

SR 524 Corridor Planning Study
Future Conditions Report
May 2017

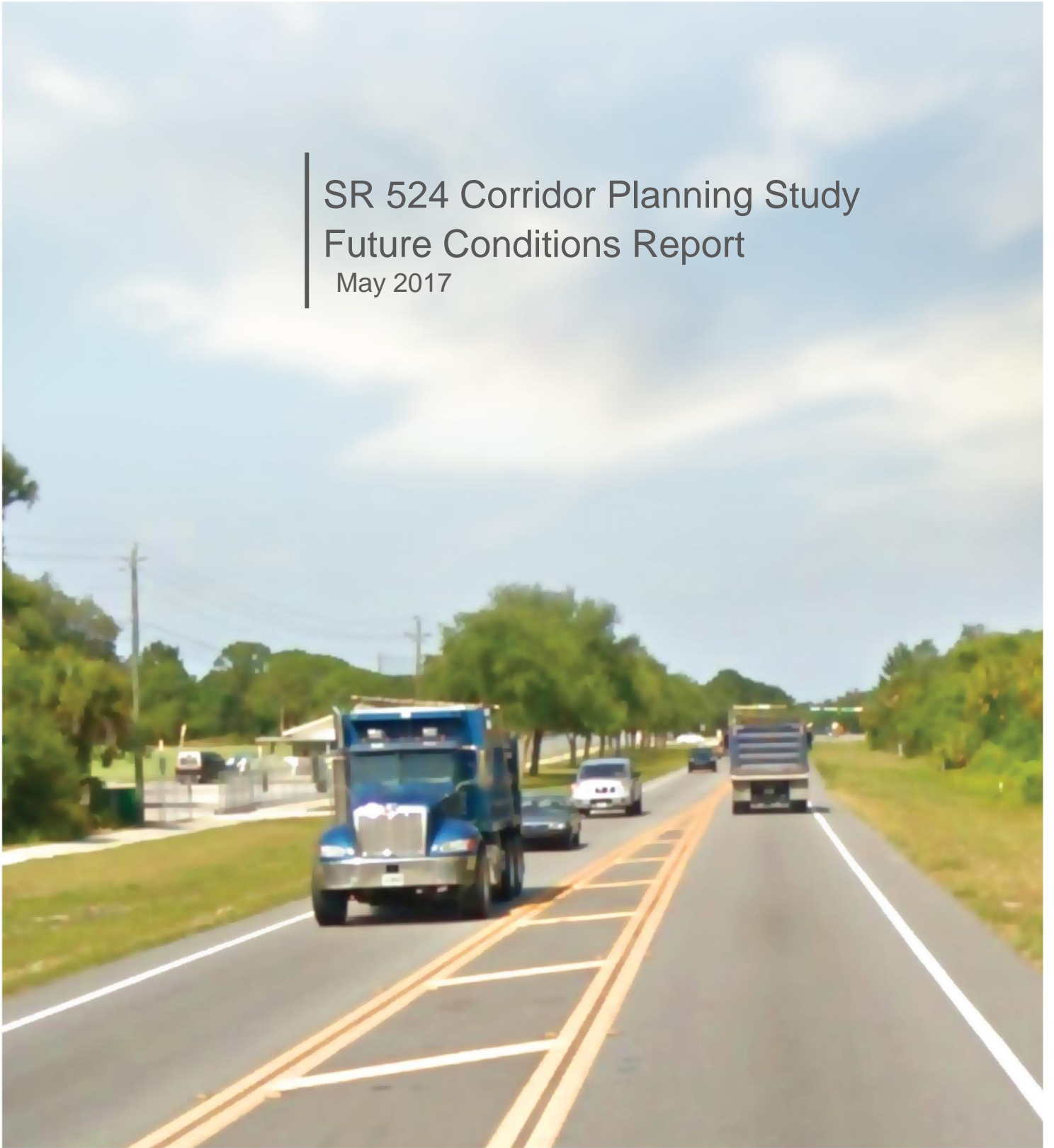


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Introduction

1.0 Introduction

1.1 Study Purpose

In February 2016, the Florida Department of Transportation (FDOT) initiated a Corridor Planning Study (“the Study”) to evaluate the need for potential multimodal transportation improvements along State Road (SR) 524 in Brevard County, Florida. As shown in Figure 1.1, the limits of the SR 524 Study Area extend from Friday Road South to Industry Road, a distance of approximately 3.15 miles.

The *SR 524 Future Conditions Summary Report* summarizes future land use and transportation conditions within the SR 524 Study Area, identifying land use, corridor segment, and intersection improvement strategies. This report builds off of the data and transportation themes presented in the *SR 524 Existing Conditions Summary Report*, and considers previous studies, planning efforts, and programmed improvements, with the goal of developing viable roadway improvement alternative options in the next phase. This report was informed by interactions with the SR 524 Corridor Planning Study Project Visioning Team (PVT), which includes the City of Cocoa (“the City”), Brevard County (“the County”), the Space Coast Transportation Planning Organization (“SCTPO”), and Space Coast Area Transit (“SCAT”).

1.2 Background and Need

The SR 524 Study Corridor is a core element of the Space Coast’s regional transportation system. The ultimate work product emerging from the Study will be the SR 524 Corridor Alternatives Report, which will identify deficient roadway segments, discuss recommendations, and identify potential multimodal transportation improvements.

1.3 Organization of this Report

The *SR 524 Future Conditions Summary Report* is organized into two key assessment areas, each with subsections of detailed information. These include:

- **Future Land Use:** This Chapter evaluates future land use trends, population and employment growth projections, and major planned developments in the Corridor.
- **Future Traffic Conditions:** This Chapter evaluates forecasted traffic for segments and intersections along the Corridor.

Figure 1.1: Study Area





Future Land Use

2.0 Future Land Use

Future land use designations for the SR 524 Corridor Study Area are displayed in Figure 2.1. The City and County have zoned the majority of currently vacant sites within the Corridor as either low-density residential (5 units/acre maximum) or medium-density residential (12 units/acre maximum), displayed in Figure 2.2. The location of future commercial and industrial land uses remain clustered near existing commercial and industrial development, to the west/east ends of the Study Area near I-95 and Industry Road.

2.1 Population and Employment Growth

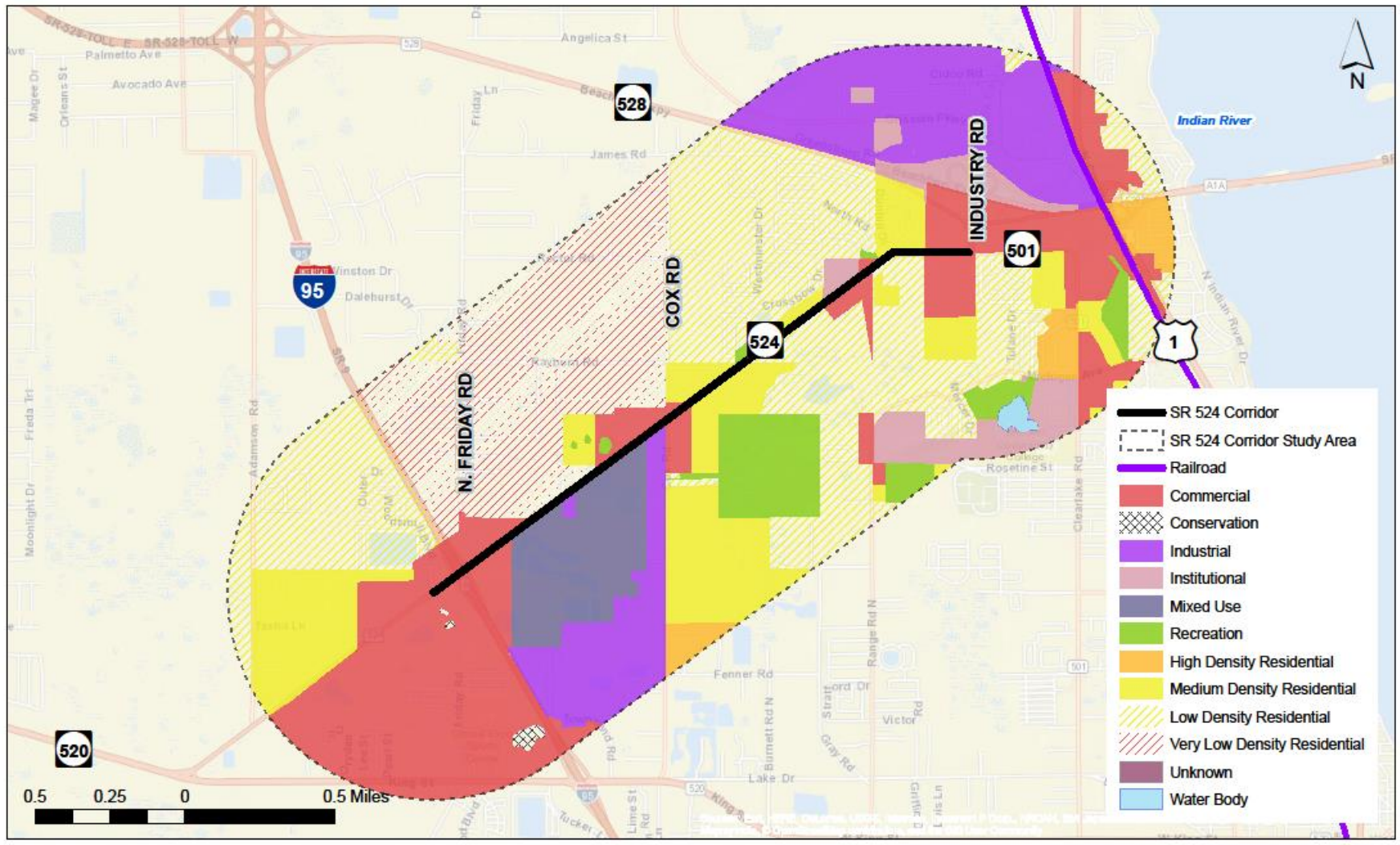
According to the University of Central Florida (UCF) College of Business Administration’s Institute for Economic Competitiveness, the population of the Palm Bay-Melbourne-Titusville metro area is projected to grow from 563,900 to 636,700 from 2015 to 2024, a growth of 11.4 percent. During the same period, the total employment of the metro area is also projected to grow, at 12.4 percent, from 203,500 to 232,200 jobs. The Institute projects the industries experiencing the most growth (over 4,000 jobs) will be Professional & Business Services (11,600 jobs), Education & Health Services (5,100 jobs), and Construction & Mining (4,800 jobs).¹ Nearly 10 percent of Cocoa businesses in “above average growth industries” plan to expand by hiring new employees, indicating positive growth for the region.

The 2015 *City of Cocoa Business Climate Report* evaluates the character of business climates in different parts of the City, focusing on key corridors. The report indicates the area will benefit most directly from the planned Walmart Distribution Center, and will strengthen its transportation/utilities, warehousing/storage, retail, and manufacturing prominence once the site becomes operational. The addition of Class A office space is expected to attract high-skill, high-wage jobs with the potential to make the western and northern portions of Cocoa strong centers for manufacturing, logistics, and distribution.¹

However, the report also identified the absence of sewer infrastructure and a lack of traffic capacity as constraints for ancillary development in support of the Walmart Distribution Center, encouraging the “*right mix of investment in [utility and roadway] expansions,*” should be made to promote this Corridor as a shovel-ready location. The report identifies a retail surplus along the SR 524 Corridor among the automotive and building materials and supply categories. To build upon the development of the Walmart Distribution Center, place-making is recommended as a method of establishing the SR 524 Corridor as the “*epicenter of logistics investment in Cocoa.*” New signage is also recommended by the report, placed along I-95, to draw attention from passers-by and begin to “*redefine this section of Cocoa as one with a coordinated, focused theme of innovation and economic stimulus.*”

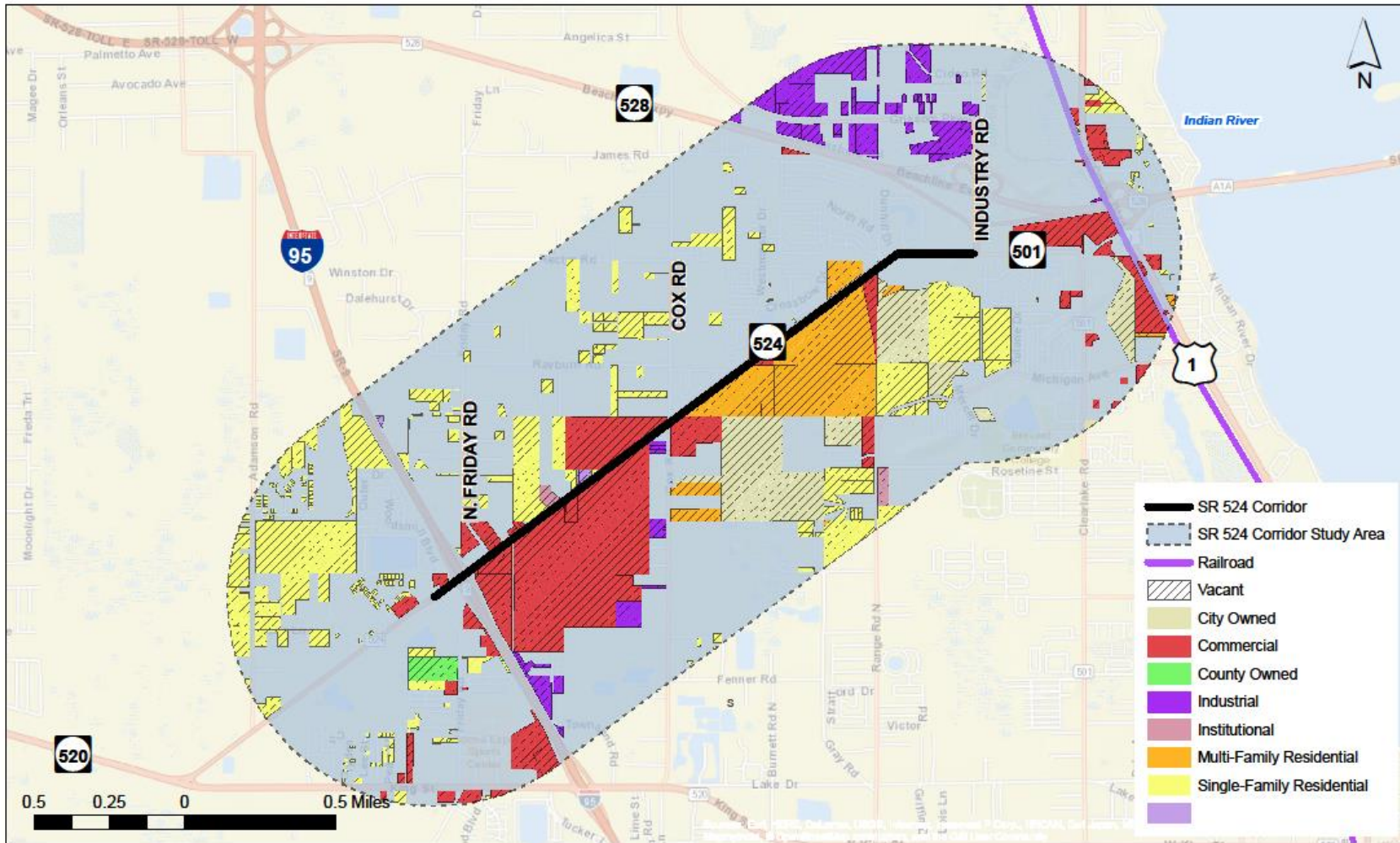
¹ City of Cocoa. (2015). *Economic Baseline Analysis*, Page 29. <http://www.cocoaf1.org/DocumentCenter/View/6010>

Figure 2.1: Future Land Use within Study Area



Source: Brevard County (2016) and East Central Florida Regional Planning Council (2011).

Figure 2.2: Future Zoning of Vacant Parcels within the Study Area



Source: Brevard County Property Appraiser, 2016.

2.2 Major Development in the Corridor

The SR 524 Corridor is projected to experience an increase in the amount of traffic as a result of proposed development along the Corridor. The Walmart Distribution Center and the Flying J Travel Center are expected to generate a large amount of truck traffic to the western side of the Corridor. Towards the eastern end of the Corridor, there is likely to be an increase of residential traffic heading from new and existing single and multi-family neighborhoods to/from commercial activity centers at Cocoa Commons, London Cove, and Cocoa Landings. Adamson Creek and Emerald Lakes, on the west side of I-95, will also generate additional traffic along the Corridor as both neighborhoods continue to develop towards build out. Table 2.1 and the following text provide descriptions of significant developments, also illustrated in Figure 2.3.

Table 2.1: Future Developments in the Corridor

Development Name	Type	Size/Units
Walmart Distribution Center	Industrial	460,000 SF warehouse
Flying J Travel Center	Commercial	14,789 SF
London Cove	Residential/Retail	6 commercial lots (8.76 acres) 61 townhomes
The Preserve	Residential	248 apartments
Cocoa Landings	Residential/Retail	100,000 SF retail/restaurant 172 townhomes 312 apartments
Adamson Creek	Residential	509 single-family homes
Emerald Lakes	Residential/Retail	44,000 SF retail/restaurant 159 single-family homes

Source: City of Cocoa, 2016.

- **Walmart Distribution Center (Proposed)**
 - A Walmart Distribution Center is planned for the 132-acre site just west of Cox Road and is proposed to occupy the entirety of the vacant block of parcels south of SR 524, between Friday Road North and Cox Road. It will consist of 460,000 square feet of refrigerated warehouse/distribution space to serve the Central Florida market.
 - Within the proposed site, there will be 1.9 miles of internal roadways with new four-lane and extra-wide two-lane roads, including a southbound access extension to Townsend Road for truck traffic.
- **Flying J Travel Center (Proposed)**
 - A Flying J Travel Center is planned for the site located to the south of SR 524, just east of I-95. Typically, Flying J Travel Centers include several gasoline and diesel pumping stations for trucks, as well as amenities including: parking, scales, truck washes, payphones, internet kiosks, ATMs, check cashing, laundry, showers, game rooms, and lounges. It is unclear at this time what exactly will be included in this Flying J Travel Center.
- **London Cove (Proposed)**
 - London Cove is a proposed mixed-use development, including six commercial lots along SR 524 totaling 8.76 acres, and 61 townhomes in the rear of the property facing the Cocoa Conservation Area.

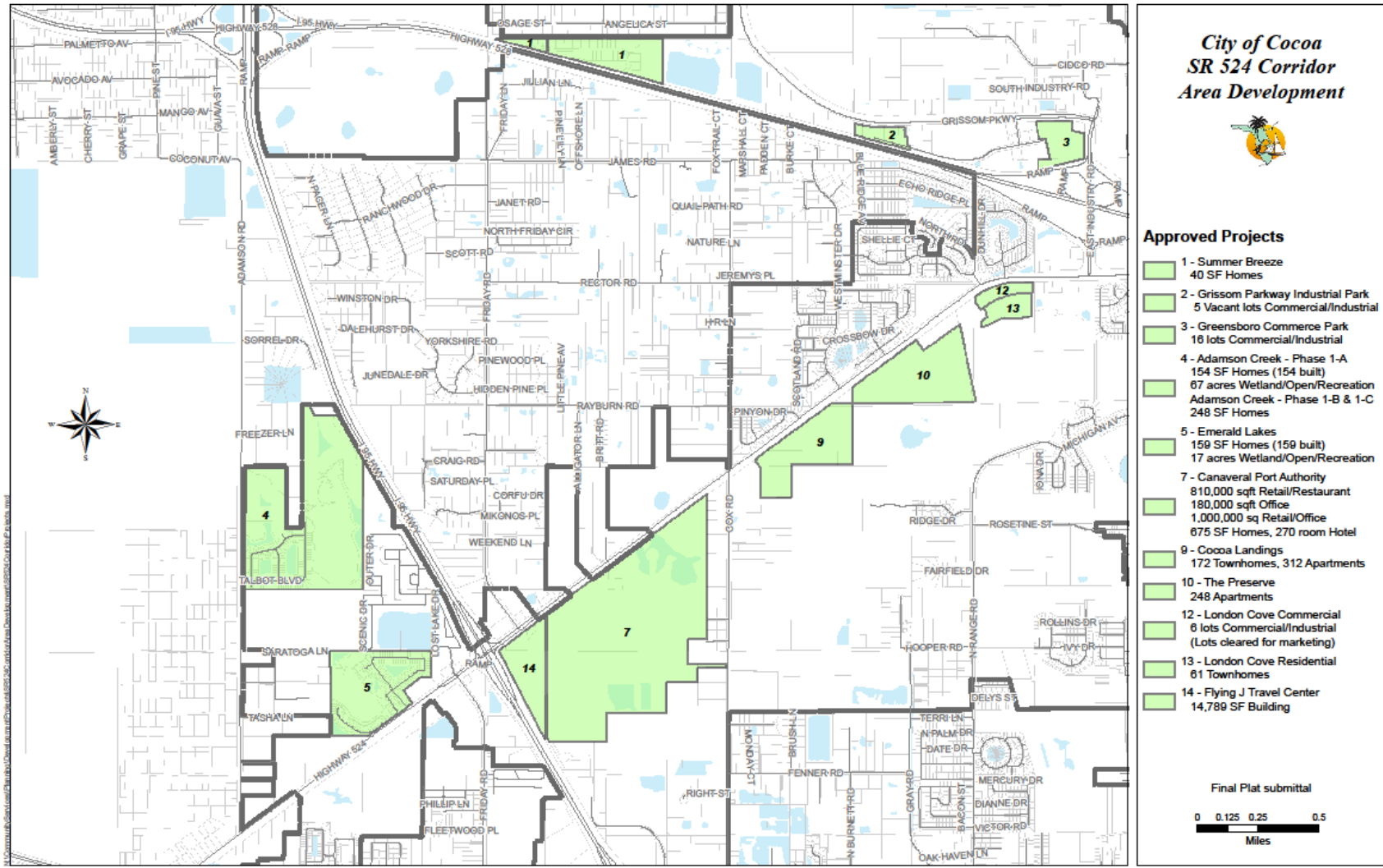
- **The Preserve (Proposed)**
 - The Preserve is a proposed multi-family “high end” apartment complex, located along the south side of SR 524 just across from Lance Boulevard. The site is *“ideal for four-story wood framed structures with surface parking... presents an unparalleled opportunity to acquire a truly desirable and expansive suburban development site, with limited competing inventory and minimally competitive development pipeline.”*²
- **Cocoa Landings (Proposed)**
 - Cocoa Landings is a proposed mixed-use development including 172 townhomes, 312 apartments, and over 100,000 SF of retail/restaurant space, located to the southeast of the SR 524/Cox Road intersection. The Shoppes at the Landings, along SR 524, will include a four-phase combined retail and office development project – including two one-story and one two-story buildings, totaling 47,605 SF of retail space and 26,450 SF of office space, and three out-parcels, totaling 46,850 SF.³
- **Adamson Creek (Partially Completed)**
 - Adamson Creek is a 176-acre single-family residential development, which is partially constructed and located to the immediate northwest of the Study Area. The site consists of 509 lots, of which 361 remain vacant; several homes have already been built on a portion of the site, but a large portion of the site is still vacant.⁴
- **Emerald Lakes Commercial (Partially Completed)**
 - Emerald Lakes is a completely constructed single-family residential development, located to the north of SR 524 just west of I-95. Across SR 524, 44,000 SF of new retail and restaurant space is proposed.

² http://www.landandfarm.com/property/The_Preserve_at_Cocoa-2520312/

³ <http://www.cocoafl.org/DocumentCenter/Home/View/1017>

⁴ <http://www.loopnet.com/Listing/19850854/Adamson-Road-Cocoa-FL/>

Figure 2.3: Proposed Developments within the Study Area



GIS maps are for reference only and do not replace official documents.



Future Traffic Conditions

3.0 Future Traffic Conditions

3.1 Methodology

This section provides an overview of the traffic forecasting methodology and revision process used for this study. The methodology followed is consistent with the *Project Traffic Forecasting Procedure* (Topic No. 525-030-120-h) adopted by FDOT in April 2012, and the 2014 *Project Traffic Forecasting Handbook*. Operational analyses were conducted in accordance with the *Traffic Analysis Handbook: A Reference for Planning and Operations* – also published by FDOT in 2014.

In **October 2016**, socioeconomic (SE) model data from 2010 and 2040 was acquired from FDOT District 5. Upon analysis of the SE data, the study team determined several of the now known future developments were not accounted for, because the model had been developed several years prior and they had not yet been planned. These include the proposed Walmart Distribution Center, Flying J Travel Center, and residential development between Cox Road and Industry Road. In **December 2016**, the study team met with FDOT, SCTPO, and the City of Cocoa to obtain feedback on the modeling methodology and determine which updates should be made to the SE data to reflect newly proposed development along the Corridor. SCTPO and the City of Cocoa made changes to 7 of the 29 TAZs - the revised SE data is listed by TAZ in Table 3.1 and illustrated in Figure 3.1.

In **January 2017**, FDOT used the revised SE data in a sub-area model to produce 2040 segment volumes for the SR 524 Corridor Study. Separately, in February 2017, as part of the SR 524/I-95 IOAR study, year 2038 turning movement projections were developed for the interchange ramp terminals, adjacent Friday Road North and South, and new Walmart Distribution Center intersections.

To estimate turning movement projections for the three remaining signalized intersections along the SR 524 Corridor (Cox Road, London Boulevard, and Industry Road), the study team used the following methodology:

1. Calculated existing turning ratios at each intersection using AM and PM counts.
2. Multiplied the 2040 AADT model link approach volumes by .09 to replicate a peak hour approach volume at Cox and Industry.
3. Applied the existing turning ratios to the “calculated” peak hour intersection approach volumes.
4. Compared the calculated turning movements to current volumes. In some cases the calculated 2040 turning volumes were lower than current counts (NB Cox, SB Cox, SB London), and NB Industry is not reflected in the model at all as it is just a shopping center exit. In these cases, the current turning volume was multiplied by 1.1 (professional judgment). The resultant volumes though developed for 2040 were considered representative of 2038 conditions.

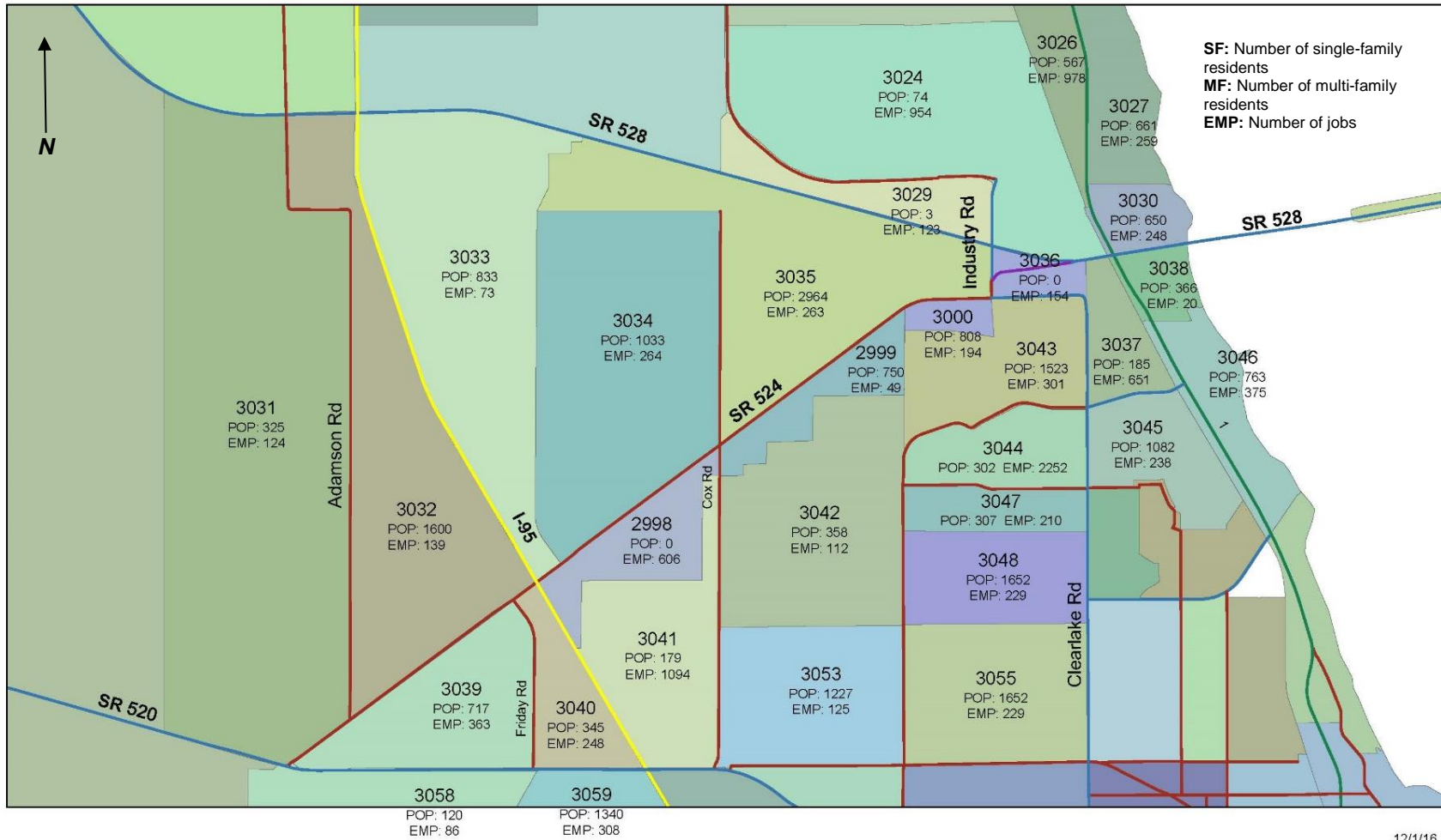
Once the study team had revised 2038 turning movement volumes for all eight future intersections along the Corridor, a future traffic analysis was conducted using HCM 2010 and Synchro, summarized in the following sections.

Table 3.1: Socioeconomic Projections by TAZ (2010 and 2040)

TAZ	Population			Employment		
	2010	2040	% Growth	2010	2040	% Growth
2998	0	0	N/A	9	606	6,633%
2999	0	750	100%	0	49	100%
3000	0	808	100%	24	194	708%
3026	567	567	0%	788	978	24%
3027	599	661	10%	213	259	22%
3028	68	74	9%	785	954	22%
3029	0	3	100%	91	123	35%
3030	623	650	4%	192	248	29%
3031	316	325	3%	103	124	20%
3032	1,027	1,600	56%	58	139	140%
3033	818	833	2%	54	73	35%
3034	964	1,033	7%	65	264	306%
3035	2,945	2,964	1%	205	263	28%
3036	0	0	0%	114	154	35%
3037	130	185	42%	651	651	0%
3038	347	366	5%	0	20	100%
3039	627	717	14%	49	363	641%
3040	345	345	0%	115	248	116%
3041	179	179	0%	773	1,094	42%
3042	291	358	23%	99	112	13%
3043	1,523	1,523	0%	194	301	55%
3044	293	302	3%	2,252	2,252	0%
3045	1,082	1,082	0%	107	238	122%
3046	765	763	0%	274	375	37%
3047	255	307	20%	210	210	0%
3048	1,283	1,652	29%	229	229	0%
3053	1,189	1,227	3%	42	125	198%
3057	71	120	69%	48	86	79%
3058	1,221	1,340	10%	176	308	75%
Total	17,528	20,723		7,920	11,040	

Source: Space Coast TPO.

Figure 3.1: Socioeconomic Projections by TAZ (2040)



Source: Space Coast TPO.

12/1/16

3.2 Corridor Segment Analysis

The HCS 2010 streets segment analysis was performed using HCM 2010. The analysis was performed for the following ten segments along SR 524, using 2040 segment volumes from FDOT’s SR 524/I-95 IOAR:

- Friday Road South to I-95 SB
- I-95 SB to I-95 NB
- I-95 NB to Friday Road North
- Friday Road North to Walmart Distribution Center Access Road
- Walmart Distribution Center Access Road to Cox Road
- Cox Road to Pinyon Drive
- Pinyon Drive to Westminster Drive
- Westminster Drive to London Blvd
- London Blvd to Shopping Center
- Shopping Center to Industry Road

For a Class I arterial, volume classifications corresponding to different LOS categories are summarized in Table 3.2 for Undivided 2-Lane Arterial and in Table 3.3 for Divided 4-Lane Arterial, using FDOT’s Generalized LOS Planning Tables (December 2012).

Table 3.2: Volume Classifications for Class I Undivided 2-Lane Arterial

AADT	LOS
Less than 16,800	LOS C
16,800-17,700	LOS D
More than 17,700	LOS E

Source: FDOT [Generalized LOS Planning Tables](#), Table 1. Page 195.

Table 3.3: Volume Classifications for Class I Divided 4-Lane Arterial

AADT	LOS
Less than 37,900	LOS C
37,900-39,800	LOS D
More than 39,800	LOS E

Source: FDOT [Generalized LOS Planning Tables](#), Table 1. Page 195.

The results from the Synchro segment analysis for 2040 are summarized under Table 3.4, which lists the 2040 AADT by segment. By 2040, the majority of the Corridor is projected to operate at LOS E with no geometric improvements to existing infrastructure (2-Lane Undivided Arterial), with two segments operating better than LOS E (Walmart to Cox Road; Westminster Drive to London Blvd).

However, if SR 524 were to be expanded from an Undivided 2-Lane Arterial to a Divided 4-Lane Arterial, the entire Corridor would operate at LOS C or better. This analysis revealed to provide an adequate LOS in the longer-term, four through lanes would be needed in the corridor.

Table 3.4: SR 524 Future Segment LOS (2040)

Segment	AADT	LOS* for Undivided 2-Lane Arterial	LOS* for Divided 4-Lane Arterial
Friday Road South to I-95 SB	21,090	LOS E	LOS C
I-95 SB to I-95 NB	21,675	LOS E	LOS C
I-95 NB to Friday Road North	22,260	LOS E	LOS C
Friday Road North to Walmart Access Road	18,570	LOS E	LOS C
Walmart Access Road to Cox Road	16,490	LOS C	LOS C
Cox Road to Pinyon Drive	18,740	LOS E	LOS C
Pinyon Drive to Westminster Drive	18,820	LOS E	LOS C
Westminster Drive to London Blvd	17,590	LOS D	LOS C
London Blvd to Shopping Center	21,280	LOS E	LOS C
Shopping Center to Industry Road	23,280	LOS E	LOS C

* LOS calculated through FDOT [Generalized LOS Planning Tables](#). Page 195.

3.3 Intersection Analysis

Intersection operations were analyzed using Synchro Version 9.1.908.56, in both the weekday AM and PM peak hours for 2038. While Future Year 2040 data was available for segment volumes, Future Year 2038 data was available for intersection turning movement volumes, and is illustrated in Figures 3.2 and 3.3.

At signalized intersections, Synchro’s “Lanes, Volumes, Timings” module was used to report intersection signal delay (in seconds per vehicle), the intersection volume to capacity (v/c) ratio, and the corresponding intersection LOS. At unsignalized intersections, Synchro’s “HCM Unsignalized” module was used to report the intersection’s critical movement and corresponding delay, (v/c) ratio, and LOS.

The analysis was performed for the following eight intersections along SR 524.

- Friday Road South
- I-95 SB
- I-95 NB
- Friday Road North
- Walmart Distribution Center Access Road
- Cox Road
- London Blvd
- Industry Road

A summary of the intersection LOS analysis results for 2038 is provided in Table 3.5. The analysis indicates by 2038, the majority of the Corridor intersections (five out of eight) will be operating at a failing LOS with no geometric improvements to existing infrastructure, with particularly long delay at the I-95 Southbound and Friday Road North intersections.

However, if SR 524 were to be expanded from an Undivided 2-Lane Arterial to a Divided 4-Lane Arterial, all intersections along the Corridor, except Industry Road, would operate at LOS C or better, without added auxiliary lane or signal improvements. This analysis revealed to provide an adequate intersection LOS in the longer-term, four through lanes would be needed in the corridor. To remedy operations at Industry Road, the 2014 *SR 501 PD&E Study* proposed the addition of a second eastbound left turn lane and westbound through lane at the Industry Road/SR 501 intersection to improve operations from a LOS F to a LOS D.

Table 3.5: SR 524 Future Intersection LOS (2038)

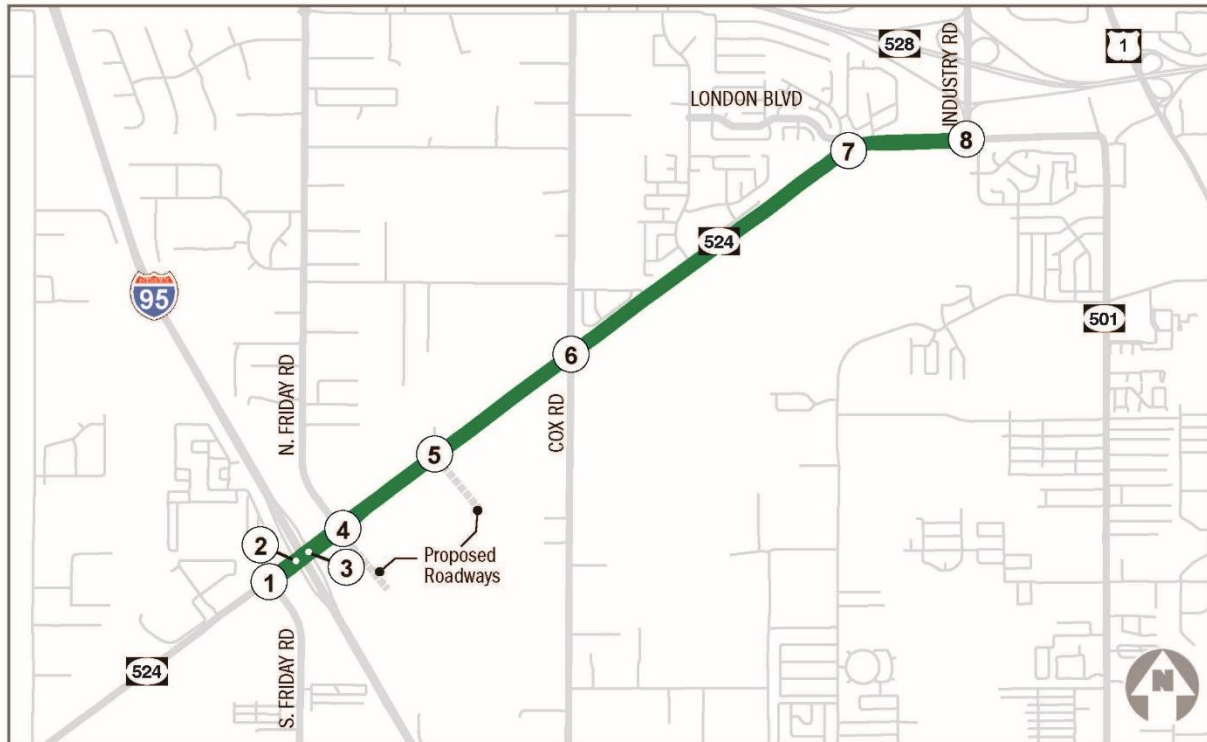
Intersection	Control	Peak Hour	Undivided 2-Lane Arterial	Divided 4-Lane Arterial
			LOS	LOS
Friday Road South	TWSC*	AM	C	C
		PM	A	C
I-95 SB Ramps	TWSC*	AM	F	C
		PM	F	B
I-95 NB Ramps	TWSC*	AM	F	C
		PM	F	C
Friday Road North	TWSC*	AM	F	C
		PM	F	C
Walmart Access Road	Signalized	AM	A	A
		PM	A	A
Cox Road	Signalized	AM	E	B
		PM	E	C
London Boulevard	Signalized	AM	A	A
		PM	A	A
Industry Road	Signalized	AM	F	F
		PM	F	F

Source: Analyzed using Synchro's HCM 2000 Unsignalized Intersection Capacity Analysis & Synchro's Lanes, Volumes, Timings Methodology.

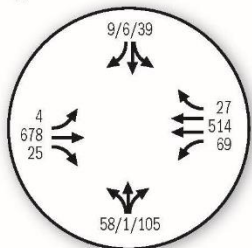
*TWSC = Two-Way Stop Controlled.

In the above scenario, the westbound left-turn queues along SR 524 at the I-95 SB Ramp Intersection were found to exceed available storage capacity in both the 2038 AM and PM peak hours. The conversion of a westbound through lane into a shared through-left lane at the I-95 SB Ramp Intersection, using split-phase signal operations, was found to improve operations of the SR 524/I-95 NB Ramp Intersection, improving from a LOS C to LOS B. The conversion also reduced queues for the westbound left-turning movement into the I-95 SB Ramp to within available storage capacity (extending to where the exclusive left turn lane begins, east of the I-95 NB Ramp Intersection). This conversion would require the expansion of the I-95 SB Ramp to accommodate two left turning movements.

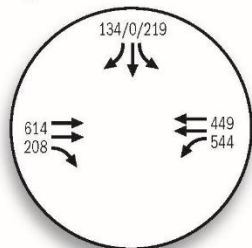
Figure 3.2: Weekday AM Peak Hour Intersection Traffic Volumes (2038)



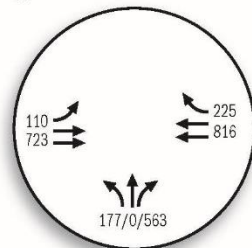
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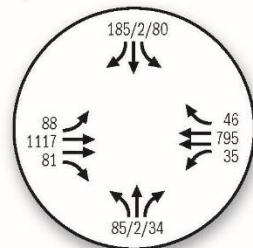
2 SR 524 & I-95 SB Ramps



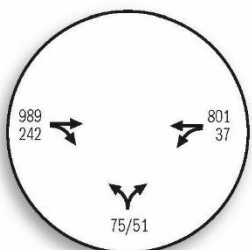
3 SR 524 & I-95 NB Ramps



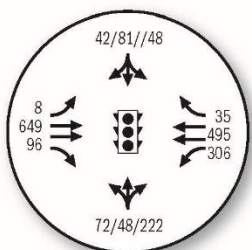
4 SR 524 & N. Friday Rd.



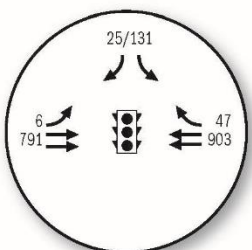
5 SR 524 & Wal-Mart Distribution Center Access Road



6 SR 524 & Cox Rd.



7 SR 524 & London Blvd.



8 SR 524 & Industry Rd.

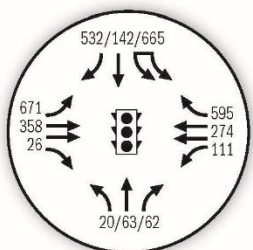
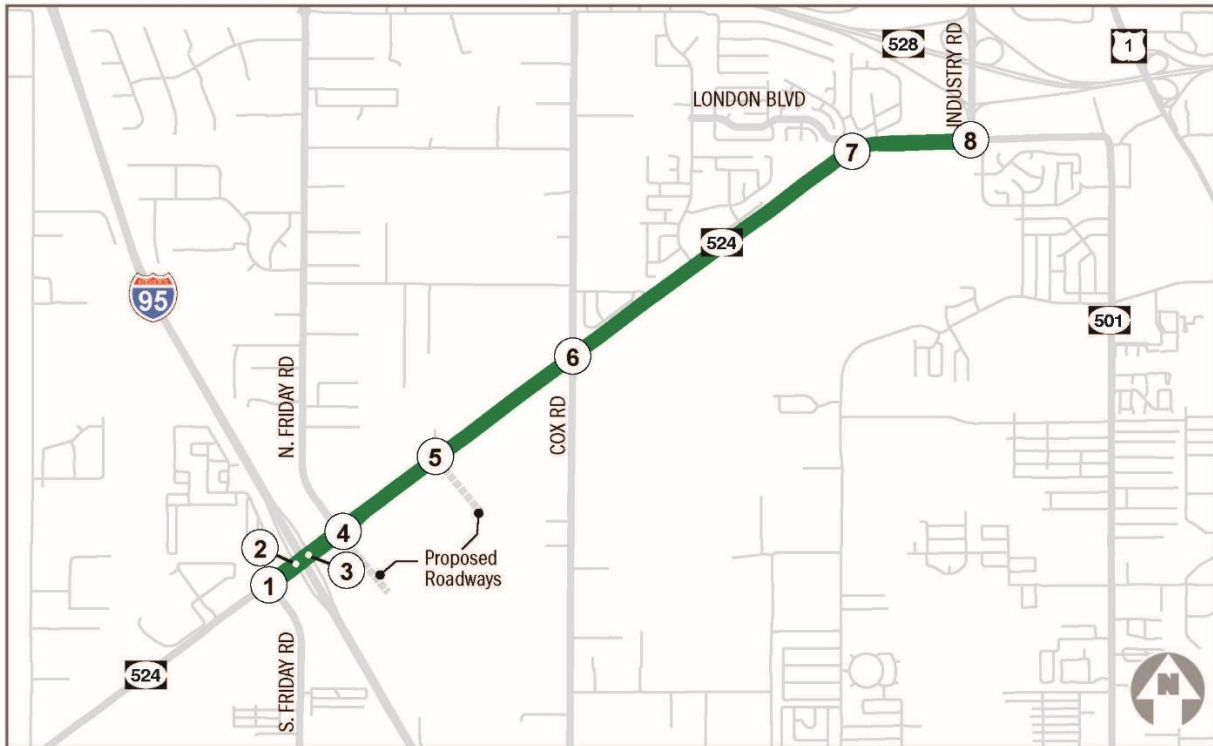
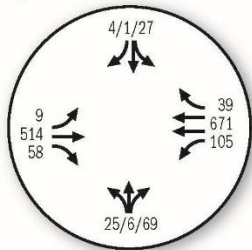


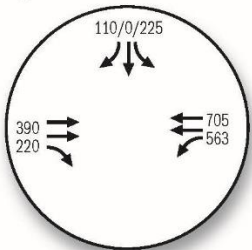
Figure 3.3: Weekday PM Peak Hour Intersection Traffic Volumes (2038)



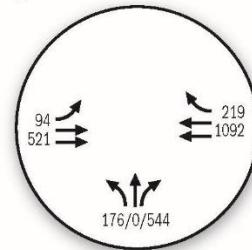
1 SR 524 & S. Friday Rd.



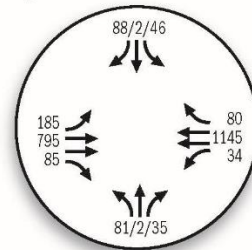
2 SR 524 & I-95 SB Ramps



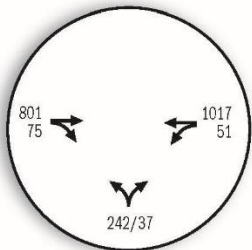
3 SR 524 & I-95 NB Ramps



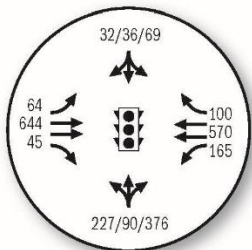
4 SR 524 & N. Friday Rd.



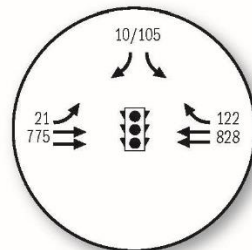
5 SR 524 & Wal-Mart Distribution Center Access Road



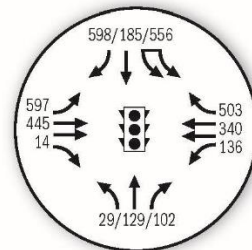
6 SR 524 & Cox Rd.



7 SR 524 & London Blvd.



8 SR 524 & Industry Rd.



Conclusion

4.0 Conclusion

The *State Road (SR) 524 Corridor Future Conditions Summary Report* summarizes future conditions within and surrounding the SR 524 Study Area, extending from Friday Road South to Industry Road. The following summarizes the key findings from each Section:

- **Future Land Use**
 - The City of Cocoa is projected to experience both residential and employment growth in the next 15 years. The majority of vacant sites currently in the SR 524 Study Area are zoned either low-density residential, medium-density residential, commercial, or industrial.
 - The SR 524 Corridor should promote “place-making” and establish high-skill, high-wage jobs adjacent to the Walmart Distribution Center, to create strong centers for manufacturing, logistics, and distribution.
 - The combination of planned developments are estimated to generate over 12,000 additional trips on the Corridor.
- **Future Traffic Conditions**
 - Corridor Segment Analysis:
 - By 2040, the majority of the Corridor is projected to operate at LOS E with no geometric improvements to existing infrastructure, with two segments operating better than LOS E (Walmart to Cox Road; Westminster Drive to London Blvd).
 - However, if SR 524 were to be expanded from an Undivided 2-Lane Arterial to a Divided 4-Lane Arterial, the entire Corridor would operate at LOS C or better.
 - Intersection Analysis
 - By 2038, the majority of the Corridor intersections (five out of eight) will be operating at a failing LOS with no geometric improvements to existing infrastructure, with particularly long delay at the I-95 Southbound and Friday Road North intersections.
 - However, if SR 524 were to be expanded from an Undivided 2-Lane Arterial to a Divided 4-Lane Arterial, all intersections along the Corridor, except Industry Road, would operate at LOS C or better.



Appendix A

5.0 Appendix A: Synchro Outputs - 2038 with Existing Geometry

HCM 2010 TWSC
1: W. Friday Rd & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

Intersection												
Int Delay, s/veh	29.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗		↔			↗	↗
Traffic Vol, veh/h	4	678	25	69	514	27	58	1	105	39	6	9
Future Vol, veh/h	4	678	25	69	514	27	58	1	105	39	6	9
Conflicting Peds, #/hr	1	0	0	3	0	7	3	0	3	8	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	275	400	-	0	-	-	-	-	-	220
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	13	0	2	4	0	11	0	5	0	0	0
Mvmt Flow	4	678	25	69	514	27	58	1	105	39	6	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	566	0	0	740	0	0	1466	1465	748	1527	1465	571
Stage 1	-	-	-	-	-	-	749	749	-	716	716	-
Stage 2	-	-	-	-	-	-	717	716	-	811	749	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.21	6.5	6.25	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.21	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.21	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.599	4	3.345	3.5	4	3.3
Pot Cap-1 Maneuver	1016	-	-	867	-	-	101	129	408	97	129	524
Stage 1	-	-	-	-	-	-	390	422	-	424	437	-
Stage 2	-	-	-	-	-	-	407	437	-	376	422	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1011	-	-	860	-	-	88	116	404	63	116	518
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	116	-	63	116	-
Stage 1	-	-	-	-	-	-	387	419	-	420	396	-
Stage 2	-	-	-	-	-	-	357	396	-	266	419	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.1			223.9			148.5		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	177	1011	-	-	860	-	-	67	518			
HCM Lane V/C Ratio	1.007	0.004	-	-	0.087	-	-	0.73	0.019			
HCM Control Delay (s)	223.9	8.6	-	-	9.6	-	-	175.8	12.1			
HCM Lane LOS	F	A	-	-	A	-	-	F	B			
HCM 95th %tile Q(veh)	16.7	0	-	-	0.3	-	-	5.2	0.1			

HCM 2010 TWSC
2: SR 524 & I-95 SB Ramps

SR 524 Corridor Study April 2017 Update
04/05/2017

Intersection												
Int Delay, s/veh		2046.3										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↓	↑					↓		↑
Traffic Vol, veh/h	0	614	208	544	449	0	0	0	0	219	0	134
Future Vol, veh/h	0	614	208	544	449	0	0	0	0	219	0	134
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	614	208	544	449	0	0	0	0	219	0	134
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	667	0	0	2005	-	-	-	-	-
Stage 1	-	-	-	-	-	-	1671	-	-	-	-	-
Stage 2	-	-	-	-	-	-	334	-	-	-	-	-
Critical Hdwy	-	-	-	4.13	-	-	6.63	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.43	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.83	-	-	-	-	-
Follow-up Hdwy	-	-	-	2,219	-	-	3,519	-	-	-	-	-
Pot Cap-1 Maneuver	0	-	-	921	-	0	~ 58	0	0	-	-	-
Stage 1	0	-	-	-	-	0	~ 167	0	0	-	-	-
Stage 2	0	-	-	-	-	0	698	0	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	921	-	-	~ 21	0	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 21	0	-	-	-	-
Stage 1	-	-	-	-	-	-	~ 60	0	-	-	-	-
Stage 2	-	-	-	-	-	-	698	0	-	-	-	-
Approach	EB			WB			SB					
HCM Control Delay, s	0			8.7			\$ 18966.3					
HCM LOS							F					
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2						
Capacity (veh/h)	-	-	921	-	21	-						
HCM Lane V/C Ratio	-	-	0.642	-	11.335	-						
HCM Control Delay (s)	-	-	15.8	\$ 48966.3	0							
HCM Lane LOS	-	-	C	-	F	A						
HCM 95th %tile Q(veh)	-	-	5.2	-	111.7	-						
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

HCM 2010 TWSC
3: I-95 NB Ramps & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

Intersection												
Int Delay, s/veh	128.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖↗	↖	↖		↖			
Traffic Vol, veh/h	110	723	0	0	816	225	177	0	563	0	0	0
Future Vol, veh/h	110	723	0	0	816	225	177	0	563	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Free	-	-	None
Storage Length	0	-	-	-	-	0	0	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	723	0	0	816	225	177	0	563	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	887	0	1468
Stage 1	-	-	1025
Stage 2	-	-	443
Critical Hdwy	4.13	-	6.63
Critical Hdwy Stg 1	-	-	5.43
Critical Hdwy Stg 2	-	-	5.83
Follow-up Hdwy	2.219	-	3.519
Pot Cap-1 Maneuver	761	0	~ 129
Stage 1	-	0	345
Stage 2	-	0	615
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	761	-	~ 109
Mov Cap-2 Maneuver	-	-	~ 109
Stage 1	-	-	291
Stage 2	-	-	615

Approach	EB	WB	NB
HCM Control Delay, s	1.4	0	\$ 1487.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	109	-	761	-	-	-
HCM Lane V/C Ratio	1.765	-	0.157	-	-	-
HCM Control Delay (s)	\$ 1487.5	0	10.6	-	-	-
HCM Lane LOS	F	A	B	-	-	-
HCM 95th %tile Q(veh)	47.7	-	0.6	-	-	-

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

HCM 2010 TWSC
4: SR 524 & E. Friday Rd

SR 524 Corridor Study April 2017 Update
04/05/2017

Intersection

Int Delay, s/veh 1966.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗		↔		↘		
Traffic Vol, veh/h	88	1117	81	35	795	46	85	2	34	80	2	185
Future Vol, veh/h	88	1117	81	35	795	46	85	2	34	80	2	185
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	350	-	0	200	-	350	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	0	2	2	1	0	2	2	2	0	2	1
Mvmt Flow	88	1117	81	35	795	46	85	2	34	80	2	185

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	864	0	0	1214
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.16	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.254	-	-	2.218
Pot Cap-1 Maneuver	762	-	-	575
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	762	-	-	575
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.5	\$ 22621.8	\$ 8526.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	10	762	-	-	575	-	-	51
HCM Lane V/C Ratio	13.152	0.126	-	-	0.066	-	-	5.648
HCM Control Delay (s)	\$ 22621.8	10.4	-	-	11.7	-	-	\$ 8526.7
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	63.9	0.4	-	-	0.2	-	-	122.1

Notes

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























HCM 2010 Signalized Intersection Summary
5: SR 524 & Walmart Driveway

SR 524 Corridor Study April 2017 Update
04/05/2017

Movement	NWL	NWR	NET	NER	SWL	SWT		
Lane Configurations	↖	↗	↑	↘	↙	↕		
Traffic Volume (veh/h)	75	51	989	242	37	801		
Future Volume (veh/h)	75	51	989	242	37	801		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/n	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	75	51	989	0	37	801		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	122	109	1419	1206	390	1419		
Arrive On Green	0.07	0.07	0.76	0.00	0.76	0.76		
Sat Flow, veh/h	1774	1583	1863	1583	567	1863		
Grp Volume(v), veh/h	75	51	989	0	37	801		
Grp Sat Flow(s),veh/h/n	1774	1583	1863	1583	567	1863		
Q Serve(g_s), s	2.7	2.0	17.5	0.0	2.3	11.7		
Cycle Q Clear(g_c), s	2.7	2.0	17.5	0.0	19.8	11.7		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	122	109	1419	1206	390	1419		
V/C Ratio(X)	0.61	0.47	0.70	0.00	0.09	0.56		
Avail Cap(c_a), veh/h	259	231	1419	1206	390	1419		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	29.4	29.1	3.9	0.0	9.0	3.2		
Incr Delay (d2), s/veh	5.0	3.1	2.9	0.0	0.5	1.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/n	1.5	1.0	9.7	0.0	0.4	6.4		
LnGrp Delay(d),s/veh	34.4	32.2	6.8	0.0	9.5	4.9		
LnGrp LOS	C	C	A		A	A		
Approach Vol, veh/h	126		989			838		
Approach Delay, s/veh	33.5		6.8			5.1		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		55.0		10.0		55.0		
Change Period (Y+Rc), s		5.5		5.5		5.5		
Max Green Setting (Gmax), s		49.5		9.5		49.5		
Max Q Clear Time (g_c+I1), s		19.5		4.7		21.8		
Green Ext Time (p_c), s		15.5		0.1		14.9		
Intersection Summary								
HCM 2010 Ctrl Delay			7.8					
HCM 2010 LOS			A					







HCM 2010 Signalized Intersection Summary
6: Cox Rd & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	648	96	306	494	35	71	47	221	48	81	42
Future Volume (veh/h)	8	648	96	306	494	35	71	47	221	48	81	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/n	1900	1827	1900	1863	1863	1900	1900	1876	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	648	0	306	494	0	71	47	221	48	81	42
Adj No. of Lanes	1	1	1	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	0	2	2	0	0	0	0	0	0	0
Cap, veh/h	447	637	563	284	1012	877	139	80	267	159	244	105
Arrive On Green	0.35	0.35	0.00	0.09	0.54	0.00	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	917	1827	1615	1774	1863	1615	242	313	1038	301	949	407
Grp Volume(v), veh/h	8	648	0	306	494	0	339	0	0	171	0	0
Grp Sat Flow(s),veh/h/n	917	1827	1615	1774	1863	1615	1593	0	0	1657	0	0
Q Serve(g_s), s	0.3	19.7	0.0	5.0	9.3	0.0	6.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	19.7	0.0	5.0	9.3	0.0	11.2	0.0	0.0	4.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.21		0.65	0.28		0.25
Lane Grp Cap(c), veh/h	447	637	563	284	1012	877	486	0	0	507	0	0
V/C Ratio(X)	0.02	1.02	0.00	1.08	0.49	0.00	0.70	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	447	637	563	284	1012	877	581	0	0	602	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.1	18.4	0.0	14.9	8.0	0.0	19.7	0.0	0.0	17.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	89.3	0.0	198.6	0.4	0.0	2.9	0.0	0.0	0.4	0.0	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(50%),veh/M@.1		25.5	0.0	18.4	4.8	0.0	5.3	0.0	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	12.1	107.7	0.0	213.5	8.4	0.0	22.6	0.0	0.0	17.6	0.0	0.0
LnGrp LOS	B	F		F	A		C			B		
Approach Vol, veh/h		656			800			339			171	
Approach Delay, s/veh		106.6			86.8			22.6			17.6	
Approach LOS		F			F			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		19.8	11.0	25.7		19.8		36.7				
Change Period (Y+Rc), s		5.3	6.0	6.0		5.3		6.0				
Max Green Setting (Gmax), s		18.0	5.0	19.7		18.0		30.7				
Max Q Clear Time (g_c+I1), s		13.2	7.0	21.7		6.4		11.3				
Green Ext Time (p_c), s		1.3	0.0	0.0		2.3		6.4				
Intersection Summary												
HCM 2010 Ctrl Delay											76.3	
HCM 2010 LOS											E	

HCM 2010 Signalized Intersection Summary
7: SR 524 & London Blvd

SR 524 Corridor Study April 2017 Update
04/05/2017

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↔	↑	↑	↔	↔	↔		
Traffic Volume (veh/h)	5	790	903	47	131	24		
Future Volume (veh/h)	5	790	903	47	131	24		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/mn	1900	1827	1863	1900	1900	1863		
Adj Flow Rate, veh/h	5	790	903	0	131	24		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	4	2	0	0	2		
Cap, veh/h	449	1451	1480	1283	179	156		
Arrive On Green	0.79	0.79	0.79	0.00	0.10	0.10		
Sat Flow, veh/h	627	1827	1863	1615	1810	1583		
Grp Volume(v), veh/h	5	790	903	0	131	24		
Grp Sat Flow(s),veh/h/mn	627	1827	1863	1615	1810	1583		
Q Serve(g_s), s	0.3	15.7	19.3	0.0	7.0	1.4		
Cycle Q Clear(g_c), s	19.7	15.7	19.3	0.0	7.0	1.4		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	449	1451	1480	1283	179	156		
V/C Ratio(X)	0.01	0.54	0.61	0.00	0.73	0.15		
Avail Cap(c_a), veh/h	449	1451	1480	1283	385	337		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.14	0.14	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	8.0	3.7	4.1	0.0	43.8	41.2		
Incr Delay (d2), s/veh	0.0	0.2	1.9	0.0	5.9	0.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/M0.1		7.8	10.6	0.0	3.8	0.6		
LnGrp Delay(d),s/veh	8.0	3.9	6.0	0.0	49.7	41.7		
LnGrp LOS	A	A	A		D	D		
Approach Vol, veh/h		795	903		155			
Approach Delay, s/veh		4.0	6.0		48.5			
Approach LOS		A	A		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				85.4		14.6		85.4
Change Period (Y+Rc), s				6.0		4.7		* 6
Max Green Setting (Gmax), s				68.0		21.3		* 69
Max Q Clear Time (g_c+I1), s				21.7		9.0		21.3
Green Ext Time (p_c), s				8.2		0.3		8.2
Intersection Summary								
HCM 2010 Ctrl Delay				8.7				
HCM 2010 LOS				A				
Notes								
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.								

AM Peak
WSP Parsons Brinckerhoff

Synchro 9 Report
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HCM 2010 Signalized Intersection Summary
8: E Industry Rd & SR 524

SR 524 Corridor Study April 2017 Update
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑	↘	↔	↑	↘	↔	↑	↘	↔	↑	↘
Traffic Volume (veh/h)	670	358	25	110	273	594	20	62	61	665	142	532
Future Volume (veh/h)	670	358	25	110	273	594	20	62	61	665	142	532
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.95	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
Adj Sat Flow, veh/h/n	1727	1863	1900	1900	1863	1881	1900	1863	1900	1845	1881	1845
Adj Flow Rate, veh/h	670	358	25	110	273	0	20	62	61	665	142	0
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	2	0	0	2	1	0	2	0	3	1	3
Cap, veh/h	723	1054	887	468	629	540	1	102	85	670	530	442
Arrive On Green	0.27	0.57	0.57	0.04	0.34	0.00	0.00	0.05	0.05	0.20	0.28	0.00
Sat Flow, veh/h	1645	1863	1567	1810	1863	1599	1810	1863	1542	3408	1881	1568
Grp Volume(v), veh/h	670	358	25	110	273	0	20	62	61	665	142	0
Grp Sat Flow(s), veh/h/n	1645	1863	1567	1810	1863	1599	1810	1863	1542	1704	1881	1568
Q Serve(g_s), s	38.9	15.5	1.1	6.0	17.1	0.0	0.1	4.9	5.8	29.2	8.8	0.0
Cycle Q Clear(g_c), s	38.9	15.5	1.1	6.0	17.1	0.0	0.1	4.9	5.8	29.2	8.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	723	1054	887	468	629	540	1	102	85	670	530	442
V/C Ratio(X)	0.93	0.34	0.03	0.24	0.43	0.00	16.58	0.61	0.72	0.99	0.27	0.00
Avail Cap(c_a), veh/h	723	1054	887	468	629	540	62	217	180	670	530	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.6	17.5	14.4	30.6	38.5	0.0	75.0	69.3	69.7	60.1	41.9	0.0
Incr Delay (d2), s/veh	23.6	0.9	0.1	0.3	2.2	0.0	837.8	6.5	11.5	62.1	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	0.0	0.0	0.0
%ile BackOfQ(50%), veh	22.2	8.2	0.5	3.0	9.2	0.0	15.3	2.7	2.8	19.5	4.6	0.0
LnGrp Delay(d), s/veh	45.1	18.4	14.4	30.8	40.7	0.0	845.6	75.1	81.3	122.2	42.1	0.0
LnGrp LOS	D	B	B	C	D		F	E	F	F	D	
Approach Vol, veh/h		1053			383			143			807	
Approach Delay, s/veh		35.3			37.9			40.6			108.1	
Approach LOS		D			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.0	13.9	11.0	91.1	0.0	47.9	45.2	56.9				
Change Period (Y+Rc), s	4.5	* 5.7	4.5	* 6.2	4.5	* 5.7	4.5	* 6.2				
Max Green Setting (Gmax), s	29.5	* 18	6.5	* 7.8	5.1	* 4.1	40.7	* 4.2				
Max Q Clear Time (g_c+R1), s	81.2	7.8	8.0	17.5	0.0	10.8	40.9	19.1				
Green Ext Time (p_c), s	0.0	0.4	0.0	3.1	0.0	1.4	0.0	2.9				

Intersection Summary

HCM 2010 Ctrl Delay	300.8
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 TWSC
1: W. Friday Rd & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗		↔			↗	↗
Traffic Vol, veh/h	9	514	58	105	671	39	25	6	69	27	1	4
Future Vol, veh/h	9	514	58	105	671	39	25	6	69	27	1	4
Conflicting Peds, #/hr	1	0	0	3	0	7	3	0	3	8	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	275	400	-	0	-	-	-	-	-	220
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	13	0	2	4	0	11	0	5	0	0	0
Mvmt Flow	9	514	58	105	671	39	25	6	69	27	1	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	736	0	0	562	0	0	1544	1546	570	1592	1546	741
Stage 1	-	-	-	-	-	-	581	581	-	965	965	-
Stage 2	-	-	-	-	-	-	963	965	-	627	581	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.21	6.5	6.25	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.21	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.21	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.599	4	3.345	3.5	4	3.3
Pot Cap-1 Maneuver	879	-	-	1009	-	-	89	116	515	88	116	420
Stage 1	-	-	-	-	-	-	484	503	-	309	336	-
Stage 2	-	-	-	-	-	-	296	336	-	475	503	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	875	-	-	1001	-	-	78	101	510	64	101	415
Mov Cap-2 Maneuver	-	-	-	-	-	-	78	101	-	64	101	-
Stage 1	-	-	-	-	-	-	477	496	-	303	296	-
Stage 2	-	-	-	-	-	-	257	296	-	392	496	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			1.2			46.5			95.3		
HCM LOS							E			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	194	875	-	-	1001	-	-	65	415			
HCM Lane V/C Ratio	0.56	0.011	-	-	0.114	-	-	0.468	0.01			
HCM Control Delay (s)	46.5	9.2	-	-	9.1	-	-	106.9	13.8			
HCM Lane LOS	E	A	-	-	A	-	-	F	B			
HCM 95th %tile Q(veh)	3.5	0	-	-	0.4	-	-	2.3	0			

HCM 2010 TWSC
2: SR 524 & I-95 SB Ramps

SR 524 Corridor Study April 2017 Update
04/05/2017

Intersection												
Int Delay, s/veh		2206.1										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑	↑				↑		↑
Traffic Vol, veh/h	0	390	220	563	705	0	0	0	0	225	0	110
Future Vol, veh/h	0	390	220	563	705	0	0	0	0	225	0	110
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	0	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	390	220	563	705	0	0	0	0	225	0	110
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	424	0	0				2202	-	-
Stage 1	-	-	-	-	-	-				1990	-	-
Stage 2	-	-	-	-	-	-				212	-	-
Critical Hdwy	-	-	-	4.13	-	-				6.63	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-				5.43	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.83	-	-
Follow-up Hdwy	-	-	-	2.219	-	-				3.519	-	-
Pot Cap-1 Maneuver	0	-	-	1133	-	0				~ 43	0	0
Stage 1	0	-	-	-	-	0				~ 115	0	0
Stage 2	0	-	-	-	-	0				804	0	0
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	-	-	-	1133	-	-				~ 20	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-				~ 20	0	-
Stage 1	-	-	-	-	-	-				~ 53	0	-
Stage 2	-	-	-	-	-	-				804	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	0			5.3			\$ 20590					
HCM LOS							F					
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2						
Capacity (veh/h)	-	-	1133	-	20	-						
HCM Lane V/C Ratio	-	-	0.54	-	12.228	-						
HCM Control Delay (s)	-	-	11.9		\$ 20590	0						
HCM Lane LOS	-	-	B	-	F	A						
HCM 95th %tile Q(veh)	-	-	3.5	-	115.5	-						
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

HCM 2010 TWSC
3: I-95 NB Ramps & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

Intersection												
Int Delay, s/veh	147.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑			↑↑	↗	↖		↗			
Traffic Vol, veh/h	94	521	0	0	1092	219	176	0	544	0	0	0
Future Vol, veh/h	94	521	0	0	1092	219	176	0	544	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Free	-	-	None
Storage Length	0	-	-	-	-	0	0	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	94	521	0	0	1092	219	176	0	544	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	1187	0	-	-	-	0	1364	-	-	-	-	-
Stage 1	-	-	-	-	-	-	771	-	-	-	-	-
Stage 2	-	-	-	-	-	-	593	-	-	-	-	-
Critical Hdwy	4.13	-	-	-	-	-	7.33	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	-	-	-	-	-
Follow-up Hdwy	2.219	-	-	-	-	-	3.519	-	-	-	-	-
Pot Cap-1 Maneuver	586	-	0	0	-	-	~ 115	0	0	-	-	-
Stage 1	-	-	0	0	-	-	392	0	0	-	-	-
Stage 2	-	-	0	0	-	-	460	0	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	586	-	-	-	-	-	~ 100	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 100	-	-	-	-	-
Stage 1	-	-	-	-	-	-	324	-	-	-	-	-
Stage 2	-	-	-	-	-	-	460	-	-	-	-	-
Approach	EB			WB			NB					
HCM Control Delay, s	1.9			0			\$ 1756.7					
HCM LOS							F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR						
Capacity (veh/h)	100	-	586	-	-	-						
HCM Lane V/C Ratio	1.913	-	0.174	-	-	-						
HCM Control Delay (s)	\$ 1756.7	0	12.4	-	-	-						
HCM Lane LOS	F	A	B	-	-	-						
HCM 95th %tile Q(veh)	51.3	-	0.6	-	-	-						
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

HCM 2010 TWSC
4: SR 524 & E. Friday Rd

SR 524 Corridor Study April 2017 Update
04/05/2017

Intersection

Int Delay, s/veh 1975.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗		↕		↘		
Traffic Vol, veh/h	185	795	85	34	1145	80	81	2	35	46	2	88
Future Vol, veh/h	185	795	85	34	1145	80	81	2	35	46	2	88
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	350	-	0	200	-	350	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	0	2	2	1	0	2	2	2	0	2	1
Mvmt Flow	185	795	85	34	1145	80	81	2	35	46	2	88

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	1245	0	864	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.16	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.254	-	2.218	-
Pot Cap-1 Maneuver	546	-	779	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	546	-	779	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0.3	\$ 32235.5	\$ 9455.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	7	546	-	-	779	-	-	24
HCM Lane V/C Ratio	18.323	0.368	-	-	0.047	-	-	6.069
HCM Control Delay (s)	\$ 32235.5	15.4	-	-	9.9	-	-	\$ 9455.1
HCM Lane LOS	F	C	-	-	A	-	-	F
HCM 95th %tile Q(veh)	63.7	1.7	-	-	0.1	-	-	64.2

Notes

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

HCM 2010 Signalized Intersection Summary
5: SR 524 & Walmart Driveway

SR 524 Corridor Study April 2017 Update
04/05/2017

Movement	NWL	NWR	NET	NER	SWL	SWT		
Lane Configurations	↖	↗	↑	↘	↙	↕		
Traffic Volume (veh/h)	75	51	989	242	37	801		
Future Volume (veh/h)	75	51	989	242	37	801		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/n	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	75	51	989	242	37	801		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	158	141	1234	1048	289	1234		
Arrive On Green	0.09	0.09	0.66	0.66	0.66	0.66		
Sat Flow, veh/h	1774	1583	1863	1583	451	1863		
Grp Volume(v), veh/h	75	51	989	242	37	801		
Grp Sat Flow(s),veh/h/n	1774	1583	1863	1583	451	1863		
Q Serve(g_s), s	1.8	1.3	16.9	2.7	2.8	11.3		
Cycle Q Clear(g_c), s	1.8	1.3	16.9	2.7	19.8	11.3		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	158	141	1234	1048	289	1234		
V/C Ratio(X)	0.47	0.36	0.80	0.23	0.13	0.65		
Avail Cap(c_a), veh/h	702	627	1327	1128	312	1327		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.2	19.0	5.4	3.0	12.5	4.4		
Incr Delay (d2), s/veh	2.2	1.6	3.5	0.1	0.2	1.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/n	1.0	0.6	9.4	1.2	0.4	5.9		
LnGrp Delay(d),s/veh	21.4	20.5	8.9	3.1	12.7	5.4		
LnGrp LOS	C	C	A	A	B	A		
Approach Vol, veh/h	126		1231			838		
Approach Delay, s/veh	21.0		7.7			5.8		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		34.8		9.4		34.8		
Change Period (Y+Rc), s		5.5		5.5		5.5		
Max Green Setting (Gmax), s		31.5		17.5		31.5		
Max Q Clear Time (g_c+I1), s		18.9		3.8		21.8		
Green Ext Time (p_c), s		9.3		0.2		7.5		
Intersection Summary								
HCM 2010 Ctrl Delay			7.8					
HCM 2010 LOS			A					







HCM 2010 Signalized Intersection Summary
6: Cox Rd & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑	↘	↔	↑	↘	↔	↑	↘	↔	↑	↘
Traffic Volume (veh/h)	64	643	45	165	570	100	226	89	375	68	36	32
Future Volume (veh/h)	64	643	45	165	570	100	226	89	375	68	36	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/n	1900	1827	1900	1863	1863	1900	1900	1880	1900	1900	1900	1900
Adj Flow Rate, veh/h	64	643	0	165	570	0	226	89	375	68	36	32
Adj No. of Lanes	1	1	1	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	0	2	2	0	0	0	0	0	0	0
Cap, veh/h	258	655	579	171	869	754	259	89	367	244	128	101
Arrive On Green	0.36	0.36	0.00	0.06	0.47	0.00	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	855	1827	1615	1774	1863	1615	498	203	835	452	292	229
Grp Volume(v), veh/h	64	643	0	165	570	0	690	0	0	136	0	0
Grp Sat Flow(s),veh/h/n	855	1827	1615	1774	1863	1615	1537	0	0	974	0	0
Q Serve(g_s), s	7.5	41.8	0.0	7.0	28.2	0.0	43.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	22.7	41.8	0.0	7.0	28.2	0.0	52.7	0.0	0.0	9.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.33		0.54	0.50		0.24
Lane Grp Cap(c), veh/h	258	655	579	171	869	754	715	0	0	473	0	0
V/C Ratio(X)	0.25	0.98	0.00	0.96	0.66	0.00	0.97	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	258	655	579	171	869	754	715	0	0	473	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.1	38.1	0.0	29.7	24.6	0.0	34.1	0.0	0.0	21.1	0.0	0.0
Incr Delay (d2), s/veh	0.5	54.6	0.0	102.6	1.8	0.0	40.2	0.0	0.0	0.3	0.0	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(50%),veh/mi	31.0	31.0	0.0	8.2	14.8	0.0	30.8	0.0	0.0	2.9	0.0	0.0
LnGrp Delay(d),s/veh	38.8	92.7	0.0	132.2	26.4	0.0	74.4	0.0	0.0	21.4	0.0	0.0
LnGrp LOS	D	F		F	C		E			C		
Approach Vol, veh/h		707			735			690			136	
Approach Delay, s/veh		87.8			50.2			74.4			21.4	
Approach LOS		F			D			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		58.0	13.0	49.0		58.0		62.0				
Change Period (Y+Rc), s		5.3	6.0	6.0		5.3		6.0				
Max Green Setting (Gmax), s		52.7	7.0	43.0		52.7		56.0				
Max Q Clear Time (g_c+I1), s		54.7	9.0	43.8		11.2		30.2				
Green Ext Time (p_c), s		0.0	0.0	0.0		6.7		8.1				
Intersection Summary												
HCM 2010 Ctrl Delay					67.5							
HCM 2010 LOS					E							

HCM 2010 Signalized Intersection Summary
7: SR 524 & London Blvd

SR 524 Corridor Study April 2017 Update
04/05/2017

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖	↑	↑	↗	↖	↗		
Traffic Volume (veh/h)	21	775	828	122	105	10		
Future Volume (veh/h)	21	775	828	122	105	10		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/m	1900	1827	1863	1900	1900	1863		
Adj Flow Rate, veh/h	21	775	828	0	105	10		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	4	2	0	0	2		
Cap, veh/h	499	1456	1485	1287	174	152		
Arrive On Green	0.80	0.80	0.80	0.00	0.10	0.10		
Sat Flow, veh/h	672	1827	1863	1615	1810	1583		
Grp Volume(v), veh/h	21	775	828	0	105	10		
Grp Sat Flow(s), veh/h/m	672	1827	1863	1615	1810	1583		
Q Serve(g_s), s	1.2	14.9	16.2	0.0	5.6	0.6		
Cycle Q Clear(g_c), s	17.4	14.9	16.2	0.0	5.6	0.6		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	499	1456	1485	1287	174	152		
V/C Ratio(X)	0.04	0.53	0.56	0.00	0.61	0.07		
Avail Cap(c_a), veh/h	499	1456	1485	1287	385	337		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	6.9	3.6	3.7	0.0	43.4	41.1		
Incr Delay (d2), s/veh	0.2	1.4	1.5	0.0	3.4	0.2		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%), veh/l@.2	7.9	7.9	8.7	0.0	3.0	0.3		
LnGrp Delay(d), s/veh	7.0	5.0	5.2	0.0	46.8	41.3		
LnGrp LOS	A	A	A		D	D		
Approach Vol, veh/h		796	828		115			
Approach Delay, s/veh		5.0	5.2		46.3			
Approach LOS		A	A		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				85.7		14.3		85.7
Change Period (Y+Rc), s				6.0		4.7		* 6
Max Green Setting (Gmax), s				68.0		21.3		* 69
Max Q Clear Time (g_c+I1), s				19.4		7.6		18.2
Green Ext Time (p_c), s				7.6		0.2		7.6
Intersection Summary								
HCM 2010 Ctrl Delay				7.9				
HCM 2010 LOS				A				

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
8: E Industry Rd & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↘	↙	↑	↘	↙	↑	↘	↘	↑	↙
Traffic Volume (veh/h)	596	444	13	136	340	502	29	129	102	556	184	597
Future Volume (veh/h)	596	444	13	136	340	502	29	129	102	556	184	597
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.97	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
Adj Sat Flow, veh/h/n	1727	1863	1900	1900	1863	1881	1900	1863	1900	1845	1881	1845
Adj Flow Rate, veh/h	596	444	13	136	340	0	29	129	102	556	184	0
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	2	0	0	2	1	0	2	0	3	1	3
Cap, veh/h	636	990	833	491	667	572	1	164	138	564	542	452
Arrive On Green	0.23	0.53	0.53	0.05	0.36	0.00	0.00	0.09	0.09	0.17	0.29	0.00
Sat Flow, veh/h	1645	1863	1566	1810	1863	1599	1810	1863	1562	3408	1881	1568
Grp Volume(v), veh/h	596	444	13	136	340	0	29	129	102	556	184	0
Grp Sat Flow(s), veh/h/n	1645	1863	1566	1810	1863	1599	1810	1863	1562	1704	1881	1568
Q Serve(g_s), s	29.5	19.1	0.5	6.2	18.6	0.0	0.1	8.8	8.3	21.2	10.0	0.0
Cycle Q Clear(g_c), s	29.5	19.1	0.5	6.2	18.6	0.0	0.1	8.8	8.3	21.2	10.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	636	990	833	491	667	572	1	164	138	564	542	452
V/C Ratio(X)	0.94	0.45	0.02	0.28	0.51	0.00	0.20	0.78	0.74	0.99	0.34	0.00
Avail Cap(c_a), veh/h	636	990	833	491	667	572	70	251	210	564	542	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.5	18.7	14.4	24.3	32.8	0.0	65.0	58.0	57.8	54.1	36.5	0.0
Incr Delay (d2), s/veh	30.1	1.5	0.0	0.3	2.8	0.0	59.0	9.3	7.9	63.2	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	0.0	0.0	0.0
%ile BackOfQ(50%), veh	18.6	10.1	0.2	3.1	10.1	0.0	22.3	5.0	3.9	14.9	5.3	0.0
LnGrp Delay(d), s/veh	50.5	20.2	14.4	24.6	35.6	0.0	65.0	67.3	65.7	117.4	36.9	0.0
LnGrp LOS	D	C	B	C	D		F	E	E	F	D	
Approach Vol, veh/h		1053			476			260			740	
Approach Delay, s/veh		37.3			32.5			408.7			97.3	
Approach LOS		D			C			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.0	17.2	11.5	75.3	0.0	43.2	34.1	52.7				
Change Period (Y+Rc), s	4.5	* 5.7	4.5	* 6.2	4.5	* 5.7	4.5	* 6.2				
Max Green Setting (Gmax), s	5	* 18	7.0	* 65	5.0	* 33	29.6	* 41				
Max Q Clear Time (g_c+2B), s	23.2	10.8	8.2	21.1	0.0	12.0	31.5	20.6				
Green Ext Time (p_c), s	0.0	0.7	0.0	3.9	0.0	2.1	0.0	3.6				

Intersection Summary

HCM 2010 Ctrl Delay	469.6
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

PM Peak
WSP Parsons Brinckerhoff

Synchro 9 Report
Page 8



Appendix B

6.0 Appendix B: Synchro Outputs - 2038 with Modified Geometry

HCM 2010 Signalized Intersection Summary
1: W. Friday Rd & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	678	25	69	514	27	58	1	105	39	6	9
Future Volume (veh/h)	4	678	25	69	514	27	58	1	105	39	6	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.97	0.97		0.98	0.99		0.95
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
Adj Sat Flow, veh/h/n	1900	1688	1900	1863	1827	1900	1712	1900	1810	1900	1900	1900
Adj Flow Rate, veh/h	4	678	25	69	514	27	58	1	105	39	6	9
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	13	13	2	4	0	11	0	5	0	0	0
Cap, veh/h	137	827	30	785	1166	1004	219	340	270	172	21	133
Arrive On Green	0.01	0.26	0.26	0.38	0.64	0.64	0.04	0.18	0.18	0.09	0.09	0.09
Sat Flow, veh/h	1810	3155	116	1774	1827	1573	1630	1900	1510	1127	249	1540
Grp Volume(v), veh/h	4	344	359	69	514	27	58	1	105	45	0	9
Grp Sat Flow(s),veh/h/n	1810	1604	1668	1774	1827	1573	1630	1900	1510	1375	0	1540
Q Serve(g_s), s	0.2	18.2	18.2	0.0	12.7	0.6	2.8	0.0	5.5	2.4	0.0	0.5
Cycle Q Clear(g_c), s	0.2	18.2	18.2	0.0	12.7	0.6	2.8	0.0	5.5	2.7	0.0	0.5
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	0.87		1.00
Lane Grp Cap(c), veh/h	137	420	437	785	1166	1004	219	340	270	193	0	133
V/C Ratio(X)	0.03	0.82	0.82	0.09	0.44	0.03	0.26	0.00	0.39	0.23	0.00	0.07
Avail Cap(c_a), veh/h	228	615	639	785	1166	1004	241	728	579	453	0	428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.4	31.2	31.2	16.5	8.2	6.0	33.8	30.4	32.6	38.8	0.0	37.8
Incr Delay (d2), s/veh	0.1	18.4	17.8	0.0	1.2	0.0	0.6	0.0	0.9	0.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/n	0.1	10.2	10.5	1.1	6.7	0.3	1.3	0.0	2.4	1.1	0.0	0.2
LnGrp Delay(d),s/veh	28.5	49.6	49.0	16.6	9.4	6.0	34.4	30.4	33.5	39.4	0.0	38.0
LnGrp LOS	C	D	D	B	A	A	C	C	C	D		D
Approach Vol, veh/h		707			610			164			54	
Approach Delay, s/veh		49.2			10.1			33.8			39.1	
Approach LOS		D			B			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		21.1	39.8	29.1	8.3	12.8	6.0	62.9				
Change Period (Y+Rc), s		5.0	5.5	5.5	4.5	5.0	5.5	5.5				
Max Green Setting (Gmax), s		34.5	5.0	34.5	5.0	25.0	5.0	34.5				
Max Q Clear Time (g_c+1), s		7.5	2.0	20.2	4.8	4.7	2.2	14.7				
Green Ext Time (p_c), s		0.6	1.0	3.4	0.0	0.6	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay				31.7								
HCM 2010 LOS				C								



















HCM 2010 Signalized Intersection Summary
2: SR 524 & I-95 SB Ramps

SR 524 Corridor Study April 2017 Update
04/05/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↓	↑↑					↓		↑
Traffic Volume (veh/h)	0	614	208	544	449	0	0	0	0	219	0	134
Future Volume (veh/h)	0	614	208	544	449	0	0	0	0	219	0	134
Number	7	4	14	3	8	18				1	6	16
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
Adj Sat Flow, veh/h/n	0	1863	1863	1863	1863	0				1863	0	1863
Adj Flow Rate, veh/h	0	614	0	544	449	0				219	0	0
Adj No. of Lanes	0	3	1	1	2	0				1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	860	268	900	2379	0				375	0	334
Arrive On Green	0.00	0.17	0.00	0.45	0.67	0.00				0.21	0.00	0.00
Sat Flow, veh/h	0	5253	1583	1774	3632	0				1774	0	1583
Grp Volume(v), veh/h	0	614	0	544	449	0				219	0	0
Grp Sat Flow(s),veh/h/n	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	10.3	0.0	14.2	4.3	0.0				10.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.3	0.0	14.2	4.3	0.0				10.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	860	268	900	2379	0				375	0	334
V/C Ratio(X)	0.00	0.71	0.00	0.60	0.19	0.00				0.58	0.00	0.00
Avail Cap(c_a), veh/h	0	1356	422	900	2399	0				375	0	334
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.83	0.83	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	35.3	0.0	16.2	5.5	0.0				31.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.2	0.0	1.0	0.1	0.0				6.7	0.0	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
%ile BackOfQ(50%),veh/n	0.0	5.2	0.0	9.8	2.1	0.0				5.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	40.5	0.0	17.2	5.7	0.0				38.7	0.0	0.0
LnGrp LOS		D		B	A					D		
Approach Vol, veh/h		614			993						219	
Approach Delay, s/veh		40.5			12.0						38.7	
Approach LOS		D			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			45.8	20.2		24.0		66.0				
Change Period (Y+Rc), s			5.5	5.0		5.0		* 5.5				
Max Green Setting (Gmax), s			31.5	24.0		19.0		* 61				
Max Q Clear Time (g_c+I1), s			16.2	12.3		12.0		6.3				
Green Ext Time (p_c), s			4.0	2.9		0.3		4.9				
Intersection Summary												
HCM 2010 Ctrl Delay				24.8								
HCM 2010 LOS				C								
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 2010 Signalized Intersection Summary
3: I-95 NB Ramps & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	723	0	0	816	225	177	0	563	0	0	0
Future Volume (veh/h)	110	723	0	0	816	225	177	0	563	0	0	0
Number	7	4	14	3	8	18	5	2	12			
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			
Adj Sat Flow, veh/h/n	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	110	723	0	0	816	0	177	0	0			
Adj No. of Lanes	1	2	0	0	3	1	1	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	298	1494	0	0	1535	478	818	0	730			
Arrive On Green	0.06	0.42	0.00	0.00	0.30	0.00	0.46	0.00	0.00			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	110	723	0	0	816	0	177	0	0			
Grp Sat Flow(s),veh/h/n	1774	1770	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	3.7	13.3	0.0	0.0	12.0	0.0	5.4	0.0	0.0			
Cycle Q Clear(g_c), s	3.7	13.3	0.0	0.0	12.0	0.0	5.4	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	298	1494	0	0	1535	478	818	0	730			
V/C Ratio(X)	0.37	0.48	0.00	0.00	0.53	0.00	0.22	0.00	0.00			
Avail Cap(c_a), veh/h	340	1494	0	0	1535	478	818	0	730			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.82	0.82	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	19.5	18.9	0.0	0.0	26.1	0.0	14.5	0.0	0.0			
Incr Delay (d2), s/veh	0.6	0.9	0.0	0.0	1.3	0.0	0.6	0.0	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			
%ile BackOfQ(50%),veh/n	1.8	6.7	0.0	0.0	5.8	0.0	2.7	0.0	0.0			
LnGrp Delay(d),s/veh	20.2	19.8	0.0	0.0	27.5	0.0	15.1	0.0	0.0			
LnGrp LOS	C	B			C		B					
Approach Vol, veh/h		833			816			177				
Approach Delay, s/veh		19.9			27.5			15.1				
Approach LOS		B			C			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		47.0		43.0			10.8	32.2				
Change Period (Y+Rc), s		5.5		5.0			5.5	5.0				
Max Green Setting (Gmax), s		41.5		38.0			7.5	25.0				
Max Q Clear Time (g_c+I1), s		7.4		15.3			5.7	14.0				
Green Ext Time (p_c), s		0.5		10.6			0.0	6.8				
Intersection Summary												
HCM 2010 Ctrl Delay					22.8							
HCM 2010 LOS					C							

HCM 2010 Signalized Intersection Summary
4: SR 524 & E. Friday Rd

SR 524 Corridor Study April 2017 Update
04/05/2017

	↖	→	↘	↙	←	↖	↘	↑	↙	↘	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖	↖↖	↖	↖	↑	↖	↖	↑	↖
Traffic Volume (veh/h)	88	1117	81	35	795	46	85	2	34	80	2	185
Future Volume (veh/h)	88	1117	81	35	795	46	85	2	34	80	2	185
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1792	1900	1863	1863	1881	1900	1863	1863	1863	1900	1863	1881
Adj Flow Rate, veh/h	88	1117	81	35	795	46	85	2	34	80	2	185
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	0	2	2	1	0	2	2	2	0	2	1
Cap, veh/h	645	1765	774	533	1668	754	253	271	231	282	271	233
Arrive On Green	0.22	0.49	0.49	0.19	0.47	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1707	3610	1583	1774	3574	1615	1192	1863	1583	1394	1863	1599
Grp Volume(v), veh/h	88	1117	81	35	795	46	85	2	34	80	2	185
Grp Sat Flow(s),veh/h/ln	1707	1805	1583	1774	1787	1615	1192	1863	1583	1394	1863	1599
Q Serve(g_s), s	0.0	20.6	2.5	0.0	13.7	1.4	5.9	0.1	1.7	4.7	0.1	10.1
Cycle Q Clear(g_c), s	0.0	20.6	2.5	0.0	13.7	1.4	6.0	0.1	1.7	4.8	0.1	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	645	1765	774	533	1668	754	253	271	231	282	271	233
V/C Ratio(X)	0.14	0.63	0.10	0.07	0.48	0.06	0.34	0.01	0.15	0.28	0.01	0.79
Avail Cap(c_a), veh/h	645	1765	774	533	1668	754	410	517	440	466	517	444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.6	17.0	12.4	15.8	16.5	13.2	35.4	32.9	33.6	34.9	32.9	37.1
Incr Delay (d2), s/veh	0.1	1.8	0.3	0.0	0.9	0.1	0.8	0.0	0.3	0.5	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.7	1.1	0.5	7.0	0.7	2.0	0.0	0.8	1.8	0.0	4.8
LnGrp Delay(d),s/veh	11.7	18.8	12.7	15.8	17.4	13.3	36.2	32.9	33.9	35.5	32.9	43.5
LnGrp LOS	B	B	B	B	B	B	D	C	C	D	C	D
Approach Vol, veh/h		1286			876			121			267	
Approach Delay, s/veh		17.9			17.1			35.5			41.0	
Approach LOS		B			B			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.1	22.9	49.0		18.1	24.9	47.0				
Change Period (Y+Rc), s		5.0	5.5	5.0		5.0	5.5	5.0				
Max Green Setting (Gmax), s		25.0	5.5	44.0		25.0	7.5	42.0				
Max Q Clear Time (g_c+I1), s		8.0	2.0	22.6		12.1	2.0	15.7				
Green Ext Time (p_c), s		1.2	0.1	8.0		1.1	0.1	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay					20.9							
HCM 2010 LOS					C							

























HCM 2010 Signalized Intersection Summary
5: SR 524 & WalMart Driveway

SR 524 Corridor Study April 2017 Update
04/05/2017

Movement	NWL	NWR	NET	NER	SWL	SWT		
Lane Configurations	↖	↗	↕	↖	↗	↕		
Traffic Volume (veh/h)	75	51	989	242	37	801		
Future Volume (veh/h)	75	51	989	242	37	801		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/n	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	75	51	989	242	37	801		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	174	156	2137	956	398	2137		
Arrive On Green	0.10	0.10	0.60	0.60	0.60	0.60		
Sat Flow, veh/h	1774	1583	3632	1583	451	3632		
Grp Volume(v), veh/h	75	51	989	242	37	801		
Grp Sat Flow(s),veh/h/n	1774	1583	1770	1583	451	1770		
Q Serve(g_s), s	1.5	1.1	5.7	2.6	1.8	4.3		
Cycle Q Clear(g_c), s	1.5	1.1	5.7	2.6	7.5	4.3		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	174	156	2137	956	398	2137		
V/C Ratio(X)	0.43	0.33	0.46	0.25	0.09	0.37		
Avail Cap(c_a), veh/h	889	794	2925	1308	498	2925		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.7	15.5	4.0	3.4	6.1	3.7		
Incr Delay (d2), s/veh	1.7	1.2	0.2	0.1	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/n	0.8	0.5	2.8	1.2	0.2	2.0		
LnGrp Delay(d),s/veh	17.4	16.7	4.2	3.6	6.2	3.9		
LnGrp LOS	B	B	A	A	A	A		
Approach Vol, veh/h	126		1231			838		
Approach Delay, s/veh	17.1		4.1			4.0		
Approach LOS	B		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		27.8		9.1		27.8		
Change Period (Y+Rc), s		5.5		5.5		5.5		
Max Green Setting (Gmax), s		30.5		18.5		30.5		
Max Q Clear Time (g_c+I1), s		7.7		3.5		9.5		
Green Ext Time (p_c), s		13.5		0.3		12.8		
Intersection Summary								
HCM 2010 Ctrl Delay			4.8					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary
6: Cox Rd & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	648	96	306	494	35	71	47	221	48	81	42
Future Volume (veh/h)	8	648	96	306	494	35	71	47	221	48	81	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1827	1900	1863	1863	1900	1900	1900	1863	1900	1900	1900
Adj Flow Rate, veh/h	8	648	0	306	494	0	71	47	221	48	81	42
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	0	2	2	0	0	0	2	0	0	0
Cap, veh/h	440	1068	497	468	1942	886	374	387	323	365	387	329
Arrive On Green	0.31	0.31	0.00	0.11	0.55	0.00	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	917	3471	1615	1774	3539	1615	1288	1900	1583	1129	1900	1615
Grp Volume(v), veh/h	8	648	0	306	494	0	71	47	221	48	81	42
Grp Sat Flow(s),veh/h/ln	917	1736	1615	1774	1770	1615	1288	1900	1583	1129	1900	1615
Q Serve(g_s), s	0.3	7.3	0.0	5.0	3.3	0.0	2.2	0.9	5.9	1.7	1.6	1.0
Cycle Q Clear(g_c), s	0.3	7.3	0.0	5.0	3.3	0.0	3.8	0.9	5.9	2.6	1.6	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	440	1068	497	468	1942	886	374	387	323	365	387	329
V/C Ratio(X)	0.02	0.61	0.00	0.65	0.25	0.00	0.19	0.12	0.69	0.13	0.21	0.13
Avail Cap(c_a), veh/h	554	1498	697	468	2381	1086	620	749	625	580	749	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.0	13.4	0.0	9.8	5.4	0.0	16.7	14.8	16.8	15.9	15.1	14.9
Incr Delay (d2), s/veh	0.0	0.6	0.0	3.3	0.1	0.0	0.2	0.1	2.6	0.2	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.5	0.0	2.7	1.6	0.0	0.8	0.5	2.8	0.5	0.9	0.4
LnGrp Delay(d),s/veh	11.0	14.0	0.0	13.1	5.5	0.0	16.9	15.0	19.4	16.0	15.4	15.0
LnGrp LOS	B	B		B	A		B	B	B	B	B	B
Approach Vol, veh/h		656			800			339			171	
Approach Delay, s/veh		14.0			8.4			18.3			15.5	
Approach LOS		B			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		14.6	11.0	20.0		14.6		31.0				
Change Period (Y+Rc), s		5.3	6.0	6.0		5.3		6.0				
Max Green Setting (Gmax), s		18.0	5.0	19.7		18.0		30.7				
Max Q Clear Time (g_c+I1), s		7.9	7.0	9.3		4.6		5.3				
Green Ext Time (p_c), s		1.4	0.0	4.8		1.6		7.3				
Intersection Summary												
HCM 2010 Ctrl Delay			12.6									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
7: SR 524 & London Blvd

SR 524 Corridor Study April 2017 Update
04/05/2017

Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	5	790	903	47	131	24		
Future Volume (veh/h)	5	790	903	47	131	24		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/n	1900	1827	1863	1900	1900	1863		
Adj Flow Rate, veh/h	5	790	903	0	131	24		
Adj No. of Lanes	1	2	2	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	4	2	0	0	2		
Cap, veh/h	526	2757	2811	1283	179	156		
Arrive On Green	0.79	0.79	0.79	0.00	0.10	0.10		
Sat Flow, veh/h	626	3563	3632	1615	1810	1583		
Grp Volume(v), veh/h	5	790	903	0	131	24		
Grp Sat Flow(s),veh/h/n	626	1736	1770	1615	1810	1583		
Q Serve(g_s), s	0.2	6.1	7.0	0.0	7.0	1.4		
Cycle Q Clear(g_c), s	7.3	6.1	7.0	0.0	7.0	1.4		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	526	2757	2811	1283	179	156		
V/C Ratio(X)	0.01	0.29	0.32	0.00	0.73	0.15		
Avail Cap(c_a), veh/h	526	2757	2811	1283	548	480		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	3.8	2.7	2.8	0.0	43.8	41.2		
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.0	5.9	0.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/n	0.0	3.0	3.5	0.0	3.8	0.6		
LnGrp Delay(d),s/veh	3.9	3.0	3.1	0.0	49.7	41.7		
LnGrp LOS	A	A	A		D	D		
Approach Vol, veh/h		795	903		155			
Approach Delay, s/veh		3.0	3.1		48.5			
Approach LOS		A	A		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				85.4		14.6		85.4
Change Period (Y+Rc), s				6.0		4.7		*6
Max Green Setting (Gmax), s				59.0		30.3		*60
Max Q Clear Time (g_c+I1), s				9.3		9.0		9.0
Green Ext Time (p_c), s				8.3		0.4		8.3
Intersection Summary								
HCM 2010 Ctrl Delay			6.9					
HCM 2010 LOS			A					

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
8: E Industry Rd & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔↔	↔	↔	↔↔	↔	↔	↔	↔	↔↔	↔	↔
Traffic Volume (veh/h)	670	358	25	110	273	594	20	62	61	664	141	532
Future Volume (veh/h)	670	358	25	110	273	594	20	62	61	664	141	532
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.95	1.00		0.97
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
Adj Sat Flow, veh/h/ln	1727	1863	1900	1900	1863	1881	1900	1863	1900	1845	1881	1845
Adj Flow Rate, veh/h	670	358	25	110	273	0	20	62	61	664	141	532
Adj No. of Lanes	2	2	1	1	2	1	1	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	2	0	0	2	1	0	2	0	3	1	3
Cap, veh/h	663	1955	865	537	1386	626	171	98	81	658	274	223
Arrive On Green	0.21	0.55	0.55	0.05	0.39	0.00	0.09	0.05	0.05	0.19	0.15	0.15
Sat Flow, veh/h	3191	3539	1567	1810	3539	1599	1810	1863	1540	3408	1881	1526
Grp Volume(v), veh/h	670	358	25	110	273	0	20	62	61	664	141	532
Grp Sat Flow(s),veh/h/ln	1596	1770	1567	1810	1770	1599	1810	1863	1540	1704	1881	1526
Q Serve(g_s), s	27.0	6.6	0.6	4.7	6.6	0.0	1.3	4.2	4.4	25.1	9.0	12.6
Cycle Q Clear(g_c), s	27.0	6.6	0.6	4.7	6.6	0.0	1.3	4.2	4.4	25.1	9.0	12.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	663	1955	865	537	1386	626	171	98	81	658	274	223
V/C Ratio(X)	1.01	0.18	0.03	0.21	0.20	0.00	0.12	0.64	0.76	1.01	0.51	2.39
Avail Cap(c_a), veh/h	663	1955	865	537	1386	626	171	251	207	658	533	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	14.5	4.9	21.8	26.1	0.0	53.9	60.4	46.4	52.4	51.3	24.6
Incr Delay (d2), s/veh	80.7	0.2	0.1	0.2	0.3	0.0	0.3	6.9	14.5	79.1	1.5	2515.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.3	3.2	0.3	2.4	3.3	0.0	0.7	2.4	2.2	19.0	4.8	160.9
LnGrp Delay(d),s/veh	132.2	14.7	4.9	22.0	26.4	0.0	54.2	67.3	60.9	131.5	52.8	2540.5
LnGrp LOS	F	B	A	C	C		D	E	E	F	D	F
Approach Vol, veh/h		1053			383			143			1337	
Approach Delay, s/veh		89.2			25.1			62.7			1081.8	
Approach LOS		F			C			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.6	11.8	10.6	78.0	16.7	24.7	31.5	57.1				
Change Period (Y+Rc), s	4.5	5.0	4.5	*6.2	*4.5	5.7	4.5	*6.2				
Max Green Setting (Gmax), s	25.1	17.5	6.1	*62	*5.1	36.8	27.0	*40				
Max Q Clear Time (g_c+I), s	27.1	6.4	6.7	8.6	0.0	14.6	29.0	8.6				
Green Ext Time (p_c), s	0.0	0.4	0.0	3.4	1.2	2.7	0.0	3.3				
Intersection Summary												
HCM 2010 Ctrl Delay				534.6								
HCM 2010 LOS				F								
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 2010 Signalized Intersection Summary
1: W. Friday Rd & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	9	514	58	105	671	39	25	6	69	27	1	4
Future Volume (veh/h)	9	514	58	105	671	39	25	6	69	27	1	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.97	0.97		0.98	0.99		0.95
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
Adj Sat Flow, veh/h/n	1900	1701	1900	1863	1827	1900	1712	1900	1810	1900	1900	1900
Adj Flow Rate, veh/h	9	514	58	105	671	39	25	6	69	27	1	4
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	13	13	2	4	0	11	0	5	0	0	0
Cap, veh/h	111	635	71	844	1131	974	218	322	256	206	0	134
Arrive On Green	0.01	0.22	0.22	0.41	0.62	0.62	0.03	0.17	0.17	0.09	0.09	0.09
Sat Flow, veh/h	1810	2929	329	1774	1827	1573	1630	1900	1510	1285	68	1540
Grp Volume(v), veh/h	9	283	289	105	671	39	25	6	69	28	0	4
Grp Sat Flow(s),veh/h/n	1810	1616	1642	1774	1827	1573	1630	1900	1510	1353	0	1540
Q Serve(g_s), s	0.3	13.3	13.4	0.0	17.7	0.8	1.1	0.2	3.2	1.4	0.0	0.2
Cycle Q Clear(g_c), s	0.3	13.3	13.4	0.0	17.7	0.8	1.1	0.2	3.2	1.5	0.0	0.2
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	0.96		1.00
Lane Grp Cap(c), veh/h	111	350	356	844	1131	974	218	322	256	206	0	134
V/C Ratio(X)	0.08	0.81	0.81	0.12	0.59	0.04	0.11	0.02	0.27	0.14	0.00	0.03
Avail Cap(c_a), veh/h	203	469	476	844	1131	974	277	819	651	510	0	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.5	29.8	29.8	13.6	9.2	6.0	30.2	27.7	28.9	34.0	0.0	33.5
Incr Delay (d2), s/veh	0.3	20.4	20.7	0.1	2.3	0.1	0.2	0.0	0.6	0.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/n	0.2	7.9	8.1	1.4	9.5	0.4	0.5	0.1	1.4	0.6	0.0	0.1
LnGrp Delay(d),s/veh	28.9	50.2	50.5	13.6	11.5	6.0	30.5	27.7	29.5	34.3	0.0	33.5
LnGrp LOS	C	D	D	B	B	A	C	C	C	C		C
Approach Vol, veh/h		581			815			100			32	
Approach Delay, s/veh		50.0			11.5			29.6			34.2	
Approach LOS		D			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		18.6	38.6	22.8	6.6	11.9	6.4	55.0				
Change Period (Y+Rc), s		5.0	5.5	5.5	4.5	5.0	5.5	5.5				
Max Green Setting (Gmax), s		34.5	6.3	23.2	5.0	25.0	5.0	24.5				
Max Q Clear Time (g_c+I1), s		5.2	2.0	15.4	3.1	3.5	2.3	19.7				
Green Ext Time (p_c), s		0.4	1.8	1.9	0.0	0.3	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay					27.8							
HCM 2010 LOS					C							

HCM 2010 Signalized Intersection Summary
2: SR 524 & I-95 SB Ramps

SR 524 Corridor Study April 2017 Update
04/05/2017













Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↓	↑↑					↓		↑
Traffic Volume (veh/h)	0	390	220	563	705	0	0	0	0	225	0	110
Future Volume (veh/h)	0	390	220	563	705	0	0	0	0	225	0	110
Number	7	4	14	3	8	18				1	6	16
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
Adj Sat Flow, veh/h/n	0	1863	1863	1863	1863	0				1863	0	1863
Adj Flow Rate, veh/h	0	390	0	563	705	0				225	0	0
Adj No. of Lanes	0	3	1	1	2	0				1	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	0	2
Cap, veh/h	0	636	198	926	2278	0				399	0	356
Arrive On Green	0.00	0.13	0.00	0.46	0.64	0.00				0.22	0.00	0.00
Sat Flow, veh/h	0	5253	1583	1774	3632	0				1774	0	1583
Grp Volume(v), veh/h	0	390	0	563	705	0				225	0	0
Grp Sat Flow(s),veh/h/n	0	1695	1583	1774	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	5.8	0.0	12.5	7.1	0.0				9.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.8	0.0	12.5	7.1	0.0				9.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	636	198	926	2278	0				399	0	356
V/C Ratio(X)	0.00	0.61	0.00	0.61	0.31	0.00				0.56	0.00	0.00
Avail Cap(c_a), veh/h	0	1462	455	926	2300	0				399	0	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.76	0.76	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	33.2	0.0	13.9	6.3	0.0				27.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.5	0.0	0.9	0.3	0.0				5.8	0.0	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
%ile BackOfQ(50%),veh/n	0.0	3.0	0.0	8.8	3.5	0.0				5.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	37.6	0.0	14.7	6.6	0.0				33.3	0.0	0.0
LnGrp LOS		D		B	A					C		
Approach Vol, veh/h		390			1268						225	
Approach Delay, s/veh		37.6			10.2						33.3	
Approach LOS		D			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			42.0	15.0		23.0		57.0				
Change Period (Y+Rc), s			5.5	5.0		5.0		* 5.5				
Max Green Setting (Gmax), s			23.5	23.0		18.0		* 52				
Max Q Clear Time (g_c+I1), s			14.5	7.8		11.0		9.1				
Green Ext Time (p_c), s			4.2	2.0		0.3		7.4				
Intersection Summary												
HCM 2010 Ctrl Delay											18.7	
HCM 2010 LOS											B	
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

PM Peak
WSP Parsons Brinckerhoff

Synchro 9 Report
Page 2













HCM 2010 Signalized Intersection Summary
3: I-95 NB Ramps & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗			↗	↘	↘		↘			
Traffic Volume (veh/h)	94	521	0	0	1092	219	176	0	544	0	0	0
Future Volume (veh/h)	94	521	0	0	1092	219	176	0	544	0	0	0
Number	7	4	14	3	8	18	5	2	12			
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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	94	521	0	0	1092	0	176	0	0			
Adj No. of Lanes	1	2	0	0	3	1	1	0	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	269	1637	0	0	1724	537	721	0	643			
Arrive On Green	0.05	0.46	0.00	0.00	0.34	0.00	0.41	0.00	0.00			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	94	521	0	0	1092	0	176	0	0			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	2.6	7.4	0.0	0.0	14.5	0.0	5.2	0.0	0.0			
Cycle Q Clear(g_c), s	2.6	7.4	0.0	0.0	14.5	0.0	5.2	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	269	1637	0	0	1724	537	721	0	643			
V/C Ratio(X)	0.35	0.32	0.00	0.00	0.63	0.00	0.24	0.00	0.00			
Avail Cap(c_a), veh/h	316	1637	0	0	1724	537	721	0	643			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.90	0.90	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	16.3	13.6	0.0	0.0	22.3	0.0	15.7	0.0	0.0			
Incr Delay (d2), s/veh	0.7	0.5	0.0	0.0	1.8	0.0	0.8	0.0	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			
%ile BackOfQ(50%),veh/ln	1.3	3.7	0.0	0.0	7.1	0.0	2.7	0.0	0.0			
LnGrp Delay(d),s/veh	17.0	14.0	0.0	0.0	24.1	0.0	16.5	0.0	0.0			
LnGrp LOS	B	B			C		B					
Approach Vol, veh/h		615			1092			176				
Approach Delay, s/veh		14.5			24.1			16.5				
Approach LOS		B			C			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		38.0		42.0			9.9	32.1				
Change Period (Y+Rc), s		5.5		5.0			5.5	5.0				
Max Green Setting (Gmax), s		32.5		37.0			6.5	25.0				
Max Q Clear Time (g_c+I1), s		7.2		9.4			4.6	16.5				
Green Ext Time (p_c), s		0.5		12.3			0.0	5.8				
Intersection Summary												
HCM 2010 Ctrl Delay					20.2							
HCM 2010 LOS					C							













HCM 2010 Signalized Intersection Summary
4: SR 524 & E. Friday Rd

SR 524 Corridor Study April 2017 Update
04/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	185	795	85	34	1145	80	81	2	35	46	2	88
Future Volume (veh/h)	185	795	85	34	1145	80	81	2	35	46	2	88
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/n	1792	1900	1863	1863	1881	1900	1863	1863	1863	1900	1863	1881
Adj Flow Rate, veh/h	185	795	85	34	1145	80	81	2	35	46	2	88
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	0	2	2	1	0	2	2	2	0	2	1
Cap, veh/h	688	1557	683	726	1363	616	212	176	150	220	176	151
Arrive On Green	0.33	0.43	0.43	0.28	0.38	0.38	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1707	3610	1583	1774	3574	1615	1301	1863	1583	1393	1863	1599
Grp Volume(v), veh/h	185	795	85	34	1145	80	81	2	35	46	2	88
Grp Sat Flow(s),veh/h/n	1707	1805	1583	1774	1787	1615	1301	1863	1583	1393	1863	1599
Q Serve(g_s), s	0.0	12.8	2.6	0.0	23.3	2.6	4.8	0.1	1.6	2.5	0.1	4.2
Cycle Q Clear(g_c), s	0.0	12.8	2.6	0.0	23.3	2.6	4.9	0.1	1.6	2.6	0.1	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	688	1557	683	726	1363	616	212	176	150	220	176	151
V/C Ratio(X)	0.27	0.51	0.12	0.05	0.84	0.13	0.38	0.01	0.23	0.21	0.01	0.58
Avail Cap(c_a), veh/h	688	1557	683	726	1363	616	495	582	495	524	582	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.4	16.6	13.7	10.5	22.5	16.1	35.0	32.8	33.5	34.0	32.8	34.7
Incr Delay (d2), s/veh	0.2	1.2	0.4	0.0	5.5	0.4	1.1	0.0	0.8	0.5	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/n	2.8	6.7	1.2	0.4	12.5	1.2	1.8	0.0	0.7	1.0	0.0	2.0
LnGrp Delay(d),s/veh	17.6	17.8	14.0	10.5	28.0	16.5	36.2	32.9	34.3	34.5	32.9	38.3
LnGrp LOS	B	B	B	B	C	B	D	C	C	C	C	D
Approach Vol, veh/h		1065			1259			118			136	
Approach Delay, s/veh		17.5			26.8			35.6			36.9	
Approach LOS		B			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.6	27.9	39.5		12.6	31.9	35.5				
Change Period (Y+Rc), s		5.0	5.5	5.0		5.0	5.5	5.0				
Max Green Setting (Gmax), s		25.0	5.0	34.5		25.0	9.0	30.5				
Max Q Clear Time (g_c+I1), s		6.9	2.0	14.8		6.2	2.0	25.3				
Green Ext Time (p_c), s		0.7	0.2	5.2		0.7	0.3	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			23.9									
HCM 2010 LOS			C									

























HCM 2010 Signalized Intersection Summary
5: SR 524 & Walmart Driveway

SR 524 Corridor Study April 2017 Update
04/05/2017

Movement									
	NWL	NWR	NET	NER	SWL	SWT			
Lane Configurations									
Traffic Volume (veh/h)	242	37	801	75	51	1017			
Future Volume (veh/h)	242	37	801	75	51	1017			
Number	7	14	2	12	1	6			
Initial Q (Qb), veh	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/n	1863	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	242	37	801	75	51	1017			
Adj No. of Lanes	1	1	2	1	1	2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Cap, veh/h	326	291	1931	864	437	1931			
Arrive On Green	0.18	0.18	0.55	0.55	0.55	0.55			
Sat Flow, veh/h	1774	1583	3632	1583	630	3632			
Grp Volume(v), veh/h	242	37	801	75	51	1017			
Grp Sat Flow(s),veh/h/n	1774	1583	1770	1583	630	1770			
Q Serve(g_s), s	5.2	0.8	5.4	0.9	2.1	7.5			
Cycle Q Clear(g_c), s	5.2	0.8	5.4	0.9	7.5	7.5			
Prop In Lane	1.00	1.00		1.00	1.00				
Lane Grp Cap(c), veh/h	326	291	1931	864	437	1931			
V/C Ratio(X)	0.74	0.13	0.41	0.09	0.12	0.53			
Avail Cap(c_a), veh/h	763	681	2740	1226	581	2740			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	15.7	13.9	5.4	4.4	7.6	5.9			
Incr Delay (d2), s/veh	3.4	0.2	0.1	0.0	0.1	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/n	2.9	0.4	2.6	0.4	0.4	3.6			
LnGrp Delay(d),s/veh	19.1	14.1	5.6	4.5	7.8	6.1			
LnGrp LOS	B	B	A	A	A	A			
Approach Vol, veh/h	279		876			1068			
Approach Delay, s/veh	18.4		5.5			6.2			
Approach LOS	B		A			A			
Timer	1	2	3	4	5	6	7	8	
Assigned Phs		2		4		6			
Phs Duration (G+Y+Rc), s		27.7		13.0		27.7			
Change Period (Y+Rc), s		5.5		5.5		5.5			
Max Green Setting (Gmax), s		31.5		17.5		31.5			
Max Q Clear Time (g_c+I1), s		7.4		7.2		9.5			
Green Ext Time (p_c), s		13.4		0.6		12.7			
Intersection Summary									
HCM 2010 Ctrl Delay			7.4						
HCM 2010 LOS			A						













HCM 2010 Signalized Intersection Summary
6: Cox Rd & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	643	45	165	570	100	226	89	375	68	36	32
Future Volume (veh/h)	64	643	45	165	570	100	226	89	375	68	36	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/n	1900	1827	1900	1863	1863	1900	1900	1900	1863	1900	1900	1900
Adj Flow Rate, veh/h	64	643	0	165	570	0	226	89	375	68	36	32
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	0	2	2	0	0	0	2	0	0	0
Cap, veh/h	225	824	383	608	2077	948	439	517	431	313	517	439
Arrive On Green	0.24	0.24	0.00	0.27	0.59	0.00	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	855	3471	1615	1774	3539	1615	1354	1900	1583	943	1900	1615
Grp Volume(v), veh/h	64	643	0	165	570	0	226	89	375	68	36	32
Grp Sat Flow(s),veh/h/n	855	1736	1615	1774	1770	1615	1354	1900	1583	943	1900	1615
Q Serve(g_s), s	5.4	13.9	0.0	0.0	6.3	0.0	11.9	2.9	18.1	4.7	1.1	1.2
Cycle Q Clear(g_c), s	11.8	13.9	0.0	0.0	6.3	0.0	13.0	2.9	18.1	7.6	1.1	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	824	383	608	2077	948	439	517	431	313	517	439
V/C Ratio(X)	0.28	0.78	0.00	0.27	0.27	0.00	0.51	0.17	0.87	0.22	0.07	0.07
Avail Cap(c_a), veh/h	311	1172	545	608	2077	948	506	610	509	359	610	519
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)	0.90	0.90	0.00	0.97	0.97	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	28.6	0.0	20.8	8.1	0.0	26.4	22.2	27.8	25.2	21.6	21.6
Incr Delay (d2), s/veh	2.9	6.9	0.0	0.2	0.3	0.0	0.9	0.2	15.6	0.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/n	1.5	7.4	0.0	2.7	3.2	0.0	4.6	1.5	9.7	1.3	0.6	0.5
LnGrp Delay(d),s/veh	33.5	35.5	0.0	21.0	8.5	0.0	27.4	22.4	43.4	25.5	21.7	21.7
LnGrp LOS	C	D		C	A		C	C	D	C	C	C
Approach Vol, veh/h		707			735			690			136	
Approach Delay, s/veh		35.3			11.3			35.4			23.6	
Approach LOS		D			B			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		27.1	28.0	25.0		27.1		52.9				
Change Period (Y+Rc), s		5.3	6.0	6.0		5.3		6.0				
Max Green Setting (Gmax), s		25.7	10.0	27.0		25.7		43.0				
Max Q Clear Time (g_c+I1), s		20.1	2.0	15.9		9.6		8.3				
Green Ext Time (p_c), s		1.7	2.4	3.1		2.8		4.0				
Intersection Summary												
HCM 2010 Ctrl Delay											26.8	
HCM 2010 LOS											C	

HCM 2010 Signalized Intersection Summary
7: SR 524 & London Blvd

SR 524 Corridor Study April 2017 Update
04/05/2017

























								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	21	775	828	122	105	10		
Future Volume (veh/h)	21	775	828	122	105	10		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/n	1900	1827	1863	1900	1900	1863		
Adj Flow Rate, veh/h	21	775	828	0	105	10		
Adj No. of Lanes	1	2	2	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	4	2	0	0	2		
Cap, veh/h	566	2767	2821	1287	174	152		
Arrive On Green	0.80	0.80	0.80	0.00	0.10	0.10		
Sat Flow, veh/h	672	3563	3632	1615	1810	1583		
Grp Volume(v), veh/h	21	775	828	0	105	10		
Grp Sat Flow(s),veh/h/n	672	1736	1770	1615	1810	1583		
Q Serve(g_s), s	0.9	5.8	6.2	0.0	5.6	0.6		
Cycle Q Clear(g_c), s	7.1	5.8	6.2	0.0	5.6	0.6		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	566	2767	2821	1287	174	152		
V/C Ratio(X)	0.04	0.28	0.29	0.00	0.61	0.07		
Avail Cap(c_a), veh/h	566	2767	2821	1287	530	464		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.90	0.90	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	3.6	2.7	2.7	0.0	43.4	41.1		
Incr Delay (d2), s/veh	0.1	0.2	0.3	0.0	3.4	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/n	0.2	2.8	3.1	0.0	3.0	0.3		
LnGrp Delay(d),s/veh	3.7	2.9	3.0	0.0	46.8	41.3		
LnGrp LOS	A	A	A		D	D		
Approach Vol, veh/h		796	828		115			
Approach Delay, s/veh		2.9	3.0		46.3			
Approach LOS		A	A		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				85.7		14.3		85.7
Change Period (Y+Rc), s				6.0		4.7		*6
Max Green Setting (Gmax), s				60.0		29.3		*61
Max Q Clear Time (g_c+I1), s				9.1		7.6		8.2
Green Ext Time (p_c), s				7.8		0.3		7.8
Intersection Summary								
HCM 2010 Ctrl Delay			5.8					
HCM 2010 LOS			A					
Notes								
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.								

PM Peak
WSP Parsons Brinckerhoff

Synchro 9 Report
Page 7

HCM 2010 Signalized Intersection Summary
8: E Industry Rd & SR 524

SR 524 Corridor Study April 2017 Update
04/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	596	444	13	136	340	502	29	129	102	556	184	597
Future Volume (veh/h)	596	444	13	136	340	502	29	129	102	556	184	597
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.97	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1727	1863	1900	1900	1863	1881	1900	1863	1900	1845	1881	1845
Adj Flow Rate, veh/h	596	444	13	136	340	0	29	129	102	556	184	597
Adj No. of Lanes	2	2	1	1	2	1	1	1	1	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	2	0	0	2	1	0	2	0	3	1	3
Cap, veh/h	598	1850	819	531	1384	625	151	167	140	557	308	251
Arrive On Green	0.19	0.52	0.52	0.06	0.39	0.00	0.08	0.09	0.09	0.16	0.16	0.16
Sat Flow, veh/h	3191	3539	1566	1810	3539	1599	1810	1863	1563	3408	1881	1529
Grp Volume(v), veh/h	596	444	13	136	340	0	29	129	102	556	184	597
Grp Sat Flow(s),veh/h/ln	1596	1770	1566	1810	1770	1599	1810	1863	1563	1704	1881	1529
Q Serve(g_s), s	22.4	8.2	0.3	5.4	7.8	0.0	1.8	8.1	6.5	19.6	10.9	13.3
Cycle Q Clear(g_c), s	22.4	8.2	0.3	5.4	7.8	0.0	1.8	8.1	6.5	19.6	10.9	13.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	598	1850	819	531	1384	625	151	167	140	557	308	251
V/C Ratio(X)	1.00	0.24	0.02	0.26	0.25	0.00	0.19	0.77	0.73	1.00	0.60	2.38
Avail Cap(c_a), veh/h	598	1850	819	531	1384	625	151	272	228	557	492	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	15.6	5.6	19.8	24.6	0.0	51.2	53.4	38.6	50.2	46.5	22.8
Incr Delay (d2), s/veh	69.7	0.3	0.0	0.3	0.4	0.0	0.6	7.7	7.3	75.1	1.9	2499.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.6	4.1	0.1	2.7	3.9	0.0	0.9	4.6	3.1	15.0	5.8	179.6
LnGrp Delay(d),s/veh	118.4	15.9	5.7	20.1	25.0	0.0	51.9	61.1	45.9	125.3	48.3	2522.1
LnGrp LOS	F	B	A	C	C		D	E	D	F	D	F
Approach Vol, veh/h		1053			476			260			1337	
Approach Delay, s/veh		73.8			23.6			54.1			1184.9	
Approach LOS		E			C			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.1	15.8	11.2	68.9	14.5	25.4	27.0	53.1				
Change Period (Y+Rc), s	4.5	5.0	4.5	*6.2	*4.5	5.7	4.5	*6.2				
Max Green Setting (Gmax), s	19.6	17.5	6.7	*57	*5	31.4	22.5	*40				
Max Q Clear Time (g_c+I1), s	21.6	10.1	7.4	10.2	0.0	15.3	24.4	9.8				
Green Ext Time (p_c), s	0.0	0.6	0.0	4.3	1.0	3.0	0.0	4.2				

Intersection Summary

HCM 2010 Ctrl Delay	539.8
HCM 2010 LOS	F

Notes

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



DISTRICT 5

719 S. Woodland Blvd.
DeLand, FL 32720