involves the comparison of the future peak hour two-way volumes to available capacity. Table 9 presents the results of the PM peak hour roadway segment analysis for the study area roadway segments under 2026 build-out conditions. As indicated in the table, SR 524 from Cox Road to Industry Road is expected to exceed the peak hour two-way capacity. The following improvement is recommended to allow the roadway segment to operate within the peak hour two-way capacity:

SR 524 from Cox Road to Industry Road:

- Widen from 2 to 4 lanes.

The analysis with the proposed roadway segment improvement is also included in Table 9. The peak hour two-way capacity will be exceeded due to background conditions without the addition of project trips. Therefore, in accordance with Florida Statute 163.3180, the project is not responsible for mitigating the deficiencies caused by background conditions.

Queue Length Analysis

At the request of Brevard County staff, a queue length analysis was performed to analyze the queue lengths for the eastbound left turn lane at the intersection of SR 524 and Friday Road. The existing and build-out Synchro results were used to obtain the 95th percentile queue lengths expected during the AM and PM peak hours. The turn lane length was then evaluated using the 2022 FDOT Design Manual Exhibit 212-1. The results are provided in Table 10.

As indicated in the table, the eastbound left turn lane at the intersection of SR 524 and Friday Road experiences a queue that exceeds the storage capacity of the turn lane under PM peak hour build-out conditions. The eastbound left turn lane is expected to be deficient by 25 feet requiring an eastbound left turn lane length of 390 feet.

Access Review

Access to the development will be provided via two full access driveways along James Road. The need for turn lanes was evaluated according to the National Cooperative Highway Research Program (NCHRP), Report 457, and the 2022 FDOT Design Manual Exhibit 212-1. The NCHRP reports have been included as Appendix M. Based on the results of the NCHRP Report 457, a westbound right turn lane is not warranted at either project driveway.

Table 9
Build-Out PM Peak Hour Two-Way LOS – Roadway Segments
Silvestri Property

Roadway	Segment		Location ID	Jurisdiction	Classification	No. of Lanes	Speed Limit (MPH)	Adopted LOS	Current MAV	Peak-Hour Two-Way Capacity at Adopted LOS	Existing PM Peak-Hour Two-Way Volume	2026 Background Traffic	Project Distribution	Project Trips	2026 Build-Out Traffic	Build-Out V/C Ratio	Build-Out Volume Exceeds Peak Capacity?
SR 524	I-95	Cox Road	73	FDOT	Urban Minor Arterial	2	55	D	18,590	1,680	1,090	1,361	64.8%	229	1,590	0.95	No
	Cox Road	Industry Road	76			2	55	D	19,470	1,760	1,234	1,901	18.1%	64	1,965	1.12	Yes
Friday Road	SR 524	James Road	64	Brevard County	Urban Local	2	45	E	17,700	1,600	304	339	70.2%	248	587	0.37	No
James Road	Friday Road	Cox Road	N/A	Brevard County	Urban Local	2	35	E	15,600	1,410	83	90	29.8%	105	195	0.14	No
Cox Road	SR 524	James Road	69	Brevard County	Urban Major Collector	2	45	E	17,700	1,600	252	282	24.8%	88	370	0.23	No
Westminster Drive	SR 524	James Road	N/A	Brevard County	Urban Local	2	25	E	15,600	1,410	145	162	3.3%	12	174	0.12	No
Build-Out PM Peak Hour Two-Way LOS – Roadway Segment Improved																	
Roadway	Segment		Location ID	Jurisdiction	Classification	No. of Lanes	Speed Limit (MPH)	Adopted LOS	Improved MAV	Peak-Hour Two-Way Capacity at Adopted LOS	Existing PM Peak-Hour Two-Way Volume	2026 Background Traffic	Project Distribution	Project Trips	2026 Build-Out Traffic	Build-Out V/C Ratio	Build-Out Volume Exceeds Peak Capacity?
SR 524	Cox Road	Industry Road	76	FDOT	Urban Minor Arterial	4	55	D	43,780	3,938	1,234	1,901	18.1%	64	1,965	0.50	No

Table 10
Queue Length Analysis
Silvestri Property

Intersection	Movement	Existing Turn Lane Length (ft.)	Req. Decel. (ft.) ²	Existing Conditions						Build-Out Conditions					
				95th Percentile Queue				Total Required Turn Lane Length (ft.)	Lane Length Deficiency (ft.)	95th Percentile Queue				Total Required Turn Lane Length (ft.)	Lane Length Deficiency (ft.)
				AM Peak Hour		PM Peak Hour				AM Peak Hour		PM Peak Hour			
				veh/In	ft. ¹	veh/In	ft. ¹			veh/In	ft. ¹	veh/In	ft. ¹		
SR 524 at Friday Rd	EBL	365	240	1.2	50	2.2	75	315	0	2.8	75	5.6	150	390	25

¹Assuming 25 feet per standard vehicle and using the maximum queue length.

²Based on the 2022 FDOT Design Manual Exhibit 212-1.

6

CONCLUSION AND RECOMMENDATIONS

This study was conducted to evaluate the impact of the proposed Silvestri Property residential development in the City of Cocoa, Florida. The results of the study are summarized below:

Existing Conditions

- The study area signalized intersections are currently operating within the adopted LOS and with v/c ratios less than 1.0 except for SR 524 at I-95 NB Ramps.
- The study area unsignalized intersection is currently operating within the adopted LOS.
- The study area roadway segments currently operate within the peak hour two-way capacities.

Build-Out Conditions

- The study area signalized intersections are anticipated to operate within the adopted LOS and with v/c ratios less than 1.0 except for SR 524 at I-95 NB Ramps and SR 524 at Friday Road. The following improvements are recommended to achieve v/c ratios less than 1.0 and to operate within the adopted LOS:

SR 524 at I-95 NB Ramps:

- Add free-flow yield for northbound right-turn approach.

SR 524 at Friday Road:

- Add second eastbound through lane with receiving lane.
- Optimize splits.
- The study area unsignalized intersections are anticipated to operate within the adopted LOS and with v/c ratios less than 1.0.
- The study area roadway segments are anticipated to operate within the peak hour two-way capacities with the exception of SR 524 from Cox Road to Industry Road. It is recommended to widen this segment from 2 to 4 lanes.

Queue Length Analysis

At the request of Brevard County staff, a queue length analysis was performed to analyze the queue lengths for the eastbound left turn lane at the intersection of SR 524 and Friday Road. The eastbound left turn lane experiences a queue that exceeds the storage capacity of the turn lane under PM peak hour build-out conditions. The eastbound left turn lane is expected to be deficient by 25 feet requiring an eastbound left turn lane length of 390 feet.

Access

Access to the development will be provided via two full access driveways along James Road. The need for turn lanes was evaluated according to the NCHRP, Report 457, and the 2022 FDOT Design Manual Exhibit 212-1. Based on the results of the NCHRP Report 457, a westbound right turn lane is not warranted at either project driveway.

Based on the results of this study and the recommendations provided, it is recommended that a proportionate share determination be performed to calculate the cost of mitigating the identified deficiencies.

APPENDICES

APPENDIX A

CONCEPTUAL SITE PLAN

APPENDIX B

APPROVED METHODOLOGY

Via Email: (sleone@cocoafl.org)

Ref: 5408.01

September 2, 2021

Sandra Leone
City of Cocoa
Planning and Zoning
65 Stone Street
Cocoa, FL 32922

RE: Silvestri Property - Traffic Impact Study (TIS) - Methodology
Cocoa, Florida

Dear Ms. Leone:

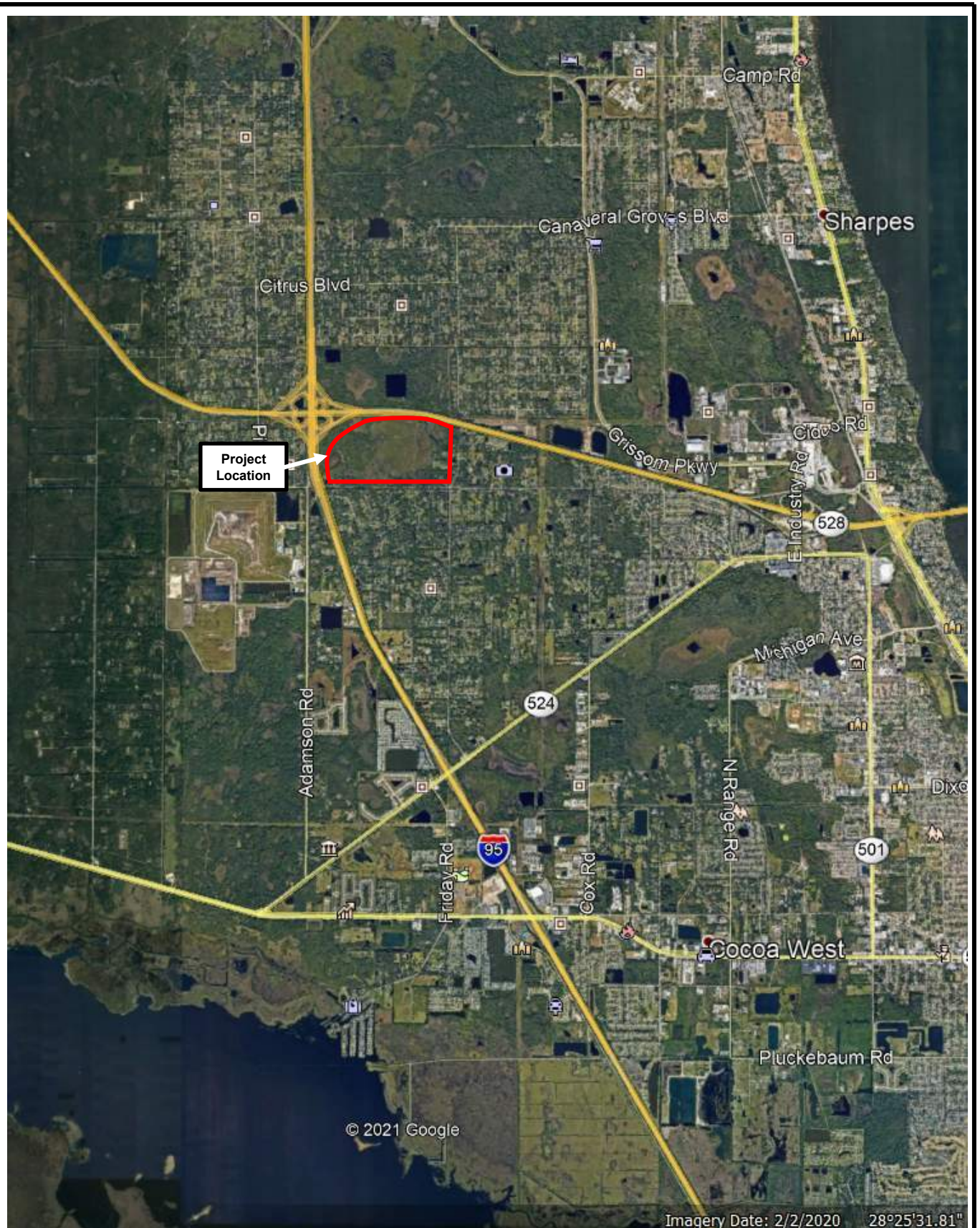
LTG, Inc. (LTG) has been retained by Beachline Partners to prepare a Traffic Impact Study for the proposed Silvestri Property residential development. The development will consist of 418 single-family dwelling units located on the southeast quadrant of Interstate 95 and SR-528 in Cocoa, Florida. Access to the development is proposed via two Project Driveways along James Road. The project build-out year is 2025. Figure 1 shows the location and influence area of the project relative to the surrounding road network. A preliminary site plan showing the layout of the site is attached as Appendix A.

Trip Generation

The a.m. and p.m. peak-hour trip generation for the build-out of the development was determined using the Institute of Transportation Engineers (ITE) 10th edition of the *Trip Generation Manual*. The trip generation for the development is summarized in Table 1.

Table 1
Trip Generation
Silvestri Property

Time Period	Land Use	Land Use Code	Trip Rate Equation	Size	Units	Percent Entering	Percent Exiting	Trips Entering	Trips Exiting	Total Trips
Daily	Single-Family Detached Housing	210	$\ln(T) = 0.92\ln(X) + 2.71$	418.0	DU	50%	50%	1,938	1,939	3,877
Totals:								1,938	1,939	3,877
AM Peak-Hour	Single-Family Detached Housing	210	$T = 0.71(X) + 4.80$	418	DU	25%	75%	75	227	302
Totals:								75	227	302
PM Peak-Hour	Single-Family Detached Housing	210	$\ln(T) = 0.96\ln(X) + 0.20$	418	DU	63%	37%	253	148	401
Totals:								253	148	401



Silvestri Property



NTS

Project Location

Project No.: 5313.01

Figure: 1



LTG

*Engineering
& Planning*

1970 Dairy Road, West Melbourne, Florida 32904
Telephone: 321.499.4679 Fax: 321.499.4680

Trip Distribution

The Central Florida Regional Planning Model version 6.1 will be used to obtain trip distribution. Figure 2 shows the proposed distribution of traffic along the surrounding road network. The following network changes were made to the model:

- The existing Traffic Analysis Zone (TAZ) was connected to the corner of James Road and Friday Road. The existing TAZ was moved to connect to Friday Road and an additional TAZ was added to connect to James Road. The socioeconomic data was split between the two TAZs to reflect existing conditions.

Trip Assignment

Traffic will be assigned to the study area roadways using the a.m. and p.m. peak-hour trip generation and the project trip distribution identified by the model.

Study Area

The Brevard County Traffic Impact Analysis Guidelines were used to determine the project study area. Based on the trip generation criteria, the study area for the project was determined to be a 2-mile radius from the project.

The study area selected consists of the following intersections and roadway segments:

Intersections:

- SR 524 at I-95 SB Off Ramp
- SR 524 at I-95 NB Off Ramp
- SR 524 at Friday Road
- SR 524 at Cox Road
- Friday Road at James Road
- James Road at Project Driveway 1
- James Road at Project Driveway 2

Roadway Segments:

- SR 524 from I-95 to Clearlake Road
- Friday Road from SR 524 to James Road
- James Road from Friday Road to Cox Road
- Cox Road from SR 524 to James Road

Analysis Period

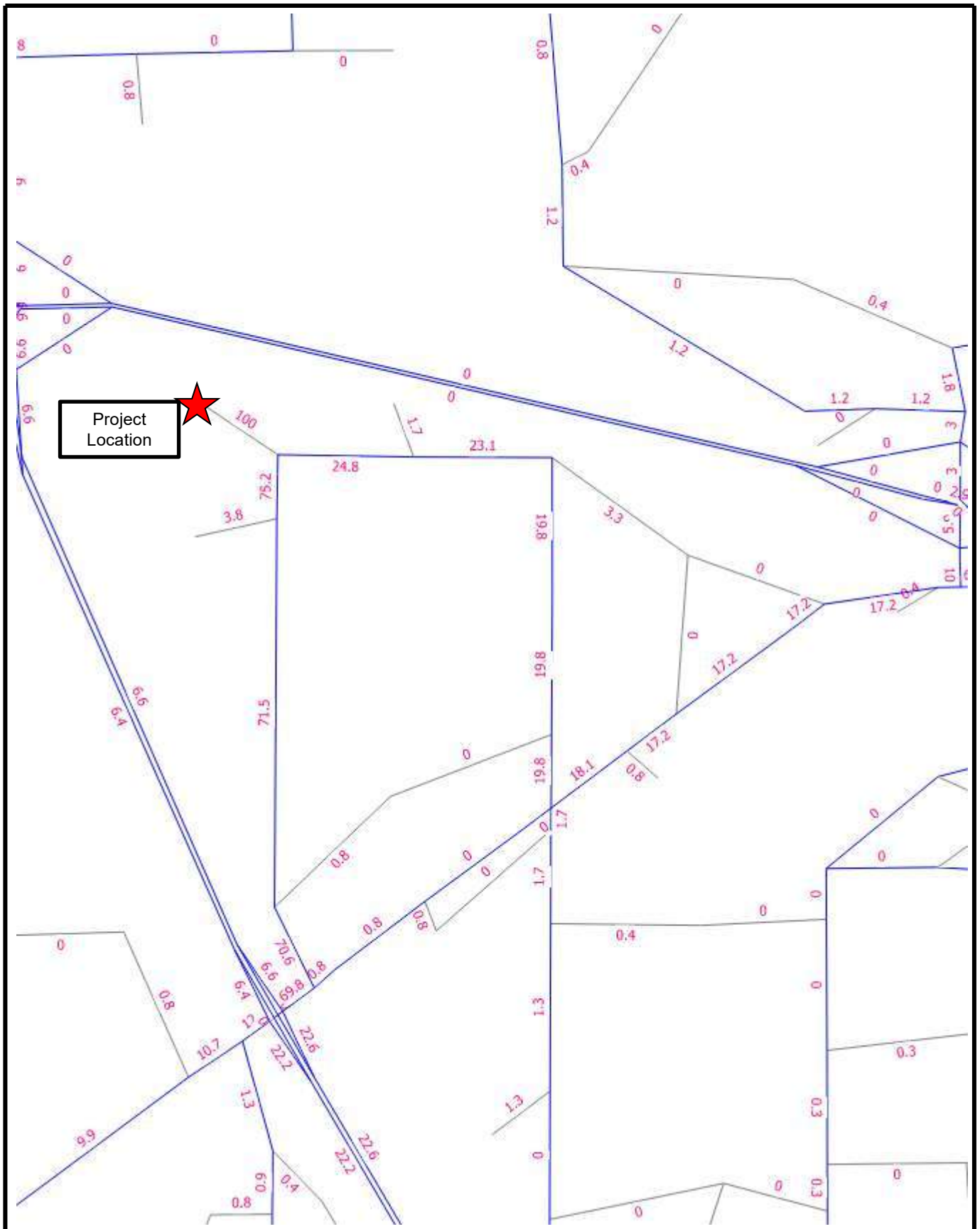
Roadway segments will be analyzed based on p.m. peak-hour traffic and intersections will be analyzed based on a.m. and p.m. peak-hour traffic. The analysis will be conducted under 2021 existing conditions and 2025 build-out conditions.

Traffic Concurrency Spreadsheet

The analysis will be based on the latest concurrency information as obtained from the Florida Department of Transportation (FDOT), the Space Coast Transportation Planning Organization (SCTPO), and City of Cocoa.

Traffic Count Procedures

Manual turning movement counts will be conducted on a Tuesday, Wednesday or Thursday during the a.m. and p.m. peak hour at each study intersection. Turning movement counts will not be older than one year.



Silvestri Property



NTS

Project Distribution

Project No.: 5313.01

Figure: 2



LTG Engineering & Planning

1970 Dairy Road, West Melbourne, Florida 32904
Telephone: 321.499.4679 Fax: 321.499.4680

Sandra Leone
September 2, 2021

Page 5

Build-Out Traffic

The build-out traffic will be developed by the sum of the background traffic derived from growth rates plus the estimated project traffic. Growth rates for each study area roadway segment will be determined by historic growth trends calculated based upon five years of historic count data. A minimum annual growth rate of two percent shall be used unless otherwise documented. In no case shall a negative growth rate be used. All improvements funded for construction within the first three years of the five-year work program will be considered in the analysis.

Segment Analysis – Existing and Build-Out Conditions

If the future projected volume is expected to exceed the maximum service volume of a roadway segment, an additional transportation analysis may be conducted (requires client authorization) to determine the service volume specific to that segment. The procedures documented in the latest version of the FDOT *Quality/Level of Service Handbook* will be used to determine specific capacity, if default capacities are exceeded and if detailed, site-specific capacity analysis has the potential to yield a higher capacity calculation.

Intersection Analysis – A.M. and P.M. Peak-Hour (Existing and Build-Out Conditions)

The operating conditions for both the existing and future conditions at the unsignalized intersections will be analyzed using the *Highway Capacity Software* (HCS). HCS utilizes the procedures outlined in Chapter 20 of the HCM 6th Edition, titled “Two-Way Stop Control Intersections”.

The operating conditions for both the existing and future conditions at the signalized intersections will be evaluated using the *Highway Capacity Software* (HCS). This software utilizes the methodology outlined in Chapter 19 of the HCM 6th Edition, titled “Signalized Intersections”.

Improvements

If warranted, appropriate roadway and intersection improvements will be identified. Conditions for each analysis phase will be analyzed for improvements that are required for mitigation. Site access needs will be addressed. The need for auxiliary lanes will be assessed using the methodology provided by NCHRP Report 457, HCS, and the latest version of the FDOT Design Standards. The driveways will be analyzed under ultimate build-out conditions in order to determine the proper intersection geometry.

Please review and advise if the City of Cocoa is in agreement with this proposed methodology or provide comments relating to preferred revisions. If you have any questions, please contact me at 321.499.4679.

Sincerely,

LTG, Inc.

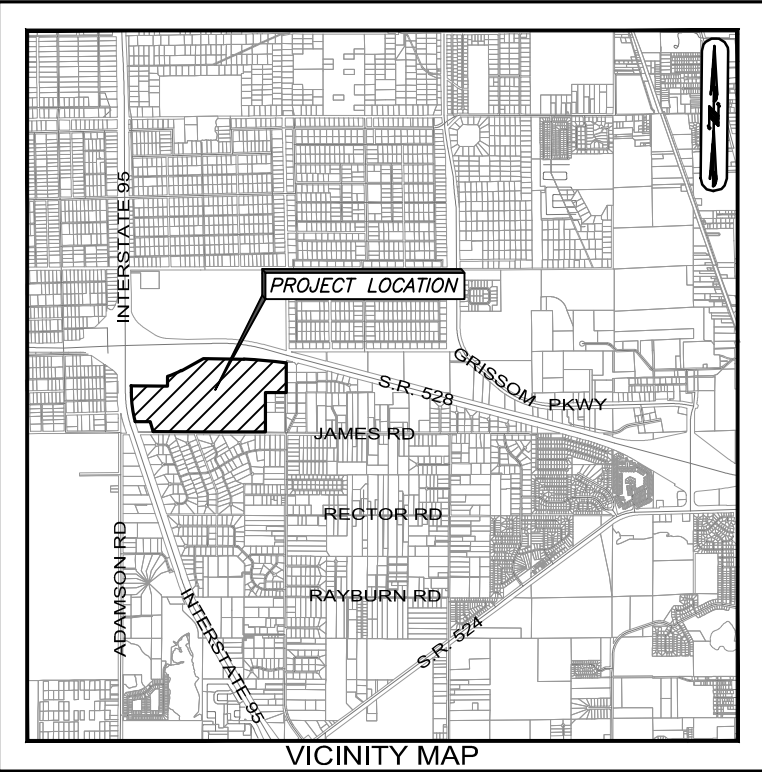
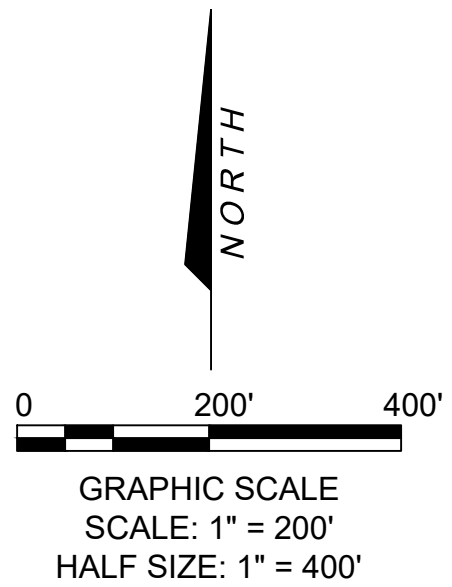


George A. Galan, P.E.
Senior Project Manager

cc: Corrina Gumm, P.E., Brevard County (corrina.gumm@brevardfl.gov)
Devin Swanson, Brevard County (devin.swanson@brevardfl.gov)
Veronica Figueroa-Chanza, E.I., Brevard County (veronica.figueroa-chanza@brevardfl.gov)
Bob Luthra, (bobluthra@pibland.com)
Andy Kirbach, P.E., (akirbach@morgan-engsurv.com)

Appendix A

Site Layout



SITE DATA
GENERAL STATEMENT
THE PROPOSED WORK CONSISTS OF NEW 418 LOT SUBDIVISION ON A 212.10 ACRE SITE.

ENGINEER & SURVEYOR
MORGAN & ASSOCIATES CONSULTING ENGINEERS, INC.
504 NORTH HARBOR CITY BLVD
MELBOURNE, FL 32935
PHONE: (321) 751-6088

DEVELOPER
BEACHLINE PARTNERS LLC
402A HIGHPOINT DRIVE
COCOA, FL 32926

PROPERTY DETAILS
PARCEL ID: 24-35-10-00-502
FLOOD ZONE: X AND A (FIRM MAP 12009C0325G DATED MARCH 17, 2014 & FIRM MAP 12009C0320H DATED JANUARY 29, 2021)
GEOGRAPHIC AREA: SEC 10, TWP 24 SOUTH, RNG 35E
ZONING: PUD WITH STIPULATED SETTLEMENT AGREEMENT PER ORDINANCE NO. 31-2004 RECORDED IN OFFICIAL RECORDS BOOK 3555, PAGE 2621; STIPULATED SETTLEMENT AGREEMENT ESTABLISHING GROSS DENSITY AND OTHER MATTERS, RECORDED JANUARY 9, 2008 IN OFFICIAL RECORDS BOOK 5837, PAGE 2226.
FUTURE LAND USE: RESIDENTIAL
COUNTY: BREVARD
ADDRESS: TO BE DETERMINED
COCOA, FL

PROPOSED NUMBER OF LOTS
418

PROPOSED DENSITY
2 UNITS PER ACRE

MINIMUM LOT DIMENSIONS
WIDTH: 50 FT
DEPTH: 120 FT (STANDARD 125 FT)
AREA: 5,750 SQ FT

MINIMUM LIVING AREA
MINIMUM LIVING AREA UNDER AIR SHALL BE 1,500 SF
AVERAGE LIVING AREA UNDER AIR SHALL BE 1,800 SF
FOOT PRINT = 40' x 60' = 2,400 SF (MINIMUM)

MAXIMUM BUILDING HEIGHT
35 FT

BUILDING SETBACKS	REQUIRED
FRONT	25 FT
SIDE (CORNER)	15 FT
SIDE (INTERIOR)	5 FT
REAR	15 FT

ZONING
NORTH: RU-1-7 CITY OF COCOA
SOUTH: RR-1 BREVARD COUNTY
EAST: RR-1 BREVARD COUNTY
WEST: GU, AU, RR-1 BREVARD COUNTY

SITE AREA	SQUARE FEET	ACREAGE	%
SUBDIVISION LOTS/ROADS:	3,501,147 SF	80.38 AC	37.9%
STORMWATER AREA:	1,238,250 SF	28.43 AC	13.4%
OPEN SPACE:			
COMMUNITY REC AREA:	49,647 SF	1.14 AC	0.5%
PARK AREA:	254,379 SF	5.84 AC	2.8%
PRESERVED WETLANDS:	1,982,238 SF	45.50 AC	21.4%
COMMON/BUFFER SPACE:	2,213,417 SF	50.81 AC	24.0%
TOTAL OPEN SPACE:	4,121,958 SF	94.63 AC	48.7%
TOTAL SITE AREA:	9,239,078 SF	212.10 AC	100%
WETLAND AREA	SQUARE FEET	ACREAGE	%
IMPACTED / MITIGATED WETLANDS:	377,723 SF	8.67 AC	16%
PRESERVED WETLANDS:	1,982,238 SF	45.50 AC	84%
TOTAL WETLANDS AREA:	2,359,961 SF	54.18 AC	100%

WATER STATEMENT
PER THE STIPULATED SETTLEMENT AGREEMENT, WATER TO THE SITE IS TO BE PROVIDED BY THE CITY OF COCOA.

SEWER STATEMENT
SANITARY SEWER TO THE PROPOSED LOTS WILL BE PROVIDED BY A GRAVITY SANITARY SEWER SYSTEM. A LIFT STATION AND FORCE MAIN WILL BE REQUIRED FOR CONNECTION TO THE CITY OF COCOA SYSTEM. PER THE STIPULATED SETTLEMENT AGREEMENT, SANITARY SEWER TO THE SITE IS TO BE PROVIDED BY THE CITY OF COCOA.

LEGAL DESCRIPTION

PARCEL 4
A PORTION OF SECTION 10, LYING SOUTH OF THE SOUTH RIGHT-OF-WAY FOR STATE ROAD #528 COMMONLY KNOWN AS BEELINE HIGHWAY, TOWNSHIP 24 SOUTH, RANGE 35 EAST, BREVARD COUNTY, FLORIDA, EXCEPT EAST 1/2 OF SOUTHEAST 1/4 OF SOUTHEAST 1/4, AND EXCEPT RIGHT-OF-WAY OF INTERSTATE HIGHWAY #95 AND EXCEPT RIGHT-OF-WAY FOR STATE ROAD #528, COMMONLY KNOWN AS BEELINE HIGHWAY, AND EXCEPT ALL OF THE LANDS LYING WESTERLY OF THE EXISTING RIGHT-OF-WAY FOR STATE ROAD (I-95) IN THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 10, TOWNSHIP 24 SOUTH, RANGE 35 EAST, LYING AND BEING IN BREVARD COUNTY, FLORIDA, BEING A PORTION OF THE LANDS AS DESCRIBED IN OFFICIAL RECORDS BOOK 1316, PAGE 224, EXCEPT THE LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 3369, PAGE 3657, ALL IN THE PUBLIC RECORDS OF THE BREVARD COUNTY, FLORIDA.

LESS AND EXCEPT DESCRIBED AS FOLLOWS: PART A COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 10, TOWNSHIP 24 SOUTH, RANGE 35 EAST, BREVARD COUNTY, FLORIDA, AS SHOWN ON THE RIGHT-OF-WAY MAP FOR PROJECT SECTION 70007-2508, RUN THENCE SOUTH 89°44'07" EAST, 561.54 FEET ALONG THE SOUTH LINE OF SAID SECTION 10 TO A POINT ON THE EXISTING EASTERLY RIGHT-OF-WAY LINE OF STATE ROAD 9 (INTERSTATE 95, SECTION 70220-2402), THENCE ALONG SAID EXISTING RIGHT-OF-WAY LINE NORTH 18°18'53" WEST, 52.75 FEET TO THE POINT OF BEGINNING, THENCE CONTINUE NORTH 18°18'53" WEST, 290.22 FEET ALONG SAID EXISTING RIGHT-OF-WAY LINE TO THE BEGINNING OF A CURVE CONCAVE TO THE EAST, HAVING A RADIUS OF 3124.05 FEET, A CENTRAL ANGLE OF 18°07'00", AND A CHORD OF 983.70 FEET THAT BEARS NORTH 09°15'23" WEST, THENCE NORTHERLY ALONG THE ARC OF SAID CURVE 987.81 FEET FOR THE END OF SAID CURVE, THENCE CONTINUE ALONG SAID EXISTING RIGHT-OF-WAY LINE NORTH 00°11'53" WEST, A DISTANCE OF 1390.76 FEET TO THE SOUTHERLY EXISTING RIGHT-OF-WAY LINE OF STATE ROAD 528 (SECTION 70007-2501), THENCE NORTH 88°38'31" EAST, 1540.46 FEET ALONG SAID SOUTHERLY EXISTING RIGHT-OF-WAY LINE TO A POINT OF

CURVATURE, OF A CURVE CONCAVE TO THE SOUTHEAST, HAVING A RADIUS OF 600.49 FEET, A CENTRAL ANGLE OF 32°11'38", AND A CHORD OF 332.99 FEET THAT BEARS SOUTH 72°30'43" WEST, THENCE DEPARTING SAID EXISTING RIGHT-OF-WAY LINE, RUN WESTERLY ALONG THE ARC OF SAID CURVE 337.41 FEET FOR THE END OF SAID CURVE, THENCE SOUTH 56°24'54" WEST, 1093.61 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE EAST, HAVING A RADIUS OF 600.49 FEET, A CENTRAL ANGLE OF 56°36'47", AND A CHORD OF 589.50 FEET THAT BEARS SOUTH 28°06'30" WEST, THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE 593.34 FEET TO THE END OF SAID CURVE, THENCE SOUTH 00°11'53" EAST, 205.36 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE EAST, HAVING A RADIUS OF 3725.27 FEET, A CENTRAL ANGLE OF 18°07'00" AND A CHORD OF 1173.15 FEET THAT BEARS SOUTH 09°15'23" EAST, THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE 1178.06 FEET TO THE END OF SAID CURVE, THENCE SOUTH 18°18'53" EAST, 109.59 FEET TO THE NORTH RIGHT-OF-WAY LINE OF JAMES ROAD, A 50 FOOT DEDICATED STREET, THENCE NORTH 89°44'07" WEST ALONG SAID RIGHT-OF-WAY LINE 12.66 FEET TO THE POINT OF BEGINNING.

BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PARCEL OF LAND LYING IN SECTION 10, TOWNSHIP 24 SOUTH, RANGE 35 EAST, BREVARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTH 1/4 CORNER OF SECTION 10, TOWNSHIP 24 SOUTH, RANGE 35 EAST, BREVARD COUNTY, FLORIDA, RUN THENCE NORTH 00°15'06" WEST, A DISTANCE OF 50.00 FEET, TO A POINT ON THE NORTH RIGHT-OF-WAY LINE OF JAMES ROAD, A 50 FOOT DEDICATED STREET, THENCE NORTH 89°44'07" WEST, ALONG SAID NORTH RIGHT-OF-WAY LINE OF JAMES ROAD, A DISTANCE OF 2113.38 FEET, TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 9 (INTERSTATE 95), THENCE NORTH 18°18'53" WEST ALONG THE SAID EAST RIGHT-OF-WAY LINE OF STATE ROAD 9 (INTERSTATE 95), A DISTANCE OF 109.59 FEET TO A POINT OF CURVATURE OF A CURVE CONCAVE TO

THE EAST, HAVING A RADIUS OF 3725.72 FEET, A CENTRAL ANGLE OF 18°07'00", THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE A DISTANCE OF 1178.06 FEET, THENCE NORTH 00°11'53" WEST, A DISTANCE OF 205.36 FEET, TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 528 (ALSO KNOWN AS THE "BEELINE EXPRESSWAY" FORMERLY KNOWN AS STATE ROAD NO. 524) AND A POINT OF CURVATURE OF A CURVE CONCAVE TO THE EAST, HAVING A RADIUS OF 600.49 FEET A CENTRAL ANGLE OF 56°36'47", THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE A DISTANCE OF 593.34 FEET, THENCE NORTH 56°24'54" EAST, A DISTANCE OF 1093.61 FEET, TO A POINT OF CURVATURE OF A CURVE CONCAVE TO THE SOUTHEAST, HAVING A RADIUS OF 600.49 FEET, A CENTRAL ANGLE OF 32°11'38", THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE, A DISTANCE OF 337.41 FEET, THENCE NORTH 88°36'31" EAST, A DISTANCE OF 1179.23 FEET TO A POINT OF CURVATURE OF A CURVE CONCAVE TO THE SOUTH, HAVING A RADIUS OF 5579.58 FEET, A CENTRAL ANGLE OF 16°24'08", THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE A DISTANCE OF 1597.28 FEET, THENCE SOUTH 74°59'21" EAST A DISTANCE OF 774.87 FEET, TO A POINT ON THE EAST LINE OF SAID SECTION 10, THENCE SOUTH 00°04'36" EAST ALONG THE EAST LINE OF SAID SECTION 10, A DISTANCE OF 1056.66 FEET, THENCE NORTH 89°52'22" WEST, A DISTANCE OF 668.67 FEET, THENCE SOUTH 00°07'14" EAST, A DISTANCE OF 1273.27 FEET, TO A POINT ON THE AFOREMENTIONED JAMES ROAD, A 50 FEET DEDICATED STREET, THENCE NORTH 89°51'39" WEST, ALONG SAID NORTH RIGHT-OF-WAY LINE A DISTANCE OF 2003.09 FEET, TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PARCEL CONVEYED BY ORDER OF TAKING IN THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION RECORDED FEBRUARY 8, 2008 IN OFFICIAL RECORDS BOOK 5843, PAGE 351, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

AND ALSO LESS AND EXCEPT LANDS DESCRIBED IN DEEDS TO BREVARD COUNTY PROPERTY HOLDINGS, LLC AS RECORDED IN OFFICIAL RECORDS BOOK 7000, PAGE 2377 AND OFFICIAL RECORDS BOOK 7434, PAGE 1216 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

Revision	Designed: AK	Date: 08/03/2021
	Drawn: DD	Date: 08/03/2021
	Checked: AK	Date: 08/03/2021

BEACHLINE
PARTNERS

PRELIMINARY SITE PLAN

MORGAN & Associates
Consulting Engineers, Inc.
Civil Engineers and Land Surveyors - E.R. # 7903 / L.R. # 7940
504 North Harbor City Blvd., Melbourne, FL 32935
Phone (321) 751-6088 Fax (321) 751-6089

Project #: COCOA 195
Drawing #: CIVIL
Scale: Horiz. 1" = 200'
Vert. N/A
Sheet #: **C-1**
Sheet 1 of 1

Steven J. Morgan P.E. FL. Reg. #50632
Andreas H. Kirbach P.E. FL. Reg. #49431
Date: _____

APPENDIX C
RAW TURNING MOVEMENT COUNTS
&
FDOT SEASONAL FACTOR

DE TRAFFIC

detraffic.com

(386) 341-4186

I-95 SB Ramp at SR 524

Brevard County, FL

File Name : 95 Sb at 524

Site Code : 00000001

Start Date : 10/20/2022

Page No : 1

Groups Printed- Automobiles - Commercial

	I-95 SB Ramp Southbound				SR 524 Westbound				N/A Northbound				SR 524 Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	17	0	11	28	50	31	0	81	0	0	0	0	0	38	41	79	188
07:15 AM	20	0	17	37	77	44	0	121	0	0	0	0	0	63	53	116	274
07:30 AM	35	0	20	55	98	49	0	147	0	0	0	0	0	58	43	101	303
07:45 AM	38	0	18	56	94	40	0	134	0	0	0	0	0	70	54	124	314
Total	110	0	66	176	319	164	0	483	0	0	0	0	0	229	191	420	1079
08:00 AM	29	0	20	49	61	39	0	100	0	0	0	0	0	61	43	104	253
08:15 AM	26	0	24	50	50	47	0	97	0	0	0	0	0	68	42	110	257
08:30 AM	29	0	22	51	53	40	0	93	0	0	0	0	0	77	38	115	259
08:45 AM	27	0	20	47	52	39	0	91	0	0	0	0	0	55	34	89	227
Total	111	0	86	197	216	165	0	381	0	0	0	0	0	261	157	418	996
04:00 PM	22	0	24	46	69	79	0	148	0	0	0	0	0	55	25	80	274
04:15 PM	33	0	36	69	63	89	0	152	0	0	0	0	0	58	29	87	308
04:30 PM	26	0	26	52	65	98	0	163	0	0	0	0	0	48	23	71	286
04:45 PM	21	0	28	49	64	104	0	168	0	0	0	0	0	64	27	91	308
Total	102	0	114	216	261	370	0	631	0	0	0	0	0	225	104	329	1176
05:00 PM	26	0	29	55	75	100	0	175	0	0	0	0	0	56	28	84	314
05:15 PM	26	0	30	56	78	103	0	181	0	0	0	0	0	45	27	72	309
05:30 PM	26	0	26	52	70	86	0	156	0	0	0	0	0	54	27	81	289
05:45 PM	27	0	20	47	59	78	0	137	0	0	0	0	0	51	28	79	263
Total	105	0	105	210	282	367	0	649	0	0	0	0	0	206	110	316	1175
Grand Total	428	0	371	799	1078	1066	0	2144	0	0	0	0	0	921	562	1483	4426
Apprch %	53.6	0	46.4		50.3	49.7	0		0	0	0		0	62.1	37.9		
Total %	9.7	0	8.4	18.1	24.4	24.1	0	48.4	0	0	0	0	0	20.8	12.7	33.5	
Automobiles	341	0	348	689	892	972	0	1864	0	0	0	0	0	869	519	1388	3941
% Automobiles	79.7	0	93.8	86.2	82.7	91.2	0	86.9	0	0	0	0	0	94.4	92.3	93.6	89
Commercial	87	0	23	110	186	94	0	280	0	0	0	0	0	52	43	95	485
% Commercial	20.3	0	6.2	13.8	17.3	8.8	0	13.1	0	0	0	0	0	5.6	7.7	6.4	11

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I-95 SB Ramp at SR 524

Brevard County, FL

File Name : 95 Sb at 524

Site Code : 00000001

Start Date : 10/20/2022

Page No : 2

	I-95 SB Ramp Southbound				SR 524 Westbound				N/A Northbound				SR 524 Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	20	0	17	37	77	44	0	121	0	0	0	0	0	63	53	116	274
07:30 AM	35	0	20	55	98	49	0	147	0	0	0	0	0	58	43	101	303
07:45 AM	38	0	18	56	94	40	0	134	0	0	0	0	0	70	54	124	314
08:00 AM	29	0	20	49	61	39	0	100	0	0	0	0	0	61	43	104	253
Total Volume	122	0	75	197	330	172	0	502	0	0	0	0	0	252	193	445	1144
% App. Total	61.9	0	38.1		65.7	34.3	0		0	0	0		0	56.6	43.4		
PHF	.803	.000	.938	.879	.842	.878	.000	.854	.000	.000	.000	.000	.000	.900	.894	.897	.911
Automobiles	93	0	69	162	260	138	0	398	0	0	0	0	0	235	189	424	984
% Automobiles	76.2	0	92.0	82.2	78.8	80.2	0	79.3	0	0	0	0	0	93.3	97.9	95.3	86.0
Commercial	29	0	6	35	70	34	0	104	0	0	0	0	0	17	4	21	160
% Commercial	23.8	0	8.0	17.8	21.2	19.8	0	20.7	0	0	0	0	0	6.7	2.1	4.7	14.0

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I-95 SB Ramp at SR 524

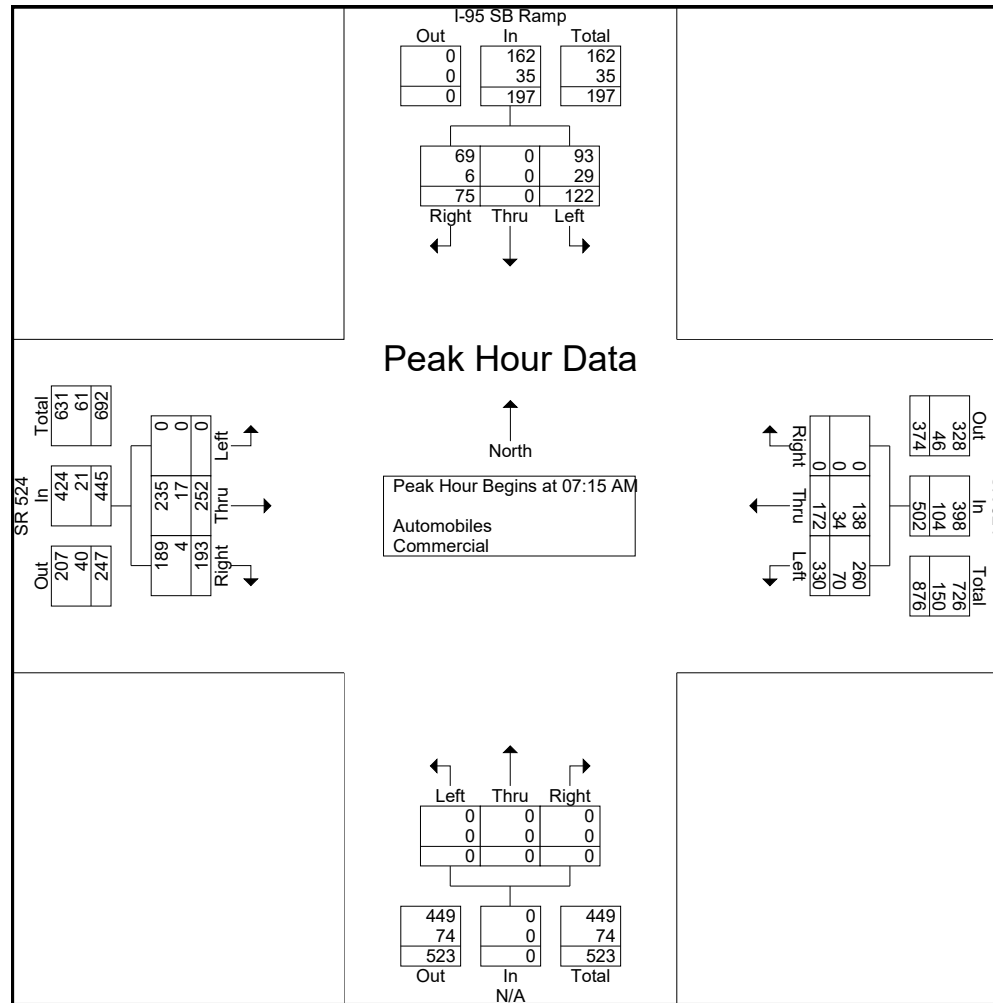
Brevard County, FL

File Name : 95 Sb at 524

Site Code : 00000001

Start Date : 10/20/2022

Page No : 3



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I-95 SB Ramp at SR 524

Brevard County, FL

File Name : 95 Sb at 524

Site Code : 00000001

Start Date : 10/20/2022

Page No : 4

	I-95 SB Ramp Southbound				SR 524 Westbound				N/A Northbound				SR 524 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	21	0	28	49	64	104	0	168	0	0	0	0	0	64	27	91	308
05:00 PM	26	0	29	55	75	100	0	175	0	0	0	0	0	56	28	84	314
05:15 PM	26	0	30	56	78	103	0	181	0	0	0	0	0	45	27	72	309
05:30 PM	26	0	26	52	70	86	0	156	0	0	0	0	0	54	27	81	289
Total Volume	99	0	113	212	287	393	0	680	0	0	0	0	0	219	109	328	1220
% App. Total	46.7	0	53.3		42.2	57.8	0		0	0	0		0	66.8	33.2		
PHF	.952	.000	.942	.946	.920	.945	.000	.939	.000	.000	.000	.000	.000	.855	.973	.901	.971
Automobiles	84	0	108	192	255	385	0	640	0	0	0	0	0	209	94	303	1135
% Automobiles	84.8	0	95.6	90.6	88.9	98.0	0	94.1	0	0	0	0	0	95.4	86.2	92.4	93.0
Commercial	15	0	5	20	32	8	0	40	0	0	0	0	0	10	15	25	85
% Commercial	15.2	0	4.4	9.4	11.1	2.0	0	5.9	0	0	0	0	0	4.6	13.8	7.6	7.0

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I-95 SB Ramp at SR 524

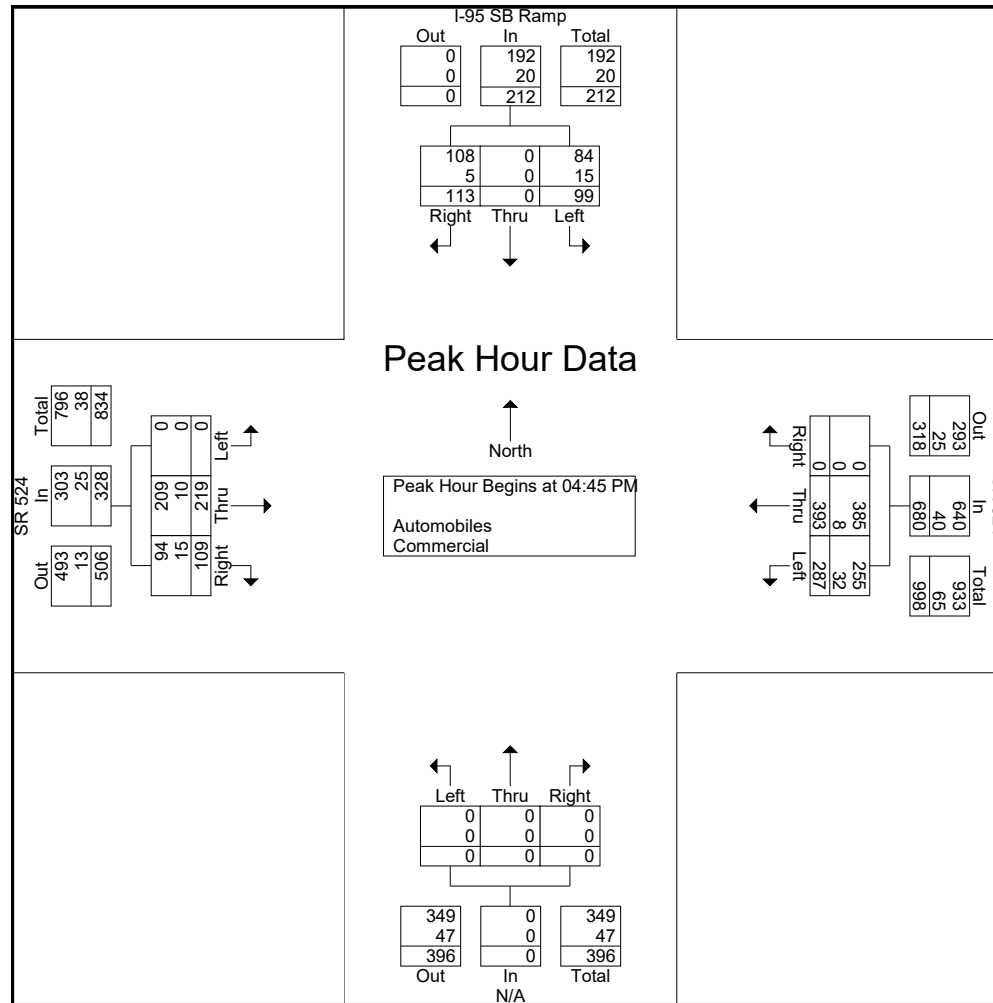
Brevard County, FL

File Name : 95 Sb at 524

Site Code : 00000001

Start Date : 10/20/2022

Page No : 5



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I-95 SB Ramp at SR 524
Brevard County, FL

File Name : 95 Sb at 524
Site Code : 00000001
Start Date : 10/20/2022
Page No : 6

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I-95 NB Ramp at SR 524
Brevard County, FL

File Name : 95 NB at 524
Site Code : 00000002
Start Date : 10/20/2022
Page No : 1

Groups Printed- Automobiles - Commercial

	N/A Southbound				SR 524 Westbound				I-95 NB Ramp Northbound				SR 524 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	74	25	99	13	0	43	56	11	57	0	68	223
07:15 AM	0	0	0	0	0	113	28	141	20	0	61	81	20	60	0	80	302
07:30 AM	0	0	0	0	0	117	23	140	16	0	51	67	25	81	0	106	313
07:45 AM	0	0	0	0	0	101	32	133	19	0	65	84	18	72	0	90	307
Total	0	0	0	0	0	405	108	513	68	0	220	288	74	270	0	344	1145
08:00 AM	0	0	0	0	0	94	41	135	21	0	71	92	18	88	0	106	333
08:15 AM	0	0	0	0	0	86	37	123	14	0	51	65	19	85	0	104	292
08:30 AM	0	0	0	0	0	97	29	126	12	0	50	62	18	69	0	87	275
08:45 AM	0	0	0	0	0	81	32	113	11	0	53	64	14	50	0	64	241
Total	0	0	0	0	0	358	139	497	58	0	225	283	69	292	0	361	1141
04:00 PM	0	0	0	0	0	112	29	141	26	0	60	86	18	65	0	83	310
04:15 PM	0	0	0	0	0	113	39	152	39	0	69	108	18	71	0	89	349
04:30 PM	0	0	0	0	0	128	45	173	35	0	50	85	19	62	0	81	339
04:45 PM	0	0	0	0	0	130	29	159	47	0	75	122	19	57	0	76	357
Total	0	0	0	0	0	483	142	625	147	0	254	401	74	255	0	329	1355
05:00 PM	0	0	0	0	0	121	19	140	55	0	75	130	22	61	0	83	353
05:15 PM	0	0	0	0	0	114	30	144	51	0	88	139	18	75	0	93	376
05:30 PM	0	0	0	0	0	119	22	141	38	0	79	117	23	63	0	86	344
05:45 PM	0	0	0	0	0	108	27	135	38	0	63	101	18	56	0	74	310
Total	0	0	0	0	0	462	98	560	182	0	305	487	81	255	0	336	1383
Grand Total	0	0	0	0	0	1708	487	2195	455	0	1004	1459	298	1072	0	1370	5024
Apprch %	0	0	0		0	77.8	22.2		31.2	0	68.8		21.8	78.2	0		
Total %	0	0	0	0	0	34	9.7	43.7	9.1	0	20	29	5.9	21.3	0	27.3	
Automobiles	0	0	0	0	0	1498	390	1888	411	0	856	1267	282	915	0	1197	4352
% Automobiles	0	0	0	0	0	87.7	80.1	86	90.3	0	85.3	86.8	94.6	85.4	0	87.4	86.6
Commercial	0	0	0	0	0	210	97	307	44	0	148	192	16	157	0	173	672
% Commercial	0	0	0	0	0	12.3	19.9	14	9.7	0	14.7	13.2	5.4	14.6	0	12.6	13.4

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I-95 NB Ramp at SR 524

Brevard County, FL

File Name : 95 NB at 524

Site Code : 00000002

Start Date : 10/20/2022

Page No : 2

	N/A Southbound				SR 524 Westbound				I-95 NB Ramp Northbound				SR 524 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	113	28	141	20	0	61	81	20	60	0	80	302
07:30 AM	0	0	0	0	0	117	23	140	16	0	51	67	25	81	0	106	313
07:45 AM	0	0	0	0	0	101	32	133	19	0	65	84	18	72	0	90	307
08:00 AM	0	0	0	0	0	94	41	135	21	0	71	92	18	88	0	106	333
Total Volume	0	0	0	0	0	425	124	549	76	0	248	324	81	301	0	382	1255
% App. Total	0	0	0	0	0	77.4	22.6		23.5	0	76.5		21.2	78.8	0		
PHF	.000	.000	.000	.000	.000	.908	.756	.973	.905	.000	.873	.880	.810	.855	.000	.901	.942
Automobiles	0	0	0	0	0	359	100	459	70	0	211	281	77	246	0	323	1063
% Automobiles	0	0	0	0	0	84.5	80.6	83.6	92.1	0	85.1	86.7	95.1	81.7	0	84.6	84.7
Commercial	0	0	0	0	0	66	24	90	6	0	37	43	4	55	0	59	192
% Commercial	0	0	0	0	0	15.5	19.4	16.4	7.9	0	14.9	13.3	4.9	18.3	0	15.4	15.3

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I-95 NB Ramp at SR 524

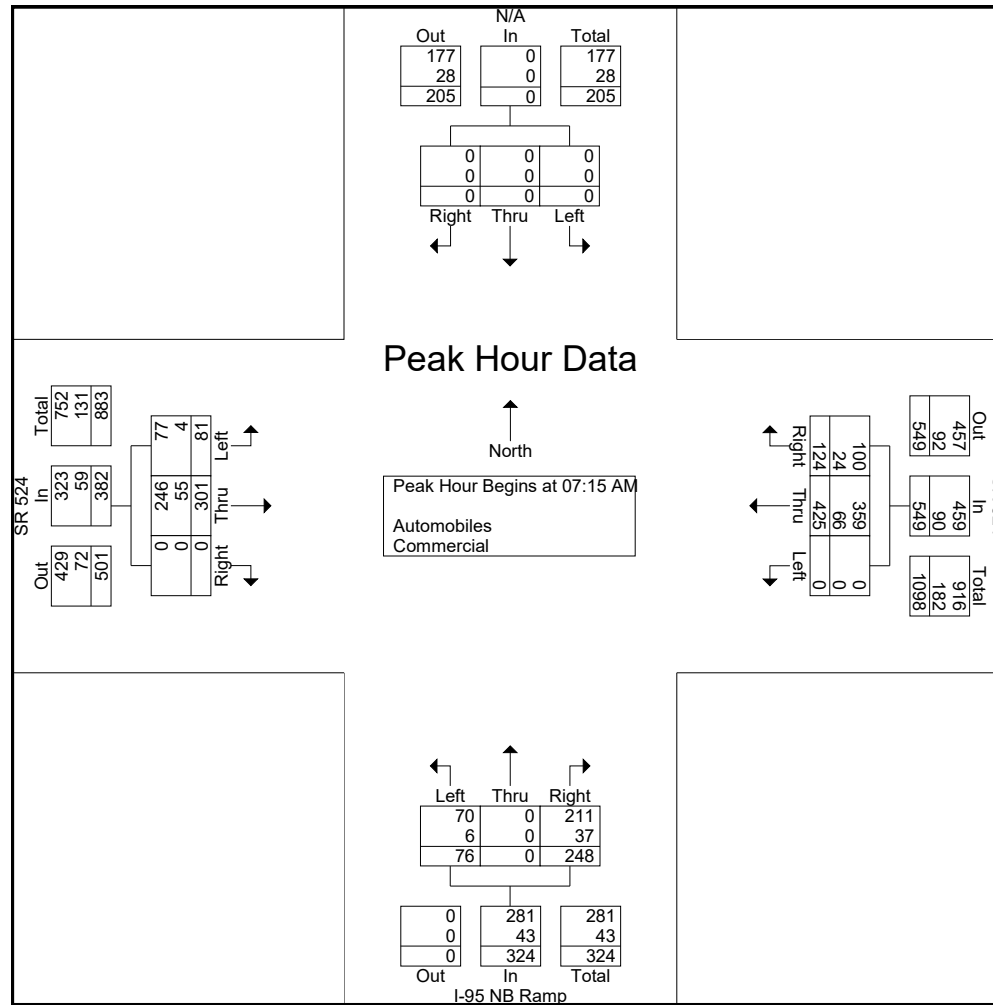
Brevard County, FL

File Name : 95 NB at 524

Site Code : 00000002

Start Date : 10/20/2022

Page No : 3



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I-95 NB Ramp at SR 524

Brevard County, FL

File Name : 95 NB at 524

Site Code : 00000002

Start Date : 10/20/2022

Page No : 4

	N/A Southbound				SR 524 Westbound				I-95 NB Ramp Northbound				SR 524 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	130	29	159	47	0	75	122	19	57	0	76	357
05:00 PM	0	0	0	0	0	121	19	140	55	0	75	130	22	61	0	83	353
05:15 PM	0	0	0	0	0	114	30	144	51	0	88	139	18	75	0	93	376
05:30 PM	0	0	0	0	0	119	22	141	38	0	79	117	23	63	0	86	344
Total Volume	0	0	0	0	0	484	100	584	191	0	317	508	82	256	0	338	1430
% App. Total	0	0	0		0	82.9	17.1		37.6	0	62.4		24.3	75.7	0		
PHF	.000	.000	.000	.000	.000	.931	.833	.918	.868	.000	.901	.914	.891	.853	.000	.909	.951
Automobiles	0	0	0	0	0	451	81	532	175	0	278	453	79	226	0	305	1290
% Automobiles	0	0	0	0	0	93.2	81.0	91.1	91.6	0	87.7	89.2	96.3	88.3	0	90.2	90.2
Commercial	0	0	0	0	0	33	19	52	16	0	39	55	3	30	0	33	140
% Commercial	0	0	0	0	0	6.8	19.0	8.9	8.4	0	12.3	10.8	3.7	11.7	0	9.8	9.8

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I-95 NB Ramp at SR 524

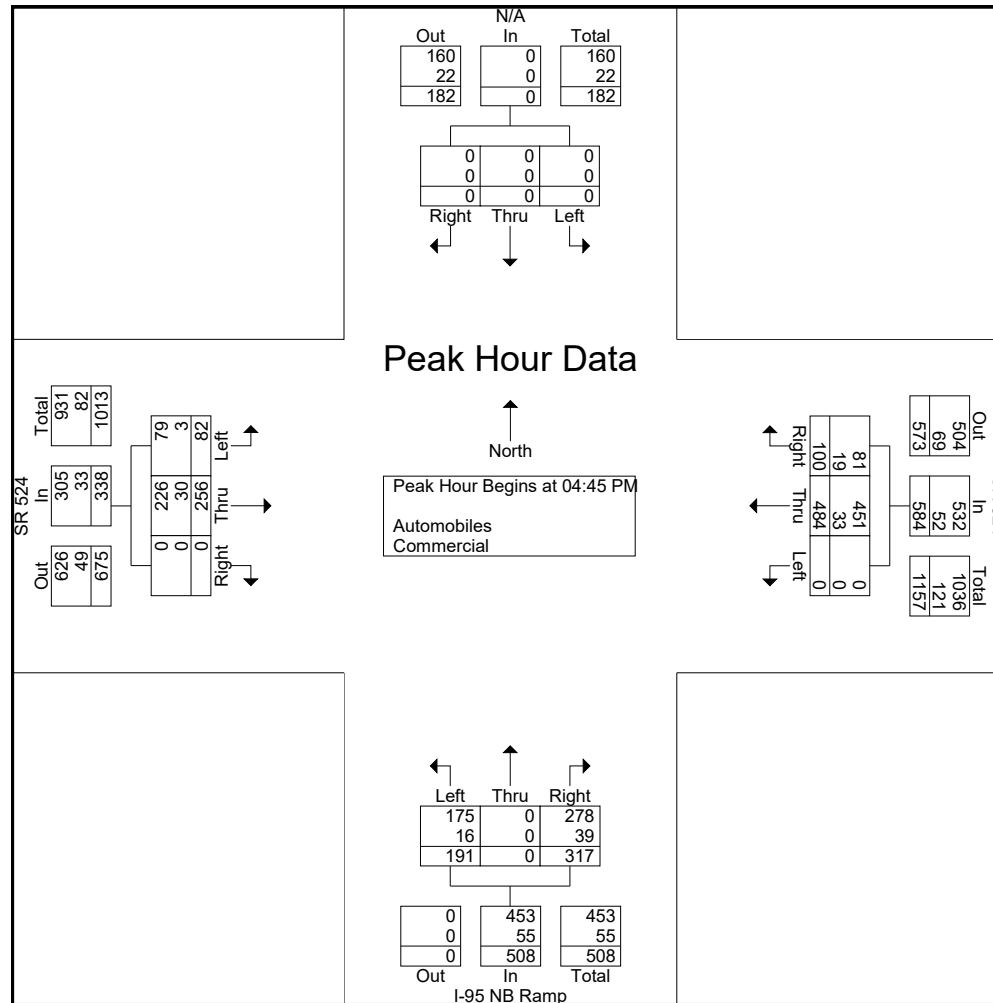
Brevard County, FL

File Name : 95 NB at 524

Site Code : 00000002

Start Date : 10/20/2022

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I-95 NB Ramp at SR 524
Brevard County, FL

File Name : 95 NB at 524
Site Code : 00000002
Start Date : 10/20/2022
Page No : 6

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DE TRAFFIC

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(386) 341-4186

Friday Rd at SR 524

Brevard County, FL

File Name : E Friday at 524

Site Code : 00000003

Start Date : 10/20/2022

Page No : 1

Groups Printed- Automobiles - Commercial

	Friday Rd Southbound				SR 524 Westbound				Gas Station Northbound				SR 524 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	1	26	33	12	58	8	78	17	2	15	34	11	69	16	96	241
07:15 AM	4	2	28	34	8	73	5	86	30	3	15	48	16	73	25	114	282
07:30 AM	8	0	19	27	10	81	10	101	36	3	21	60	11	86	25	122	310
07:45 AM	9	2	26	37	8	74	9	91	35	3	14	52	9	94	26	129	309
Total	27	5	99	131	38	286	32	356	118	11	65	194	47	322	92	461	1142
08:00 AM	10	1	20	31	12	83	8	103	35	0	13	48	13	107	28	148	330
08:15 AM	9	2	24	35	9	80	10	99	29	3	11	43	16	98	26	140	317
08:30 AM	14	2	19	35	9	68	10	87	35	1	13	49	14	79	24	117	288
08:45 AM	9	2	16	27	10	74	10	94	28	5	18	51	14	71	24	109	281
Total	42	7	79	128	40	305	38	383	127	9	55	191	57	355	102	514	1216
04:00 PM	6	6	11	23	7	105	12	124	22	4	11	37	19	89	22	130	314
04:15 PM	8	5	19	32	5	109	17	131	26	6	17	49	22	107	32	161	373
04:30 PM	11	5	18	34	10	129	16	155	24	5	14	43	21	78	32	131	363
04:45 PM	9	8	22	39	5	108	15	128	28	6	17	51	24	91	27	142	360
Total	34	24	70	128	27	451	60	538	100	21	59	180	86	365	113	564	1410
05:00 PM	9	6	19	34	9	102	12	123	28	5	15	48	19	96	24	139	344
05:15 PM	12	5	21	38	9	105	15	129	25	5	15	45	24	106	34	164	376
05:30 PM	9	7	16	32	10	104	10	124	30	5	17	52	19	97	26	142	350
05:45 PM	8	4	11	23	9	99	11	119	24	6	16	46	23	81	19	123	311
Total	38	22	67	127	37	410	48	495	107	21	63	191	85	380	103	568	1381
Grand Total	141	58	315	514	142	1452	178	1772	452	62	242	756	275	1422	410	2107	5149
Apprch %	27.4	11.3	61.3		8	81.9	10		59.8	8.2	32		13.1	67.5	19.5		
Total %	2.7	1.1	6.1	10	2.8	28.2	3.5	34.4	8.8	1.2	4.7	14.7	5.3	27.6	8	40.9	
Automobiles	132	54	302	488	92	1326	162	1580	271	53	154	478	265	1273	271	1809	4355
% Automobiles	93.6	93.1	95.9	94.9	64.8	91.3	91	89.2	60	85.5	63.6	63.2	96.4	89.5	66.1	85.9	84.6
Commercial	9	4	13	26	50	126	16	192	181	9	88	278	10	149	139	298	794
% Commercial	6.4	6.9	4.1	5.1	35.2	8.7	9	10.8	40	14.5	36.4	36.8	3.6	10.5	33.9	14.1	15.4

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(386) 341-4186

Friday Rd at SR 524

Brevard County, FL

File Name : E Friday at 524

Site Code : 00000003

Start Date : 10/20/2022

Page No : 2

	Friday Rd Southbound				SR 524 Westbound				Gas Station Northbound				SR 524 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	8	0	19	27	10	81	10	101	36	3	21	60	11	86	25	122	310
07:45 AM	9	2	26	37	8	74	9	91	35	3	14	52	9	94	26	129	309
08:00 AM	10	1	20	31	12	83	8	103	35	0	13	48	13	107	28	148	330
08:15 AM	9	2	24	35	9	80	10	99	29	3	11	43	16	98	26	140	317
Total Volume	36	5	89	130	39	318	37	394	135	9	59	203	49	385	105	539	1266
% App. Total	27.7	3.8	68.5		9.9	80.7	9.4		66.5	4.4	29.1		9.1	71.4	19.5		
PHF	.900	.625	.856	.878	.813	.958	.925	.956	.938	.750	.702	.846	.766	.900	.938	.910	.959
Automobiles	32	5	84	121	20	278	35	333	74	6	41	121	46	353	78	477	1052
% Automobiles	88.9	100	94.4	93.1	51.3	87.4	94.6	84.5	54.8	66.7	69.5	59.6	93.9	91.7	74.3	88.5	83.1
Commercial	4	0	5	9	19	40	2	61	61	3	18	82	3	32	27	62	214
% Commercial	11.1	0	5.6	6.9	48.7	12.6	5.4	15.5	45.2	33.3	30.5	40.4	6.1	8.3	25.7	11.5	16.9

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Friday Rd at SR 524

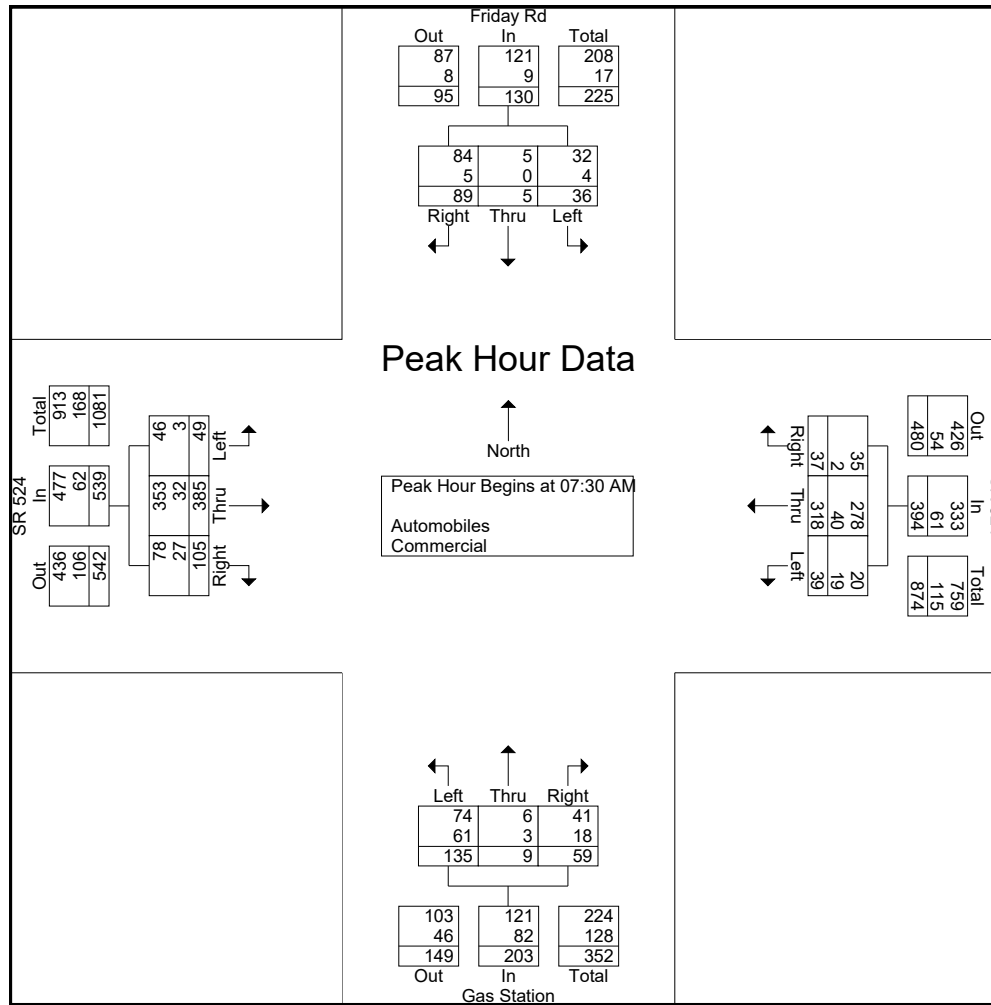
Brevard County, FL

File Name : E Friday at 524

Site Code : 00000003

Start Date : 10/20/2022

Page No : 3



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(386) 341-4186

Friday Rd at SR 524

Brevard County, FL

File Name : E Friday at 524

Site Code : 00000003

Start Date : 10/20/2022

Page No : 4

	Friday Rd Southbound				SR 524 Westbound				Gas Station Northbound				SR 524 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	11	5	18	34	10	129	16	155	24	5	14	43	21	78	32	131	363
04:45 PM	9	8	22	39	5	108	15	128	28	6	17	51	24	91	27	142	360
05:00 PM	9	6	19	34	9	102	12	123	28	5	15	48	19	96	24	139	344
05:15 PM	12	5	21	38	9	105	15	129	25	5	15	45	24	106	34	164	376
Total Volume	41	24	80	145	33	444	58	535	105	21	61	187	88	371	117	576	1443
% App. Total	28.3	16.6	55.2		6.2	83	10.8		56.1	11.2	32.6		15.3	64.4	20.3		
PHF	.854	.750	.909	.929	.825	.860	.906	.863	.938	.875	.897	.917	.917	.875	.860	.878	.959
Automobiles	37	22	76	135	27	418	53	498	65	19	34	118	85	328	74	487	1238
% Automobiles	90.2	91.7	95.0	93.1	81.8	94.1	91.4	93.1	61.9	90.5	55.7	63.1	96.6	88.4	63.2	84.5	85.8
Commercial	4	2	4	10	6	26	5	37	40	2	27	69	3	43	43	89	205
% Commercial	9.8	8.3	5.0	6.9	18.2	5.9	8.6	6.9	38.1	9.5	44.3	36.9	3.4	11.6	36.8	15.5	14.2

DE TRAFFIC

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(386) 341-4186

Friday Rd at SR 524

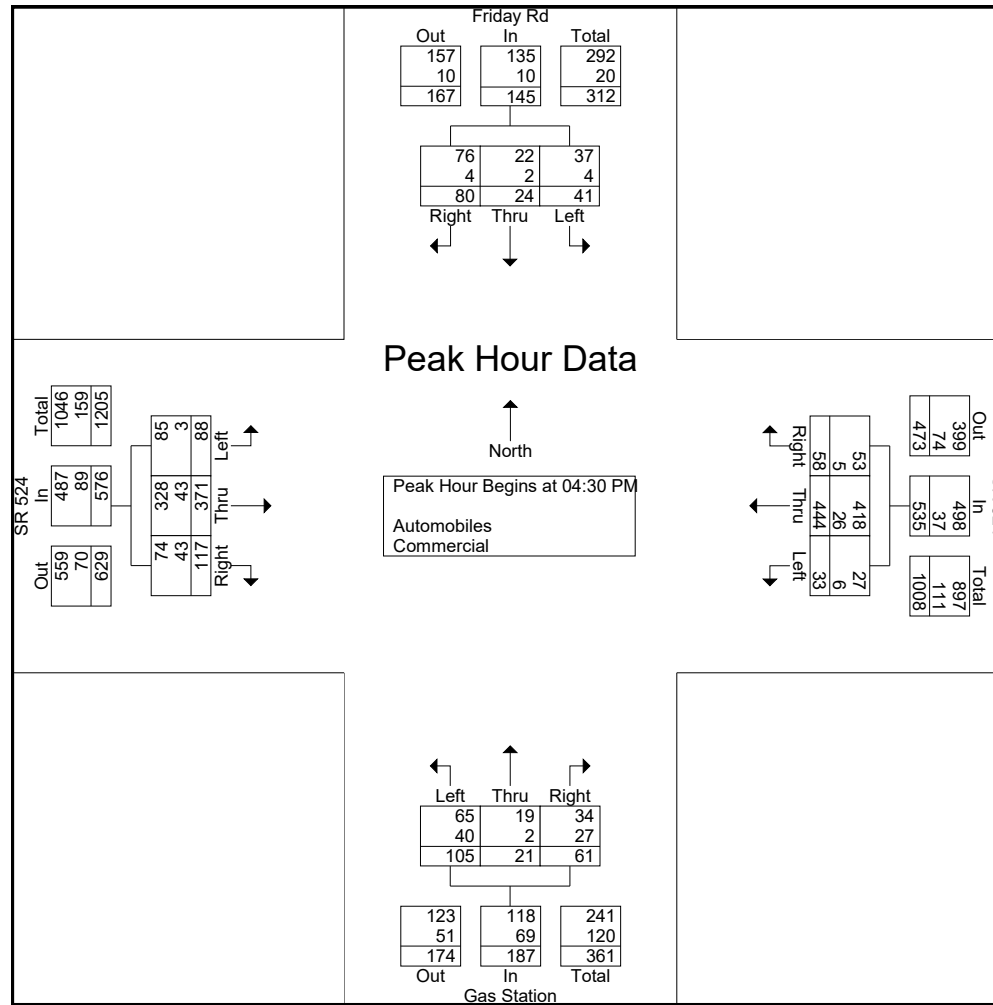
Brevard County, FL

File Name : E Friday at 524

Site Code : 00000003

Start Date : 10/20/2022

Page No : 5



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Friday Rd at SR 524
Brevard County, FL

(386) 341-4186

Friday Rd at SR 524

Brevard County, FL

Site Code : 00000003

Start Date : 10/20/2022

Page No : 6

[illegible]

DE TRAFFIC

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(386) 341-4186
Cox Rd at SR 524
Brevard County, FL

File Name : Cox at 524
Site Code : 00000004
Start Date : 10/20/2022
Page No : 1

Groups Printed- Automobiles - Commercial

	Cox Rd Southbound				SR 524 Westbound				Cox Rd Northbound				SR 524 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	9	7	7	23	19	67	6	92	5	7	8	20	7	84	9	100	235
07:15 AM	11	4	8	23	26	75	5	106	7	4	18	29	5	90	16	111	269
07:30 AM	15	10	13	38	34	89	5	128	4	5	19	28	7	94	16	117	311
07:45 AM	17	7	13	37	25	86	6	117	8	6	21	35	9	97	34	140	329
Total	52	28	41	121	104	317	22	443	24	22	66	112	28	365	75	468	1144
08:00 AM	14	5	8	27	21	93	9	123	5	12	23	40	9	86	41	136	326
08:15 AM	17	10	9	36	21	83	4	108	5	10	19	34	8	95	35	138	316
08:30 AM	16	7	9	32	19	70	9	98	4	7	24	35	8	67	26	101	266
08:45 AM	14	6	11	31	16	52	7	75	7	8	17	32	9	70	21	100	238
Total	61	28	37	126	77	298	29	404	21	37	83	141	34	318	123	475	1146
04:00 PM	6	6	6	18	19	101	16	136	19	12	28	59	9	92	4	105	318
04:15 PM	10	4	5	19	26	104	24	154	18	16	52	86	7	80	8	95	354
04:30 PM	8	8	8	24	34	118	18	170	24	17	44	85	10	86	5	101	380
04:45 PM	11	7	6	24	28	100	21	149	27	16	43	86	11	81	5	97	356
Total	35	25	25	85	107	423	79	609	88	61	167	316	37	339	22	398	1408
05:00 PM	8	8	5	21	36	103	18	157	21	21	36	78	8	105	10	123	379
05:15 PM	13	7	6	26	25	101	21	147	19	18	27	64	11	121	10	142	379
05:30 PM	11	8	5	24	21	91	18	130	22	17	32	71	9	105	9	123	348
05:45 PM	9	7	5	21	23	87	16	126	16	11	29	56	7	88	7	102	305
Total	41	30	21	92	105	382	73	560	78	67	124	269	35	419	36	490	1411
Grand Total	189	111	124	424	393	1420	203	2016	211	187	440	838	134	1441	256	1831	5109
Apprch %	44.6	26.2	29.2		19.5	70.4	10.1		25.2	22.3	52.5		7.3	78.7	14		
Total %	3.7	2.2	2.4	8.3	7.7	27.8	4	39.5	4.1	3.7	8.6	16.4	2.6	28.2	5	35.8	
Automobiles	183	103	115	401	378	1354	198	1930	200	180	421	801	119	1330	249	1698	4830
% Automobiles	96.8	92.8	92.7	94.6	96.2	95.4	97.5	95.7	94.8	96.3	95.7	95.6	88.8	92.3	97.3	92.7	94.5
Commercial	6	8	9	23	15	66	5	86	11	7	19	37	15	111	7	133	279
% Commercial	3.2	7.2	7.3	5.4	3.8	4.6	2.5	4.3	5.2	3.7	4.3	4.4	11.2	7.7	2.7	7.3	5.5

DE TRAFFIC

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Cox Rd at SR 524
Brevard County, FL

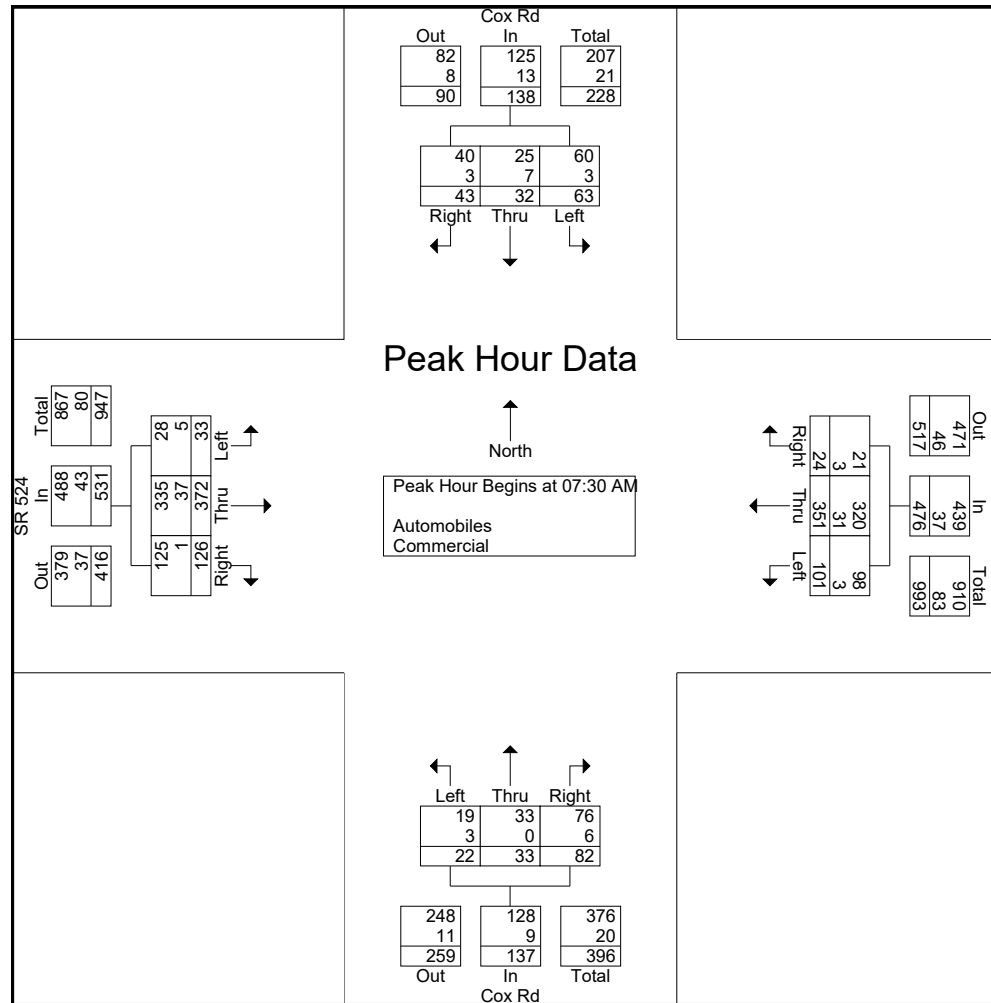
File Name : Cox at 524
Site Code : 00000004
Start Date : 10/20/2022
Page No : 2

	Cox Rd Southbound				SR 524 Westbound				Cox Rd Northbound				SR 524 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	15	10	13	38	34	89	5	128	4	5	19	28	7	94	16	117	311
07:45 AM	17	7	13	37	25	86	6	117	8	6	21	35	9	97	34	140	329
08:00 AM	14	5	8	27	21	93	9	123	5	12	23	40	9	86	41	136	326
08:15 AM	17	10	9	36	21	83	4	108	5	10	19	34	8	95	35	138	316
Total Volume	63	32	43	138	101	351	24	476	22	33	82	137	33	372	126	531	1282
% App. Total	45.7	23.2	31.2		21.2	73.7	5		16.1	24.1	59.9		6.2	70.1	23.7		
PHF	.926	.800	.827	.908	.743	.944	.667	.930	.688	.688	.891	.856	.917	.959	.768	.948	.974
Automobiles	60	25	40	125	98	320	21	439	19	33	76	128	28	335	125	488	1180
% Automobiles	95.2	78.1	93.0	90.6	97.0	91.2	87.5	92.2	86.4	100	92.7	93.4	84.8	90.1	99.2	91.9	92.0
Commercial	3	7	3	13	3	31	3	37	3	0	6	9	5	37	1	43	102
% Commercial	4.8	21.9	7.0	9.4	3.0	8.8	12.5	7.8	13.6	0	7.3	6.6	15.2	9.9	0.8	8.1	8.0

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(386) 341-4186
Cox Rd at SR 524
Brevard County, FL

File Name : Cox at 524
Site Code : 00000004
Start Date : 10/20/2022
Page No : 3



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Cox Rd at SR 524
Brevard County, FL

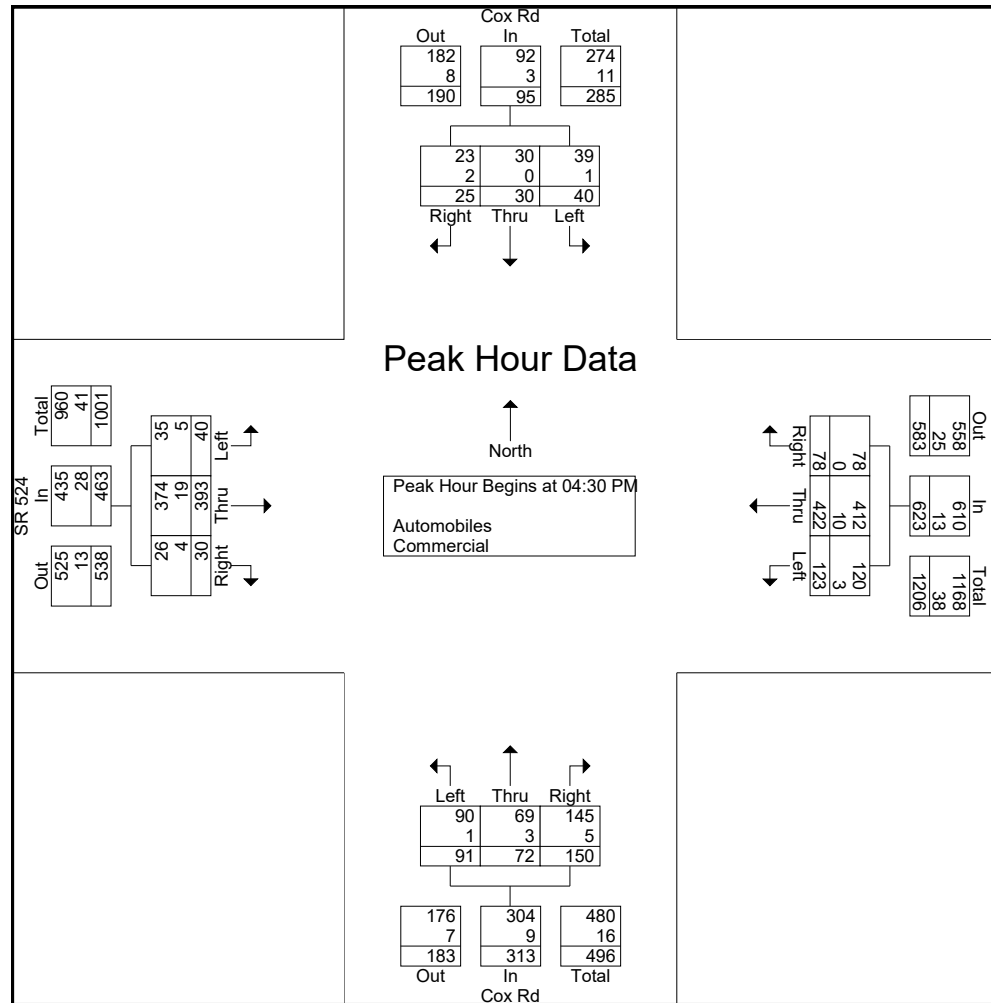
File Name : Cox at 524
Site Code : 00000004
Start Date : 10/20/2022
Page No : 4

	Cox Rd Southbound				SR 524 Westbound				Cox Rd Northbound				SR 524 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	8	8	8	24	34	118	18	170	24	17	44	85	10	86	5	101	380
04:45 PM	11	7	6	24	28	100	21	149	27	16	43	86	11	81	5	97	356
05:00 PM	8	8	5	21	36	103	18	157	21	21	36	78	8	105	10	123	379
05:15 PM	13	7	6	26	25	101	21	147	19	18	27	64	11	121	10	142	379
Total Volume	40	30	25	95	123	422	78	623	91	72	150	313	40	393	30	463	1494
% App. Total	42.1	31.6	26.3		19.7	67.7	12.5		29.1	23	47.9		8.6	84.9	6.5		
PHF	.769	.938	.781	.913	.854	.894	.929	.916	.843	.857	.852	.910	.909	.812	.750	.815	.983
Automobiles	39	30	23	92	120	412	78	610	90	69	145	304	35	374	26	435	1441
% Automobiles	97.5	100	92.0	96.8	97.6	97.6	100	97.9	98.9	95.8	96.7	97.1	87.5	95.2	86.7	94.0	96.5
Commercial	1	0	2	3	3	10	0	13	1	3	5	9	5	19	4	28	53
% Commercial	2.5	0	8.0	3.2	2.4	2.4	0	2.1	1.1	4.2	3.3	2.9	12.5	4.8	13.3	6.0	3.5

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Cox Rd at SR 524
Brevard County, FL

File Name : Cox at 524
Site Code : 00000004
Start Date : 10/20/2022
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Cox Rd at SR 524
Brevard County, FL

File Name : Cox at 524
Site Code : 00000004
Start Date : 10/20/2022
Page No : 6

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DE TRAFFIC

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(386) 341-4186

Friday Rd/Friday Ln at James Rd

Brevard County, FL

File Name : 5-legged int

Site Code : 00000005

Start Date : 10/20/2022

Page No : 1

Groups Printed- Automobiles - Commercial

	Friday Rd Southbound						SW Bound From Northeast						James Rd Westbound						Friday Rd Northbound						James Rd Eastbound						
Start Time	Hard Left	Left	Thru	Right	Peds	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Left	Thru	Right	Hard Right	Peds	App. Total	Left	Thru	Bear Right	Right	Peds	App. Total	Left	Bear Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	2	0	0	2	2	0	0	0	0	2	3	0	0	0	0	3	0	0	0	2	0	2	0	0	0	0	0	0	9
07:15 AM	0	0	0	0	0	0	1	0	0	0	0	1	4	0	0	1	0	5	0	1	1	3	0	5	0	0	0	0	0	0	11
07:30 AM	0	0	2	0	0	2	2	0	0	0	0	2	6	0	1	0	0	7	0	0	2	6	0	8	0	0	0	0	0	0	19
07:45 AM	0	0	0	0	0	0	2	0	0	0	0	2	4	0	0	1	0	5	0	0	2	5	0	7	0	0	0	0	0	0	14
Total	0	0	4	0	0	4	7	0	0	0	0	7	17	0	1	2	0	20	0	1	5	16	0	22	0	0	0	0	0	0	53
08:00 AM	0	0	1	0	0	1	4	0	0	0	0	4	5	0	1	1	0	7	0	0	0	5	0	5	0	0	0	0	0	0	17
08:15 AM	0	0	0	0	0	0	1	1	0	0	0	2	5	0	0	0	0	5	0	1	1	9	0	11	0	0	0	0	0	0	18
08:30 AM	0	0	1	0	0	1	2	1	0	0	0	3	4	0	0	2	0	6	0	0	1	4	0	5	0	0	0	0	0	0	15
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	1	0	6	0	0	0	8	0	8	0	0	0	0	0	0	14
Total	0	0	2	0	0	2	7	2	0	0	0	9	19	0	1	4	0	24	0	1	2	26	0	29	0	0	0	0	0	0	64
04:00 PM	0	0	0	0	0	0	1	1	0	0	0	2	4	0	1	1	0	6	0	0	3	8	0	11	0	0	0	0	0	0	19
04:15 PM	0	0	1	0	0	1	1	0	0	0	0	1	6	0	2	2	0	10	0	0	1	7	0	8	0	0	0	0	0	0	20
04:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	4	0	2	0	0	6	0	1	2	11	0	14	0	0	0	0	0	0	21
04:45 PM	1	0	0	0	0	1	2	0	0	0	0	2	8	0	1	2	0	11	0	0	1	11	0	12	0	0	0	0	0	0	26
Total	1	0	1	0	0	2	4	2	0	0	0	6	22	0	6	5	0	33	0	1	7	37	0	45	0	0	0	0	0	0	86
05:00 PM	0	0	0	0	0	0	0	2	0	0	0	2	6	0	0	1	0	7	0	0	3	8	0	11	0	0	0	0	0	0	20
05:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	10	0	2	3	0	15	0	0	1	9	0	10	0	0	0	0	0	0	26
05:30 PM	0	0	1	0	0	1	0	1	0	0	0	1	8	0	0	2	0	10	0	0	2	8	0	10	0	0	0	0	0	0	22
05:45 PM	0	0	0	0	0	0	1	2	0	0	0	3	6	0	0	1	0	7	0	1	1	4	0	6	0	0	0	0	0	0	16
Total	0	0	1	0	0	1	1	6	0	0	0	7	30	0	2	7	0	39	0	1	7	29	0	37	0	0	0	0	0	0	84
Grand Total	1	0	8	0	0	9	19	10	0	0	0	29	88	0	10	18	0	116	0	4	21	108	0	133	0	0	0	0	0	0	287
Apprch %	11.1	0	88.9	0	0		65.5	34.5	0	0	0		75.9	0	8.6	15.5	0		0	3	15.8	81.2	0		0	0	0	0	0		
Total %	0.3	0	2.8	0	0	3.1	6.6	3.5	0	0	0	10.1	30.7	0	3.5	6.3	0	40.4	0	1.4	7.3	37.6	0	46.3	0	0	0	0	0	0	
Automobiles	1	0	8	0	0	9	19	10	0	0	0	29	88	0	10	18	0	116	0	4	21	103	0	128	0	0	0	0	0	0	282
% Automobiles	100	0	100	0	0	100	100	100	0	0	0	100	100	0	100	100	0	100	0	100	100	95.4	0	96.2	0	0	0	0	0	0	98.3
Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	0	5
% Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.6	0	3.8	0	0	0	0	0	0	1.7

DE TRAFFIC

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(386) 341-4186

Friday Rd/Friday Ln at James Rd

Brevard County, FL

File Name : 5-legged int

Site Code : 00000005

Start Date : 10/20/2022

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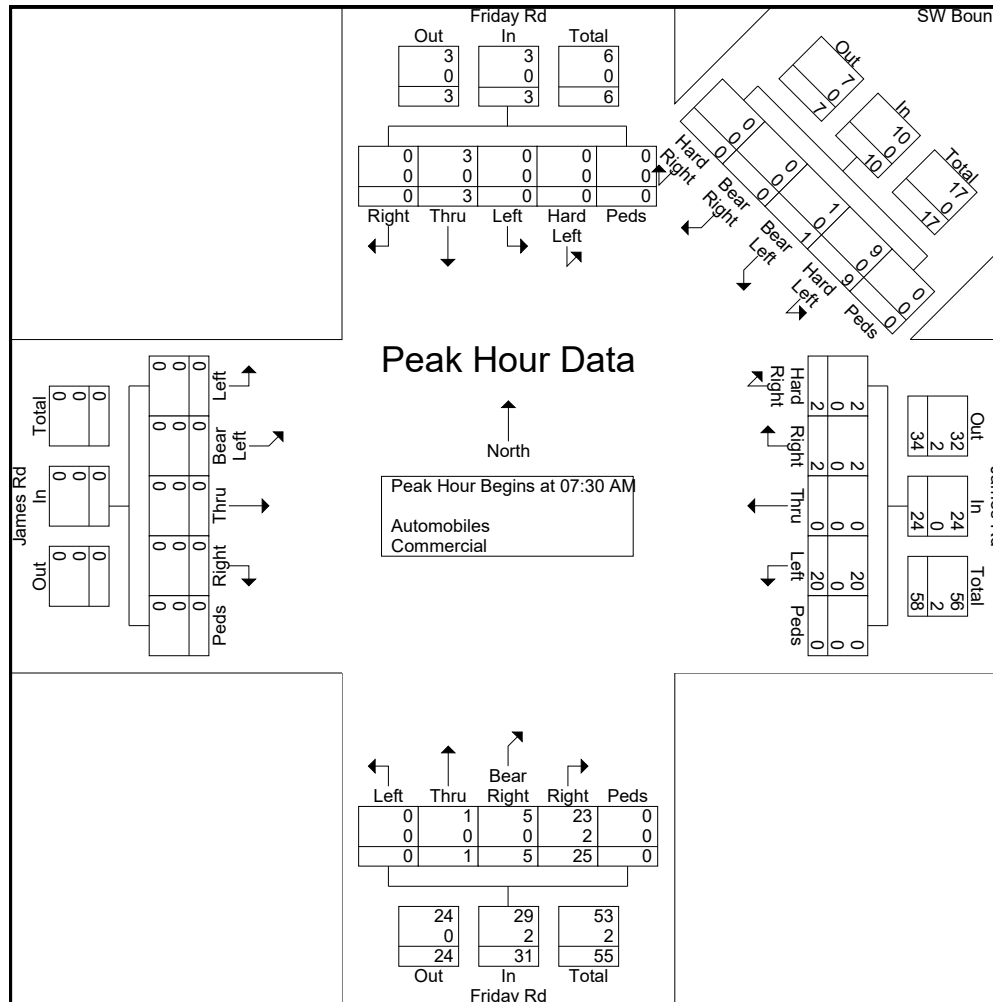
	Friday Rd Southbound						SW Bound From Northeast						James Rd Westbound						Friday Rd Northbound						James Rd Eastbound							
Start Time	Hard Left	Left	Thru	Right	Peds	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Left	Thru	Right	Hard Right	Peds	App. Total	Left	Thru	Bear Right	Right	Peds	App. Total	Left	Bear Left	Thru	Right	Peds	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																																
Peak Hour for Entire Intersection Begins at 07:30 AM																																
07:30 AM	0	0	2	0	0	2	2	0	0	0	0	2	6	0	1	0	0	7	0	0	2	6	0	8	0	0	0	0	0	0	19	
07:45 AM	0	0	0	0	0	0	2	0	0	0	0	2	4	0	0	1	0	5	0	0	2	5	0	7	0	0	0	0	0	0	14	
08:00 AM	0	0	1	0	0	1	4	0	0	0	0	4	5	0	1	1	0	7	0	0	0	5	0	5	0	0	0	0	0	0	17	
08:15 AM	0	0	0	0	0	0	1	1	0	0	0	2	5	0	0	0	0	5	0	1	1	9	0	11	0	0	0	0	0	0	18	
Total Volume	0	0	3	0	0	3	9	1	0	0	0	10	20	0	2	2	0	24	0	1	5	25	0	31	0	0	0	0	0	0	68	
% App. Total	0	0	100	0	0		90	10	0	0	0		83.3	0	8.3	8.3	0		0	3.2	16.1	80.6	0		0	0	0	0	0			
PHF	.000	.000	.375	.000	.000	.375	.563	.250	.000	.000	.000	.625	.833	.000	.500	.500	.000	.857	.000	.250	.625	.694	.000	.705	.000	.000	.000	.000	.000	.000	.895	
Automobiles	0	0	3	0	0	3	9	1	0	0	0	10	20	0	2	2	0	24	0	1	5	23	0	29	0	0	0	0	0	0	66	
% Automobiles	0	0	100	0	0	100	100	100	0	0	0	100	100	0	100	100	0	100	0	100	100	92.0	0	93.5	0	0	0	0	0	0	97.1	
Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2	
% Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.0	0	6.5	0	0	0	0	0	0	2.9	

DE TRAFFIC

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Friday Rd/Friday Ln at James Rd
Brevard County, FL

File Name : 5-legged int
Site Code : 00000005
Start Date : 10/20/2022
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Friday Rd/Friday Ln at James Rd

Brevard County, FL

File Name : 5-legged int

Site Code : 00000005

Start Date : 10/20/2022

Page No : 4

	Friday Rd Southbound						SW Bound From Northeast						James Rd Westbound						Friday Rd Northbound						James Rd Eastbound						
Start Time	Hard Left	Left	Thru	Right	Peds	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	Peds	App. Total	Left	Thru	Right	Hard Right	Peds	App. Total	Left	Thru	Bear Right	Right	Peds	App. Total	Left	Bear Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:45 PM																															
04:45 PM	1	0	0	0	0	1	2	0	0	0	0	2	8	0	1	2	0	11	0	0	1	11	0	12	0	0	0	0	0	0	26
05:00 PM	0	0	0	0	0	0	0	2	0	0	0	2	6	0	0	1	0	7	0	0	3	8	0	11	0	0	0	0	0	0	20
05:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	10	0	2	3	0	15	0	0	1	9	0	10	0	0	0	0	0	0	26
05:30 PM	0	0	1	0	0	1	0	1	0	0	0	1	8	0	0	2	0	10	0	0	2	8	0	10	0	0	0	0	0	0	22
Total Volume	1	0	1	0	0	2	2	4	0	0	0	6	32	0	3	8	0	43	0	0	7	36	0	43	0	0	0	0	0	0	94
% App. Total	50	0	50	0	0		33.3	66.7	0	0	0		74.4	0	7	18.6	0		0	0	16.3	83.7	0		0	0	0	0	0		
PHF	.250	.000	.250	.000	.000	.500	.250	.500	.000	.000	.000	.750	.800	.000	.375	.667	.000	.717	.000	.000	.583	.818	.000	.896	.000	.000	.000	.000	.000	.000	.904
Automobiles	1	0	1	0	0	2	2	4	0	0	0	6	32	0	3	8	0	43	0	0	7	33	0	40	0	0	0	0	0	0	91
% Automobiles	100	0	100	0	0	100	100	100	0	0	0	100	100	0	100	100	0	100	0	0	100	91.7	0	93.0	0	0	0	0	0	0	96.8
Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	3
% Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.3	0	7.0	0	0	0	0	0	0	0	3.2

DE TRAFFIC

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Friday Rd/Friday Ln at James Rd

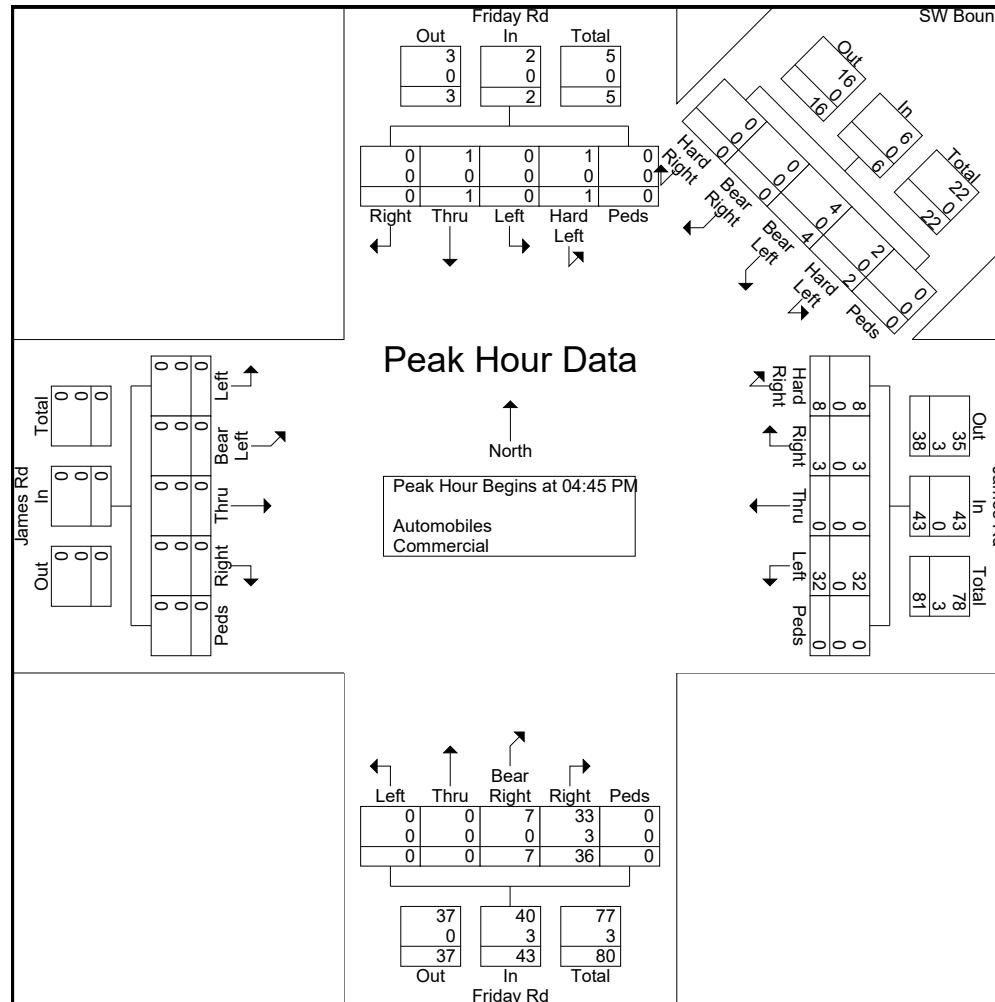
Brevard County, FL

File Name : 5-legged int

Site Code : 00000005

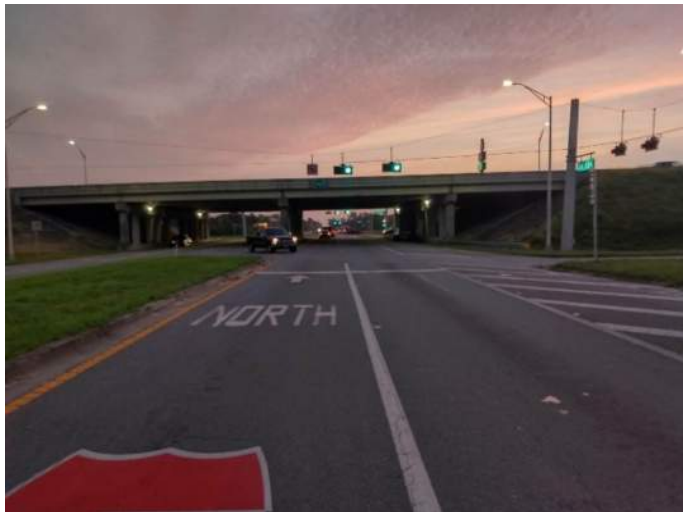
Start Date : 10/20/2022

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SB Approach



EB Approach



WB Approach



I-95 SB Ramp
at SR 524

Brevard County

www.de-traffic.com

299 McGregor Rd. DeLand FL 32720

Project
Number: L22-89

Sheet
Number: 1



NB Approach



EB Approach



WB Approach



I-95 NB Ramp
at SR 524

Brevard County

www.de-traffic.com

299 McGregor Rd. DeLand FL 32720

Project
Number: L22-89

Sheet
Number: 2



NB Approach



SB Approach



EB Approach



WB Approach



Friday Rd
at SR 524

Brevard County

www.de-traffic.com

299 McGregor Rd. DeLand FL 32720

Project
Number: L22-89

Sheet
Number: 3



NB Approach



SB Approach



EB Approach



WB Approach



Cox Rd
at SR 524

Brevard County

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299 McGregor Rd. DeLand FL 32720

Project
Number: L22-89

Sheet
Number: 4



NB Approach



Eastside-SB Approach



EB Approach



WB Approach



Friday Rd
at James Rd

Brevard County

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299 McGregor Rd. DeLand FL 32720

Project
Number: L22-89

Sheet
Number: 5



Westside-SB
Approach

	Friday Rd at James Rd		Brevard County	
	www.de-traffic.com		Project Number: L22-89	Sheet Number: 6
	299 McGregor Rd. DeLand Fl. 32720			

2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 7000 BREVARD COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.95 PSCF
1	01/01/2021 - 01/02/2021	1.02	1.07
2	01/03/2021 - 01/09/2021	1.02	1.07
3	01/10/2021 - 01/16/2021	1.03	1.08
4	01/17/2021 - 01/23/2021	1.02	1.07
5	01/24/2021 - 01/30/2021	1.00	1.05
6	01/31/2021 - 02/06/2021	0.99	1.04
7	02/07/2021 - 02/13/2021	0.98	1.03
* 8	02/14/2021 - 02/20/2021	0.97	1.02
* 9	02/21/2021 - 02/27/2021	0.95	1.00
* 10	02/28/2021 - 03/06/2021	0.94	0.99
* 11	03/07/2021 - 03/13/2021	0.93	0.98
* 12	03/14/2021 - 03/20/2021	0.91	0.96
* 13	03/21/2021 - 03/27/2021	0.92	0.97
* 14	03/28/2021 - 04/03/2021	0.94	0.99
* 15	04/04/2021 - 04/10/2021	0.95	1.00
* 16	04/11/2021 - 04/17/2021	0.96	1.01
* 17	04/18/2021 - 04/24/2021	0.96	1.01
* 18	04/25/2021 - 05/01/2021	0.97	1.02
* 19	05/02/2021 - 05/08/2021	0.98	1.03
* 20	05/09/2021 - 05/15/2021	0.98	1.03
21	05/16/2021 - 05/22/2021	0.99	1.04
22	05/23/2021 - 05/29/2021	1.00	1.05
23	05/30/2021 - 06/05/2021	1.00	1.05
24	06/06/2021 - 06/12/2021	1.01	1.06
25	06/13/2021 - 06/19/2021	1.01	1.06
26	06/20/2021 - 06/26/2021	1.02	1.07
27	06/27/2021 - 07/03/2021	1.03	1.08
28	07/04/2021 - 07/10/2021	1.04	1.09
29	07/11/2021 - 07/17/2021	1.04	1.09
30	07/18/2021 - 07/24/2021	1.05	1.11
31	07/25/2021 - 07/31/2021	1.06	1.12
32	08/01/2021 - 08/07/2021	1.06	1.12
33	08/08/2021 - 08/14/2021	1.07	1.13
34	08/15/2021 - 08/21/2021	1.07	1.13
35	08/22/2021 - 08/28/2021	1.07	1.13
36	08/29/2021 - 09/04/2021	1.06	1.12
37	09/05/2021 - 09/11/2021	1.05	1.11
38	09/12/2021 - 09/18/2021	1.04	1.09
39	09/19/2021 - 09/25/2021	1.04	1.09
40	09/26/2021 - 10/02/2021	1.03	1.08
41	10/03/2021 - 10/09/2021	1.03	1.08
42	10/10/2021 - 10/16/2021	1.02	1.07
43	10/17/2021 - 10/23/2021	1.03	1.08
44	10/24/2021 - 10/30/2021	1.03	1.08
45	10/31/2021 - 11/06/2021	1.03	1.08
46	11/07/2021 - 11/13/2021	1.03	1.08
47	11/14/2021 - 11/20/2021	1.03	1.08
48	11/21/2021 - 11/27/2021	1.03	1.08
49	11/28/2021 - 12/04/2021	1.03	1.08
50	12/05/2021 - 12/11/2021	1.02	1.07
51	12/12/2021 - 12/18/2021	1.02	1.07
52	12/19/2021 - 12/25/2021	1.02	1.07
53	12/26/2021 - 12/31/2021	1.03	1.08

* PEAK SEASON

08-MAR-2022 12:36:27

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APPENDIX D
SIGNALIZED INTERSECTIONS
SYNCHRO SUMMARY SHEETS
EXISTING CONDITIONS

Lanes, Volumes, Timings

1: SR 524 & I-95 SB Ramps

03/23/2023



Lane Group	SBL	SBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	126	77	260	199	340	177
Future Volume (vph)	126	77	260	199	340	177
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA
Protected Phases	8	8	6		5	2
Permitted Phases				6	2	
Detector Phase	8	8	6	6	5	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	12.0	12.0	5.0	12.0
Minimum Split (s)	21.2	21.2	25.7	25.7	18.7	25.7
Total Split (s)	30.0	30.0	45.0	45.0	30.0	80.0
Total Split (%)	27.3%	27.3%	40.9%	40.9%	27.3%	72.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.4	3.4	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.2	8.2	7.7	7.7	7.7	7.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 110

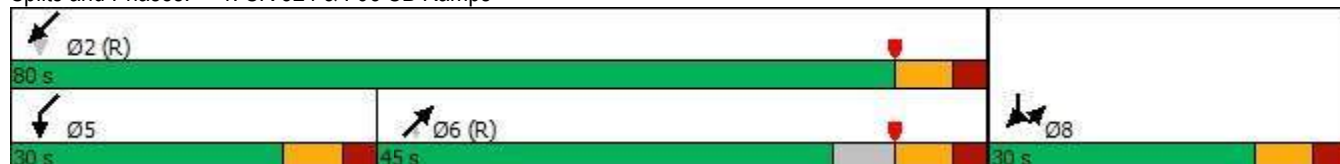
Actuated Cycle Length: 110

Offset: 109.1 (99%), Referenced to phase 2:SWTL and 6:NET, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 1: SR 524 & I-95 SB Ramps



HCM 6th Signalized Intersection Summary

1: SR 524 & I-95 SB Ramps

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	126	0	77	0	260	199	340	177	0
Future Volume (veh/h)	0	0	0	126	0	77	0	260	199	340	177	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1544	0	1781	0	1796	1870	1589	1604	0
Adj Flow Rate, veh/h				138	0	0	0	286	0	374	195	0
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				24	0	8	0	7	2	21	20	0
Cap, veh/h				166	0		0	1897		720	1191	0
Arrive On Green				0.11	0.00	0.00	0.00	0.56	0.00	0.04	0.25	0.00
Sat Flow, veh/h				1471	0	1510	0	3503	1585	1513	1604	0
Grp Volume(v), veh/h				138	0	0	0	286	0	374	195	0
Grp Sat Flow(s),veh/h/ln				1471	0	1510	0	1706	1585	1513	1604	0
Q Serve(g_s), s				10.1	0.0	0.0	0.0	4.5	0.0	10.0	10.5	0.0
Cycle Q Clear(g_c), s				10.1	0.0	0.0	0.0	4.5	0.0	10.0	10.5	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				166	0		0	1897		720	1191	0
V/C Ratio(X)				0.83	0.00		0.00	0.15		0.52	0.16	0.00
Avail Cap(c_a), veh/h				291	0		0	1897		851	1191	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	1.00	0.00	0.97	0.97	0.00
Uniform Delay (d), s/veh				47.8	0.0	0.0	0.0	11.8	0.0	7.8	14.7	0.0
Incr Delay (d2), s/veh				19.5	0.0	0.0	0.0	0.2	0.0	0.6	0.3	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				8.1	0.0	0.0	0.0	2.9	0.0	6.1	7.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				67.3	0.0	0.0	0.0	12.0	0.0	8.3	15.0	0.0
LnGrp LOS				E	A		A	B		A	B	A
Approach Vol, veh/h					138			286			569	
Approach Delay, s/veh					67.3			12.0			10.6	
Approach LOS					E			B			B	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		89.4			20.5	68.8		20.6				
Change Period (Y+Rc), s		* 7.7			* 7.7	* 7.7		8.2				
Max Green Setting (Gmax), s		* 72			* 22	* 37		21.8				
Max Q Clear Time (g_c+I1), s		12.5			12.0	6.5		12.1				
Green Ext Time (p_c), s		1.1			0.9	1.7		0.5				

Intersection Summary

HCM 6th Ctrl Delay 18.9

HCM 6th LOS B

Notes

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

Unsignalized Delay for [NER, SBR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings

2: SR 524 & I-95 NB Ramps

03/23/2023

						
Lane Group	NBL	NBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	78	255	83	310	438	128
Future Volume (vph)	78	255	83	310	438	128
Turn Type	Prot	Prot	Prot	NA	NA	Perm
Protected Phases	4	4	1	6	2	
Permitted Phases						2
Detector Phase	4	4	1	6	2	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	8.0	12.0	12.0	12.0
Minimum Split (s)	24.3	24.3	15.5	25.5	25.5	25.5
Total Split (s)	30.0	30.0	30.0	80.0	50.0	50.0
Total Split (%)	27.3%	27.3%	27.3%	72.7%	45.5%	45.5%
Yellow Time (s)	3.2	3.2	4.8	4.8	4.8	4.8
All-Red Time (s)	3.1	3.1	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	7.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 110

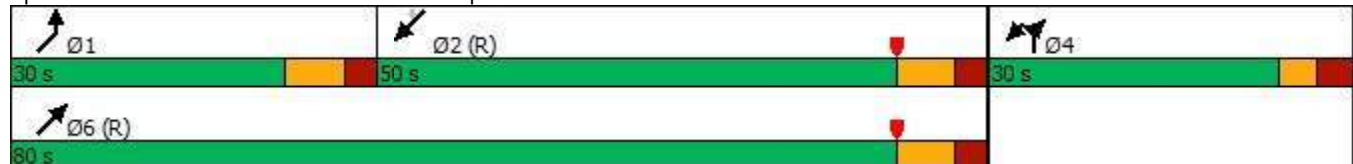
Actuated Cycle Length: 110

Offset: 80 (73%), Referenced to phase 2:SWT and 6:NET, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 524 & I-95 NB Ramps



HCM 6th Signalized Intersection Summary

2: SR 524 & I-95 NB Ramps

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	78	0	255	0	0	0	83	310	0	0	438	128
Future Volume (veh/h)	78	0	255	0	0	0	83	310	0	0	438	128
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1781	0	1678				1826	1633	0	0	1663	1618
Adj Flow Rate, veh/h	83	0	271				88	330	0	0	466	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	8	0	15				5	18	0	0	16	19
Cap, veh/h	350	0	294				118	1091	0	0	1681	
Arrive On Green	0.21	0.00	0.21				0.14	1.00	0.00	0.00	1.00	0.00
Sat Flow, veh/h	1697	0	1422				1739	1633	0	0	3243	1372
Grp Volume(v), veh/h	83	0	271				88	330	0	0	466	0
Grp Sat Flow(s),veh/h/ln	1697	0	1422				1739	1633	0	0	1580	1372
Q Serve(g_s), s	4.5	0.0	20.6				5.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.5	0.0	20.6				5.4	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	350	0	294				118	1091	0	0	1681	
V/C Ratio(X)	0.24	0.00	0.92				0.75	0.30	0.00	0.00	0.28	
Avail Cap(c_a), veh/h	366	0	306				356	1091	0	0	1681	
HCM Platoon Ratio	1.00	1.00	1.00				2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00				0.96	0.96	0.00	0.00	0.86	0.00
Uniform Delay (d), s/veh	36.4	0.0	42.8				46.6	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	31.5				8.7	0.7	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	0.0	14.7				4.4	0.4	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	0.0	74.3				55.3	0.7	0.0	0.0	0.4	0.0
LnGrp LOS	D	A	E				E	A	A	A	A	
Approach Vol, veh/h	354						418			466		
Approach Delay, s/veh	65.5						12.2			0.4		
Approach LOS	E						B			A		
Timer - Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	15.0	66.0	29.0		81.0							
Change Period (Y+Rc), s	* 7.5	* 7.5	* 6.3		* 7.5							
Max Green Setting (Gmax), s	* 23	* 43	* 24		* 73							
Max Q Clear Time (g_c+l1), s	7.4	2.0	22.6		2.0							
Green Ext Time (p_c), s	0.1	3.1	0.2		2.0							

Intersection Summary

HCM 6th Ctrl Delay 23.0

HCM 6th LOS C

Notes

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

Unsignalized Delay for [SWR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings
3: SR 524 & Friday Rd

03/23/2023

										
Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	37	5	139	9	50	397	108	40	328	38
Future Volume (vph)	37	5	139	9	50	397	108	40	328	38
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8	7	4	1	6		5	2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	7	4	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	10.0	7.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	26.2	26.2	19.0	26.2	12.3	25.3	25.3	13.0	25.3	25.3
Total Split (s)	19.0	19.0	27.0	46.0	20.0	44.0	44.0	20.0	44.0	44.0
Total Split (%)	17.3%	17.3%	24.5%	41.8%	18.2%	40.0%	40.0%	18.2%	40.0%	40.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.4	3.4	4.2	3.4	2.5	2.5	2.5	3.2	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		8.2	9.0	8.2	7.3	7.3	7.3	8.0	7.3	7.3
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 110

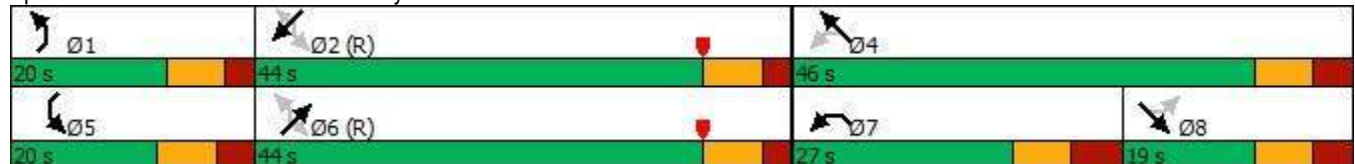
Actuated Cycle Length: 110

Offset: 82 (75%), Referenced to phase 2:SWTL and 6:NETL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 3: SR 524 & Friday Rd



HCM 6th Signalized Intersection Summary

3: SR 524 & Friday Rd

03/23/2023

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	37	5	92	139	9	61	50	397	108	40	328	38
Future Volume (veh/h)	37	5	92	139	9	61	50	397	108	40	328	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1737	1870	1811	1233	1411	1441	1811	1781	1515	1174	1707	1826
Adj Flow Rate, veh/h	39	5	97	146	9	64	53	418	114	42	345	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	11	2	6	45	33	31	6	8	26	49	13	5
Cap, veh/h	75	14	104	277	46	328	439	796	573	345	767	696
Arrive On Green	0.10	0.10	0.10	0.13	0.31	0.31	0.07	0.89	0.89	0.03	0.45	0.45
Sat Flow, veh/h	336	146	1061	1174	150	1068	1725	1781	1284	1118	1707	1547
Grp Volume(v), veh/h	141	0	0	146	0	73	53	418	114	42	345	40
Grp Sat Flow(s),veh/h/ln	1542	0	0	1174	0	1219	1725	1781	1284	1118	1707	1547
Q Serve(g_s), s	7.8	0.0	0.0	11.8	0.0	4.9	1.8	5.2	1.3	2.2	15.3	1.6
Cycle Q Clear(g_c), s	10.0	0.0	0.0	11.8	0.0	4.9	1.8	5.2	1.3	2.2	15.3	1.6
Prop In Lane	0.28		0.69	1.00		0.88	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	193	0	0	277	0	374	439	796	573	345	767	696
V/C Ratio(X)	0.73	0.00	0.00	0.53	0.00	0.20	0.12	0.53	0.20	0.12	0.45	0.06
Avail Cap(c_a), veh/h	193	0	0	320	0	419	576	796	573	430	767	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.89	0.89	0.89	0.96	0.96	0.96
Uniform Delay (d), s/veh	49.1	0.0	0.0	36.0	0.0	28.1	15.6	3.5	3.3	15.6	20.9	17.1
Incr Delay (d2), s/veh	13.1	0.0	0.0	3.3	0.0	0.5	0.1	2.2	0.7	0.1	1.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.9	0.0	0.0	6.4	0.0	2.6	1.2	2.9	0.7	1.0	10.1	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.2	0.0	0.0	39.3	0.0	28.7	15.7	5.7	4.0	15.8	22.7	17.3
LnGrp LOS	E	A	A	D	A	C	B	A	A	B	C	B
Approach Vol, veh/h	141			219			585			427		
Approach Delay, s/veh	62.2			35.7			6.3			21.5		
Approach LOS	E			D			A			C		
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	56.7		41.9	11.6	56.4	22.9	19.0				
Change Period (Y+Rc), s	7.3	7.3		* 8.2	* 8	7.3	9.0	* 8.2				
Max Green Setting (Gmax), s	12.7	36.7		* 38	* 12	36.7	18.0	* 11				
Max Q Clear Time (g_c+I1), s	3.8	17.3		6.9	4.2	7.2	13.8	12.0				
Green Ext Time (p_c), s	0.0	1.9		0.7	0.0	2.8	0.3	0.0				

Intersection Summary

HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

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

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

Lanes, Volumes, Timings

4: SR 524 & Cox Rd

03/23/2023

										
Lane Group	NBL	NBT	SBL	SBT	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	23	34	65	33	34	383	130	104	362	25
Future Volume (vph)	23	34	65	33	34	383	130	104	362	25
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		8		6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	4	4	8	8	6	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	24.8	24.8	24.8	24.8	26.0	26.0	26.0	12.9	26.0	26.0
Total Split (s)	34.0	34.0	34.0	34.0	55.0	55.0	55.0	21.0	76.0	76.0
Total Split (%)	30.9%	30.9%	30.9%	30.9%	50.0%	50.0%	50.0%	19.1%	69.1%	69.1%
Yellow Time (s)	4.8	4.8	4.8	4.8	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.4	2.5	2.5
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.8		6.8	8.0	8.0	8.0	7.9	8.0	8.0
Lead/Lag					Lag	Lag	Lag	Lead		
Lead-Lag Optimize?					Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 110

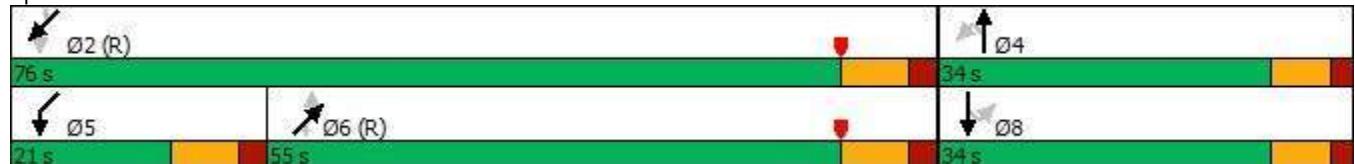
Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:SWTL and 6:NETL, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 4: SR 524 & Cox Rd



HCM 6th Signalized Intersection Summary

4: SR 524 & Cox Rd

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	23	34	84	65	33	44	34	383	130	104	362	25
Future Volume (veh/h)	23	34	84	65	33	44	34	383	130	104	362	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1693	1870	1796	1826	1574	1796	1678	1752	1870	1856	1767	1707
Adj Flow Rate, veh/h	24	36	88	68	35	46	36	403	0	109	381	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	14	2	7	5	22	7	15	10	2	3	9	13
Cap, veh/h	63	72	142	115	54	54	612	1065		621	1278	
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.61	0.61	0.00	0.04	0.72	0.00
Sat Flow, veh/h	173	510	1002	475	377	380	899	1752	1585	1767	1767	1447
Grp Volume(v), veh/h	148	0	0	149	0	0	36	403	0	109	381	0
Grp Sat Flow(s),veh/h/ln	1686	0	0	1232	0	0	899	1752	1585	1767	1767	1447
Q Serve(g_s), s	0.0	0.0	0.0	4.0	0.0	0.0	1.8	12.9	0.0	2.4	8.4	0.0
Cycle Q Clear(g_c), s	9.0	0.0	0.0	13.0	0.0	0.0	1.8	12.9	0.0	2.4	8.4	0.0
Prop In Lane	0.16		0.59	0.46		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	0	0	223	0	0	612	1065		621	1278	
V/C Ratio(X)	0.53	0.00	0.00	0.67	0.00	0.00	0.06	0.38		0.18	0.30	
Avail Cap(c_a), veh/h	445	0	0	353	0	0	612	1065		754	1278	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.83	0.83	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.4	0.0	0.0	45.9	0.0	0.0	8.8	11.0	0.0	7.5	5.4	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	4.1	0.0	0.0	0.2	0.9	0.0	0.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.9	0.0	0.0	7.4	0.0	0.0	0.6	7.6	0.0	1.3	4.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	0.0	0.0	50.1	0.0	0.0	9.0	11.8	0.0	7.7	6.0	0.0
LnGrp LOS	D	A	A	D	A	A	A	B		A	A	
Approach Vol, veh/h	148				149				439			
Approach Delay, s/veh	46.3				50.1				11.6			
Approach LOS	D				D				B			
Timer - Assigned Phs	2				4				5			
Phs Duration (G+Y+Rc), s	87.6				22.4				12.7			
Change Period (Y+Rc), s	8.0				6.8				7.9			
Max Green Setting (Gmax), s	68.0				27.2				13.1			
Max Q Clear Time (g_c+l1), s	10.4				11.0				4.4			
Green Ext Time (p_c), s	2.6				0.8				0.2			

Intersection Summary

HCM 6th Ctrl Delay 18.4

HCM 6th LOS B

Notes

Unsignalized Delay for [NER, SWR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings 1: SR 524 & I-95 SB Ramps

03/23/2023

						
Lane Group	SBL	SBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	102	116	226	112	296	405
Future Volume (vph)	102	116	226	112	296	405
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA
Protected Phases	8	8	6		5	2
Permitted Phases				6	2	
Detector Phase	8	8	6	6	5	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	12.0	12.0	5.0	12.0
Minimum Split (s)	26.2	26.2	24.8	24.8	12.7	24.8
Total Split (s)	48.0	48.0	52.0	52.0	40.0	92.0
Total Split (%)	34.3%	34.3%	37.1%	37.1%	28.6%	65.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.4	3.4	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.2	8.2	7.7	7.7	7.7	7.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 140

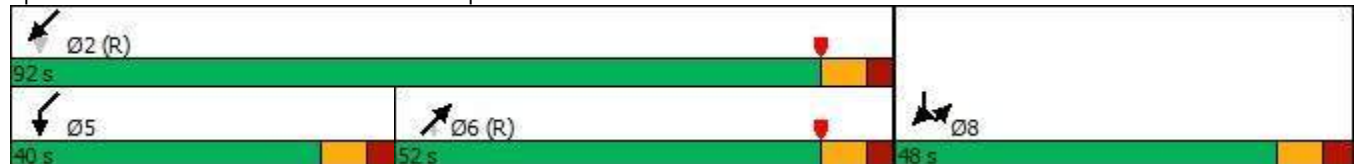
Actuated Cycle Length: 140

Offset: 105 (75%), Referenced to phase 2:SWTL and 6:NET, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 1: SR 524 & I-95 SB Ramps



HCM 6th Signalized Intersection Summary

1: SR 524 & I-95 SB Ramps

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	102	0	116	0	226	112	296	405	0
Future Volume (veh/h)	0	0	0	102	0	116	0	226	112	296	405	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1678	0	1841	0	1826	1693	1737	1870	0
Adj Flow Rate, veh/h				107	0	0	0	238	0	312	426	0
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				15	0	4	0	5	14	11	2	0
Cap, veh/h				133	0		0	2322		866	1502	0
Arrive On Green				0.08	0.00	0.00	0.00	0.67	0.00	0.10	1.00	0.00
Sat Flow, veh/h				1598	0	1560	0	3561	1434	1654	1870	0
Grp Volume(v), veh/h				107	0	0	0	238	0	312	426	0
Grp Sat Flow(s),veh/h/ln				1598	0	1560	0	1735	1434	1654	1870	0
Q Serve(g_s), s				9.2	0.0	0.0	0.0	3.4	0.0	8.1	0.0	0.0
Cycle Q Clear(g_c), s				9.2	0.0	0.0	0.0	3.4	0.0	8.1	0.0	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				133	0		0	2322		866	1502	0
V/C Ratio(X)				0.80	0.00		0.00	0.10		0.36	0.28	0.00
Avail Cap(c_a), veh/h				454	0		0	2322		1117	1502	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	1.00	0.00	0.92	0.92	0.00
Uniform Delay (d), s/veh				63.0	0.0	0.0	0.0	8.2	0.0	4.9	0.0	0.0
Incr Delay (d2), s/veh				20.5	0.0	0.0	0.0	0.1	0.0	0.2	0.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				8.0	0.0	0.0	0.0	2.2	0.0	3.9	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				83.5	0.0	0.0	0.0	8.3	0.0	5.2	0.4	0.0
LnGrp LOS				F	A		A	A		A	A	A
Approach Vol, veh/h					107			238			738	
Approach Delay, s/veh					83.5			8.3			2.4	
Approach LOS					F			A			A	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		120.1			18.7	101.4		19.9				
Change Period (Y+Rc), s		* 7.7			* 7.7	* 7.7		8.2				
Max Green Setting (Gmax), s		* 84			* 32	* 44		39.8				
Max Q Clear Time (g_c+I1), s		2.0			10.1	5.4		11.2				
Green Ext Time (p_c), s		2.6			0.9	1.4		0.7				

Intersection Summary

HCM 6th Ctrl Delay 11.7

HCM 6th LOS B

Notes

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

Unsignalized Delay for [NER, SBR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings

2: SR 524 & I-95 NB Ramps

03/23/2023

						
Lane Group	NBL	NBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	197	327	84	264	499	103
Future Volume (vph)	197	327	84	264	499	103
Turn Type	Prot	Prot	Prot	NA	NA	Perm
Protected Phases	4	4	1	6	2	
Permitted Phases						2
Detector Phase	4	4	1	6	2	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	8.0	12.0	12.0	12.0
Minimum Split (s)	24.3	24.3	15.5	25.5	25.5	25.5
Total Split (s)	30.0	30.0	36.0	110.0	74.0	74.0
Total Split (%)	21.4%	21.4%	25.7%	78.6%	52.9%	52.9%
Yellow Time (s)	3.2	3.2	4.8	4.8	4.8	4.8
All-Red Time (s)	3.1	3.1	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	7.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 140

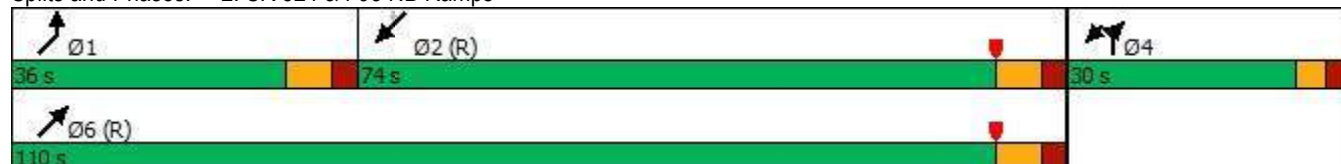
Actuated Cycle Length: 140

Offset: 121 (86%), Referenced to phase 2:SWT and 6:NET, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 524 & I-95 NB Ramps



HCM 6th Signalized Intersection Summary

2: SR 524 & I-95 NB Ramps

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations											 	
Traffic Volume (veh/h)	197	0	327	0	0	0	84	264	0	0	499	103
Future Volume (veh/h)	197	0	327	0	0	0	84	264	0	0	499	103
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1781	0	1722				1841	1722	0	0	1796	1618
Adj Flow Rate, veh/h	207	0	344				88	278	0	0	525	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	8	0	12				4	12	0	0	7	19
Cap, veh/h	287	0	247				109	1261	0	0	2103	
Arrive On Green	0.17	0.00	0.17				0.12	1.00	0.00	0.00	1.00	0.00
Sat Flow, veh/h	1697	0	1459				1753	1722	0	0	3503	1372
Grp Volume(v), veh/h	207	0	344				88	278	0	0	525	0
Grp Sat Flow(s),veh/h/ln	1697	0	1459				1753	1722	0	0	1706	1372
Q Serve(g_s), s	16.2	0.0	23.7				6.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.2	0.0	23.7				6.8	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	287	0	247				109	1261	0	0	2103	
V/C Ratio(X)	0.72	0.00	1.39				0.81	0.22	0.00	0.00	0.25	
Avail Cap(c_a), veh/h	287	0	247				357	1261	0	0	2103	
HCM Platoon Ratio	1.00	1.00	1.00				2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00				0.98	0.98	0.00	0.00	0.79	0.00
Uniform Delay (d), s/veh	55.0	0.0	58.2				60.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	8.5	0.0	199.4				12.7	0.4	0.0	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.1	0.0	34.7				5.8	0.2	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.5	0.0	257.6				73.1	0.4	0.0	0.0	0.2	0.0
LnGrp LOS	E	A	F				E	A	A	A	A	
Approach Vol, veh/h	551						366			525		
Approach Delay, s/veh	184.7						17.9			0.2		
Approach LOS	F						B			A		
Timer - Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	16.2	93.8	30.0		110.0							
Change Period (Y+Rc), s	* 7.5	* 7.5	* 6.3		* 7.5							
Max Green Setting (Gmax), s	* 29	* 67	* 24		* 1E2							
Max Q Clear Time (g_c+I1), s	8.8	2.0	25.7		2.0							
Green Ext Time (p_c), s	0.2	3.6	0.0		1.6							

Intersection Summary

HCM 6th Ctrl Delay 75.2

HCM 6th LOS E

Notes

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

Unsignalized Delay for [SWR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings

3: SR 524 & Friday Rd

03/23/2023

										
Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	42	25	108	22	91	382	121	34	457	60
Future Volume (vph)	42	25	108	22	91	382	121	34	457	60
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8	7	4	1	6		5	2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	7	4	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	10.0	7.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	26.2	26.2	19.0	26.2	12.3	25.3	25.3	13.0	25.3	25.3
Total Split (s)	20.0	20.0	27.0	47.0	25.0	68.0	68.0	25.0	68.0	68.0
Total Split (%)	14.3%	14.3%	19.3%	33.6%	17.9%	48.6%	48.6%	17.9%	48.6%	48.6%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.4	3.4	4.2	3.4	2.5	2.5	2.5	3.2	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		8.2	9.0	8.2	7.3	7.3	7.3	8.0	7.3	7.3
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 140

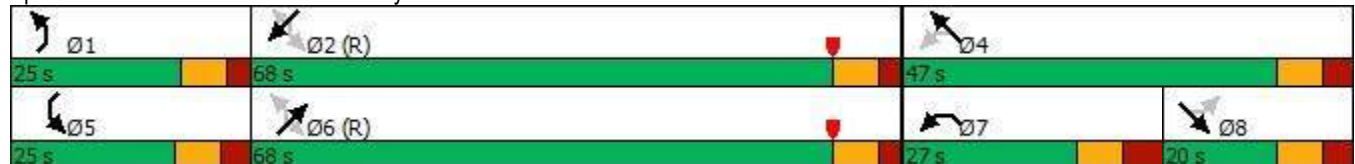
Actuated Cycle Length: 140

Offset: 94 (67%), Referenced to phase 2:SWTL and 6:NETL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 3: SR 524 & Friday Rd



HCM 6th Signalized Intersection Summary

3: SR 524 & Friday Rd

03/23/2023

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	42	25	82	108	22	63	91	382	121	34	457	60
Future Volume (veh/h)	42	25	82	108	22	63	91	382	121	34	457	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1781	1826	1337	1752	1248	1856	1722	1352	1633	1811	1767
Adj Flow Rate, veh/h	44	26	86	114	23	66	96	402	127	36	481	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	10	8	5	38	10	44	3	12	37	18	6	9
Cap, veh/h	63	26	69	223	97	278	457	969	644	518	1007	833
Arrive On Green	0.08	0.08	0.08	0.09	0.24	0.24	0.08	1.00	1.00	0.03	0.56	0.56
Sat Flow, veh/h	358	306	816	1273	399	1146	1767	1722	1145	1555	1811	1497
Grp Volume(v), veh/h	156	0	0	114	0	89	96	402	127	36	481	63
Grp Sat Flow(s),veh/h/ln	1481	0	0	1273	0	1546	1767	1722	1145	1555	1811	1497
Q Serve(g_s), s	10.3	0.0	0.0	11.1	0.0	6.5	3.3	0.0	0.0	1.4	22.5	2.7
Cycle Q Clear(g_c), s	11.8	0.0	0.0	11.1	0.0	6.5	3.3	0.0	0.0	1.4	22.5	2.7
Prop In Lane	0.28		0.55	1.00		0.74	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	0	0	223	0	375	457	969	644	518	1007	833
V/C Ratio(X)	0.99	0.00	0.00	0.51	0.00	0.24	0.21	0.41	0.20	0.07	0.48	0.08
Avail Cap(c_a), veh/h	158	0	0	267	0	428	613	969	644	665	1007	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.88	0.88	0.88	0.93	0.93	0.93
Uniform Delay (d), s/veh	65.2	0.0	0.0	50.1	0.0	42.6	13.6	0.0	0.0	12.5	18.8	14.4
Incr Delay (d2), s/veh	68.2	0.0	0.0	3.8	0.0	0.7	0.2	1.2	0.6	0.1	1.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.3	0.0	0.0	6.8	0.0	4.6	2.2	0.6	0.2	0.9	14.2	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.4	0.0	0.0	53.9	0.0	43.3	13.8	1.2	0.6	12.5	20.3	14.6
LnGrp LOS	F	A	A	D	A	D	B	A	A	B	C	B
Approach Vol, veh/h		156			203			625			580	
Approach Delay, s/veh		133.4			49.3			3.0			19.2	
Approach LOS		F			D			A			B	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	85.2		42.2	11.8	86.0	22.2	20.0				
Change Period (Y+Rc), s	7.3	7.3		* 8.2	* 8	7.3	9.0	* 8.2				
Max Green Setting (Gmax), s	17.7	60.7		* 39	* 17	60.7	18.0	* 12				
Max Q Clear Time (g_c+I1), s	5.3	24.5		8.5	3.4	2.0	13.1	13.8				
Green Ext Time (p_c), s	0.1	3.2		0.9	0.0	2.9	0.2	0.0				

Intersection Summary

HCM 6th Ctrl Delay 28.0

HCM 6th LOS C

Notes

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

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

Lanes, Volumes, Timings

4: SR 524 & Cox Rd

03/23/2023

										
Lane Group	NBL	NBT	SBL	SBT	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	94	74	41	31	41	405	31	127	435	80
Future Volume (vph)	94	74	41	31	41	405	31	127	435	80
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		8		6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	4	4	8	8	6	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	24.8	24.8	24.8	24.8	26.0	26.0	26.0	12.9	26.0	26.0
Total Split (s)	69.0	69.0	69.0	69.0	52.0	52.0	52.0	19.0	71.0	71.0
Total Split (%)	49.3%	49.3%	49.3%	49.3%	37.1%	37.1%	37.1%	13.6%	50.7%	50.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.4	2.5	2.5
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.8		6.8	8.0	8.0	8.0	7.9	8.0	8.0
Lead/Lag					Lag	Lag	Lag	Lead		
Lead-Lag Optimize?					Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 140

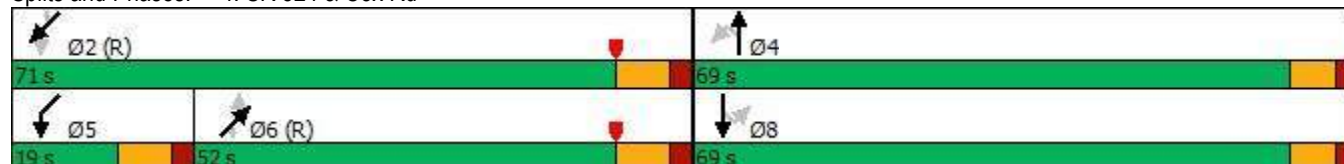
Actuated Cycle Length: 140

Offset: 47 (34%), Referenced to phase 2:SWTL and 6:NETL, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 4: SR 524 & Cox Rd



HCM 6th Signalized Intersection Summary

4: SR 524 & Cox Rd

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	94	74	155	41	31	26	41	405	31	127	435	80
Future Volume (veh/h)	94	74	155	41	31	26	41	405	31	127	435	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1841	1856	1856	1870	1781	1707	1826	1707	1870	1870	1870
Adj Flow Rate, veh/h	99	78	163	43	33	27	43	426	0	134	458	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	4	3	3	2	8	13	5	13	2	2	2
Cap, veh/h	134	95	180	133	100	70	511	1003		531	1220	
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.55	0.55	0.00	0.05	0.65	0.00
Sat Flow, veh/h	415	393	744	398	414	289	852	1826	1447	1781	1870	1585
Grp Volume(v), veh/h	340	0	0	103	0	0	43	426	0	134	458	0
Grp Sat Flow(s),veh/h/ln	1552	0	0	1101	0	0	852	1826	1447	1781	1870	1585
Q Serve(g_s), s	19.8	0.0	0.0	0.0	0.0	0.0	3.4	19.2	0.0	4.4	15.8	0.0
Cycle Q Clear(g_c), s	29.7	0.0	0.0	9.9	0.0	0.0	4.8	19.2	0.0	4.4	15.8	0.0
Prop In Lane	0.29		0.48	0.42		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	409	0	0	303	0	0	511	1003		531	1220	
V/C Ratio(X)	0.83	0.00	0.00	0.34	0.00	0.00	0.08	0.42		0.25	0.38	
Avail Cap(c_a), veh/h	719	0	0	591	0	0	511	1003		589	1220	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.85	0.85	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	51.3	0.0	0.0	43.4	0.0	0.0	15.6	18.5	0.0	13.4	11.2	0.0
Incr Delay (d2), s/veh	4.5	0.0	0.0	0.7	0.0	0.0	0.3	1.1	0.0	0.2	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.5	0.0	0.0	5.3	0.0	0.0	1.2	12.0	0.0	3.0	10.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	0.0	0.0	44.1	0.0	0.0	15.9	19.6	0.0	13.6	12.1	0.0
LnGrp LOS	E	A	A	D	A	A	B	B		B	B	
Approach Vol, veh/h	340				103				469			
Approach Delay, s/veh	55.8				44.1				19.3			
Approach LOS	E				D				B			
Timer - Assigned Phs	2		4		5		6		8			
Phs Duration (G+Y+Rc), s	99.3		40.7		14.4		84.9		40.7			
Change Period (Y+Rc), s	8.0		6.8		7.9		8.0		6.8			
Max Green Setting (Gmax), s	63.0		62.2		11.1		44.0		62.2			
Max Q Clear Time (g_c+l1), s	17.8		31.7		6.4		21.2		11.9			
Green Ext Time (p_c), s	2.6		2.2		0.1		2.4		0.6			

Intersection Summary

HCM 6th Ctrl Delay 26.5

HCM 6th LOS C

Notes

Unsignalized Delay for [NER, SWR] is excluded from calculations of the approach delay and intersection delay.

APPENDIX E

SIGNAL TIMINGS

Brevard County Traffic Operations Timing Sheet

Intersection: SR 524 & I-95 SB Ramp



Name																	Phase Mode	STD8	Free Action																	
Direction	WT				WL		ET		SL								Free Seq	1	Syn Green																	
Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Type	ATC V76	P2P Pattern																	
Phase/OL	1	2	3	4	6	6	7	8	9	9	9	9	2			6	8	Comm ID	1036	InSync																
Type	VEH	VEH	VEH	VEH	OLP	VEH	VEH	VEH	OLP	OLP	OLP	OLP	PED	PED	PED	PED	Date	March 22, 2023	Done By	Veronica FC																
Phase Times																	Alt Phase Times 1																			
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Phase																			
Min Green		12			5	12		7									Min Green																			
Passage		3			3	3		5									Passage																			
Max 1		45			15	45		30									Max 1																			
Max 2		45			45	45		45									Max 2																			
Yellow Clr		4.8			4.8	4.8		4.8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	Yel Clr	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5											
Red Clr		2.9			2.9	2.9		3.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	Red Clr	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5											
Walk																	Walk																			
Ped Clear																	Ped Clr																			
Red Revert																	Alt Phase Times 2																			
Added Init																	Phase																			
Max Initial																	Min Green																			
Max 3 Limit																	Passage																			
Max 3 Step																	Max 1																			
Time B-4																	Max 2																			
Cars B-4																	Yel Clr	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5											
Time to																	Red Clr	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5											
Reduce By																	Walk																			
Min Gap																	Ped Clr																			
Phase Options																	Alt Phase Opt 1																			
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Phase																			
Enable		✓			✓	✓		✓									Soft Recall																			
Min Recall		✓				✓											Max 2																			
Max Recall																	Max Inhibit																			
Ped Recall																	Alt Phase Opt 2																			
Soft Recall																	Phase																			
Lock Call																	Soft Recall																			
Flash Ent								✓									Max 2																			
Flash Exit		✓				✓											Max Inhibit																			
Dual Entry		✓				✓											Alt Phase Opt 3																			
Cond Serv																	Phase																			
Reservice																	Soft Recall																			
Redirect Ø																	Max2																			
LPI Delay																	Max Inhibit																			
Type		Included Phase															Modifier Phase															FYA	Gm	Yel	Red	
Overlap - A																																				
Overlap - B																																				
Overlap - C																																				
Overlap - D																																				
Overlap - E																																				
Overlap - F	FYA-4		5															6															2 4.8 2.9			
Overlap - G																																				
Overlap - H																																				
Overlap - I																																				
Overlap - J																																				
Overlap - K																																				
Overlap - L																																				
Overlap - M																																				
Overlap - N																																				
Overlap - O																																				
Overlap - P																																				

Coordination Splits 1-16																Day Plans 1-8										
Split 1 Cycle =110 Seq =1 Mode	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Mon - Fri	1	2	3	4	5				
		80		30	35	45		30									P	Hour		6	10	14	18			
						✓											L	Action	100	1	2	3	100			
		MAX				MAX											A									
Split 2 Cycle =110 Seq =2 Mode	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	N	Hour								
		72		38	38	34		38										Min								
						✓											1	Action								
		MAX				MAX																				
Split 3 Cycle =140 Seq =2 Mode	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Saturday	Hour	1	2	3					
		92		48	40	52		48									P	Min		9	18					
						✓											L	Action	100	4	100					
		MAX				MAX		MIN									A									
Split 4 Cycle =110 Seq =2 Mode	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	N	Hour								
		72		38	38	34		38										Min								
						✓											2	Action								
		MAX				MAX																				
Split 5 Cycle =_ Seq =_ Mode	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Sun	Hour								
																	P	Min								
																	L	Action								
Split 6 Cycle =_ Seq =_ Mode	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	A	Hour								
																	N	Min								
																	3	Action								
Split 7 Cycle =_ Seq =_ Mode	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16										
Split 8 Cycle =_ Seq =_ Mode	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16										
Split 9 Cycle =_ Seq =_ Mode	1	2	3	4	5																					

Coordination Splits 17-32																Day Plans 9-16								
Split 17	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle = _																								
Seq = _																								
Mode																								
Split 18	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle = _																								
Seq = _																								
Mode																								
Split 19	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle = _																								
Seq = _																								
Mode																								
Split 20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle =200		120		80	41	79		80																
Seq =1		✓																						
Mode		MAX				MAX																		
Split 21	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle =200		155		45	70	85		45																
Seq =1		✓																						
Mode		MAX				MAX																		
Split 22	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle =200		140		60	66	74		60																
Seq =1		✓																						
Mode		MAX				MAX																		
Split 23	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle =200		155		45	45	110		45																
Seq =3		✓																						
Mode		MAX				MAX																		
Split 24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle =200		140		60	41	99		60																
Seq =3		✓																						
Mode		MAX				MAX																		
Split 25	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle =200		110		90	45	65		90																
Seq =3		✓																						
Mode		MAX				MAX																		
Split 26	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle = _																								
Seq = _																								
Mode																								
Split 27	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle = _																								
Seq = _																								
Mode																								
Split 28	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle = _																								
Seq = _																								
Mode																								
Split 29	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle = _																								
Seq = _																								
Mode																								
Split 30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle = _																								
Seq = _																								
Mode																								
Split 31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle = _																								
Seq = _																								
Mode																								
Split 32	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16								
Cycle = _																								
Seq = _																								
Mode																								

	Cycle	Offset	Split	Seq	Coord	Time	Opt	Det	CIR	Short	Long	No S	No S	Yield	Max 2	Float	R-Hld	Y-Inh	Off-1	Off-2	Off-3	Off-4	Off-5	Off-6	Off-7	Off-8
Pattern - 1	110	109	1	1	6					12	22															
Pattern - 2	110	95	2	2	6					12	22															
Pattern - 3	140	105	3	2	6					12	22															
Pattern - 4	110	95	4	2	6					12	22															
Pattern - 5																										
Pattern - 6																										
Pattern - 7																										
Pattern - 8																										
Pattern - 9																										
Pattern - 10																										
Pattern - 11																										
Pattern - 12																										
Pattern - 13																										
Pattern - 14																										
Pattern - 15																										
Pattern - 16																										
Pattern - 17																										
Pattern - 18																										
Pattern - 19																										
Pattern - 20	200	168	20	1	2					12	22															
Pattern - 21	200	68	21	1	2																					
Pattern - 22	200	168	22	1	2																					
Pattern - 23	200	175	23	3	2					12	22															
Pattern - 24	200	168	24	3	2					12	22															
Pattern - 25	200	12	25	3	2																					
Pattern - 26																										
Pattern - 27																										
Pattern - 28																										
Pattern - 29																										
Pattern - 30																										
Pattern - 31																										
Pattern - 32																										
	Cycle	Offset	Split	Seq	Coord	Time	Opt	Det	CIR	Short	Long	No S	No S	Yield	Max 2	Float	R-Hld	Y-Inh	Off-1	Off-2	Off-3	Off-4	Off-5	Off-6	Off-7	Off-8
Pattern - 33																										
Pattern - 34																										
Pattern - 35																										
Pattern - 36																										
Pattern - 37																										
Pattern - 38																										
Pattern - 39																										
Pattern - 40																										
Pattern - 41																										
Pattern - 42																										
Pattern - 43																										
Pattern - 44																										
Pattern - 45																										
Pattern - 46																										
Pattern - 47																										
Pattern - 48																										
BIU-1	Call	Swt	Dly	Lck	Src		BIU-2	Call	Swt	Dly	Lck	Src		BIU-3	Call	Swt	Dly	Lck	Src		BIU-4	Call	Swt	Dly	Lck	Src
Detector 1	2		5				17							33							49					
Detector 2	2						18							34							50					
Detector 3							19							35							51					
Detector 4	8						20							36							52					
Detector 5	5		5				21							37							53					
Detector 6	6		5				22							38							54					
Detector 7	6						23							39							55					
Detector 8	6						24							40							56					
Detector 9							25							41							57					
Detector 10							26							42							58					
Detector 11							27							43							59					
Detector 12							28							44							60					
Detector 13							29							45							61					
Detector 14							30							46							62					
Detector 15							31							47							63					
Detector 16							32							48							64					

	Enbl	Track Phase				Gm	Track Overlap				Dwell Phase				Dwl	Dwell Overlap				Exit Phase			
Pre Run 1	ON																						
Pre Run 2	ON																						
Pre Run 3	ON																						
Pre Run 4	ON																						
Pre Run 5	ON																						
Pre Run 6	ON																						
Intersection Notes												Time of Day Notes											

Brevard County Traffic Operations Timing Sheet

Intersection: SR 524 & I-95 NB Ramp



Name																	Phase Mode	STD8	Free Action					
Direction	EL	WT		NL		ET											Free Seq	1	Syn Green					
Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Type	ATC V76	P2P Pattern					
Phase/OL	2	2	3	4	5	6	7	8					2	4	6	8	Comm ID	1037	InSync					
Type	OLP	VEH	VEH	VEH	VEH	VEH	VEH	VEH	OLP	OLP	OLP	OLP	PED	PED	PED	PED	Date	March 22, 2023	Done By	Veronica FC				
Phase Times																	Alt Phase Times 1							
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Phase							
Min Green	8	12		7		12											Min Green							
Passage	3	3		3		3											Passage							
Max 1	15	45		30		45											Max 1							
Max 2	45	45		45		45											Max 2							
Yellow Clr	4.8	4.8		3.2		4.8			3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	Yel Clr	3.5	3.5	3.5				
Red Clr	2.7	2.7		3.1		2.7			1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	Red Clr	1.5	1.5	1.5				
Walk																	Walk							
Ped Clear																	Ped Clr							
Red Revert																	Alt Phase Times 2							
Added Init																	Phase							
Max Initial																	Min Green							
Max 3 Limit																	Passage							
Max 3 Step																	Max 1							
Time B-4																	Max 2							
Cars B-4																	Yel Clr	3.5	3.5	3.5				
Time to																	Red Clr	1.5	1.5	1.5				
Reduce By																	Walk							
Min Gap																	Ped Clr							
Phase Options																	Alt Phase Opt 1							
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Phase							
Enable	✓	✓		✓		✓											Soft Recall							
Min Recall		✓				✓											Max 2							
Max Recall																	Max Inhibit							
Ped Recall																	Alt Phase Opt 2							
Soft Recall																	Phase							
Lock Call		✓				✓			✓	✓	✓	✓	✓	✓	✓	✓	Soft Recall							
Flash Ent																	Max 2							
Flash Exit																	Max Inhibit							
Dual Entry		✓				✓											Alt Phase Opt 3							
Cond Serv																	Phase							
Reservice																	Soft Recall							
Redirect Ø																	Max2							
LPI Delay																	Max Inhibit							
Type	Included Phase																Modifier Phase				FYA	Gm	Yel	Red
Overlap - A																								
Overlap - B	FYA-4																2				2		4.8	2.7
Overlap - C																								
Overlap - D																								
Overlap - E																								
Overlap - F																								
Overlap - G																								
Overlap - H																								
Overlap - I																								
Overlap - J																								
Overlap - K																								
Overlap - L																								
Overlap - M																								
Overlap - N																								
Overlap - O																								
Overlap - P																								

[illegible]

	Cycle	Offset	Split	Seq	Coord	Time	Opt	Det	CIR	Short	Long	No S	No S	Yield	Max 2	Float	R-Hld	Y-Inh	Off-1	Off-2	Off-3	Off-4	Off-5	Off-6	Off-7	Off-8
Pattern - 1	110	80	1	3	2					12	22									✓						
Pattern - 2	110	6	2	1	6					12	22									✓						
Pattern - 3	140	121	3	1	6					12	22									✓						
Pattern - 4	110	6	4	1	6					12	22									✓						
Pattern - 5																										
Pattern - 6																										
Pattern - 7																										
Pattern - 8																										
Pattern - 9																										
Pattern - 10																										
Pattern - 11	110	80	11	3	2					12	22															
Pattern - 12																										
Pattern - 13																										
Pattern - 14																										
Pattern - 15																										
Pattern - 16																										
Pattern - 17																										
Pattern - 18																										
Pattern - 19																										
Pattern - 20	200	52	20	1	2					12	22															
Pattern - 21	200	192	21	4	2																					
Pattern - 22	200	82	22	4	2																					
Pattern - 23	200	24	23	2	2					12	22															
Pattern - 24	200	129	24	2	2					12	22															
Pattern - 25	200	107	25	2	2																					
Pattern - 26																										
Pattern - 27																										
Pattern - 28																										
Pattern - 29																										
Pattern - 30																										
Pattern - 31																										
Pattern - 32																										
	Cycle	Offset	Split	Seq	Coord	Time	Opt	Det	CIR	Short	Long	No S	No S	Yield	Max 2	Float	R-Hld	Y-Inh	Off-1	Off-2	Off-3	Off-4	Off-5	Off-6	Off-7	Off-8
Pattern - 33																										
Pattern - 34																										
Pattern - 35																										
Pattern - 36																										
Pattern - 37																										
Pattern - 38																										
Pattern - 39																										
Pattern - 40																										
Pattern - 41																										
Pattern - 42																										
Pattern - 43																										
Pattern - 44																										
Pattern - 45																										
Pattern - 46																										
Pattern - 47																										
Pattern - 48																										
BIU-1	Call	SwT	Dly	Lck	Src		BIU-2	Call	SwT	Dly	Lck	Src		BIU-3	Call	SwT	Dly	Lck	Src		BIU-4	Call	SwT	Dly	Lck	Src
Detector 1							17	1		3				33						49						
Detector 2							18	2						34						50						
Detector 3							19							35						51						
Detector 4							20	4						36						52						
Detector 5							21							37						53						
Detector 6							22	6						38						54						
Detector 7							23							39						55						
Detector 8							24							40						56						
Detector 9							25	4		7				41						57						
Detector 10							26							42						58						
Detector 11	2						27							43						59						
Detector 12	2						28							44						60						
Detector 13	2						29							45						61						
Detector 14	2						30							46						62						
Detector 15	6						31							47						63						
Detector 16	6						32							48						64						

	Enbl	Track Phase				Gm	Track Overlap				Dwell Phase				Dwl	Dwell Overlap				Exit Phase			
Pre Run 1	ON																						
Pre Run 2	ON																						
Pre Run 3	ON																						
Pre Run 4	ON																						
Pre Run 5	ON																						
Pre Run 6	ON																						
Intersection Notes												Time of Day Notes											

Brevard County Traffic Operations Timing Sheet

Intersection: SR 524 & Friday Rd



Name																	Phase Mode	STD8	Free Action																	
Direction	EL	WT		NT	WL	ET	NL	ST									Free Seq	1	Syn Green																	
Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Type	ATC V76	P2P Pattern																	
Phase/OL	2	2	3	4	6	6	8	8					2	4	6	8	Comm ID	1035	InSync																	
Type	OLP	VEH	VEH	VEH	OLP	VEH	OLP	VEH	OLP	OLP	OLP	OLP	PED	PED	PED	PED	Date	March 22, 2023	Done By	Veronica FC																
Phase Times																	Alt Phase Times 1																			
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Phase																			
Min Green	5	12		7	5	12	10	7									Min Green																			
Passage	3	3		5	3	3	5	3									Passage																			
Max 1	16	50		30	18	50	15	30									Max 1																			
Max 2																	Max 2																			
Yellow Clr	4.8	4.8		4.8	4.8	4.8	4.8	4.8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	Yel Clr	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5							
Red Clr	2.5	2.5		3.4	3.2	2.5	4.2	3.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	Red Clr	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5							
Walk																	Walk																			
Ped Clear																	Ped Clr																			
Red Revert																	Alt Phase Times 2																			
Added Init																	Phase																			
Max Initial																	Min Green																			
Max 3 Limit																	Passage																			
Max 3 Step																	Max 1																			
Time B-4																	Max 2																			
Cars B-4																	Yel Clr	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5								
Time to																	Red Clr	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5							
Reduce By																	Walk																			
Min Gap																	Ped Clr																			
Phase Options																	Alt Phase Opt 1																			
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Phase																			
Enable	✓	✓		✓	✓	✓	✓	✓									Soft Recall																			
Min Recall		✓				✓											Max 2																			
Max Recall																	Max Inhibit																			
Ped Recall																	Alt Phase Opt 2																			
Soft Recall																	Phase																			
Lock Call		✓				✓			✓	✓	✓	✓	✓	✓	✓	✓	Soft Recall																			
Flash Ent																	Max 2																			
Flash Exit																	Max Inhibit																			
Dual Entry		✓		✓		✓		✓									Alt Phase Opt 3																			
Cond Serv																	Phase																			
Reservice																	Soft Recall																			
Redirect Ø																	Max2																			
LPI Delay																	Max Inhibit																			
Type	Included Phase																Modifier Phase																FYA	Gm	Yel	Red
Overlap - A																																				
Overlap - B	FYA-4																2																2		4.8	2.5
Overlap - C																																				
Overlap - D																																				
Overlap - E																																				
Overlap - F	FYA-4																6																2		4.8	2.5
Overlap - G																																				
Overlap - H	FYA-4																8																2		4.8	3.4
Overlap - I																																				
Overlap - J																																				
Overlap - K																																				
Overlap - L																																				
Overlap - M																																				
Overlap - N																																				
Overlap - O																																				
Overlap - P																																				

	Cycle	Offset	Split	Seq	Coord	Time	Opt	Det	CIR	Short	Long	No S	No S	Yield	Max 2	Float	R-Hld	Y-Inh	Off-1	Off-2	Off-3	Off-4	Off-5	Off-6	Off-7	Off-8
Pattern - 1	110	82	1	3	2					12	22	1	5							✓				✓		
Pattern - 2	110	96	2	2	6					12	22	1	5							✓				✓		
Pattern - 3	140	94	3	3	2					12	22	1	5							✓				✓		
Pattern - 4	110	96	4	2	6					12	22	1	5													
Pattern - 5																										
Pattern - 6																										
Pattern - 7																										
Pattern - 8																										
Pattern - 9																										
Pattern - 10																										
Pattern - 11																										
Pattern - 12																										
Pattern - 13																										
Pattern - 14																										
Pattern - 15																										
Pattern - 16																										
Pattern - 17																										
Pattern - 18																										
Pattern - 19																										
Pattern - 20	200	67	20	1	2					5	17															
Pattern - 21	200	161	21	2	6																					
Pattern - 22	200	69	22	1	2																					
Pattern - 23	200	182	23	1	2					5	17															
Pattern - 24	200	136	24	1	2					5	17															
Pattern - 25	200	105	25	1	2																					
Pattern - 26																										
Pattern - 27																										
Pattern - 28																										
Pattern - 29																										
Pattern - 30																										
Pattern - 31																										
Pattern - 32																										
	Cycle	Offset	Split	Seq	Coord	Time	Opt	Det	CIR	Short	Long	No S	No S	Yield	Max 2	Float	R-Hld	Y-Inh	Off-1	Off-2	Off-3	Off-4	Off-5	Off-6	Off-7	Off-8
Pattern - 33																										
Pattern - 34																										
Pattern - 35																										
Pattern - 36																										
Pattern - 37																										
Pattern - 38																										
Pattern - 39																										
Pattern - 40																										
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Pattern - 43																										
Pattern - 44																										
Pattern - 45																										
Pattern - 46																										
Pattern - 47																										
Pattern - 48																										
BIU-1	Call	Swt	Dly	Lck	Src		BIU-2	Call	Swt	Dly	Lck	Src		BIU-3	Call	Swt	Dly	Lck	Src		BIU-4	Call	Swt	Dly	Lck	Src
Detector 1	1						17							33							49					
Detector 2	2						18							34							50					
Detector 3	2						19							35							51					
Detector 4	4						20							36							52					
Detector 5	5						21							37							53					
Detector 6	6						22							38							54					
Detector 7	6						23							39							55					
Detector 8	7	4					24							40							56					
Detector 9	8						25							41							57					
Detector 10							26							42							58					
Detector 11							27							43							59					
Detector 12							28							44							60					
Detector 13							29							45							61					
Detector 14							30							46							62					
Detector 15							31							47							63					
Detector 16							32							48							64					

	Enbl	Track Phase				Gm	Track Overlap				Dwell Phase				Dwl	Dwell Overlap				Exit Phase			
Pre Run 1	ON																						
Pre Run 2	ON																						
Pre Run 3	ON																						
Pre Run 4	ON																						
Pre Run 5	ON																						
Pre Run 6	ON																						
Intersection Notes												Time of Day Notes											

[illegible]

[illegible]

	Cycle	Offset	Split	Seq	Coord	Time	Opt	Det	CIR	Short	Long	No S	No S	Yield	Max 2	Float	R-Hld	Y-Inh	Off-1	Off-2	Off-3	Off-4	Off-5	Off-6	Off-7	Off-8
Pattern - 1	110	15	1	1	2					12	22						✓	✓								
Pattern - 2	110	55	2	1	2					12	22	5					✓	✓								
Pattern - 3	140	47	3	1	2					12	22						✓	✓								
Pattern - 4	110	55	4	1	2					12	22	5					✓	✓								
Pattern - 5																										
Pattern - 6																										
Pattern - 7																										
Pattern - 8																										
Pattern - 9																										
Pattern - 10																										
Pattern - 11																										
Pattern - 12																										
Pattern - 13																										
Pattern - 14																										
Pattern - 15																										
Pattern - 16																										
Pattern - 17																										
Pattern - 18																										
Pattern - 19																										
Pattern - 20	200	151	20	1	2					12	22						✓	✓								
Pattern - 21	200	100	21	1	2					12	22						✓	✓								
Pattern - 22	200	181	22	1	2					12	22						✓	✓								
Pattern - 23	200	11	23	1	2					12	22						✓	✓								
Pattern - 24	200	39	24	1	2					12	22						✓	✓								
Pattern - 25	200	11	25	1	2					12	22						✓	✓								
Pattern - 26																										
Pattern - 27																										
Pattern - 28																										
Pattern - 29																										
Pattern - 30																										
Pattern - 31																										
Pattern - 32																										
	Cycle	Offset	Split	Seq	Coord	Time	Opt	Det	CIR	Short	Long	No S	No S	Yield	Max 2	Float	R-Hld	Y-Inh	Off-1	Off-2	Off-3	Off-4	Off-5	Off-6	Off-7	Off-8
Pattern - 33																										
Pattern - 34																										
Pattern - 35																										
Pattern - 36																										
Pattern - 37																										
Pattern - 38																										
Pattern - 39																										
Pattern - 40																										
Pattern - 41																										
Pattern - 42																										
Pattern - 43																										
Pattern - 44																										
Pattern - 45																										
Pattern - 46																										
Pattern - 47																										
Pattern - 48																										
BIU-1	Call	SwT	Dly	Lck	Src	BIU-2	Call	SwT	Dly	Lck	Src	BIU-3	Call	SwT	Dly	Lck	Src	BIU-4	Call	SwT	Dly	Lck	Src			
Detector 1	6					17						33						49								
Detector 2	2					18						34						50								
Detector 3						19						35						51								
Detector 4						20						36						52								
Detector 5	5					21						37						53								
Detector 6	6					22						38						54								
Detector 7	6					23						39						55								
Detector 8	8		3			24						40						56								
Detector 9						25						41						57								
Detector 10						26						42						58								
Detector 11	2					27						43						59								
Detector 12	4		3			28						44						60								
Detector 13						29						45						61								
Detector 14						30						46						62								
Detector 15						31						47						63								
Detector 16						32						48						64								

	Enbl	Track Phase				Gm	Track Overlap				Dwell Phase				Dwl	Dwell Overlap				Exit Phase			
Pre Run 1																							
Pre Run 2																							
Pre Run 3																							
Pre Run 4																							
Pre Run 5																							
Pre Run 6																							
Intersection Notes											Time of Day Notes												

APPENDIX F
UNSIGNALIZED INTERSECTION
SYNCHRO SUMMARY SHEETS
EXISTING CONDITIONS

Lanes, Volumes, Timings
5: James Road & Friday Road & Friday Lane

1. Existing AM
12/05/2022

											
Lane Group	EBT	WBL	WBT	WBR	WBR2	NBT	NBR	NBR2	SBT	SWL2	SWL
Lane Configurations											
Traffic Volume (vph)	0	21	0	2	2	1	5	26	3	9	1
Future Volume (vph)	0	21	0	2	2	1	5	26	3	9	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.980			0.869					
Flt Protected			0.959								0.950
Satd. Flow (prot)	1863	0	1751	0	0	1545	0	0	1863	0	1770
Flt Permitted			0.959								0.950
Satd. Flow (perm)	1863	0	1751	0	0	1545	0	0	1863	0	1770
Link Speed (mph)	35		35			40			25		20
Link Distance (ft)	130		603			540			453		572
Travel Time (s)	2.5		11.7			9.2			12.4		19.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	8%	2%	2%	2%
Adj. Flow (vph)	0	23	0	2	2	1	6	29	3	10	1
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	0	27	0	0	36	0	0	3	0	11
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)	0		0			0			0		12
Link Offset(ft)	0		0			0			0		0
Crosswalk Width(ft)	16		16			16			16		16
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		15		9	9		9	9		15	15
Sign Control	Free		Stop			Stop			Stop		Stop
Intersection Summary											
Area Type:	Other										
Control Type:	Unsignalized										
Intersection Capacity Utilization	20.0%					ICU Level of Service A					
Analysis Period (min)	15										

Lanes, Volumes, Timings
5: James Road & Friday Road & Friday Lane

1. Existing PM
12/05/2022

												
Lane Group	EBT	WBL	WBT	WBR	WBR2	NBT	NBR	NBR2	SBL2	SBT	SWL2	SWL
Lane Configurations												
Traffic Volume (vph)	0	33	0	3	8	0	7	37	1	1	2	4
Future Volume (vph)	0	33	0	3	8	0	7	37	1	1	2	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.967			0.865						
Flt Protected			0.964							0.976		0.950
Satd. Flow (prot)	1863	0	1736	0	0	1536	0	0	0	1818	0	1770
Flt Permitted			0.964							0.976		0.950
Satd. Flow (perm)	1863	0	1736	0	0	1536	0	0	0	1818	0	1770
Link Speed (mph)	35		35			40				25		20
Link Distance (ft)	130		603			540				453		572
Travel Time (s)	2.5		11.7			9.2				12.4		19.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	8%	2%	2%	2%	2%
Adj. Flow (vph)	0	37	0	3	9	0	8	41	1	1	2	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	49	0	0	49	0	0	0	2	0	6
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left	Left
Median Width(ft)	0		0			0				0		12
Link Offset(ft)	0		0			0				0		0
Crosswalk Width(ft)	16		16			16				16		16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		15		9	9		9	9	15		15	15
Sign Control	Free		Stop			Stop				Stop		Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	20.0%					ICU Level of Service A						
Analysis Period (min)	15											

APPENDIX G

SUMMARY REPORT FOR

WESTMINSTER DRIVE

**MH Corbin Traffic Analyzer Study
Computer Generated Summary Report
City: Cocoa
Street: Westminster Drive
Location: #3 & #4 (100' N of SR 524.)**

A study of vehicle traffic was conducted with the device having serial number 401942. The study was done in the SB & NB lane at Westminster Drive in Cocoa, FL in Brevard county. The study began on 11/09/2021 at 12:00 AM and concluded on 11/10/2021 at 12:00 AM, lasting a total of 24.00 hours. Traffic statistics were recorded in 60 minute time periods. The total recorded volume showed 1,496 vehicles passed through the location with a peak volume of 144 on 11/09/2021 at [05:00 PM-06:00 PM] and a minimum volume of 4 on 11/09/2021 at [12:00 AM-01:00 AM]. The AADT count for this study was 1,496.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 21 - 26 MPH range or lower. The average speed for all classified vehicles was 22 MPH with 55.35% vehicles exceeding the posted speed of 25 MPH. 0.33% percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 21MPH and the 85th percentile was 25.66 MPH.

< to 10	11 to 15	16 to 20	21 to 25	26 to 30	31 to 35	36 to 40	41 to 45	46 to 55	56 to >					
10	115	543	647	150	17	8	1	4	1					

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles. The number of Passenger Vehicles in the study was 754 which represents 50 percent of the total classified vehicles. The number of Vans & Pickups in the study was 658 which represents 44 percent of the total classified vehicles. The number of Busses & Trucks in the study was 71 which represents 5 percent of the total classified vehicles. The number of Tractor Trailers in the study was 13 which represents 1 percent of the total classified vehicles.

< to 17	18 to 20	21 to 23	24 to 27	28 to 31	32 to 37	38 to 43	44 to >							
754	570	88	11	42	24	7	0							

CHART 2

HEADWAY

During the peak traffic period, on 11/09/2021 at [05:00 PM-06:00 PM] the average headway between vehicles was 24.828 seconds. During the slowest traffic period, on 11/09/2021 at [12:00 AM-01:00 AM] the average headway between vehicles was 720 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 63.00 and 106.00 degrees F.

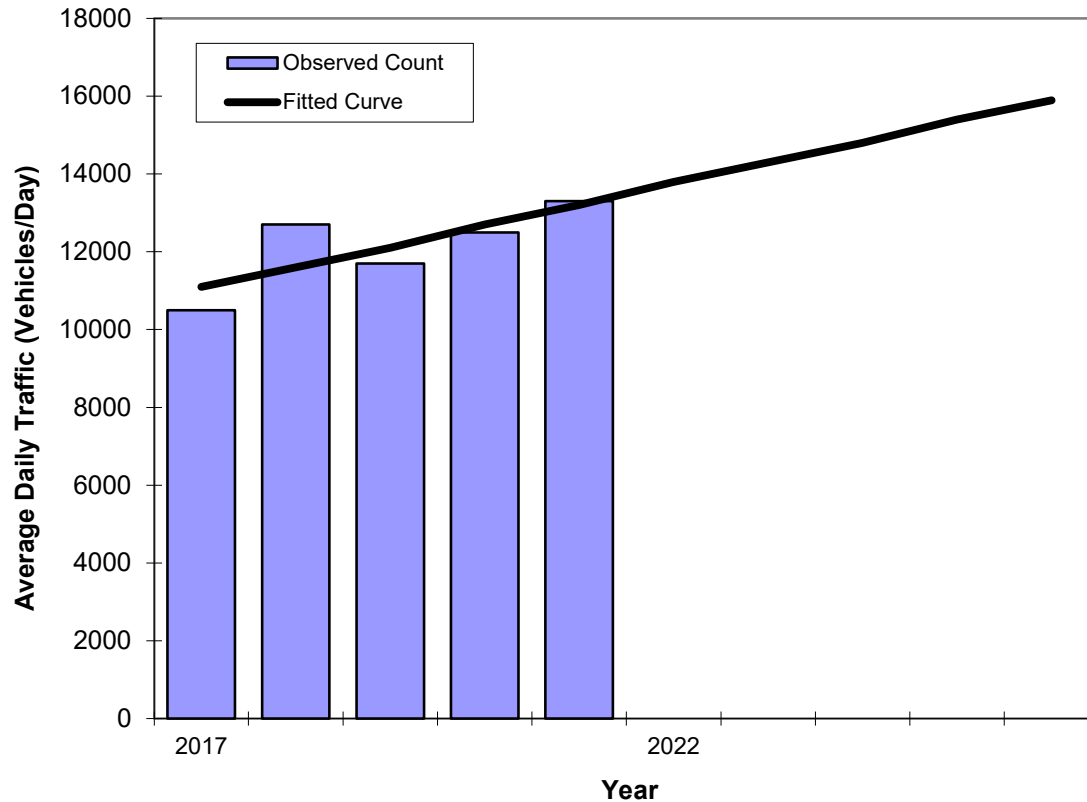
APPENDIX H

FDOT *TRAFFIC TRENDS*

TRAFFIC TRENDS

SR 524 -- I-95 to Cox Road

County:	Brevard
Station #:	73
Highway:	SR 524



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2017	10500	11100
2018	12700	11600
2019	11700	12100
2020	12500	12700
2021	13300	13200
2022 Opening Year Trend		
2022	N/A	13800
2024 Mid-Year Trend		
2024	N/A	14800
2026 Design Year Trend		
2026	N/A	15900
TRANPLAN Forecasts/Trends		

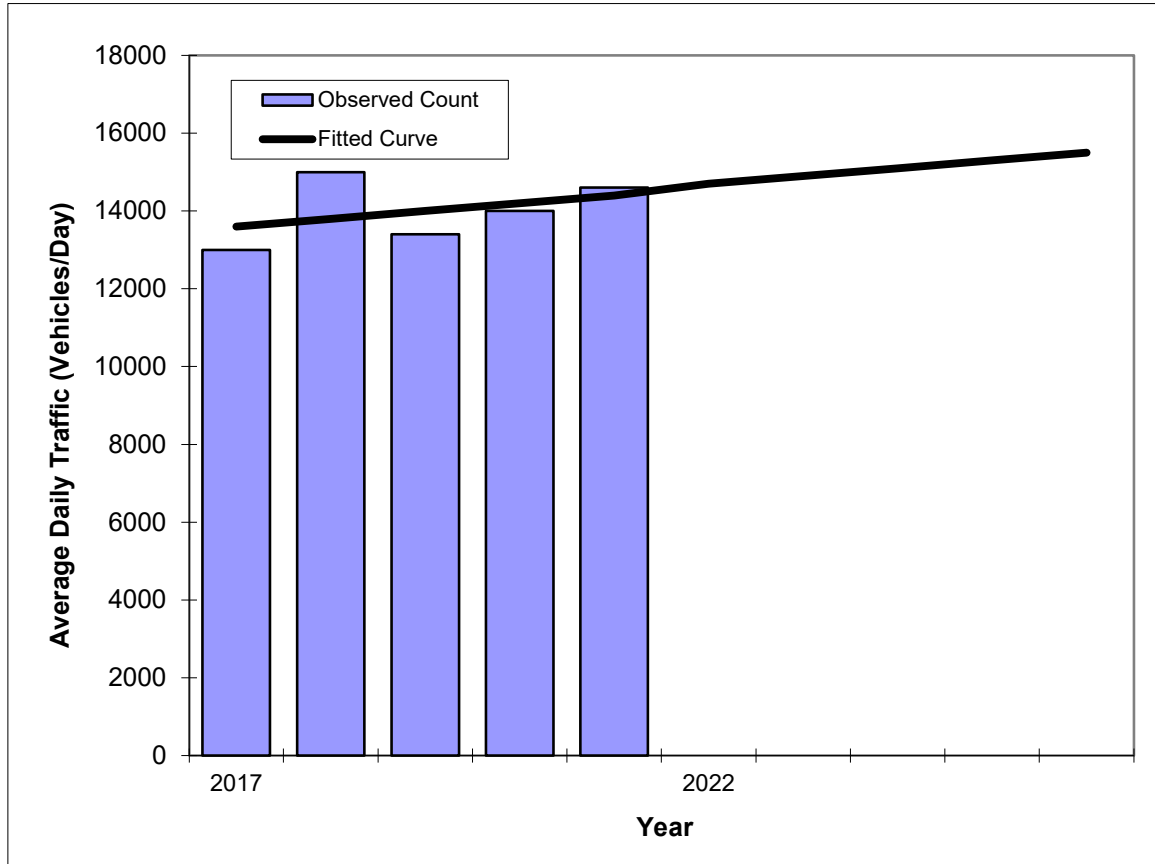
** Annual Trend Increase:	540
Trend R-squared:	62.4%
Trend Annual Historic Growth Rate:	4.73%
Trend Growth Rate (2021 to Design Year):	4.09%
Printed:	21-Nov-22
Straight Line Growth Option	

*Axle-Adjusted

TRAFFIC TRENDS

SR 524 -- Cox Road to Industry Road

County:	Brevard
Station #:	76
Highway:	SR 524



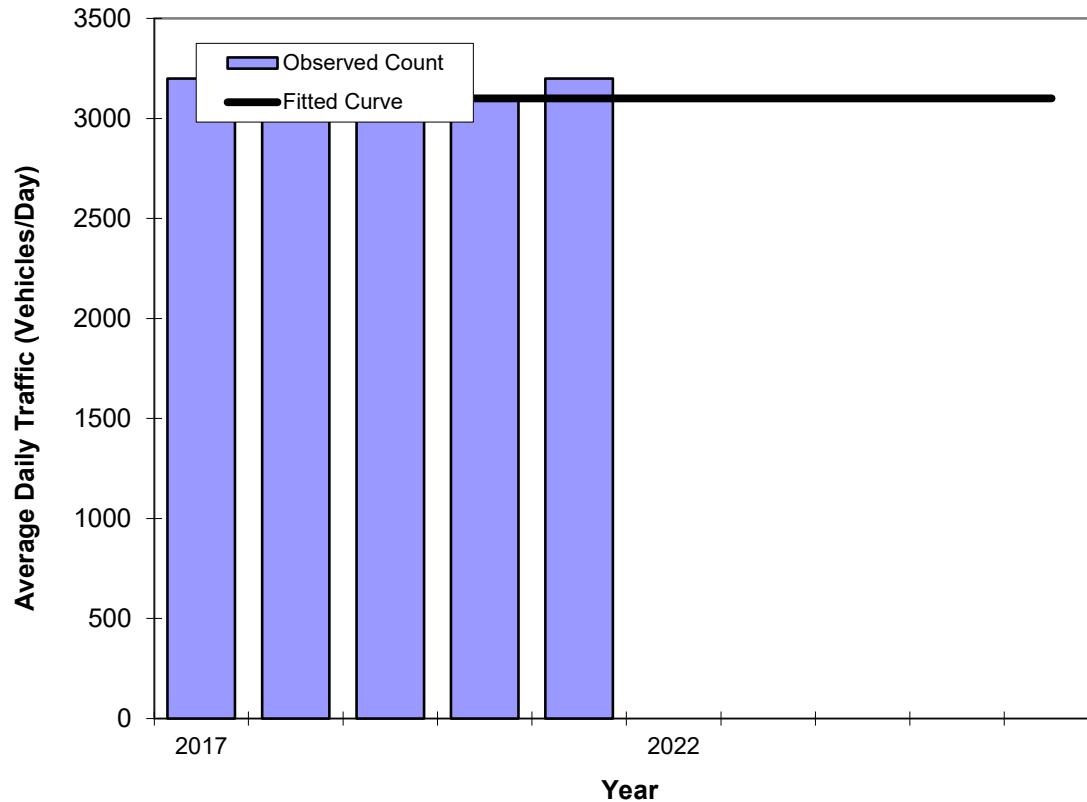
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2017	13000	13600
2018	15000	13800
2019	13400	14000
2020	14000	14200
2021	14600	14400
2022 Opening Year Trend		
2022	N/A	14700
2024 Mid-Year Trend		
2024	N/A	15100
2026 Design Year Trend		
2026	N/A	15500
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	220
Trend R-squared:	17.8%
Trend Annual Historic Growth Rate:	1.47%
Trend Growth Rate (2021 to Design Year):	1.53%
Printed:	21-Nov-22
Straight Line Growth Option	

*Axle-Adjusted

TRAFFIC TRENDS **Friday Road -- SR 524 to James Road**

County:	Brevard
Station #:	64
Highway:	Friday Road



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2017	3200	3100
2018	3100	3100
2019	3000	3100
2020	3100	3100
2021	3200	3100
2022 Opening Year Trend		
2022	N/A	3100
2024 Mid-Year Trend		
2024	N/A	3100
2026 Design Year Trend		
2026	N/A	3100
TRANPLAN Forecasts/Trends		

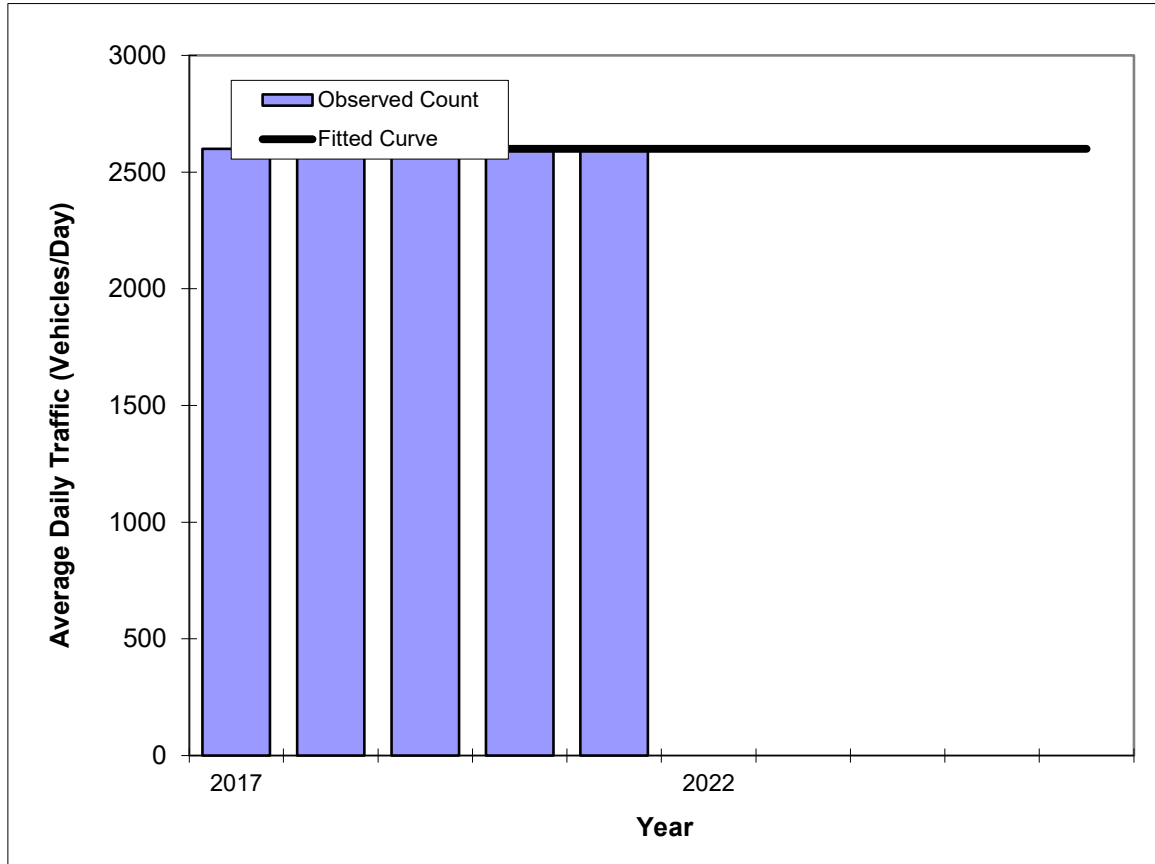
** Annual Trend Increase:	0
Trend R-squared:	0.0%
Trend Annual Historic Growth Rate:	0.00%
Trend Growth Rate (2021 to Design Year):	0.00%
Printed:	21-Nov-22
Straight Line Growth Option	

*Axle-Adjusted

TRAFFIC TRENDS

Cox Road -- SR 524 to James Road

County:	Brevard
Station #:	69
Highway:	Cox Road



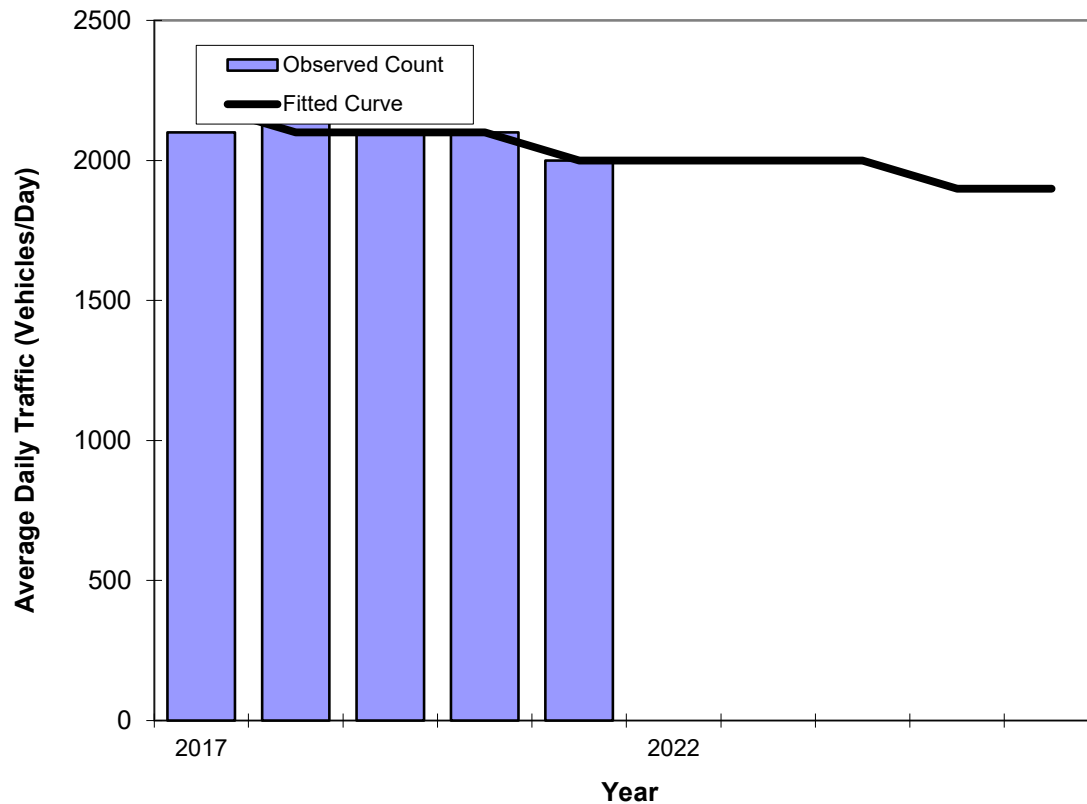
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2017	2600	2600
2018	2700	2600
2019	2600	2600
2020	2600	2600
2021	2600	2600
2022 Opening Year Trend		
2022	N/A	2600
2024 Mid-Year Trend		
2024	N/A	2600
2026 Design Year Trend		
2026	N/A	2600
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-10
Trend R-squared:	12.5%
Trend Annual Historic Growth Rate:	0.00%
Trend Growth Rate (2021 to Design Year):	0.00%
Printed:	21-Nov-22
Straight Line Growth Option	

*Axle-Adjusted

TRAFFIC TRENDS **I-95 SB OFF RAMP -- I-95 SB to SR 524**

County: Brevard
Station #: 702030
Highway: I-95 SB OFF RAMP



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2017	2100	2200
2018	2200	2100
2019	2100	2100
2020	2100	2100
2021	2000	2000
2022 Opening Year Trend		
2022	N/A	2000
2024 Mid-Year Trend		
2024	N/A	2000
2026 Design Year Trend		
2026	N/A	1900
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:** -30
Trend R-squared: 45.0%
Trend Annual Historic Growth Rate: -2.27%
Trend Growth Rate (2021 to Design Year): -1.00%
Printed: 21-Nov-22

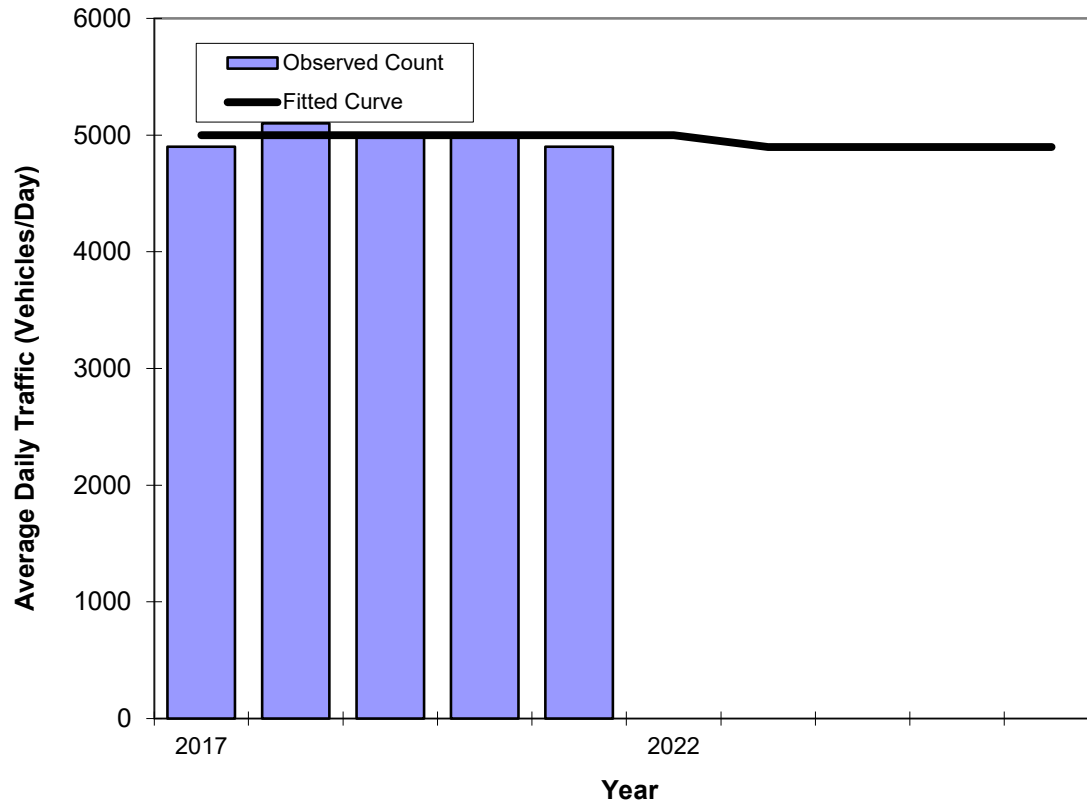
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

I-95 NB OFF RAMP -- I-95 NB to SR 524

County: Brevard
 Station #: 702028
 Highway: I-95 NB OFF RAMP



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2017	4900	5000
2018	5100	5000
2019	5000	5000
2020	5000	5000
2021	4900	5000
2022 Opening Year Trend		
2022	N/A	5000
2024 Mid-Year Trend		
2024	N/A	4900
2026 Design Year Trend		
2026	N/A	4900
TRANPLAN Forecasts/Trends		

** Annual Trend Increase: -10
 Trend R-squared: 3.6%
 Trend Annual Historic Growth Rate: 0.00%
 Trend Growth Rate (2021 to Design Year): -0.40%
 Printed: 21-Nov-22

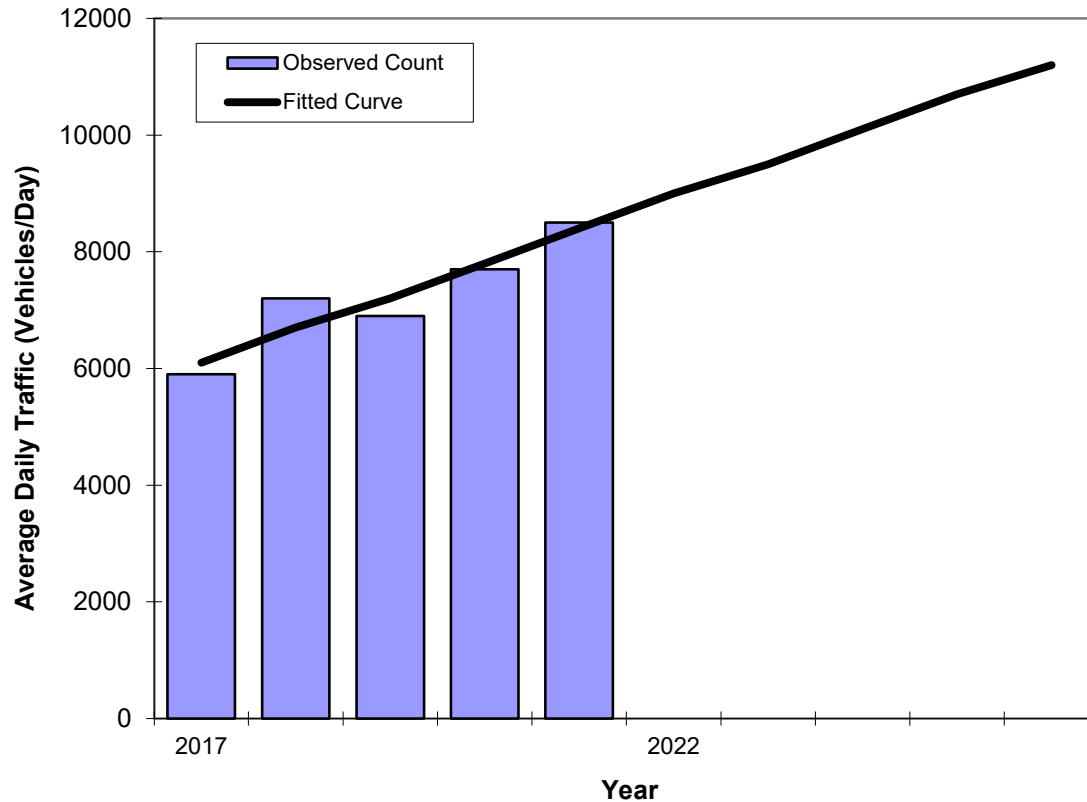
Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS

SR 524 -- SR 520 to I-95

County:	Brevard
Station #:	66
Highway:	SR 524



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2017	5900	6100
2018	7200	6700
2019	6900	7200
2020	7700	7800
2021	8500	8400
2022 Opening Year Trend		
2022	N/A	9000
2024 Mid-Year Trend		
2024	N/A	10100
2026 Design Year Trend		
2026	N/A	11200
TRANPLAN Forecasts/Trends		

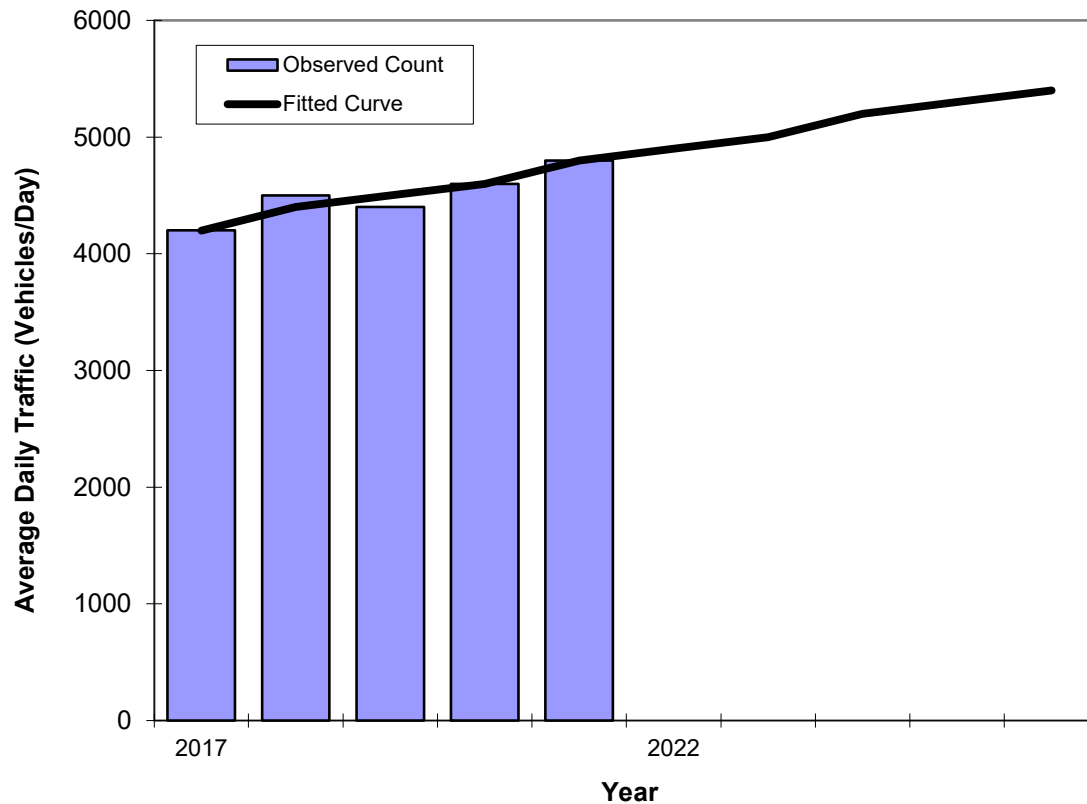
**** Annual Trend Increase:** 570
Trend R-squared: 87.5%
Trend Annual Historic Growth Rate: 9.43%
Trend Growth Rate (2021 to Design Year): 6.67%
Printed: 21-Nov-22

Straight Line Growth Option

*Axle-Adjusted

TRAFFIC TRENDS **Cox Road -- SR 520 to SR 524**

County:	Brevard
Station #:	61
Highway:	Cox Road



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2017	4200	4200
2018	4500	4400
2019	4400	4500
2020	4600	4600
2021	4800	4800
2022 Opening Year Trend		
2022	N/A	4900
2024 Mid-Year Trend		
2024	N/A	5200
2026 Design Year Trend		
2026	N/A	5400
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:** 130
Trend R-squared: 84.5%
Trend Annual Historic Growth Rate: 3.57%
Trend Growth Rate (2021 to Design Year): 2.50%
Printed: 21-Nov-22

Straight Line Growth Option

*Axle-Adjusted

APPENDIX I

VESTED TRAFFIC INFORMATION

AM Vested Trips

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
SR 624 at I-95 SB Ramps	Eastbound	U-Turn						0
		Left						0
		Through	1					1
		Right						0
	Westbound	U-Turn						0
		Left	18					18
		Through	5					5
		Right						0
	Northbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Southbound	U-Turn						0
		Left	2					2
		Through						0
		Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
SR 624 at I-95 NB Ramps	Eastbound	U-Turn						0
		Left						0
		Through	3					3
		Right						0
	Westbound	U-Turn						0
		Left						0
		Through	23					23
		Right	7					7
	Northbound	U-Turn						0
		Left						0
		Through						0
		Right	5					5
	Southbound	U-Turn						0
		Left						0
		Through						0
		Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
SR 624 at Friday Road	Eastbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Westbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Northbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Southbound	U-Turn						0
		Left						0
		Through						0
		Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
SR 624 at Cox Road	Eastbound	U-Turn						0
		Left						0
		Through	10			7		17
		Right						0
	Westbound	U-Turn						0
		Left	23			8		31
		Through	33			22		55
		Right	3			1		4
	Northbound	U-Turn						0
		Left						0
		Through	7			3		10
		Right						0
	Southbound	U-Turn						0
		Left	1			1		2
		Through						0
		Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
Friday Road at James Road	Eastbound	Left						0
		Bear Left						0
		Thru						0
		Right						0
	Westbound	Left						0
		Thru						0
		Right						0
		Hard Right						0
	Northbound	Left						0
		Thru						0
		Bear Right						0
		Right						0
	Southbound (Friday Road)	Hard Left						0
		Left						0
		Thru						0
		Right						0
	Southwestbound (Friday Lane)	Hard Left						0
		Bear Left						0
		Bear Right						0
		Hard Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
James Road at Project Driveway 1	Eastbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Westbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Northbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Southbound	U-Turn						0
		Left						0
		Through						0
		Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
James Road at Project Driveway 2	Eastbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Westbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Northbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Southbound	U-Turn						0
		Left						0
		Through						0
		Right						0

PM Vested Trips

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
SR 624 at I-95 SB Ramps	Eastbound	U-Turn						0
		Left						0
		Through	5					5
		Right						0
	Westbound	U-Turn						0
		Left	10					10
		Through	3					3
		Right						0
	Northbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Southbound	U-Turn						0
		Left	6					6
		Through						0
		Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
SR 624 at I-95 NB Ramps	Eastbound	U-Turn						0
		Left						0
		Through	11					11
		Right						0
	Westbound	U-Turn						0
		Left						0
		Through	13					13
		Right	4					4
	Northbound	U-Turn						0
		Left						0
		Through						0
		Right	17					17
	Southbound	U-Turn						0
		Left						0
		Through						0
		Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
SR 624 at Friday Road	Eastbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Westbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Northbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Southbound	U-Turn						0
		Left						0
		Through						0
		Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
SR 624 at Cox Road	Eastbound	U-Turn						0
		Left						0
		Through	30			22		52
		Right						0
	Westbound	U-Turn						0
		Left	13			5		18
		Through	18			14		32
		Right	2			1		3
	Northbound	U-Turn						0
		Left						0
		Through	21			8		29
		Right						0
	Southbound	U-Turn						0
		Left	3			1		4
		Through						0
		Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
Friday Road at James Road	Eastbound	Left						0
		Bear Left						0
		Thru						0
		Right						0
	Westbound	Left						0
		Thru						0
		Right						0
		Hard Right						0
	Northbound	Left						0
		Thru						0
		Bear Right						0
		Right						0
	Southbound (Friday Road)	Hard Left						0
		Left						0
		Thru						0
		Right						0
	Southwestbound (Friday Lane)	Hard Left						0
		Bear Left						0
		Bear Right						0
		Hard Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
James Road at Project Driveway 1	Eastbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Westbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Northbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Southbound	U-Turn						0
		Left						0
		Through						0
		Right						0

Intersection	Approach	Mvmt's	Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Totals
James Road at Project Driveway 2	Eastbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Westbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Northbound	U-Turn						0
		Left						0
		Through						0
		Right						0
	Southbound	U-Turn						0
		Left						0
		Through						0
		Right						0

5799.02 - PM Peak Hour Vested Segment Information

Location ID	Roadway	Segment		Arbours at Cocoa	Cirrus Apartments	Dollar General	Integra Preserve	Retreat at Cocoa Commons	Total
73	SR 524	I-95	Cox Road	48	0	0	0	0	48
76		Cox Road	Industry Road	242	190	19	68	24	543
64	Friday Road	SR 524	James Road	5	0	0	0	0	5
N/A	James Road	Friday Road	Cox Road	0	0	0	0	0	0
69	Cox Road	SR 524	James Road	5	0	0	1	0	6
N/A	Westminster Drive	SR 524	James Road	0	0	2	0	0	2

APPENDIX J

SIGNALIZED INTERSECTIONS

SYNCHRO SUMMARY SHEETS

BUILD-OUT CONDITIONS

Timings

1: SR 524 & I-95 SB Ramps

03/23/2023



Lane Group	SBL	SBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	146	83	338	252	489	234
Future Volume (vph)	146	83	338	252	489	234
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA
Protected Phases	8	8	6		5	2
Permitted Phases				6	2	
Detector Phase	8	8	6	6	5	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	12.0	12.0	5.0	12.0
Minimum Split (s)	21.2	21.2	25.7	25.7	18.7	25.7
Total Split (s)	30.0	30.0	45.0	45.0	30.0	80.0
Total Split (%)	27.3%	27.3%	40.9%	40.9%	27.3%	72.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.4	3.4	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.2	8.2	7.7	7.7	7.7	7.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 110

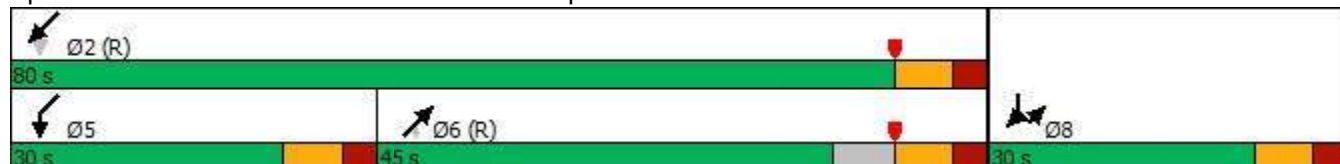
Actuated Cycle Length: 110

Offset: 109.1 (99%), Referenced to phase 2:SWTL and 6:NET, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 1: SR 524 & I-95 SB Ramps



HCM 6th Signalized Intersection Summary

1: SR 524 & I-95 SB Ramps

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations								 				
Traffic Volume (veh/h)	0	0	0	146	0	83	0	338	252	489	234	0
Future Volume (veh/h)	0	0	0	146	0	83	0	338	252	489	234	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1544	0	1781	0	1796	1870	1589	1604	0
Adj Flow Rate, veh/h				160	0	0	0	371	0	537	257	0
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				24	0	8	0	7	2	21	20	0
Cap, veh/h				189	0		0	1648		689	1166	0
Arrive On Green				0.13	0.00	0.00	0.00	0.48	0.00	0.06	0.24	0.00
Sat Flow, veh/h				1471	0	1510	0	3503	1585	1513	1604	0
Grp Volume(v), veh/h				160	0	0	0	371	0	537	257	0
Grp Sat Flow(s),veh/h/ln				1471	0	1510	0	1706	1585	1513	1604	0
Q Serve(g_s), s				11.7	0.0	0.0	0.0	6.9	0.0	16.4	14.1	0.0
Cycle Q Clear(g_c), s				11.7	0.0	0.0	0.0	6.9	0.0	16.4	14.1	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				189	0		0	1648		689	1166	0
V/C Ratio(X)				0.85	0.00		0.00	0.23		0.78	0.22	0.00
Avail Cap(c_a), veh/h				291	0		0	1648		733	1166	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(l)				1.00	0.00	0.00	0.00	1.00	0.00	0.93	0.93	0.00
Uniform Delay (d), s/veh				46.9	0.0	0.0	0.0	16.5	0.0	11.1	16.8	0.0
Incr Delay (d2), s/veh				20.7	0.0	0.0	0.0	0.3	0.0	4.7	0.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				9.1	0.0	0.0	0.0	4.7	0.0	11.3	10.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				67.6	0.0	0.0	0.0	16.8	0.0	15.9	17.2	0.0
LnGrp LOS				E	A		A	B		B	B	A
Approach Vol, veh/h				160				371			794	
Approach Delay, s/veh				67.6				16.8			16.3	
Approach LOS				E				B			B	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		87.7			26.8	60.8		22.3				
Change Period (Y+Rc), s		* 7.7			* 7.7	* 7.7		8.2				
Max Green Setting (Gmax), s		* 72			* 22	* 37		21.8				
Max Q Clear Time (g_c+l1), s		16.1			18.4	8.9		13.7				
Green Ext Time (p_c), s		1.5			0.7	2.3		0.6				
Intersection Summary												
HCM 6th Ctrl Delay				22.6								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NER, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings

2: SR 524 & I-95 NB Ramps

03/23/2023



Lane Group	NBL	NBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	85	307	97	380	630	180
Future Volume (vph)	85	307	97	380	630	180
Turn Type	Prot	Prot	Prot	NA	NA	Perm
Protected Phases	4	4	1	6	2	
Permitted Phases						2
Detector Phase	4	4	1	6	2	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	8.0	12.0	12.0	12.0
Minimum Split (s)	24.3	24.3	15.5	25.5	25.5	25.5
Total Split (s)	30.0	30.0	30.0	80.0	50.0	50.0
Total Split (%)	27.3%	27.3%	27.3%	72.7%	45.5%	45.5%
Yellow Time (s)	3.2	3.2	4.8	4.8	4.8	4.8
All-Red Time (s)	3.1	3.1	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	7.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 110

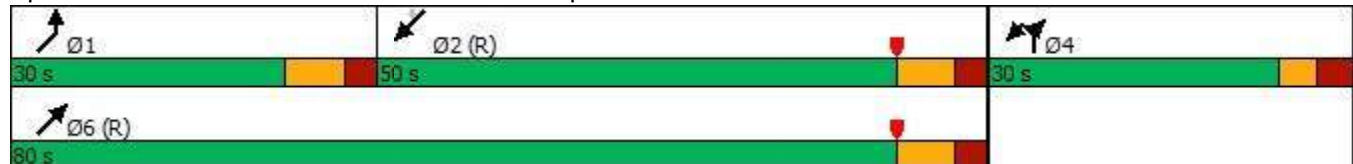
Actuated Cycle Length: 110

Offset: 80 (73%), Referenced to phase 2:SWT and 6:NET, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 524 & I-95 NB Ramps



HCM 6th Signalized Intersection Summary

2: SR 524 & I-95 NB Ramps

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	85	0	307	0	0	0	97	380	0	0	630	180
Future Volume (veh/h)	85	0	307	0	0	0	97	380	0	0	630	180
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1781	0	1678				1826	1633	0	0	1663	1618
Adj Flow Rate, veh/h	90	0	327				103	404	0	0	670	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	8	0	15				5	18	0	0	16	19
Cap, veh/h	366	0	306				128	1076	0	0	1634	
Arrive On Green	0.22	0.00	0.22				0.15	1.00	0.00	0.00	1.00	0.00
Sat Flow, veh/h	1697	0	1422				1739	1633	0	0	3243	1372
Grp Volume(v), veh/h	90	0	327				103	404	0	0	670	0
Grp Sat Flow(s),veh/h/ln	1697	0	1422				1739	1633	0	0	1580	1372
Q Serve(g_s), s	4.8	0.0	23.7				6.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	23.7				6.3	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	366	0	306				128	1076	0	0	1634	
V/C Ratio(X)	0.25	0.00	1.07				0.80	0.38	0.00	0.00	0.41	
Avail Cap(c_a), veh/h	366	0	306				356	1076	0	0	1634	
HCM Platoon Ratio	1.00	1.00	1.00				2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(l)	1.00	0.00	1.00				0.92	0.92	0.00	0.00	0.70	0.00
Uniform Delay (d), s/veh	35.7	0.0	43.2				46.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	70.4				10.2	0.9	0.0	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	0.0	21.0				5.1	0.5	0.0	0.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	113.6				56.3	0.9	0.0	0.0	0.5	0.0
LnGrp LOS	D	A	F				E	A	A	A	A	
Approach Vol, veh/h	417						507			670		
Approach Delay, s/veh	96.9						12.2			0.5		
Approach LOS	F						B			A		
Timer - Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	15.6	64.4	30.0		80.0							
Change Period (Y+Rc), s	* 7.5	* 7.5	* 6.3		* 7.5							
Max Green Setting (Gmax), s	* 23	* 43	* 24		* 73							
Max Q Clear Time (g_c+l1)8s	3	2.0	25.7		2.0							
Green Ext Time (p_c), s	0.2	4.7	0.0		2.5							
Intersection Summary												
HCM 6th Ctrl Delay	29.4											
HCM 6th LOS	C											

Timings

3: SR 524 & Friday Rd

03/23/2023

Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	42	6	150	10	102	461	126	47	381	45
Future Volume (vph)	42	6	150	10	102	461	126	47	381	45
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8	7	4	1	6		5	2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	7	4	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	10.0	7.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	26.2	26.2	19.0	26.2	12.3	25.3	25.3	13.0	25.3	25.3
Total Split (s)	19.0	19.0	27.0	46.0	20.0	44.0	44.0	20.0	44.0	44.0
Total Split (%)	17.3%	17.3%	24.5%	41.8%	18.2%	40.0%	40.0%	18.2%	40.0%	40.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.4	3.4	4.2	3.4	2.5	2.5	2.5	3.2	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		8.2	9.0	8.2	7.3	7.3	7.3	8.0	7.3	7.3
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 110

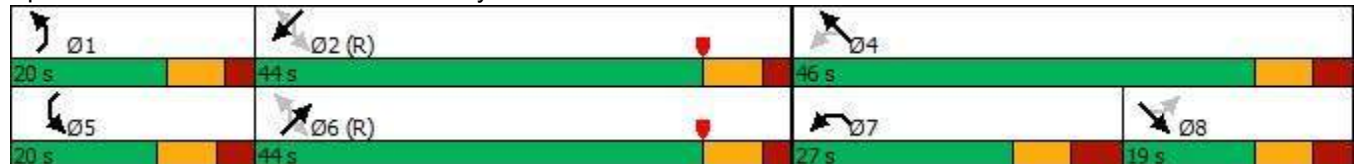
Actuated Cycle Length: 110

Offset: 82 (75%), Referenced to phase 2:SWTL and 6:NETL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 3: SR 524 & Friday Rd



HCM 6th Signalized Intersection Summary

3: SR 524 & Friday Rd

03/23/2023

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	42	6	221	150	10	66	102	461	126	47	381	45
Future Volume (veh/h)	42	6	221	150	10	66	102	461	126	47	381	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1870	1811	1233	1411	1441	1811	1781	1515	1174	1707	1826
Adj Flow Rate, veh/h	44	6	233	158	11	69	107	485	133	49	401	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	11	2	6	45	33	31	6	8	26	49	13	5
Cap, veh/h	57	7	126	274	53	333	392	776	559	310	725	657
Arrive On Green	0.10	0.10	0.10	0.14	0.32	0.32	0.10	0.87	0.87	0.04	0.42	0.42
Sat Flow, veh/h	199	76	1281	1174	168	1053	1725	1781	1284	1118	1707	1547
Grp Volume(v), veh/h	283	0	0	158	0	80	107	485	133	49	401	47
Grp Sat Flow(s),veh/h/ln	1556	0	0	1174	0	1221	1725	1781	1284	1118	1707	1547
Q Serve(g_s), s	9.0	0.0	0.0	12.8	0.0	5.3	3.8	8.5	1.9	2.7	19.4	2.0
Cycle Q Clear(g_c), s	10.8	0.0	0.0	12.8	0.0	5.3	3.8	8.5	1.9	2.7	19.4	2.0
Prop In Lane	0.16		0.82	1.00		0.86	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	0	0	274	0	386	392	776	559	310	725	657
V/C Ratio(X)	1.48	0.00	0.00	0.58	0.00	0.21	0.27	0.63	0.24	0.16	0.55	0.07
Avail Cap(c_a), veh/h	191	0	0	307	0	420	501	776	559	392	725	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	0.85	0.85	0.85	0.91	0.91	0.91
Uniform Delay (d), s/veh	50.6	0.0	0.0	35.6	0.0	27.6	17.0	4.6	4.1	17.0	23.8	18.8
Incr Delay (d2), s/veh	243.9	0.0	0.0	4.2	0.0	0.6	0.3	3.2	0.9	0.2	2.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	28.5	0.0	0.0	7.0	0.0	2.8	2.5	4.2	1.0	1.2	12.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	294.6	0.0	0.0	39.7	0.0	28.1	17.3	7.8	5.0	17.2	26.5	19.0
LnGrp LOS	F	A	A	D	A	C	B	A	A	B	C	B
Approach Vol, veh/h	283			238			725			497		
Approach Delay, s/veh	294.6			35.8			8.7			24.9		
Approach LOS	F			D			A			C		
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	54.0		42.9	11.9	55.2	23.9	19.0				
Change Period (Y+Rc), s	7.3	7.3		* 8.2	* 8	7.3	9.0	* 8.2				
Max Green Setting (Gmax), s	27	36.7		* 38	* 12	36.7	18.0	* 11				
Max Q Clear Time (g_c+l1), s	5.8	21.4		7.3	4.7	10.5	14.8	12.8				
Green Ext Time (p_c), s	0.1	2.1		0.8	0.0	3.3	0.3	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	63.4											
HCM 6th LOS	E											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

4: SR 524 & Cox Rd

03/23/2023

										
Lane Group	NBL	NBT	SBL	SBT	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	25	41	106	49	40	463	151	143	445	43
Future Volume (vph)	25	41	106	49	40	463	151	143	445	43
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		8		6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	4	4	8	8	6	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	24.8	24.8	24.8	24.8	26.0	26.0	26.0	12.9	26.0	26.0
Total Split (s)	34.0	34.0	34.0	34.0	55.0	55.0	55.0	21.0	76.0	76.0
Total Split (%)	30.9%	30.9%	30.9%	30.9%	50.0%	50.0%	50.0%	19.1%	69.1%	69.1%
Yellow Time (s)	4.8	4.8	4.8	4.8	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.4	2.5	2.5
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.8		6.8	8.0	8.0	8.0	7.9	8.0	8.0
Lead/Lag					Lag	Lag	Lag	Lead		
Lead-Lag Optimize?					Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 110

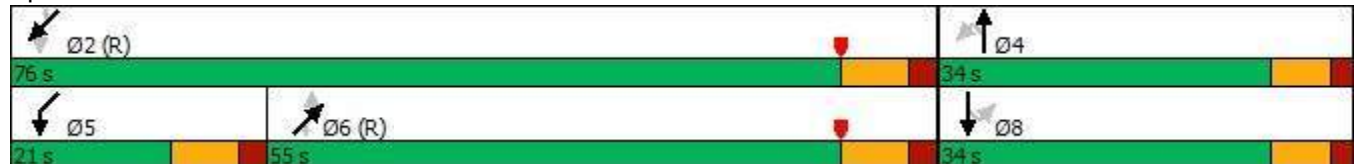
Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:SWTL and 6:NETL, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 4: SR 524 & Cox Rd



HCM 6th Signalized Intersection Summary

4: SR 524 & Cox Rd

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	25	41	103	106	49	48	40	463	151	143	445	43
Future Volume (veh/h)	25	41	103	106	49	48	40	463	151	143	445	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1693	1870	1796	1826	1574	1796	1678	1752	1870	1856	1767	1707
Adj Flow Rate, veh/h	26	43	108	112	52	51	42	487	0	151	468	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	14	2	7	5	22	7	15	10	2	3	9	13
Cap, veh/h	69	105	213	162	69	56	504	925		478	1160	
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.53	0.53	0.00	0.06	0.66	0.00
Sat Flow, veh/h	150	503	1023	540	329	270	830	1752	1585	1767	1767	1447
Grp Volume(v), veh/h	177	0	0	215	0	0	42	487	0	151	468	0
Grp Sat Flow(s),veh/h/ln	1676	0	0	1139	0	0	830	1752	1585	1767	1767	1447
Q Serve(g_s), s	0.0	0.0	0.0	10.2	0.0	0.0	2.8	20.0	0.0	4.1	13.6	0.0
Cycle Q Clear(g_c), s	10.2	0.0	0.0	20.4	0.0	0.0	2.8	20.0	0.0	4.1	13.6	0.0
Prop In Lane	0.15		0.61	0.52		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	387	0	0	287	0	0	504	925		478	1160	
V/C Ratio(X)	0.46	0.00	0.00	0.75	0.00	0.00	0.08	0.53		0.32	0.40	
Avail Cap(c_a), veh/h	449	0	0	334	0	0	504	925		588	1160	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	0.64	0.64	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.5	0.0	0.0	42.7	0.0	0.0	12.9	17.0	0.0	12.1	8.8	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	8.2	0.0	0.0	0.2	1.4	0.0	0.5	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.6	0.0	0.0	10.2	0.0	0.0	0.9	11.0	0.0	2.5	7.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	0.0	0.0	50.9	0.0	0.0	13.1	18.3	0.0	12.6	9.9	0.0
LnGrp LOS	D	A	A	D	A	A	B	B		B	A	
Approach Vol, veh/h	177				215				529			
Approach Delay, s/veh	39.5				50.9				17.9			
Approach LOS	D				D				B			
Timer - Assigned Phs	2			4		5		6		8		
Phs Duration (G+Y+Rc), s	80.2			29.8		14.2		66.1		29.8		
Change Period (Y+Rc), s	8.0			6.8		7.9		8.0		6.8		
Max Green Setting (Gmax), s	68.0			27.2		13.1		47.0		27.2		
Max Q Clear Time (g_c+l1), s	15.6			12.2		6.1		22.0		22.4		
Green Ext Time (p_c), s	3.4			0.9		0.2		3.6		0.5		

Intersection Summary

Unsignalized Delay for [NER, SWR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings
1: SR 524 & I-95 SB Ramps

03/23/2023

						
Lane Group	SBL	SBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	145	126	317	142	406	490
Future Volume (vph)	145	126	317	142	406	490
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA
Protected Phases	8	8	6		5	2
Permitted Phases				6	2	
Detector Phase	8	8	6	6	5	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	12.0	12.0	5.0	12.0
Minimum Split (s)	26.2	26.2	24.8	24.8	12.7	24.8
Total Split (s)	48.0	48.0	52.0	52.0	40.0	92.0
Total Split (%)	34.3%	34.3%	37.1%	37.1%	28.6%	65.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.4	3.4	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.2	8.2	7.7	7.7	7.7	7.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 140

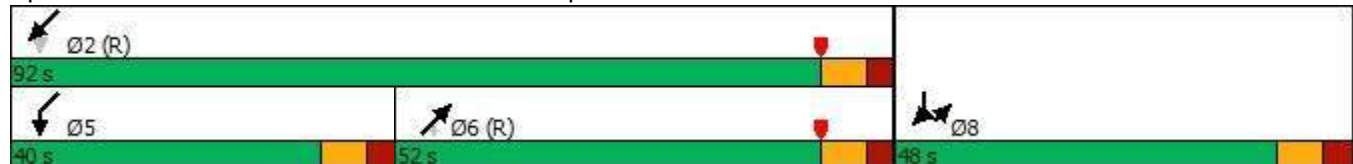
Actuated Cycle Length: 140

Offset: 105 (75%), Referenced to phase 2:SWTL and 6:NET, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 1: SR 524 & I-95 SB Ramps



HCM 6th Signalized Intersection Summary

1: SR 524 & I-95 SB Ramps

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	145	0	126	0	317	142	406	490	0
Future Volume (veh/h)	0	0	0	145	0	126	0	317	142	406	490	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1678	0	1841	0	1826	1693	1737	1870	0
Adj Flow Rate, veh/h				153	0	0	0	334	0	427	516	0
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				15	0	4	0	5	14	11	2	0
Cap, veh/h				183	0		0	1993		801	1443	0
Arrive On Green				0.11	0.00	0.00	0.00	0.57	0.00	0.28	1.00	0.00
Sat Flow, veh/h				1598	0	1560	0	3561	1434	1654	1870	0
Grp Volume(v), veh/h				153	0	0	0	334	0	427	516	0
Grp Sat Flow(s),veh/h/ln				1598	0	1560	0	1735	1434	1654	1870	0
Q Serve(g_s), s				13.1	0.0	0.0	0.0	6.3	0.0	16.8	0.0	0.0
Cycle Q Clear(g_c), s				13.1	0.0	0.0	0.0	6.3	0.0	16.8	0.0	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				183	0		0	1993		801	1443	0
V/C Ratio(X)				0.83	0.00		0.00	0.17		0.53	0.36	0.00
Avail Cap(c_a), veh/h				454	0		0	1993		947	1443	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(l)				1.00	0.00	0.00	0.00	1.00	0.00	0.89	0.89	0.00
Uniform Delay (d), s/veh				60.7	0.0	0.0	0.0	14.0	0.0	6.4	0.0	0.0
Incr Delay (d2), s/veh				18.3	0.0	0.0	0.0	0.2	0.0	0.5	0.6	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				10.3	0.0	0.0	0.0	4.4	0.0	5.8	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				79.0	0.0	0.0	0.0	14.2	0.0	6.9	0.6	0.0
LnGrp LOS				E	A		A	B		A	A	A
Approach Vol, veh/h					153			334			943	
Approach Delay, s/veh					79.0			14.2			3.5	
Approach LOS					E			B			A	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		115.7			27.6	88.1		24.3				
Change Period (Y+Rc), s		* 7.7			* 7.7	* 7.7		8.2				
Max Green Setting (Gmax), s		* 84			* 32	* 44		39.8				
Max Q Clear Time (g_c+l1), s		2.0			18.8	8.3		15.1				
Green Ext Time (p_c), s		3.3			1.1	2.1		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				14.1								
HCM 6th LOS				B								

Notes

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

Unsignalized Delay for [NER, SBR] is excluded from calculations of the approach delay and intersection delay.

Lanes, Volumes, Timings
2: SR 524 & I-95 NB Ramps

03/23/2023

						
Lane Group	NBL	NBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	212	458	98	373	661	141
Future Volume (vph)	212	458	98	373	661	141
Turn Type	Prot	Prot	Prot	NA	NA	Perm
Protected Phases	4	4	1	6	2	
Permitted Phases						2
Detector Phase	4	4	1	6	2	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	8.0	12.0	12.0	12.0
Minimum Split (s)	24.3	24.3	15.5	25.5	25.5	25.5
Total Split (s)	30.0	30.0	36.0	110.0	74.0	74.0
Total Split (%)	21.4%	21.4%	25.7%	78.6%	52.9%	52.9%
Yellow Time (s)	3.2	3.2	4.8	4.8	4.8	4.8
All-Red Time (s)	3.1	3.1	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	7.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 140

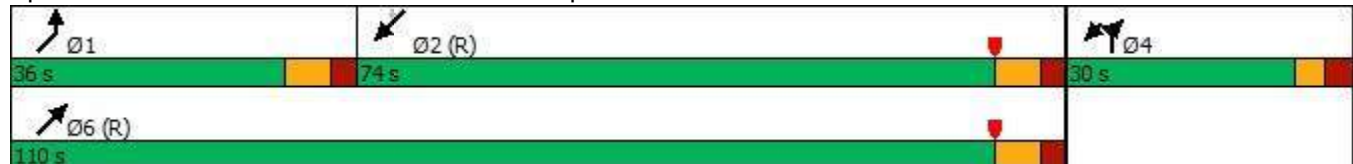
Actuated Cycle Length: 140

Offset: 121 (86%), Referenced to phase 2:SWT and 6:NET, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 524 & I-95 NB Ramps



HCM 6th Signalized Intersection Summary

2: SR 524 & I-95 NB Ramps

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	212	0	458	0	0	0	98	373	0	0	661	141
Future Volume (veh/h)	212	0	458	0	0	0	98	373	0	0	661	141
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1781	0	1722				1841	1722	0	0	1796	1618
Adj Flow Rate, veh/h	223	0	482				103	393	0	0	696	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	8	0	12				4	12	0	0	7	19
Cap, veh/h	287	0	247				125	1261	0	0	2072	
Arrive On Green	0.17	0.00	0.17				0.14	1.00	0.00	0.00	1.00	0.00
Sat Flow, veh/h	1697	0	1459				1753	1722	0	0	3503	1372
Grp Volume(v), veh/h	223	0	482				103	393	0	0	696	0
Grp Sat Flow(s),veh/h/ln	1697	0	1459				1753	1722	0	0	1706	1372
Q Serve(g_s), s	17.6	0.0	23.7				8.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	17.6	0.0	23.7				8.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	287	0	247				125	1261	0	0	2072	
V/C Ratio(X)	0.78	0.00	1.95				0.82	0.31	0.00	0.00	0.34	
Avail Cap(c_a), veh/h	287	0	247				357	1261	0	0	2072	
HCM Platoon Ratio	1.00	1.00	1.00				2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(l)	1.00	0.00	1.00				0.95	0.95	0.00	0.00	0.52	0.00
Uniform Delay (d), s/veh	55.6	0.0	58.2				59.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	12.6	0.0	442.4				11.8	0.6	0.0	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.3	0.0	61.8				6.6	0.4	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.2	0.0	500.5				71.0	0.6	0.0	0.0	0.2	0.0
LnGrp LOS	E	A	F				E	A	A	A	A	
Approach Vol, veh/h	705						496			696		
Approach Delay, s/veh	363.8						15.2			0.2		
Approach LOS	F						B			A		
Timer - Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	17.5	92.5	30.0		110.0							
Change Period (Y+Rc), s * 7.5	* 7.5	* 7.5	* 6.3		* 7.5							
Max Green Setting (Gmax), s	29	* 67	* 24		* 1E2							
Max Q Clear Time (g_c+11)0.0	2.0	2.0	25.7		2.0							
Green Ext Time (p_c), s	0.2	5.0	0.0		2.4							
Intersection Summary												
HCM 6th Ctrl Delay	139.3											
HCM 6th LOS	F											
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [SWR] is excluded from calculations of the approach delay and intersection delay.												

Lanes, Volumes, Timings
3: SR 524 & Friday Rd

03/23/2023

										
Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	47	27	117	23	249	445	140	40	532	71
Future Volume (vph)	47	27	117	23	249	445	140	40	532	71
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8	7	4	1	6		5	2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	7	4	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	10.0	7.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	26.2	26.2	19.0	26.2	12.3	25.3	25.3	13.0	25.3	25.3
Total Split (s)	20.0	20.0	27.0	47.0	25.0	68.0	68.0	25.0	68.0	68.0
Total Split (%)	14.3%	14.3%	19.3%	33.6%	17.9%	48.6%	48.6%	17.9%	48.6%	48.6%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.4	3.4	4.2	3.4	2.5	2.5	2.5	3.2	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		8.2	9.0	8.2	7.3	7.3	7.3	8.0	7.3	7.3
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 140

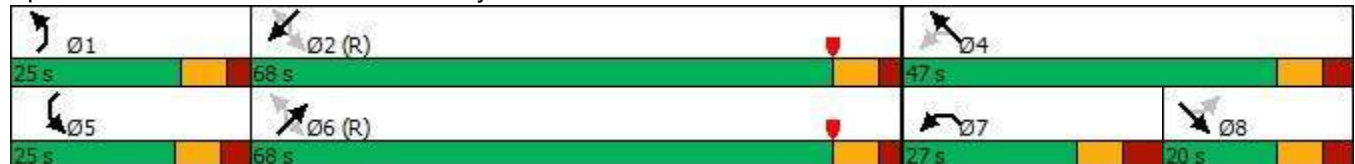
Actuated Cycle Length: 140

Offset: 94 (67%), Referenced to phase 2:SWTL and 6:NETL, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Splits and Phases: 3: SR 524 & Friday Rd



HCM 6th Signalized Intersection Summary

3: SR 524 & Friday Rd

03/23/2023

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	47	27	174	117	23	68	249	445	140	40	532	71
Future Volume (veh/h)	47	27	174	117	23	68	249	445	140	40	532	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1752	1781	1826	1337	1752	1248	1856	1722	1352	1633	1811	1767
Adj Flow Rate, veh/h	49	28	183	123	24	72	262	468	147	42	560	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	10	8	5	38	10	44	3	12	37	18	6	9
Cap, veh/h	51	16	88	225	96	288	427	954	635	446	898	742
Arrive On Green	0.08	0.08	0.08	0.10	0.25	0.25	0.18	1.00	1.00	0.03	0.50	0.50
Sat Flow, veh/h	248	191	1045	1273	386	1158	1767	1722	1145	1555	1811	1497
Grp Volume(v), veh/h	260	0	0	123	0	96	262	468	147	42	560	75
Grp Sat Flow(s),veh/h/ln	1484	0	0	1273	0	1543	1767	1722	1145	1555	1811	1497
Q Serve(g_s), s	10.6	0.0	0.0	12.0	0.0	7.0	10.5	0.0	0.0	1.8	31.6	3.7
Cycle Q Clear(g_c), s	11.8	0.0	0.0	12.0	0.0	7.0	10.5	0.0	0.0	1.8	31.6	3.7
Prop In Lane	0.19		0.70	1.00		0.75	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	0	0	225	0	385	427	954	635	446	898	742
V/C Ratio(X)	1.67	0.00	0.00	0.55	0.00	0.25	0.61	0.49	0.23	0.09	0.62	0.10
Avail Cap(c_a), veh/h	156	0	0	260	0	428	487	954	635	590	898	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	0.82	0.82	0.82	0.87	0.87	0.87
Uniform Delay (d), s/veh	65.2	0.0	0.0	49.7	0.0	42.1	17.0	0.0	0.0	16.3	25.7	18.7
Incr Delay (d2), s/veh	328.1	0.0	0.0	4.4	0.0	0.7	1.5	1.5	0.7	0.1	2.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	31.3	0.0	0.0	7.4	0.0	4.9	6.1	0.7	0.2	1.2	19.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	393.3	0.0	0.0	54.1	0.0	42.8	18.5	1.5	0.7	16.3	28.6	19.0
LnGrp LOS	F	A	A	D	A	D	B	A	A	B	C	B
Approach Vol, veh/h	260				219				877			
Approach Delay, s/veh	393.3				49.1				6.4			
Approach LOS	F				D				A			
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.2	76.7		43.1	12.0	84.9	23.1	20.0				
Change Period (Y+Rc), s	7.3	7.3		* 8.2	* 8	7.3	9.0	* 8.2				
Max Green Setting (Gmax),s	75	60.7		* 39	* 17	60.7	18.0	* 12				
Max Q Clear Time (g_c+I1),s	25	33.6		9.0	3.8	2.0	14.0	13.8				
Green Ext Time (p_c), s	0.3	3.7		1.0	0.0	3.5	0.2	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	67.3											
HCM 6th LOS	E											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

										
Lane Group	NBL	NBT	SBL	SBT	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	103	97	72	42	48	523	36	155	501	130
Future Volume (vph)	103	97	72	42	48	523	36	155	501	130
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		8		6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	4	4	8	8	6	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	24.8	24.8	24.8	24.8	26.0	26.0	26.0	12.9	26.0	26.0
Total Split (s)	69.0	69.0	69.0	69.0	52.0	52.0	52.0	19.0	71.0	71.0
Total Split (%)	49.3%	49.3%	49.3%	49.3%	37.1%	37.1%	37.1%	13.6%	50.7%	50.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.4	2.5	2.5
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.8		6.8	8.0	8.0	8.0	7.9	8.0	8.0
Lead/Lag					Lag	Lag	Lag	Lead		
Lead-Lag Optimize?					Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 140

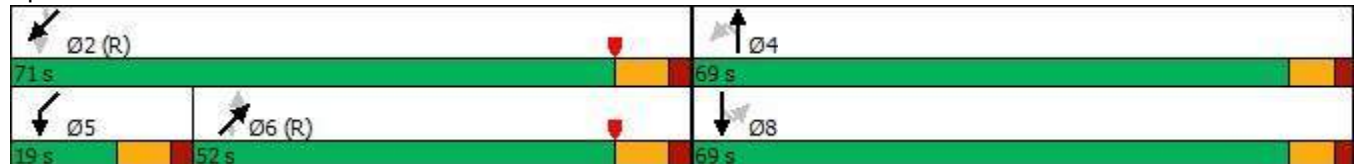
Actuated Cycle Length: 140

Offset: 47 (34%), Referenced to phase 2:SWTL and 6:NETL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 4: SR 524 & Cox Rd



HCM 6th Signalized Intersection Summary

4: SR 524 & Cox Rd

03/23/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	103	97	199	72	42	28	48	523	36	155	501	130
Future Volume (veh/h)	103	97	199	72	42	28	48	523	36	155	501	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1841	1856	1856	1870	1781	1707	1826	1707	1870	1870	1870
Adj Flow Rate, veh/h	108	102	209	76	44	29	51	551	0	163	527	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	4	3	3	2	8	13	5	13	2	2	2
Cap, veh/h	141	120	227	162	91	52	402	878		377	1116	
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.48	0.48	0.00	0.06	0.60	0.00
Sat Flow, veh/h	364	405	765	415	308	175	800	1826	1447	1781	1870	1585
Grp Volume(v), veh/h	419	0	0	149	0	0	51	551	0	163	527	0
Grp Sat Flow(s),veh/h/ln	1534	0	0	898	0	0	800	1826	1447	1781	1870	1585
Q Serve(g_s), s	17.3	0.0	0.0	0.0	0.0	0.0	5.4	31.4	0.0	6.3	22.1	0.0
Cycle Q Clear(g_c), s	37.0	0.0	0.0	19.8	0.0	0.0	11.2	31.4	0.0	6.3	22.1	0.0
Prop In Lane	0.26		0.50	0.51		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	488	0	0	306	0	0	402	878		377	1116	
V/C Ratio(X)	0.86	0.00	0.00	0.49	0.00	0.00	0.13	0.63		0.43	0.47	
Avail Cap(c_a), veh/h	715	0	0	500	0	0	402	878		412	1116	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	0.74	0.74	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	47.5	0.0	0.0	40.7	0.0	0.0	23.6	27.0	0.0	20.2	15.8	0.0
Incr Delay (d2), s/veh	7.0	0.0	0.0	1.2	0.0	0.0	0.5	2.5	0.0	0.8	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.1	0.0	0.0	7.8	0.0	0.0	1.8	18.5	0.0	4.4	13.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	0.0	0.0	41.9	0.0	0.0	24.0	29.6	0.0	21.0	17.3	0.0
LnGrp LOS	D	A	A	D	A	A	C	C		C	B	
Approach Vol, veh/h	419				149				602			
Approach Delay, s/veh	54.6				41.9				29.1			
Approach LOS	D				D				C			
Timer - Assigned Phs	2			4		5		6		8		
Phs Duration (G+Y+Rc), s	91.6			48.4		16.3		75.3		48.4		
Change Period (Y+Rc), s	8.0			6.8		7.9		8.0		6.8		
Max Green Setting (Gmax), s	63.0			62.2		11.1		44.0		62.2		
Max Q Clear Time (g_c+11), s	24.1			39.0		8.3		33.4		21.8		
Green Ext Time (p_c), s	3.1			2.6		0.1		2.5		0.9		
Intersection Summary												
HCM 6th Ctrl Delay	31.8											
HCM 6th LOS	C											

APPENDIX K
SIGNALIZED INTERSECTION
SYNCHRO SUMMARY SHEET
BUILD-OUT CONDITION IMPROVED

Timings

2: SR 524 & I-95 NB Ramps

03/31/2023



Lane Group	NBL	NBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	85	307	97	380	630	180
Future Volume (vph)	85	307	97	380	630	180
Turn Type	Prot	Prot	Prot	NA	NA	Perm
Protected Phases	4	4	1	6	2	
Permitted Phases						2
Detector Phase	4	4	1	6	2	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	8.0	12.0	12.0	12.0
Minimum Split (s)	24.3	24.3	15.5	25.5	25.5	25.5
Total Split (s)	30.0	30.0	30.0	80.0	50.0	50.0
Total Split (%)	27.3%	27.3%	27.3%	72.7%	45.5%	45.5%
Yellow Time (s)	3.2	3.2	4.8	4.8	4.8	4.8
All-Red Time (s)	3.1	3.1	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	7.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 110

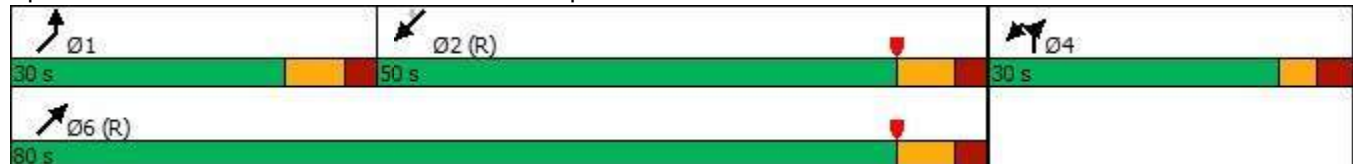
Actuated Cycle Length: 110

Offset: 80 (73%), Referenced to phase 2:SWT and 6:NET, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 524 & I-95 NB Ramps



HCM 6th Signalized Intersection Summary

2: SR 524 & I-95 NB Ramps

03/31/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	85	0	307	0	0	0	97	380	0	0	630	180
Future Volume (veh/h)	85	0	307	0	0	0	97	380	0	0	630	180
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1781	0	1678				1826	1633	0	0	1663	1618
Adj Flow Rate, veh/h	90	0	0				103	404	0	0	670	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	8	0	15				5	18	0	0	16	19
Cap, veh/h	114	0					128	1318	0	0	2102	
Arrive On Green	0.07	0.00	0.00				0.15	1.00	0.00	0.00	1.00	0.00
Sat Flow, veh/h	1697	0	1422				1739	1633	0	0	3243	1372
Grp Volume(v), veh/h	90	0	0				103	404	0	0	670	0
Grp Sat Flow(s),veh/h/ln	1697	0	1422				1739	1633	0	0	1580	1372
Q Serve(g_s), s	5.7	0.0	0.0				6.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.7	0.0	0.0				6.3	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	114	0					128	1318	0	0	2102	
V/C Ratio(X)	0.79	0.00					0.80	0.31	0.00	0.00	0.32	
Avail Cap(c_a), veh/h	366	0					356	1318	0	0	2102	
HCM Platoon Ratio	1.00	1.00	1.00				2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(l)	1.00	0.00	0.00				0.92	0.92	0.00	0.00	0.71	0.00
Uniform Delay (d), s/veh	50.5	0.0	0.0				46.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	11.3	0.0	0.0				10.2	0.6	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	0.0	0.0				5.1	0.4	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.8	0.0	0.0				56.3	0.6	0.0	0.0	0.3	0.0
LnGrp LOS	E	A					E	A	A	A	A	
Approach Vol, veh/h	90						507			670		
Approach Delay, s/veh	61.8						11.9			0.3		
Approach LOS	E						B			A		
Timer - Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	15.6	80.7	13.7		96.3							
Change Period (Y+Rc), s	* 7.5	* 7.5	* 6.3		* 7.5							
Max Green Setting (Gmax), s	* 23	* 43	* 24		* 73							
Max Q Clear Time (g_c+l1)	8s	2.0	7.7		2.0							
Green Ext Time (p_c), s	0.2	4.7	0.2		2.5							
Intersection Summary												
HCM 6th Ctrl Delay	9.3											
HCM 6th LOS	A											

Timings

2: SR 524 & I-95 NB Ramps

03/31/2023



Lane Group	NBL	NBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	212	458	98	373	661	141
Future Volume (vph)	212	458	98	373	661	141
Turn Type	Prot	Prot	Prot	NA	NA	Perm
Protected Phases	4	4	1	6	2	
Permitted Phases						2
Detector Phase	4	4	1	6	2	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	8.0	12.0	12.0	12.0
Minimum Split (s)	24.3	24.3	15.5	25.5	25.5	25.5
Total Split (s)	30.0	30.0	36.0	110.0	74.0	74.0
Total Split (%)	21.4%	21.4%	25.7%	78.6%	52.9%	52.9%
Yellow Time (s)	3.2	3.2	4.8	4.8	4.8	4.8
All-Red Time (s)	3.1	3.1	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	7.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 140

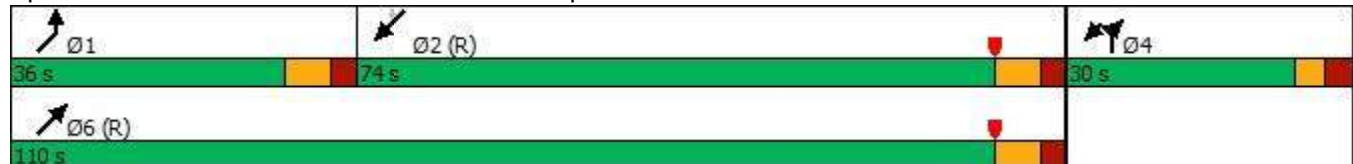
Actuated Cycle Length: 140

Offset: 121 (86%), Referenced to phase 2:SWT and 6:NET, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 524 & I-95 NB Ramps



HCM 6th Signalized Intersection Summary

2: SR 524 & I-95 NB Ramps

03/31/2023

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	212	0	458	0	0	0	98	373	0	0	661	141
Future Volume (veh/h)	212	0	458	0	0	0	98	373	0	0	661	141
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1781	0	1722				1841	1722	0	0	1796	1618
Adj Flow Rate, veh/h	223	0	0				103	393	0	0	696	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	8	0	12				4	12	0	0	7	19
Cap, veh/h	246	0					125	1302	0	0	2154	
Arrive On Green	0.15	0.00	0.00				0.14	1.00	0.00	0.00	0.84	0.00
Sat Flow, veh/h	1697	0	1459				1753	1722	0	0	3503	1372
Grp Volume(v), veh/h	223	0	0				103	393	0	0	696	0
Grp Sat Flow(s),veh/h/ln	1697	0	1459				1753	1722	0	0	1706	1372
Q Serve(g_s), s	18.1	0.0	0.0				8.0	0.0	0.0	0.0	6.3	0.0
Cycle Q Clear(g_c), s	18.1	0.0	0.0				8.0	0.0	0.0	0.0	6.3	0.0
Prop In Lane	1.00		1.00				1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	246	0					125	1302	0	0	2154	
V/C Ratio(X)	0.91	0.00					0.82	0.30	0.00	0.00	0.32	
Avail Cap(c_a), veh/h	287	0					357	1302	0	0	2154	
HCM Platoon Ratio	1.00	1.00	1.00				2.00	2.00	1.00	1.00	1.33	1.33
Upstream Filter(l)	1.00	0.00	0.00				0.95	0.95	0.00	0.00	0.60	0.00
Uniform Delay (d), s/veh	58.9	0.0	0.0				59.1	0.0	0.0	0.0	4.6	0.0
Incr Delay (d2), s/veh	27.6	0.0	0.0				11.8	0.6	0.0	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.7	0.0	0.0				6.6	0.4	0.0	0.0	3.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.5	0.0	0.0				71.0	0.6	0.0	0.0	4.9	0.0
LnGrp LOS	F	A					E	A	A	A	A	
Approach Vol, veh/h	223						496			696		
Approach Delay, s/veh	86.5						15.2			4.9		
Approach LOS	F						B			A		
Timer - Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	17.5	95.9	26.6		113.4							
Change Period (Y+Rc), s	* 7.5	* 7.5	* 6.3		* 7.5							
Max Green Setting (Gmax), s	29	* 67	* 24		* 1E2							
Max Q Clear Time (g_c+I1),s	10.0	8.3	20.1		2.0							
Green Ext Time (p_c), s	0.2	5.0	0.2		2.4							
Intersection Summary												
HCM 6th Ctrl Delay	21.4											
HCM 6th LOS	C											

Timings

3: SR 524 & Friday Rd

03/31/2023

										
Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	42	6	150	10	102	461	126	47	381	45
Future Volume (vph)	42	6	150	10	102	461	126	47	381	45
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8	7	4	1	6		5	2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	7	4	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	10.0	7.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	26.2	26.2	19.0	26.2	12.3	25.3	25.3	13.0	25.3	25.3
Total Split (s)	28.0	28.0	22.0	50.0	12.6	47.0	47.0	13.0	47.4	47.4
Total Split (%)	25.5%	25.5%	20.0%	45.5%	11.5%	42.7%	42.7%	11.8%	43.1%	43.1%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.4	3.4	4.2	3.4	2.5	2.5	2.5	3.2	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		8.2	9.0	8.2	7.3	7.3	7.3	8.0	7.3	7.3
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 110

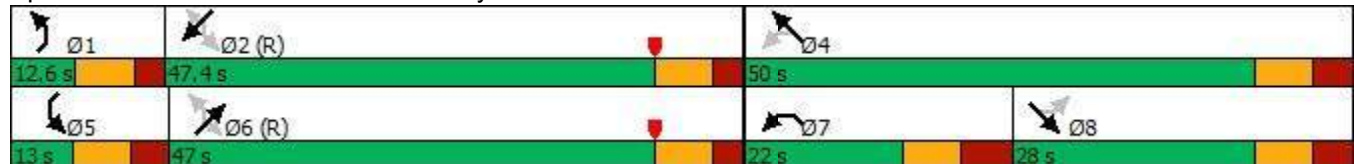
Actuated Cycle Length: 110

Offset: 82 (75%), Referenced to phase 2:SWTL and 6:NETL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 3: SR 524 & Friday Rd



HCM 6th Signalized Intersection Summary

3: SR 524 & Friday Rd

03/31/2023

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	42	6	221	150	10	66	102	461	126	47	381	45
Future Volume (veh/h)	42	6	221	150	10	66	102	461	126	47	381	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1737	1870	1811	1233	1411	1441	1811	1781	1515	1174	1707	1826
Adj Flow Rate, veh/h	44	6	179	158	11	69	107	485	133	49	401	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	11	2	6	45	33	31	6	8	26	49	13	5
Cap, veh/h	75	19	200	279	61	383	330	1310	497	300	650	589
Arrive On Green	0.16	0.16	0.16	0.12	0.36	0.36	0.10	0.77	0.77	0.04	0.38	0.38
Sat Flow, veh/h	223	118	1218	1174	168	1053	1725	3385	1284	1118	1707	1547
Grp Volume(v), veh/h	229	0	0	158	0	80	107	485	133	49	401	47
Grp Sat Flow(s),veh/h/ln	1558	0	0	1174	0	1221	1725	1692	1284	1118	1707	1547
Q Serve(g_s), s	11.4	0.0	0.0	12.0	0.0	4.9	4.2	5.0	3.2	2.9	20.9	2.1
Cycle Q Clear(g_c), s	15.8	0.0	0.0	12.0	0.0	4.9	4.2	5.0	3.2	2.9	20.9	2.1
Prop In Lane	0.19		0.78	1.00		0.86	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	294	0	0	279	0	444	330	1310	497	300	650	589
V/C Ratio(X)	0.78	0.00	0.00	0.57	0.00	0.18	0.32	0.37	0.27	0.16	0.62	0.08
Avail Cap(c_a), veh/h	319	0	0	279	0	464	330	1310	497	312	650	589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	0.0	31.1	0.0	23.8	20.3	8.2	8.0	19.7	27.6	21.8
Incr Delay (d2), s/veh	10.8	0.0	0.0	4.4	0.0	0.4	0.5	0.7	1.1	0.3	4.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	0.0	6.6	0.0	2.6	2.8	2.8	1.7	1.4	13.7	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	0.0	0.0	35.5	0.0	24.2	20.8	8.9	9.1	20.0	31.9	22.0
LnGrp LOS	E	A	A	D	A	C	C	A	A	B	C	C
Approach Vol, veh/h	229			238			725			497		
Approach Delay, s/veh	55.7			31.7			10.7			29.8		
Approach LOS	E			C			B			C		
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	49.2		48.2	11.9	49.9	22.0	26.2				
Change Period (Y+Rc), s	7.3	7.3		* 8.2	* 8	7.3	9.0	* 8.2				
Max Green Setting (Gmax),s	53	40.1		* 42	* 5	39.7	13.0	* 20				
Max Q Clear Time (g_c+l1)6s	22.9			6.9	4.9	7.0	14.0	17.8				
Green Ext Time (p_c), s	0.0	2.2		0.8	0.0	3.6	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay	25.4											
HCM 6th LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

3: SR 524 & Friday Rd

03/31/2023

Lane Group	SEL	SET	NWL	NWT	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Volume (vph)	47	27	117	23	249	445	140	40	532	71
Future Volume (vph)	47	27	117	23	249	445	140	40	532	71
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8	7	4	1	6		5	2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	7	4	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	7.0	7.0	10.0	7.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	26.2	26.2	19.0	26.2	12.3	25.3	25.3	13.0	25.3	25.3
Total Split (s)	34.0	34.0	19.0	53.0	23.0	74.0	74.0	13.0	64.0	64.0
Total Split (%)	24.3%	24.3%	13.6%	37.9%	16.4%	52.9%	52.9%	9.3%	45.7%	45.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.4	3.4	4.2	3.4	2.5	2.5	2.5	3.2	2.5	2.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		8.2	9.0	8.2	7.3	7.3	7.3	8.0	7.3	7.3
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 140

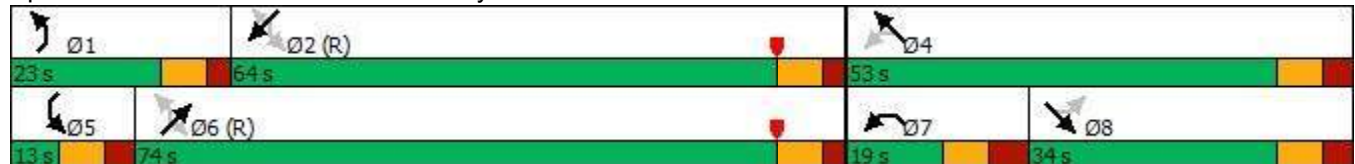
Actuated Cycle Length: 140

Offset: 94 (67%), Referenced to phase 2:SWTL and 6:NETL, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Splits and Phases: 3: SR 524 & Friday Rd



HCM 6th Signalized Intersection Summary 3: SR 524 & Friday Rd

03/31/2023

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	47	27	174	117	23	68	249	445	140	40	532	71
Future Volume (veh/h)	47	27	174	117	23	68	249	445	140	40	532	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1752	1781	1826	1337	1752	1248	1856	1722	1352	1633	1811	1767
Adj Flow Rate, veh/h	49	28	51	123	24	72	262	468	147	42	560	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	10	8	5	38	10	44	3	12	37	18	6	9
Cap, veh/h	84	42	60	219	92	276	437	1849	647	455	922	762
Arrive On Green	0.10	0.10	0.10	0.07	0.24	0.24	0.18	1.00	1.00	0.03	0.51	0.51
Sat Flow, veh/h	475	408	585	1273	386	1158	1767	3272	1145	1555	1811	1497
Grp Volume(v), veh/h	128	0	0	123	0	96	262	468	147	42	560	75
Grp Sat Flow(s),veh/h/ln	1467	0	0	1273	0	1543	1767	1636	1145	1555	1811	1497
Q Serve(g_s), s	10.0	0.0	0.0	10.0	0.0	7.1	10.3	0.0	0.0	1.8	30.8	3.6
Cycle Q Clear(g_c), s	12.0	0.0	0.0	10.0	0.0	7.1	10.3	0.0	0.0	1.8	30.8	3.6
Prop In Lane	0.38		0.40	1.00		0.75	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	0	0	219	0	368	437	1849	647	455	922	762
V/C Ratio(X)	0.69	0.00	0.00	0.56	0.00	0.26	0.60	0.25	0.23	0.09	0.61	0.10
Avail Cap(c_a), veh/h	303	0	0	219	0	494	477	1849	647	466	922	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.6	0.0	0.0	51.3	0.0	43.3	16.2	0.0	0.0	15.4	24.4	17.7
Incr Delay (d2), s/veh	4.5	0.0	0.0	5.4	0.0	0.8	1.5	0.3	0.7	0.1	3.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	0.0	7.6	0.0	5.0	5.9	0.1	0.2	1.1	19.4	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.1	0.0	0.0	56.7	0.0	44.1	17.6	0.3	0.7	15.4	27.4	18.0
LnGrp LOS	E	A	A	E	A	D	B	A	A	B	C	B
Approach Vol, veh/h	128				219				877			
Approach Delay, s/veh	66.1				51.2				5.5			
Approach LOS	E				D				A			
Timer - Assigned Phs	1	2	4		5	6	7	8				
Phs Duration (G+Y+Rc), s	19.8	78.6	41.6		12.0	86.4	19.0	22.6				
Change Period (Y+Rc), s	7.3	7.3	* 8.2		* 8	7.3	9.0	* 8.2				
Max Green Setting (Gmax),s	56.7	56.7	* 45		* 5	66.7	10.0	* 26				
Max Q Clear Time (g_c+I1)2s	32.8	32.8	9.1		3.8	2.0	12.0	14.0				
Green Ext Time (p_c), s	0.2	3.6	1.0		0.0	3.7	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay 22.0
HCM 6th LOS C

Notes

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

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

APPENDIX L
UNSIGNALIZED INTERSECTIONS
SYNCHRO & HCS
SUMMARY SHEETS
BUILD-OUT CONDITIONS

Lanes, Volumes, Timings

5: James Road & Friday Road & Friday Lane

03/15/2023

												
Lane Group	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBT	SWL2
Lane Configurations												
Traffic Volume (vph)	56	132	22	20	2	2	46	1	6	28	3	9
Future Volume (vph)	56	132	22	20	2	2	46	1	6	28	3	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%				0%			0%	
Storage Length (ft)		0	0		0		0		0			
Storage Lanes		0	0		0		0		0			
Taper Length (ft)			25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.905			0.989				0.943				
Flt Protected				0.977				0.972				
Satd. Flow (prot)	1686	0	0	1800	0	0	0	1673	0	0	1863	0
Flt Permitted				0.977				0.972				
Satd. Flow (perm)	1686	0	0	1800	0	0	0	1673	0	0	1863	0
Link Speed (mph)	35			35				40			25	
Link Distance (ft)	130			603				540			453	
Travel Time (s)	2.5			11.7				9.2			12.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	8%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%				0%			0%	
Adj. Flow (vph)	62	147	24	22	2	2	51	1	7	31	3	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	0	0	50	0	0	0	90	0	0	3	0
Sign Control	Stop			Stop				Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	42.4%						ICU Level of Service A					
Analysis Period (min)	15											

Lanes, Volumes, Timings
5: James Road & Friday Road & Friday Lane

03/15/2023



Lane Group	SWL
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Grade (%)	0%
Storage Length (ft)	0
Storage Lanes	1
Taper Length (ft)	25
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	0.950
Satd. Flow (prot)	1770
Flt Permitted	0.950
Satd. Flow (perm)	1770
Link Speed (mph)	20
Link Distance (ft)	572
Travel Time (s)	19.5
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.90
Growth Factor	100%
Heavy Vehicles (%)	2%
Bus Blockages (#/hr)	0
Parking (#/hr)	
Mid-Block Traffic (%)	0%
Adj. Flow (vph)	1
Shared Lane Traffic (%)	
Lane Group Flow (vph)	11
Sign Control	Stop
Intersection Summary	

Lanes, Volumes, Timings

5: James Road & Friday Road & Friday Lane

03/15/2023

												
Lane Group	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL2	SBT
Lane Configurations												
Traffic Volume (vph)	39	92	36	66	3	9	156	0	8	40	1	1
Future Volume (vph)	39	92	36	66	3	9	156	0	8	40	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%				0%				0%
Storage Length (ft)		0	0		0		0		0			
Storage Lanes		0	0		0		0		0			
Taper Length (ft)			25				25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.905			0.986				0.968				
Flt Protected				0.984				0.963				0.976
Satd. Flow (prot)	1686	0	0	1807	0	0	0	1717	0	0	0	1818
Flt Permitted				0.984				0.963				0.976
Satd. Flow (perm)	1686	0	0	1807	0	0	0	1717	0	0	0	1818
Link Speed (mph)	35			35				40				25
Link Distance (ft)	130			603				540				453
Travel Time (s)	2.5			11.7				9.2				12.4
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	8%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%				0%				0%
Adj. Flow (vph)	43	102	40	73	3	10	173	0	9	44	1	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	0	0	126	0	0	0	226	0	0	0	2
Sign Control	Stop			Stop				Stop				Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	48.1%				ICU Level of Service A							
Analysis Period (min)	15											

Lanes, Volumes, Timings
5: James Road & Friday Road & Friday Lane

03/15/2023



Lane Group	SWL2	SWL
Lane Configurations		
Traffic Volume (vph)	2	4
Future Volume (vph)	2	4
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	12	12
Grade (%)		0%
Storage Length (ft)		0
Storage Lanes		1
Taper Length (ft)		25
Lane Util. Factor	1.00	1.00
Ped Bike Factor		
Frt		
Flt Protected		0.950
Satd. Flow (prot)	0	1770
Flt Permitted		0.950
Satd. Flow (perm)	0	1770
Link Speed (mph)		20
Link Distance (ft)		572
Travel Time (s)		19.5
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor	0.90	0.90
Growth Factor	100%	100%
Heavy Vehicles (%)	2%	2%
Bus Blockages (#/hr)	0	0
Parking (#/hr)		
Mid-Block Traffic (%)		0%
Adj. Flow (vph)	2	4
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	6
Sign Control		Stop
Intersection Summary		

HCS Two-Way Stop-Control Report

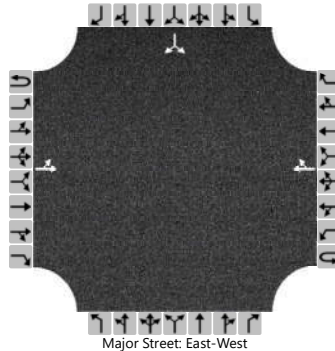
General Information

Analyst	RGH
Agency/Co.	LTG
Date Performed	11/22/2022
Analysis Year	2026
Time Analyzed	Build-Out AM
Intersection Orientation	East-West
Project Description	5799.02 - Silvestri Property - TIS

Site Information

Intersection	James Road at Project Driveway 1
Jurisdiction	Brevard County
East/West Street	James Road
North/South Street	Project Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	71				25	41						117		0
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													127	
Capacity, c (veh/h)		1528													868	
v/c Ratio		0.00													0.15	
95% Queue Length, Q ₉₅ (veh)		0.0													0.5	
Control Delay (s/veh)		7.4	0.0												9.9	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	0.0												9.9			
Approach LOS	A												A			

HCS Two-Way Stop-Control Report

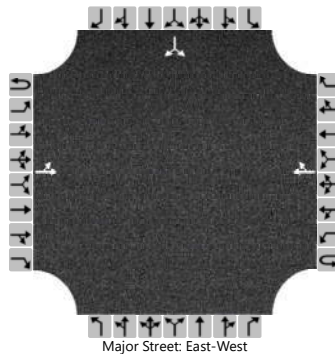
General Information

Analyst	RGH
Agency/Co.	LTG
Date Performed	11/22/2022
Analysis Year	2026
Time Analyzed	Build-Out PM
Intersection Orientation	East-West
Project Description	5799.02 - Silvestri Property - TIS

Site Information

Intersection	James Road at Project Driveway 1
Jurisdiction	Brevard County
East/West Street	James Road
North/South Street	Project Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	49				84	138						82		0
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													89	
Capacity, c (veh/h)		1325													769	
v/c Ratio		0.00													0.12	
95% Queue Length, Q ₉₅ (veh)		0.0													0.4	
Control Delay (s/veh)		7.7	0.0												10.3	
Level of Service (LOS)		A	A												B	
Approach Delay (s/veh)	0.0												10.3			
Approach LOS	A												B			

HCS Two-Way Stop-Control Report

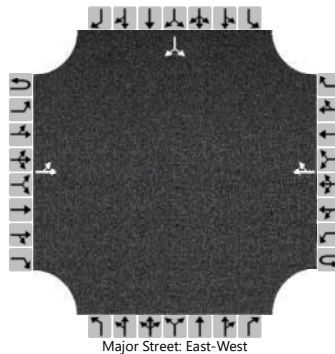
General Information

Analyst	RGH
Agency/Co.	LTG
Date Performed	11/22/2022
Analysis Year	2026
Time Analyzed	Build-Out AM
Intersection Orientation	East-West
Project Description	5799.02 - Silvestri Property - TIS

Site Information

Intersection	James Road at Project Driveway 2
Jurisdiction	Brevard County
East/West Street	James Road
North/South Street	Project Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	0				0	25						71		0
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													77	
Capacity, c (veh/h)		1587													1005	
v/c Ratio		0.00													0.08	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.3	0.0												8.9	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)													8.9			
Approach LOS													A			

HCS Two-Way Stop-Control Report

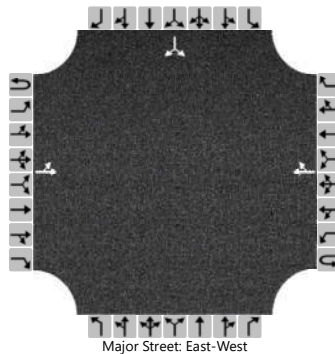
General Information

Analyst	RGH
Agency/Co.	LTG
Date Performed	11/22/2022
Analysis Year	2026
Time Analyzed	Build-Out PM
Intersection Orientation	East-West
Project Description	5799.02 - Silvestri Property - TIS

Site Information

Intersection	James Road at Project Driveway 2
Jurisdiction	Brevard County
East/West Street	James Road
North/South Street	Project Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	0				0	84						49		0
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													53	
Capacity, c (veh/h)		1504													964	
v/c Ratio		0.00													0.06	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.4	0.0												9.0	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)													9.0			
Approach LOS													A			

APPENDIX M

NCHRP REPORTS

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	35
Major-road volume (one direction), veh/h:	66
Right-turn volume, veh/h:	41

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	324095
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

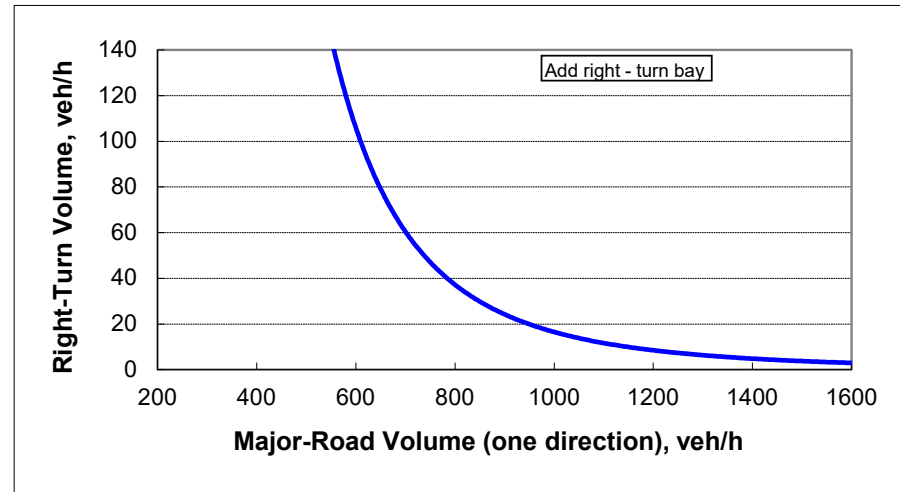


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	35
Major-road volume (one direction), veh/h:	222
Right-turn volume, veh/h:	138

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	3936
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

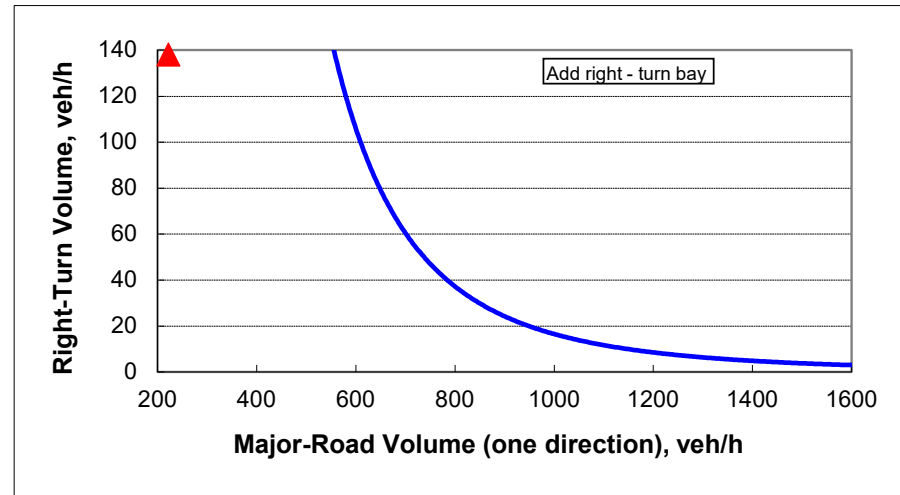


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	35
Major-road volume (one direction), veh/h:	25
Right-turn volume, veh/h:	25

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	11059474
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

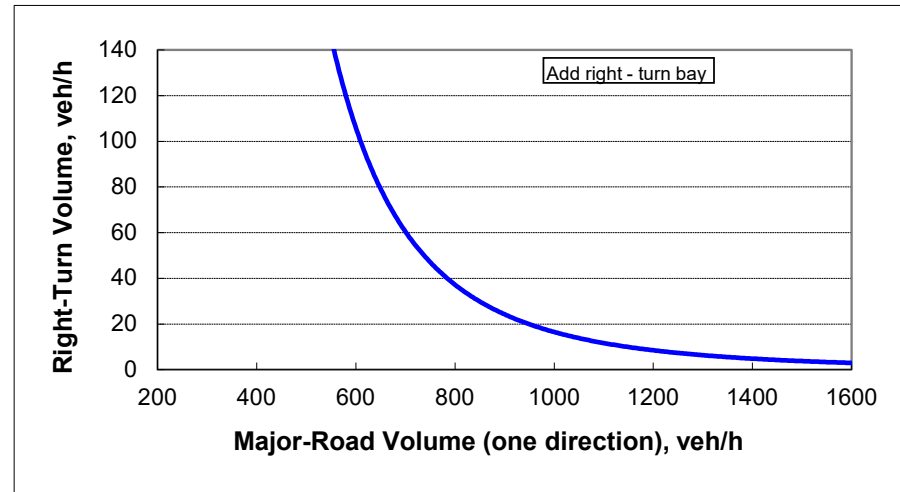


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	35
Major-road volume (one direction), veh/h:	84
Right-turn volume, veh/h:	84

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	134843
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

