



Traffic Impact Study

Emerson Center

City of Smyrna, Georgia

Report Prepared:

December 2020

Prepared for:

Dr. Naresk K Parikh

Prepared by:

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KHA Project #013561001

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12/9/2020

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1.0 INTRODUCTION

This report presents the analysis of the anticipated traffic impacts associated with the *Emerson Center* development, which is expected to be completed in 2022 (referred to herein as “build-out year”). This study evaluates the impact of constructing approximately 350 multifamily residential units, 188 hotel rooms, and 27,958 SF of retail space. The approximately 8.71-acre overall site is located south of Spring Road, east of Cumberland Boulevard, and south of Spring Hill Parkway in the City of Smyrna, Georgia. This site currently consists of four (4) buildings that are proposed to be demolished or redeveloped. The square footage associated with these existing buildings is accounted for in the proposed densities.

This report will summarize the analyses of the following five (5) scenarios during the AM and PM peak hours:

1. Existing 2020 Traffic Conditions (Adjusted)
2. Base Year 2022 No-Build Traffic Conditions
3. Base Year 2022 Build Traffic Conditions
4. Horizon Year 2032 No-Build Traffic Conditions
5. Horizon Year 2032 Build Traffic Conditions

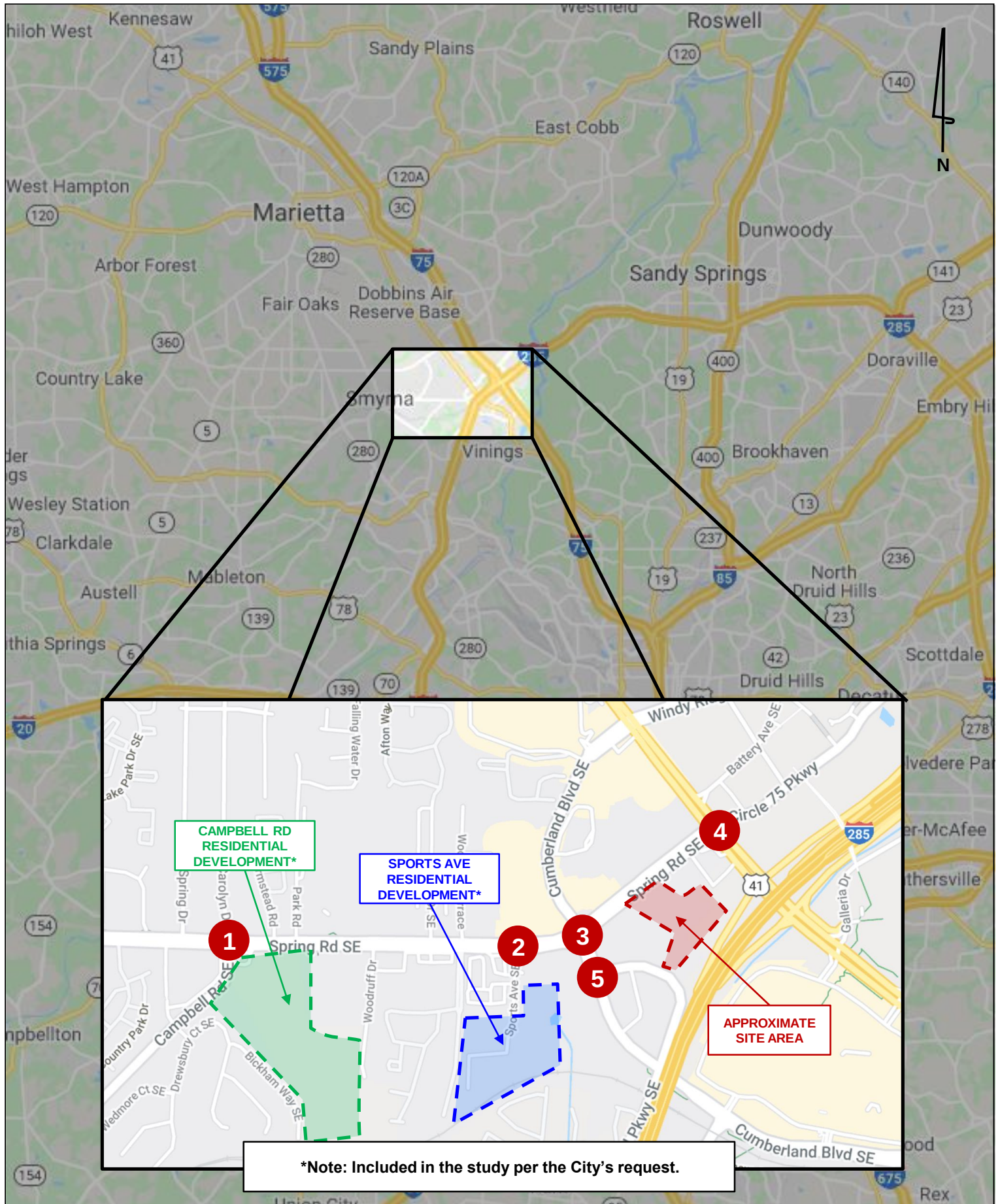
Figure 1 provides a location map of the project site and the two developments included in the study per the City’s request. **Figure 2** provides an aerial image that captures the project site and the study roadway network. A site plan is also included in **Appendix A**.

2.0 STUDY AREA DETERMINATION

Per conversations with the City of Smyrna staff, the study area consists of the following existing intersections:

1. Spring Road at Campbell Road (Signalized)
2. Spring Road at Sports Avenue/Aldi Driveway (Signalized)
3. Spring Road at Cumberland Boulevard (Signalized)
4. Cobb Parkway (SR 3) at Spring Road (Signalized)
5. Cumberland Boulevard at Spring Hill Parkway (Signalized)

For purposes of the traffic impact study, Spring Road and Spring Hill Parkway are considered to have an east-west orientation. Campbell Road, Sports Avenue, Cumberland Boulevard, Cobb Parkway, and all site driveways are considered to have a north-south orientation.





3.0 EXISTING TRAFFIC CONDITIONS

3.1 ROADWAY CONDITIONS

The roadways within the study network have the following characteristics:

Spring Road is a six-lane, divided minor arterial roadway with turn lanes and a posted speed limit of 45 MPH in the vicinity of the study network. GDOT counts taken along Spring Road west of Woodland Terrace indicate an annual average daily traffic (AADT) of approximately 41,200 vehicles per day in 2019. Kimley-Horn collected counts along Spring Road west of Woodland Terrace during November 2020 (COVID-19 impacts). The collected counts indicate an average daily traffic (ADT) of approximately 35,745 vehicles per day in 2020.

Cumberland Boulevard is a four-lane, divided minor arterial roadway with turn lanes and a posted speed limit of 35 MPH in the vicinity of the study network. GDOT counts taken along Cumberland Parkway south of Spring Hill Parkway indicate an annual average daily traffic (AADT) of approximately 20,100 vehicles per day in 2019.

Cobb Parkway (SR 3) is a seven-lane, divided (four southbound lanes, three northbound lanes) principal arterial roadway with turn lanes and a posted speed limit of 45 MPH in the vicinity of the study network. GDOT counts taken along Cobb Parkway (SR 3) south of Plumtree Parkway indicate an annual average daily traffic (AADT) of approximately 38,000 vehicles per day in 2019.

Spring Hill Parkway is a two-lane, undivided local roadway with a posted speed limit of 30 MPH in the vicinity of the study network. There are no GDOT count stations along this roadway.

Campbell Road is a two-lane, undivided local roadway with turn lanes and a posted speed limit of 35 MPH in the vicinity of the study network. GDOT counts taken along Campbell Road north of Nancy Circle indicate an annual average daily traffic (AADT) of approximately 6,580 vehicles per day in 2019.

Sports Avenue is a two-lane, undivided local roadway with no posted speed limit. There are no GDOT count stations along this roadway.

3.2 DATA COLLECTION

Vehicle peak hour turning movement counts were performed Wednesday, November 18, 2020 for each study intersection. Additionally, a 24-hour, bi-directional tube count was collected along Spring Road west of Woodland Trace.

The AM and PM peak hours for each intersection are listed below in **Table 1**. The peak hour traffic counts were used to perform the analysis presented in this report.

Table 1: Intersection Peak Hours		
Intersection	AM Peak Hour	PM Peak Hour
1. Spring Road at Campbell Road (Signalized)	7:30 AM – 8:30 AM	5:00 PM – 6:00 PM
2. Spring Road at Sports Avenue/Aldi Driveway (Signalized)	7:30 AM – 8:30 AM	5:00 PM – 6:00 PM
3. Spring Road at Cumberland Boulevard (Signalized)	7:30 AM – 8:30 AM	5:00 PM – 6:00 PM
4. Cobb Parkway (SR 3) at Spring Road (Signalized)	7:30 AM – 8:30 AM	5:00 PM – 6:00 PM
5. Cumberland Boulevard at Spring Hill Parkway (Signalized)	7:30 AM – 8:30 AM	4:45 PM – 5:45 PM

The complete traffic count data is provided in **Appendix B**.

3.3 EXISTING VOLUME ADJUSTMENT

Due to COVID-19, the turning movement counts at the study intersections were adjusted based on historical data and engineering judgement.

Average Daily Traffic (ADT) volumes collected by GDOT in February 2018 was used to compare typical traffic volumes and patterns to the 2020 ADT volumes collected by Kimley-Horn at approximately the same location. After comparing the data, growth factors were determined for the AM and PM peak hours and applied to the existing turning movement counts to use in the analysis. The volume comparison is shown in tabular format in **Table 2** and graphically in **Figure 3**.

Table 2: Traffic Count Comparison and Adjustment Calculations				
Location	ADT Date	ADT	AM Peak	PM Peak
Spring Road w/o Woodland Terrace	Feb 2018	43,028	2,822	4,167
Spring Road w/o Woodland Terrace	Nov 2020	35,742	1,786	3,155
Volume Difference		-7,286	-1,036	-1,012
Volume % Difference		-17%	-37%	-24%
Volume Adjustment Factor		1.2	1.6	1.3

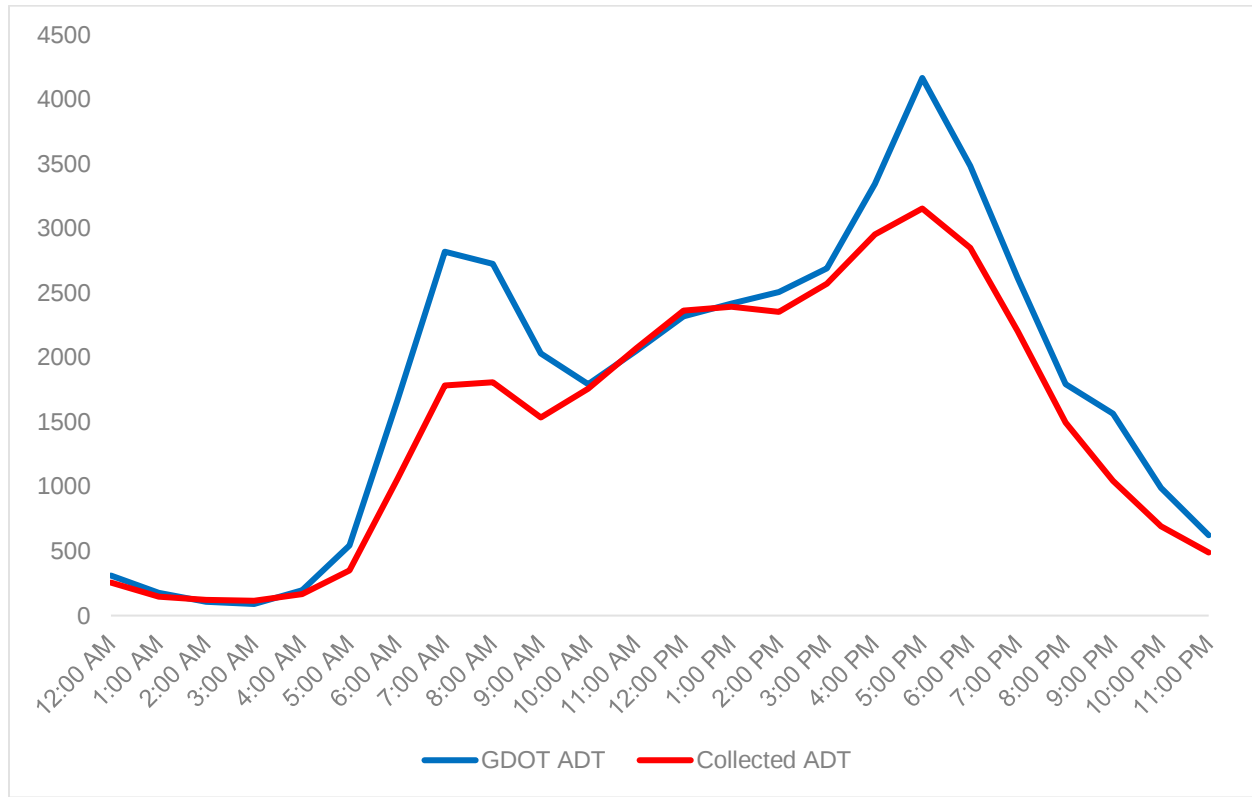
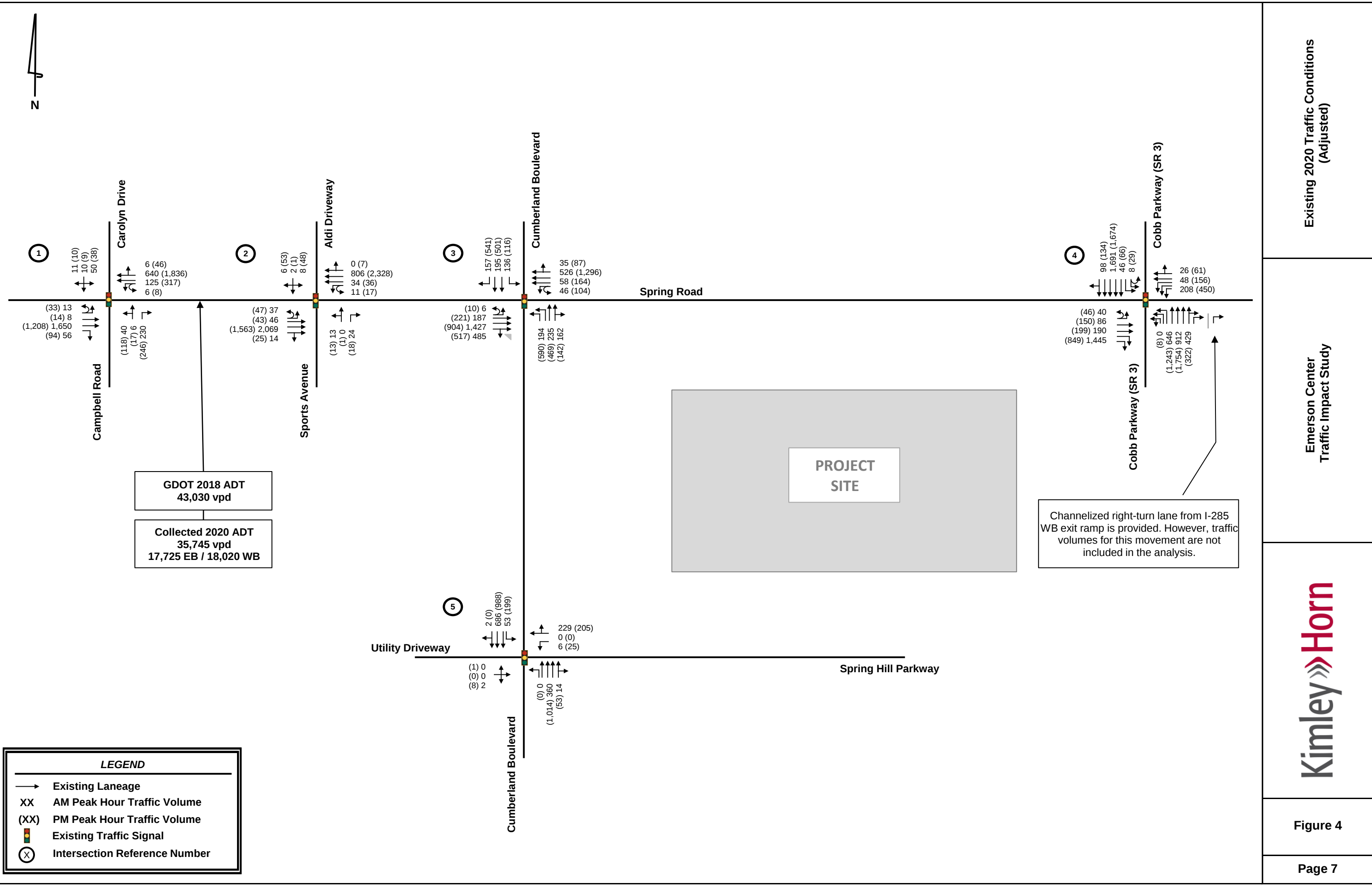


Figure 3: ADT along Spring Road west of Woodland Terrace

The figure above indicates that the collected AM and PM peak volumes are currently much lower than historical volumes during the AM and PM time periods. However, the collected mid-day peak volumes are generally the same when compared to historical volumes during the mid-day time period.

A growth factor of 1.6 was used to adjust the existing AM peak hour turning movement counts at each of the study intersections for all turning movements. A growth factor of 1.3 was used to adjust the existing PM peak hour turning movement counts at each of the study intersections for all turning movements.

Figure 4 illustrates the Existing 2020 adjusted peak hour traffic volumes at the study intersections as well as the existing roadway geometry (intersection layout).



Existing 2020 Traffic Conditions
(Adjusted)

Emerson Center
Traffic Impact Study

Kimley»Horn

Figure 4

4.0 PROJECTED BACKGROUND (NON-PROJECT) TRAFFIC

Projected background (non-project) traffic is defined as the expected traffic on the roadway network in the future year(s) absent the *Emerson Center* development. The adjusted Existing 2020 peak hour traffic volumes were increased by 2.0% per year for two (2) years to account for the expected background growth in traffic through year 2022 build-out of the project. Base year 2022 volumes were increased by 1% per year for ten (10) years to account for the expected background growth to horizon year 2032. The growth rates were determined from conversations with the City of Smyrna. Additionally, project trips associated with the Campbell Road residential development and Sports Avenue residential development were included in addition to the background growth calculations. Trip generation for the nearby developments was determined from the traffic studies (performed by others) submitted for each development and is provided in **Table 3**.

Table 3: Nearby Developments Project Trip Generation Summary								
ITE Code	Land Use	Density	Daily Traffic		AM Peak Hour		PM Peak Hour	
			Enter	Exit	Enter	Exit	Enter	Exit
Campbell Road Residential Development (Traffic Impact Study submitted 07/2020)								
220	Multifamily Housing (Low-Rise)	152 units	554	554	16	55	54	32
Sports Avenue Residential Development (Traffic Impact Study submitted 03/2019)								
221	Multifamily Housing (Mid-Rise)	108 units	294	294	10	27	29	19
Total Nearby Development Trips			848	848	26	82	83	51

Figure 5 illustrates the Projected 2022 No-Build traffic volumes for the AM and PM peak hours. **Figure 6** illustrates the Projected 2032 (Horizon Year) No-Build traffic volumes for the AM and PM peak hours.

4.1 FUTURE ROADWAY / INTERSECTION PROJECTS

ARC's Atlanta Region's Plan, Cobb County, and City of Smyrna transportation projects were researched to identify any currently programmed transportation projects within the vicinity of the proposed development that may impact the study network during the analysis period. One programmed project was identified.

1. AR – 475: Provides bus rapid transit (BRT) from Kennesaw University to Midtown along Cumberland Boulevard.

The project listed above is programmed to be constructed in 2050 and is not anticipated to affect roadway or traffic characteristics during the horizon year of the *Emerson Center* development. Programmed project fact sheets can be found in **Appendix F**.

5.0 PROJECT TRAFFIC

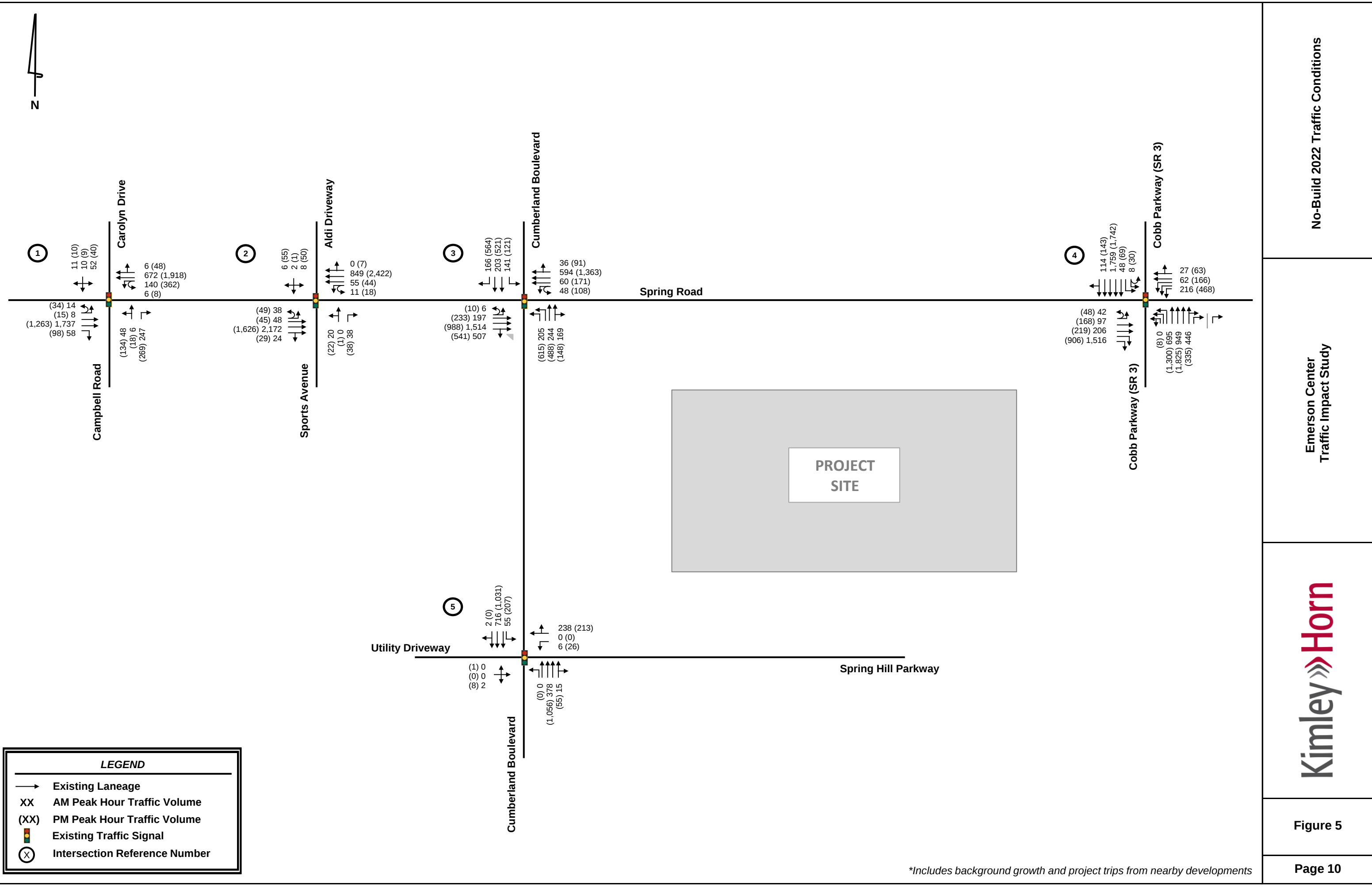
Project traffic used in this analysis is defined as the vehicle trips expected to be generated by the proposed development and the distribution and assignment of that traffic through the study roadway network. This traffic impact study evaluated the impacts of adding the new trips generated by the proposed *Emerson Center* development.

5.1 PROJECT SITE ACCESS

Access to the site will be provided via three existing site driveways which are shown on the proposed site plan in **Appendix A**. A brief description of the site driveways are as follows:

- Site Driveway West – an existing curb cut currently operating as a side-street stop-controlled right-in/right-out (RIRO) driveway along Spring Road with one (1) ingress lane entering the site and one (1) egress lane exiting the site. This driveway is proposed to be maintained as is with the development of the project site.
- Site Driveway East – an existing curb cut operating as a side-street stop-controlled right-in/right-out (RIRO) driveway along Spring Road with one (1) ingress lane entering the site and one (1) egress lane exiting the site. This driveway is proposed to be relocated further east, per the site plan and will maintain its current operation and roadway laneage.
- Site Driveway South – an existing, side-street stop-controlled full-movement driveway along Spring Hill Parkway with one (1) ingress lane entering the site and one (1) egress lane exiting the site. This driveway is proposed to be maintained as is with the development of the project site.

Refer to the site plan in **Appendix A** for a visual representation of vehicular access and circulation throughout the proposed development.



*Includes background growth and project trips from nearby developments

5.2 TRIP GENERATION

Gross trips associated with the proposed development were estimated using the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition, 2017*, using equations where available. Trip generation for the proposed development was calculated based upon the following land uses:

- Land Use 221: Multifamily Housing (Mid Rise)
- Land Use 310: Hotel
- Land Use 820: Shopping Center

Table 4 summarizes the anticipated gross and net trip generation for the proposed development upon full build-out (2022). **Appendix C** provides the detailed trip generation worksheet for the proposed development.

Table 4: Project Trip Generation Summary								
ITE Code	Land Use	Density	Daily Traffic		AM Peak Hour		PM Peak Hour	
			Enter	Exit	Enter	Exit	Enter	Exit
221	Multifamily Housing (Mid-Rise)	350 units	953	953	30	87	90	57
310	Hotel	188 rooms	848	848	53	36	59	56
820	Shopping Center	27,958 SF	528	528	16	10	51	56
Total Gross Trips			2,329	2,329	99	133	200	169
<i>Mixed-Use Reductions</i>			-106	-106	-3	-3	-26	-26
<i>Pass-by Reductions</i>			-161	-161	-0	-0	-14	-14
Total Net Trips			2,062	2,062	96	130	160	129

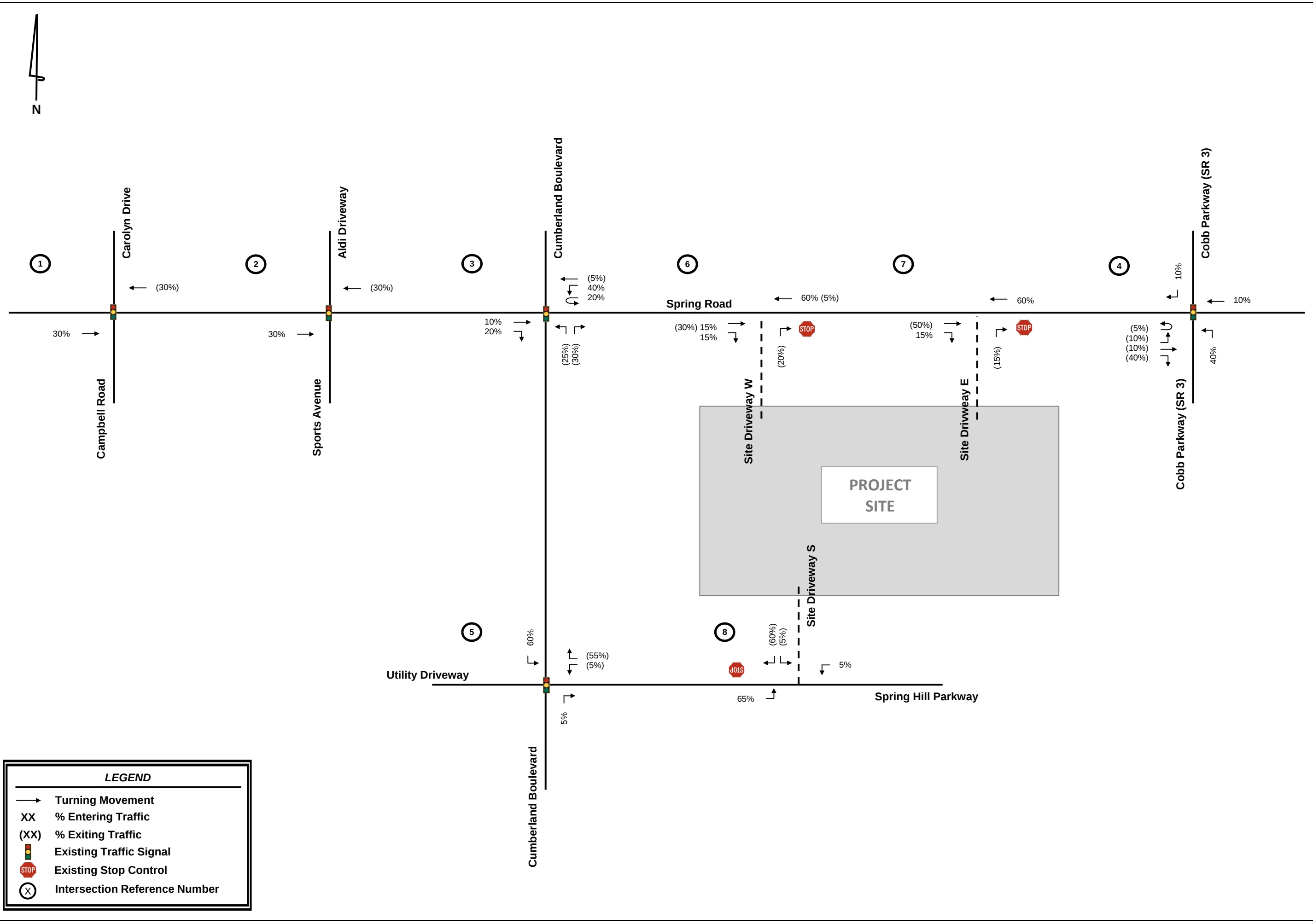
Mixed-use reductions occur when a site has a combination of different land uses that interact with one another. For example, someone visiting a restaurant may also visit a retail establishment adjacent to the restaurant by walking instead of driving off-site or to the site. This reduces the number of vehicle trips that will be made on the roadway, thus reducing traffic congestion.

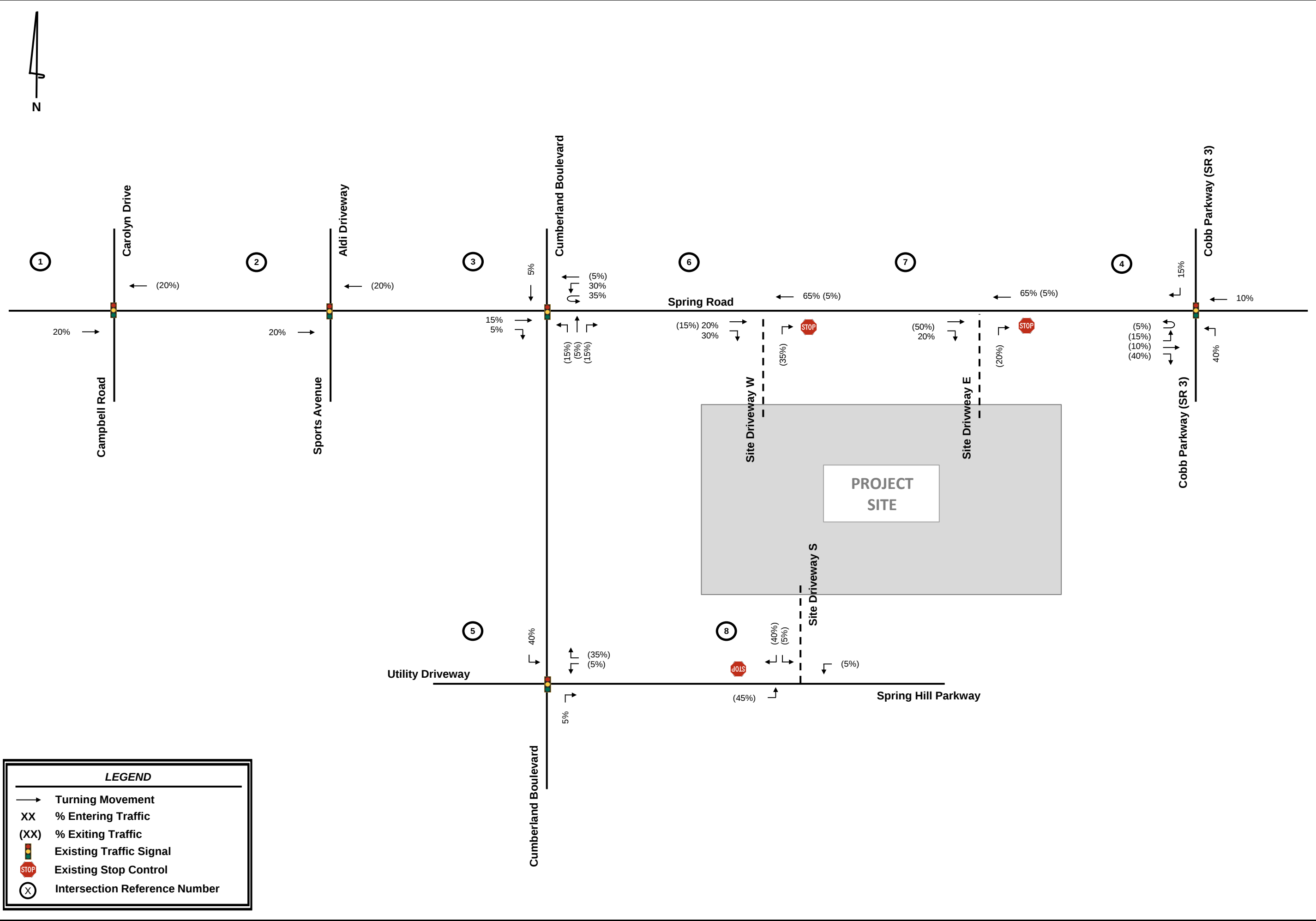
Pass-by reductions are typically taken for a site when traffic normally traveling along a roadway may choose to visit a retail establishment that is along the vehicle's path. These trips were already on the road and would therefore only be new trips on the driveways.

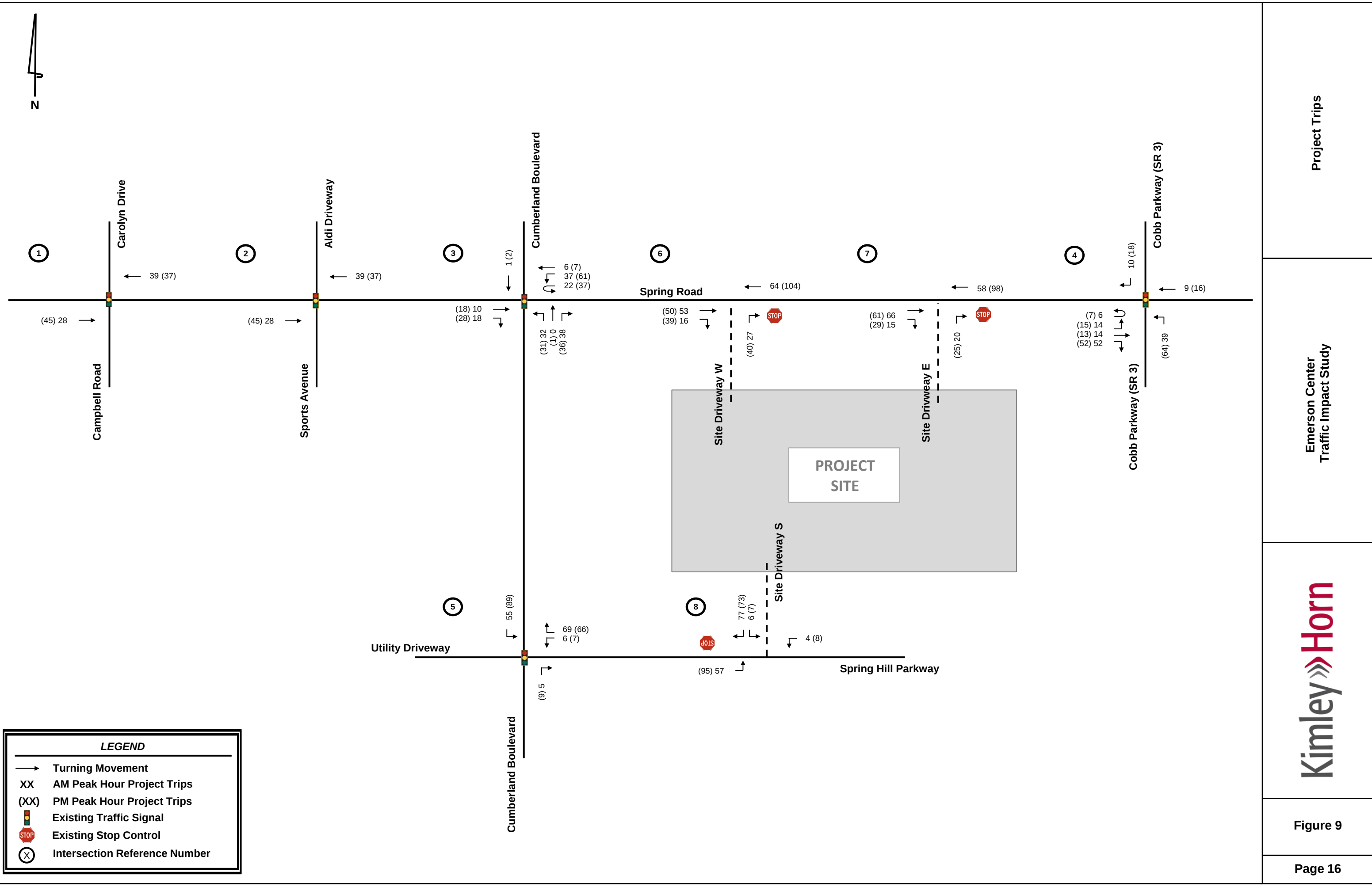
Mixed-use and pass-by reductions were both accounted for in this analysis.

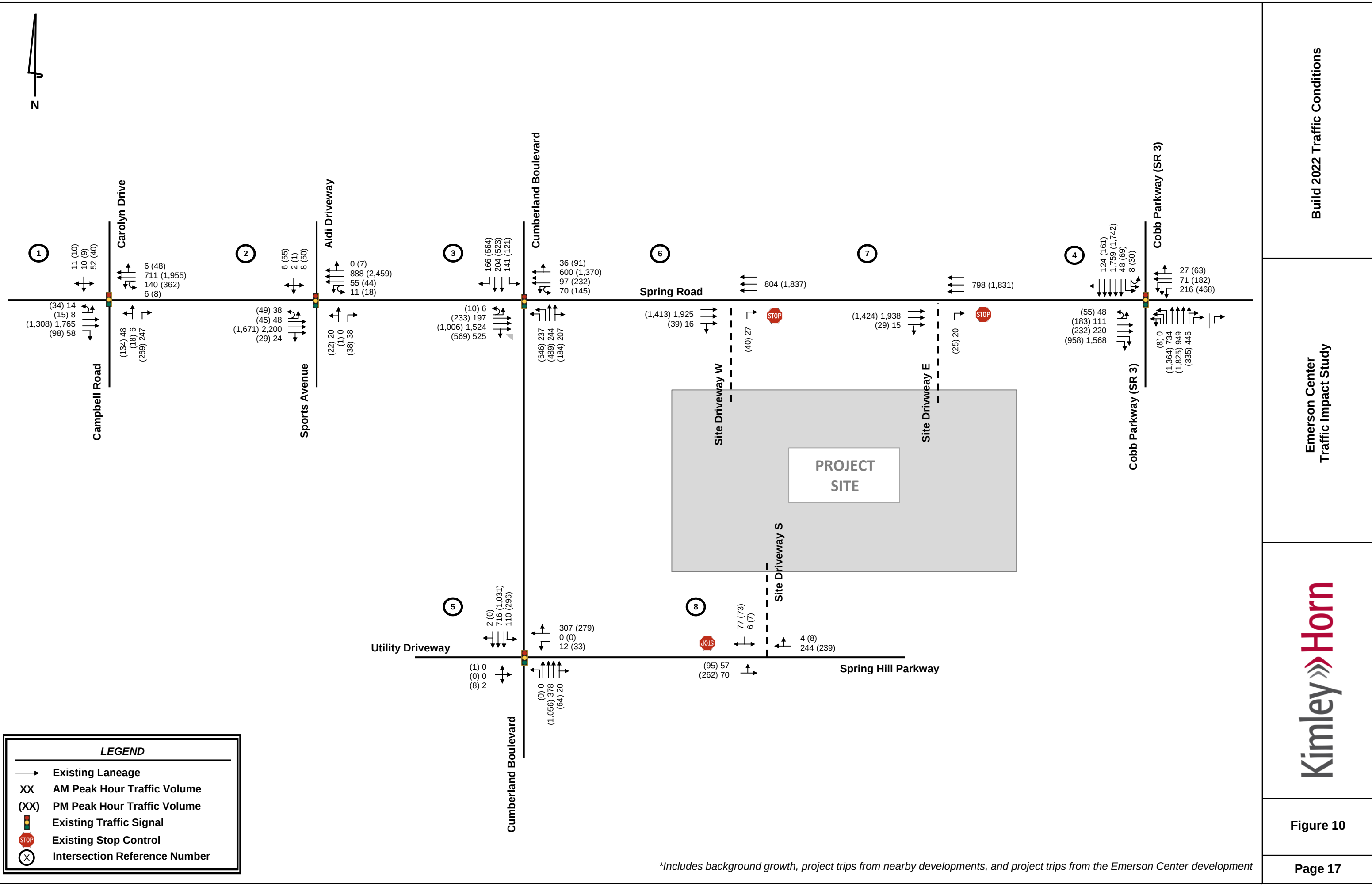
5.3 TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution and assignment of adding new trips (project trips) related to the proposed development was based on a review of land uses and population densities in the area, existing travel patterns in the area, and engineering judgement. A detailed trip distribution and assignment is shown for the residential and hotel land uses in **Figure 7** and for the retail land use in **Figure 8**. Based on trip generation from **Table 4** and the anticipated trip distribution, new project trips were assigned to the study roadway network. **Figure 9** illustrates the new project trips distributed throughout the study network. **Figure 10** illustrates the Projected 2022 Build traffic volumes for the AM and PM peak hours. **Figure 11** illustrates the Projected 2032 (Horizon Year) Build traffic volumes for the AM and PM peak hours. **Appendix D** provides intersection volume worksheets for all study intersections.









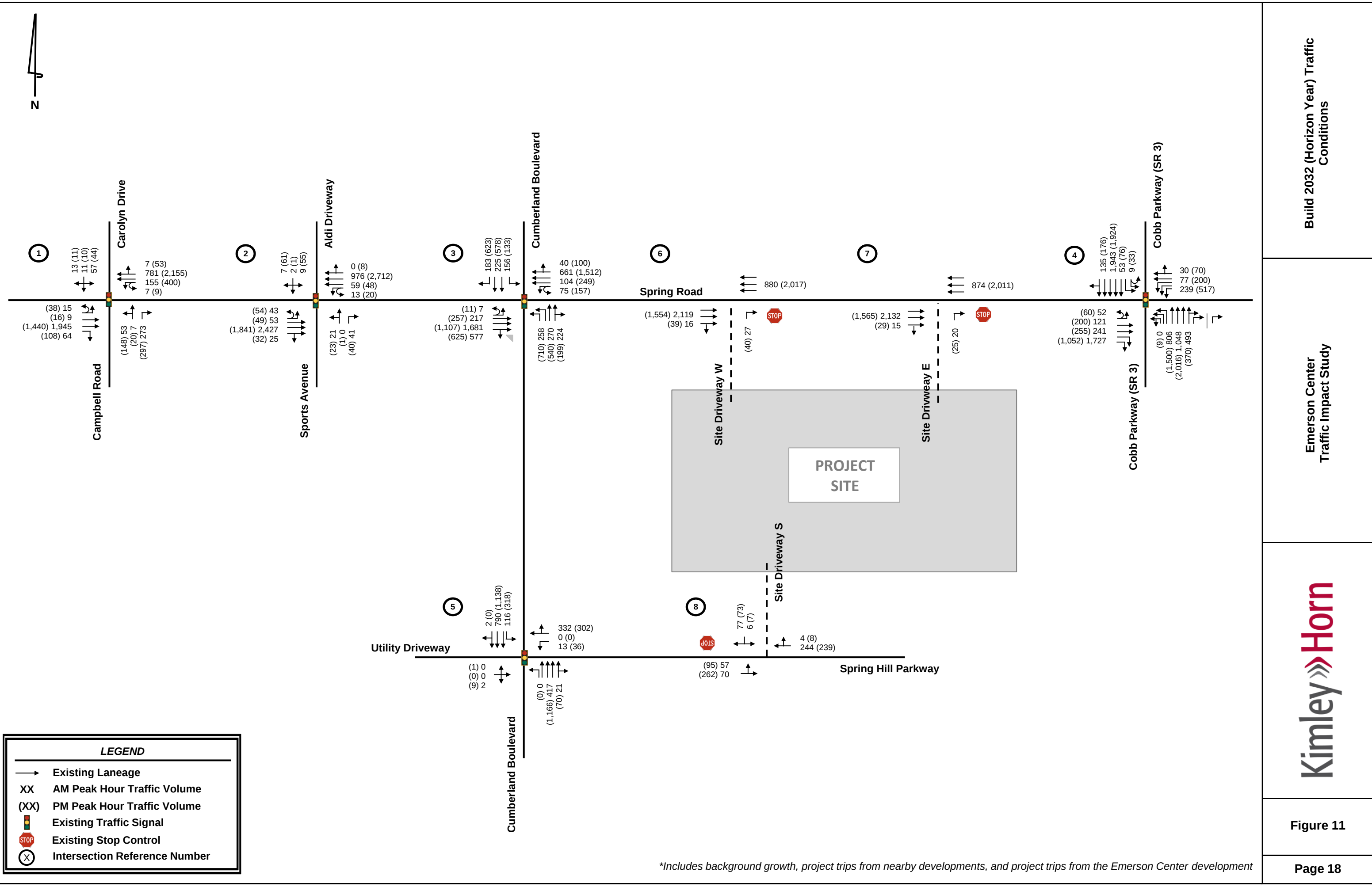
Build 2022 Traffic Conditions

Emerson Center
Traffic Impact Study



Figure 10

*Includes background growth, project trips from nearby developments, and project trips from the Emerson Center development



Build 2032 (Horizon Year) Traffic Conditions

Emerson Center Traffic Impact Study

Kimley»Horn

Figure 11

*Includes background growth, project trips from nearby developments, and project trips from the Emerson Center development

6.0 LEVEL-OF-SERVICE ANALYSIS

Level-of-service (LOS) determinations were made for the weekday AM and PM peak hours for the study network intersections using *Synchro, Version 10*. The program uses methodologies contained in the 6th Edition *Highway Capacity Manual* to determine the operating characteristics of an intersection. Capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a specified period under prevailing roadway, traffic, and control conditions.

LOS is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions of a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A being the best and F the worst.

LOS for signalized intersections are reported for this intersection as a whole. One or more movements at an intersection may experience a low LOS while the intersection as a whole may operate acceptably.

LOS for unsignalized intersections, with stop control on the minor street(s) only, are reported for the side street approaches. It is not uncommon to have long delays for minor street stop-controlled approaches when there is heavy major street volume.

LOS analyses were performed for the AM and PM peak hours under adjusted Existing 2020 conditions, Projected 2022 No-Build conditions, Projected 2022 Build conditions, Projected 2032 (Horizon Year) No-Build conditions, and Projected 2032 (Horizon Year) Build conditions. The results of the existing and build-out year analyses with existing roadway laneage are summarized in **Table 5**. The results of the horizon year analyses with existing roadway laneage are summarized in **Table 6**. *Synchro* analysis reports are included in **Appendix E**.

Table 5: Level-of-Service Summary								
LOS (Delay in Seconds)								
Intersection	Control	Approach/ Movement	Adjusted Existing 2020		Projected 2022 No-Build		Projected 2022 Build	
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1. Spring Road at Campbell Road	Signal	Overall	B (17.6)	B (14.6)	C (21.8)	C (20.0)	C (22.3)	C (21.2)
2. Spring Road at Sports Avenue/Aldi Driveway	Signal	Overall	A (1.4)	A (2.2)	A (1.6)	A (2.3)	A (1.3)	A (2.3)
3. Spring Road at Cumberland Boulevard	Signal	Overall	C (32.2)	E (56.2)	C (33.2)	E (63.2)	D (36.2)	E (77.6)
4. Cobb Parkway (SR 3) at Spring Road	Signal	Overall	D (52.3)	E (53.5)	E (57.5)	E (55.9)	E (61.2)	E (58.9)
5. Cumberland Boulevard at Spring Hill Parkway	Signal	Overall	A (1.6)	A (3.5)	A (1.6)	A (3.5)	A (5.2)	A (4.3)
6. Spring Road at Site Driveway W	RIRO	NB					D (26.8)	C (19.3)
7. Spring Road at Site Driveway E	RIRO	NB					D (26.1)	C (18.5)
8. Spring Road at Site Driveway S	TWSC	SB					B (10.5)	B (10.7)
		EBL					A (7.9)	A (8.0)

As shown in **Table 5**, the analyses indicate that the intersections of Spring Road at Campbell Road (Intersection 1) and Spring Road at Sports Avenue/Aldi Driveway (Intersection 2) currently operate and are projected to operate at an acceptable LOS during the AM and PM peak hours under adjusted Existing 2020 conditions, Projected 2022 No-Build conditions, and Projected 2022 Build conditions.

The intersection of Spring Road at Cumberland Boulevard (Intersection 3) currently operates at LOS C during the AM peak hour under adjusted Existing 2020 conditions and Projected 2022 No-Build conditions. Under Projected 2022 Build conditions, the intersection is projected to operate at LOS D during the AM peak hour. The intersection currently operates at and is projected to operate at LOS E during the PM peak hour under adjusted Existing 2020 conditions, Projected 2022 No-Build conditions, and Projected 2022 Build conditions.

The intersection of Cobb Parkway (SR 3) at Spring Road (Intersection 4) currently operates at LOS D during the AM peak hour and LOS E during the PM peak hour under adjusted Existing 2020 conditions. Under Projected 2022 No-Build conditions and Projected 2022 Build conditions, the intersection is projected to operate at LOS E during both the AM and PM peak hours.

Table 6: Horizon Year Level-of-Service Summary						
LOS (Delay in Seconds)						
Intersection	Control	Approach/ Movement	Projected 2032 (Horizon Year) No-Build		Projected 2032 (Horizon Year) Build	
			AM Peak	PM Peak	AM Peak	PM Peak
1. Spring Road at Campbell Road	Signal	Overall	C (34.8)	C (28.1)	D (36.1)	C (30.1)
2. Spring Road at Sports Avenue/Aldi Driveway	Signal	Overall	A (1.8)	A (2.7)	A (1.8)	A (2.7)
3. Spring Road at Cumberland Boulevard	Signal	Overall	D (37.4)	F (94.2)	D (43.5)	F (107.1)
4. Cobb Parkway (SR 3) at Spring Road	Signal	Overall	E (74.9)	E (66.2)	E (78.8)	E (71.8)
5. Cumberland Boulevard at Spring Hill Parkway	Signal	Overall	A (2.4)	A (3.8)	A (4.9)	A (4.5)
6. Spring Road at Site Driveway W	RIRO	NB			D (31.4)	C (21.4)
7. Spring Road at Site Driveway E	RIRO	NB			D (30.2)	C (20.3)
8. Spring Road at Site Driveway S	TWSC	SB			B (10.7)	B (10.9)
		EBL			A (8.0)	A (8.0)

As shown in **Table 6**, the analyses indicate that the intersections of Spring Road at Campbell Road (Intersection 1) and Spring Road at Sports Avenue/Aldi Driveway (Intersection 2) are projected to operate at an acceptable LOS during the AM and PM peak hours under Projected 2032 (Horizon Year) No-Build conditions and Projected 2032 (Horizon Year) Build conditions.

The intersection of Spring Road at Cumberland Boulevard (Intersection 3) is projected to operate at LOS D during the AM peak hour and LOS F during the PM peak hour under Projected 2032 (Horizon Year) No-Build conditions and Projected 2032 (Horizon Year) Build conditions.

The intersection of Cobb Parkway (SR 3) at Spring Road (Intersection 4) is projected to operate at LOS E during the AM and PM peak hours under both Projected 2032 (Horizon Year) No-Build and Build conditions.

It should be noted that the Horizon Year 2032 No-Build conditions assume a conservative analysis. The volumes assumed for the analysis may be too conservative and further studies should be considered with actual counts in the future prior to making improvements at failing intersections with the conservative volumes for this analysis.

However, in order for the failing intersection to maintain LOS E (existing PM peak LOS), the following improvements could be considered:

- Spring Road at Cumberland Boulevard (Intersection 3)
 - Provide an additional eastbound right-turn channelized lane under yield control.
 - Maintain existing free-flow, divided lane.
 - Provide a southbound right-turn overlap phase.
 - Restrict eastbound U-turn movement.

Table 7 provides results for the Projected 2032 No-Build Improved and Projected 2032 Build Improved traffic conditions.

Table 7: Intersection 3 Improved Level-of-Service Summary						
LOS (Delay in Seconds)						
Intersection	Control	Approach/ Movement	Projected 2032 (Horizon Year) No-Build		Projected 2032 (Horizon Year) Build	
			AM Peak	PM Peak	AM Peak	PM Peak
3. Spring Road at Cumberland Boulevard	Signal	Overall	D (35.7)	E (68.7)	D (38.4)	E (75.0)

7.0 CONCLUSION

This traffic study evaluated the traffic impacts associated with the *Emerson Center* development located at an approximately 8.71-acre site south of Spring Road, east of Cumberland Boulevard, and south of Spring Hill Parkway in the City of Smyrna, Georgia. The development proposes to construct and redevelop approximately 350 multifamily residential units, 188 hotel rooms, and 27,958 SF of retail space.

The study network, which consists of five (5) intersections, was analyzed for the weekday AM and PM peak hours under adjusted Existing 2020 conditions, Projected 2022 No-Build conditions (two years of background traffic growth), and Projected 2022 Build conditions (two years of background traffic growth plus traffic generated by the proposed *Emerson Center* development).

The intersections of Spring Road at Campbell Road (Intersection 1), Spring Road at Sports Avenue/Aldi Driveway (Intersection 2), and Cumberland Boulevard at Spring Hill Parkway (Intersection 5) all currently operate and are projected to operate at an acceptable LOS under all future scenarios.

The intersection of Spring Road at Cumberland Parkway (Intersection 3) currently experiences high overall delay during the PM peak hour and operates at LOS E. The intersection is projected to maintain LOS E during the PM peak hour under Projected 2022 No-Build and Build conditions. Under the Projected 2032 (Horizon Year) No-Build and Build conditions, the intersection is projected to operate at LOS F during the PM peak hour. The AM peak hour is projected to operate at an acceptable LOS under all scenarios.

The intersection of Cobb Parkway (SR 3) at Spring Road (Intersection 4) currently operates at LOS D during the AM peak hour and LOS E during the PM peak hour under adjusted Existing 2020 conditions. The intersection is projected to operate at LOS E during the AM and PM peak hours under all future scenarios.

Due to the existing delay at the intersections and conservative nature of the Horizon Year analyses, the intersections of Spring Road at Cumberland Parkway (Intersection 3) and Cobb Parkway (SR 3) at Spring Road (Intersection 4) should be monitored for future improvements.

7.1 SITE ACCESS IMPROVEMENTS

The following site access improvements are proposed to serve site traffic:

- Spring Road at Site Driveway West (Intersection 6)
 - Maintain a standard right-in/right-out (RIRO) driveway with one lane entering the site and one lane exiting the site at the existing curb cut along Spring Road.
- Spring Road at Site Driveway East (Intersection 7)
 - Maintain a standard right-in/right-out (RIRO) driveway with one lane entering the site and one lane exiting the site at the modified curb cut along Spring Road.
- Spring Road at Site Driveway South (Intersection 8)
 - Maintain a standard full-movement driveway with one lane entering the site and one lane exiting the site at the existing curb cut along Spring Hill Parkway.

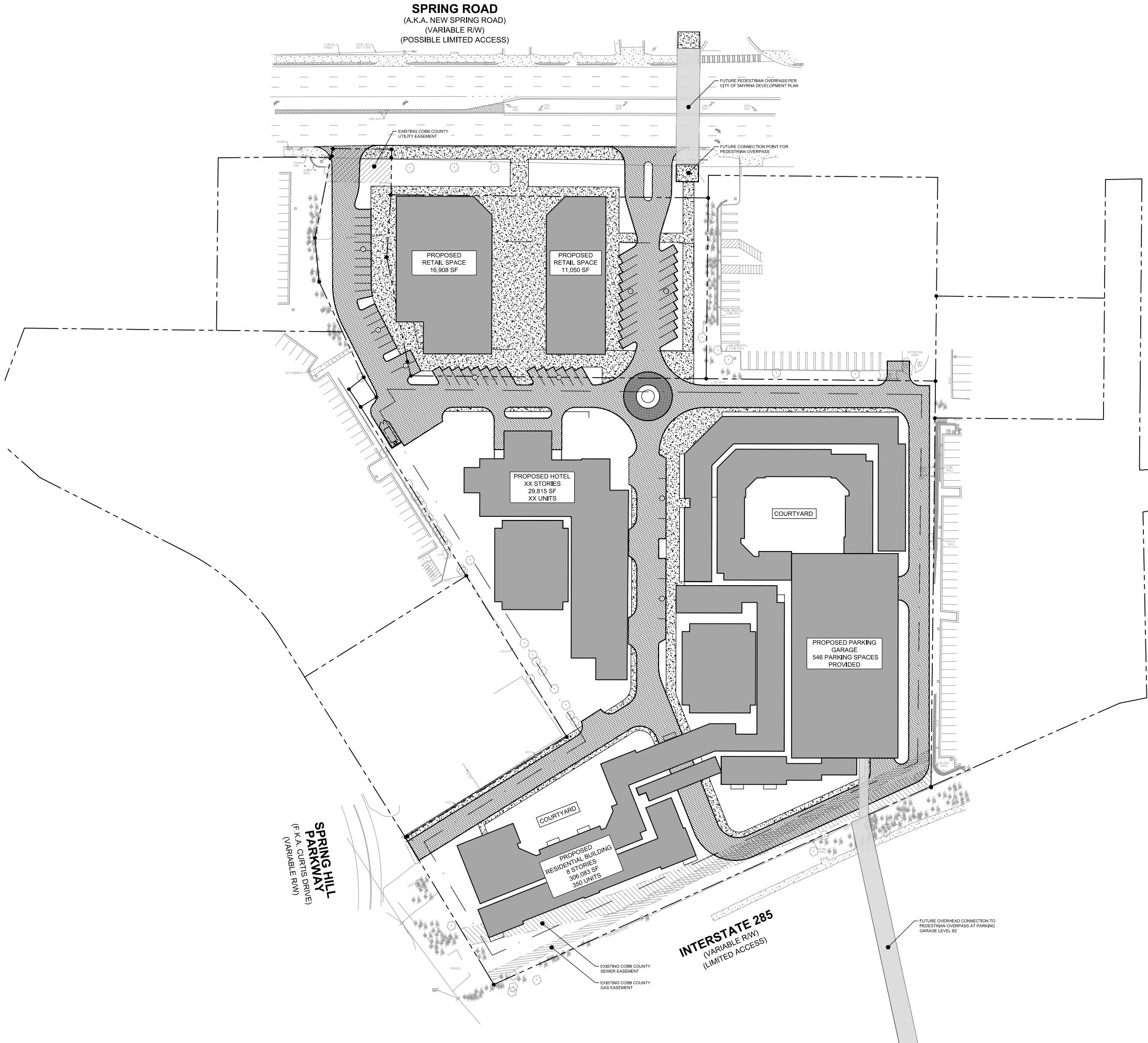
7.2 ADDITIONAL CONSIDERATIONS

The intersection of Spring Road at Cumberland Boulevard (Intersection 3) currently provides a channelized, free-flow eastbound right-turn lane that prohibits users of the channelization from making a southbound left-turn at the downstream signalized intersection of Cumberland Boulevard at Spring Hill Parkway (Intersection 5). Increased signage should be considered to help drivers determine the ideal eastbound right turning point (channelized right-turn ahead of signal or right-turn at signal) in anticipation of their next turning movement at the downstream intersection.

Site Plan

Drawing name: K:\AMT_CIVIL\01356\000_Emerison_Center\CD\Plan\Sheet\CD-10 REZONING SITE PLAN.dwg CD-10 - REZONING SITE PLAN Nov 18, 2020 10:36am by Julia Duncan

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REZONING NOTES:

SITE SUMMARY:

LAND LOTS 880 & 881
17TH DISTRICT - 2ND SECTION

CURRENT ZONING: CONDITIONAL RRC
PROPOSED ZONING: CONDITIONAL RRC

SITE AREA: 8.71 AC
ROW DEDICATION: 0.00 AC
ADJUSTED SITE AREA: 8.71 AC

PROPOSED BUILDING SETBACK:
FRONT: 25 FT
SIDE: 25 FT
REAR: 10 FT

PROPOSED LANDSCAPE SETBACK:
FRONT: 0 FT
SIDE: 0 FT
REAR: 0 FT

PROPOSED LAND USES & DENSITIES:

MULTIFAMILY RESIDENTIAL	350 UNITS
RETAIL/RESTAURANT	27,968 SF
HOTEL	29,815 SF

PARKING SUMMARY:

REQUIRED PARKING:	903 SPACES (TOTAL)
MULTIFAMILY (325 UNITS)	613 SPACES (1,750 UNIT)
RETAIL/RESTAURANT	140 SPACES (10200 SF)
HOTEL	150 SPACES (10200 SF)

PROPOSED PARKING:

RESIDENTIAL PARKING DECK	XX SPACES
STANDARD	XX SPACES
HANDICAP	XX SPACES
HOTEL PARKING DECK	XX SPACES
STANDARD	XX SPACES
HANDICAP	XX SPACES
ON-STREET PARKING	61 SPACES
STANDARD	XX SPACES
HANDICAP	XX SPACES

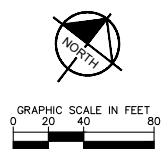
1. THIS SITE IS NOT IN A FLOODPLAIN.
2. THE SITE DOES NOT CONTAIN LAKES, STREAMS, OR STREAM BUFFERS.
3. THIS SITE DOES NOT CONTAIN A CEMETERY.
4. THE PROPOSED BUILDING INFORMATION SHOWN HEREON IS APPROXIMATE AND SUBJECT TO CHANGE AS DESIGN DEVELOPS.
5. ALL PARKING COUNTS ARE APPROXIMATE AND SUBJECT TO CHANGE AS DESIGN DEVELOPS. PARKING COUNTS WILL EXCEED TOTALS SHOWN ABOVE.
6. IT IS UNDERSTOOD THAT THE SITE MUST COMPLY WITH ALL APPLICABLE ADA STANDARDS, INCLUDING PARKING AND CONNECTIVITY, AND WILL BE DESIGNED AND DETAILED AS SUCH.

SITE PLAN LEGEND:

--- PROPOSED RIGHT-OF-WAY LINE
--- SETBACK LINE

[Pattern] STANDARD DUTY ASPHALT PAVEMENT
[Pattern] CONCRETE PAVEMENT

10 PARKING COUNT



© 2018 KIMLEY-HORN AND ASSOCIATES, INC.
877 W. PEACHTREE STREET, NW
SUITE 200
ATLANTA, GEORGIA 30309
PHONE (404) 419-8700
WWW.KIM-HORN.COM

NILHAN DEVELOPERS, LLC
STREET ADDRESS, SUITE NUMBER
CITY, STATE, ZIP
PHONE: 000.000.0000

PROJECT	CLIENT	BY
EMERSON CENTER 2802 & 2810 SPRING ST NW, ATLANTA, GA 30309 LAND LOT 880 & 881, 17TH DISTRICT		

GSWCC CERT. 0000072560
(LEVEL 10)
DRAWN BY JGD
DESIGNED BY HJA
REVIEWED BY KRT
DATE 12/11/2020
PROJECT NO. 013561000

REZONING SITE PLAN
SHEET NUMBER
C0-10

Traffic Count Data

Smyrna, GA

Peak Hour Turning Movement Count



Marr Traffic Inc

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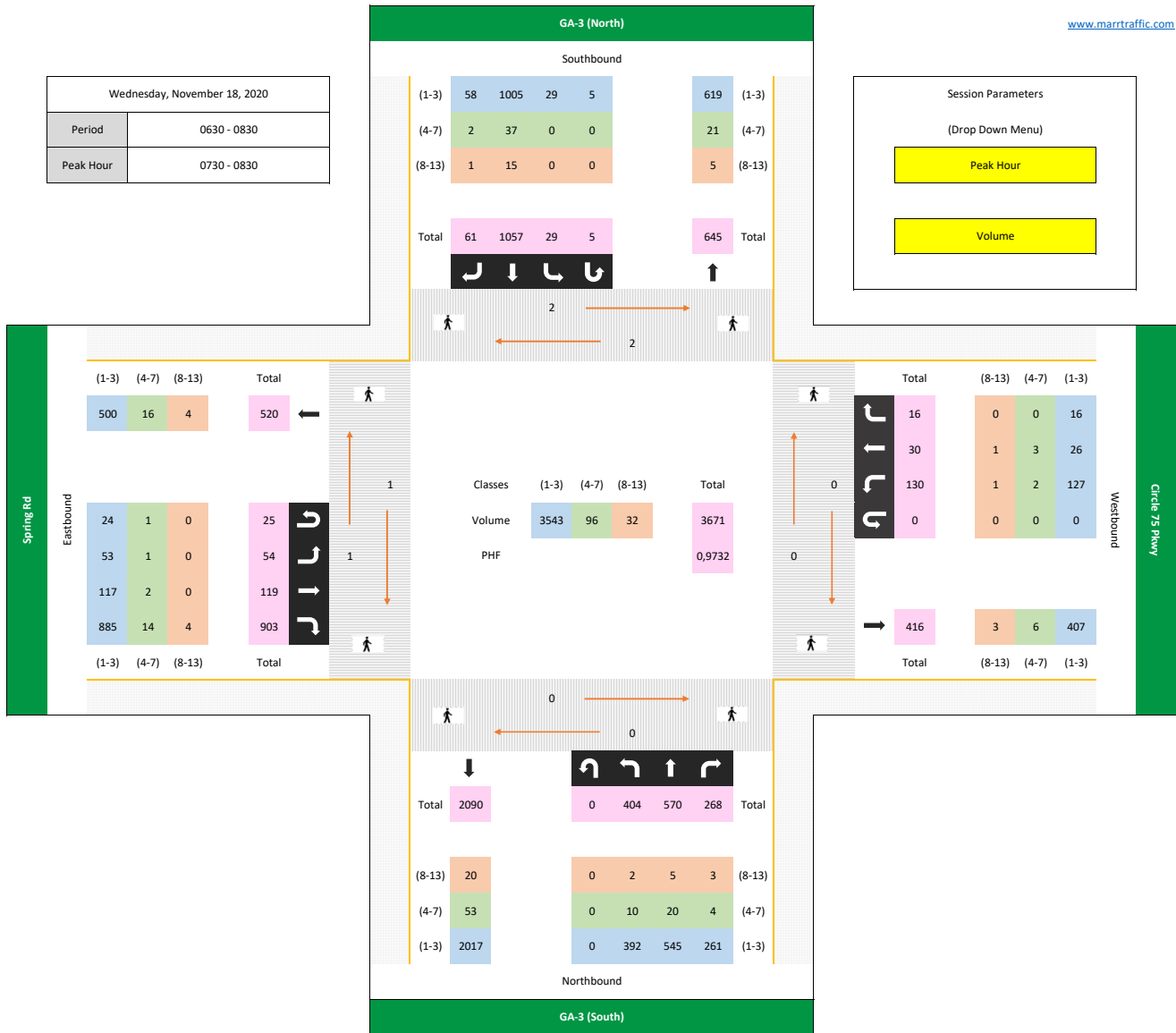
Wednesday, November 18, 2020	
Period	0630 - 0830
Peak Hour	0730 - 0830

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Time	Northbound GA-3 (South)					Southbound GA-3 (North)					Eastbound Spring Rd					Westbound Circle 75 Pkwy					Int Total
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
	1.1	1.2	1.3	1.4		1.5	1.6	1.7	1.8		1.9	1.10	1.11	1.12		1.13	1.14	1.15	1.16		
0730 - 0745	115	130	43	0	288	8	247	17	1	273	11	27	276	6	320	37	8	4	0	49	930
0745 - 0800	103	153	65	0	321	8	283	15	2	308	15	39	209	2	265	34	8	7	0	49	943
0800 - 0815	88	143	78	0	309	8	245	13	1	267	10	21	211	8	250	22	7	1	0	30	856
0815 - 0830	98	144	82	0	324	5	282	16	1	304	18	32	207	9	266	37	7	4	0	48	942
Total	404	570	268	0	1242	29	1057	61	5	1152	54	119	903	25	1101	130	30	16	0	176	3671
Approach %	32.53	45.89	21.58	0.00	-	2.52	91.75	5.30	0.43	-	4.90	10.81	82.02	2.27	-	73.86	17.05	9.09	0.00	-	-
PHF	0.88	0.93	0.82	0.00	0.96	0.91	0.93	0.90	0.63	0.94	0.75	0.76	0.82	0.69	0.86	0.88	0.94	0.57	0.00	0.90	0.97

Time	Northbound GA-3 (South)					Southbound GA-3 (North)					Eastbound Spring Rd					Westbound Circle 75 Pkwy					Int Total
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
	1.1	1.2	1.3	1.4		1.5	1.6	1.7	1.8		1.9	1.10	1.11	1.12		1.13	1.14	1.15	1.16		
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Time	Northbound GA-3 (South)					Southbound GA-3 (North)					Eastbound Spring Rd					Westbound Circle 75 Pkwy					Int Total
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
	1.1	1.2	1.3	1.4		1.5	1.6	1.7	1.8		1.9	1.10	1.11	1.12		1.13	1.14	1.15	1.16		
0730 - 0745	111	122	41	0	274	8	235	16	1	260	10	27	271	6	314	35	7	4	0	46	894
0745 - 0800	100	147	65	0	312	8	270	15	2	295	15	38	206	2	261	34	7	7	0	48	916
0800 - 0815	85	138	74	0	297	8	239	11	1	259	10	21	205	7	243	22	7	1	0	30	829
0815 - 0830	96	138	81	0	315	5	261	16	1	283	18	31	203	9	261	36	5	4	0	45	904
Total	392	545	261	0	1198	29	1005	58	5	1097	53	117	885	24	1079	127	26	16	0	169	3543
Approach %	32.72	45.49	21.79	0.00	-	2.64	91.61	5.29	0.46	-	4.91	10.84	82.02	2.22	-	75.15	15.38	9.47	0.00	-	-
PHF	0.88	0.93	0.81	0.00	0.95	0.91	0.93	0.91	0.63	0.93	0.74	0.77	0.82	0.67	0.86	0.88	0.93	0.57	0.00	0.88	0.97

Time	Northbound GA-3 (South)					Southbound GA-3 (North)					Eastbound Spring Rd					Westbound Circle 75 Pkwy					Int Total	
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total		
	1.1	1.2	1.3	1.4		1.5	1.6	1.7	1.8		1.9	1.10	1.11	1.12		1.13	1.14	1.15	1.16			
0730 - 0745	4	6	1	0	11	0	7	1	0	8	1	0	4	0	5	2	0	0	0	0	2	26
0745 - 0800	2	5	0	0	7	0	8	0	0	8	0	1	1	0	2	0	1	0	0	0	1	18
0800 - 0815	3	5	2	0	10	0	5	1	0	6	0	0	5	1	6	0	0	0	0	0	0	22
0815 - 0830	1	4	1	0	6	0	17	0	0	17	0	1	4	0	5	0	2	0	0	0	2	30
Total	10	20	4	0	34	0	37	2	0	39	1	2	14	1	18	2	3	0	0	0	5	96
Approach %	29.41	58.82	11.76	0.00	-	0.00	94.87	5.13	0.00	-	5.56	11.11	77.78	5.56	-	40.00	60.00	0.00	0.00	-	-	
PHF	0.63	0.83	0.50	0.00	0.77	0.00	0.54	0.50	0.00	0.57	0.25	0.50	0.70	0.25	0.75	0.25	0.38	0.00	0.00	0.63	0.80	

Time	Northbound GA-3 (South)					Southbound GA-3 (North)					Eastbound Spring Rd					Westbound Circle 75 Pkwy					Int Total	
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total		
	0730 - 0745	0	2	1	0	3	0	5	0	0	5	0	0	1	0	1	0	1	0	0		0
0745 - 0800	1	1	0	0	2	0	5	0	0	5	0	0	2	0	2	0	0	0	0	0	9	
0800 - 0815	0	0	2	0	2	0	1	1	0	2	0	0	1	0	1	0	0	0	0	0	5	
0815 - 0830	1	2	0	0	3	0	4	0	0	4	0	0	0	0	0	1	0	0	0	1	8	
Total	2	5	3	0	10	0	15	1	0	16	0	0	4	0	4	1	1	0	0	2	32	
Approach %	20.00	50.00	30.00	0.00	-	0.00	93.75	6.25	0.00	-	0.00	0.00	100.00	0.00	-	50.00	50.00	0.00	0.00	-	-	
PHF	0.50	0.63	0.38	0.00	0.83	0.00	0.75	0.25	0.00	0.80	0.00	0.00	0.50	0.00	0.50	0.25	0.25	0.00	0.00	0.50	0.80	

[illegible]

Smyrna, GA

Peak Hour Turning Movement Count



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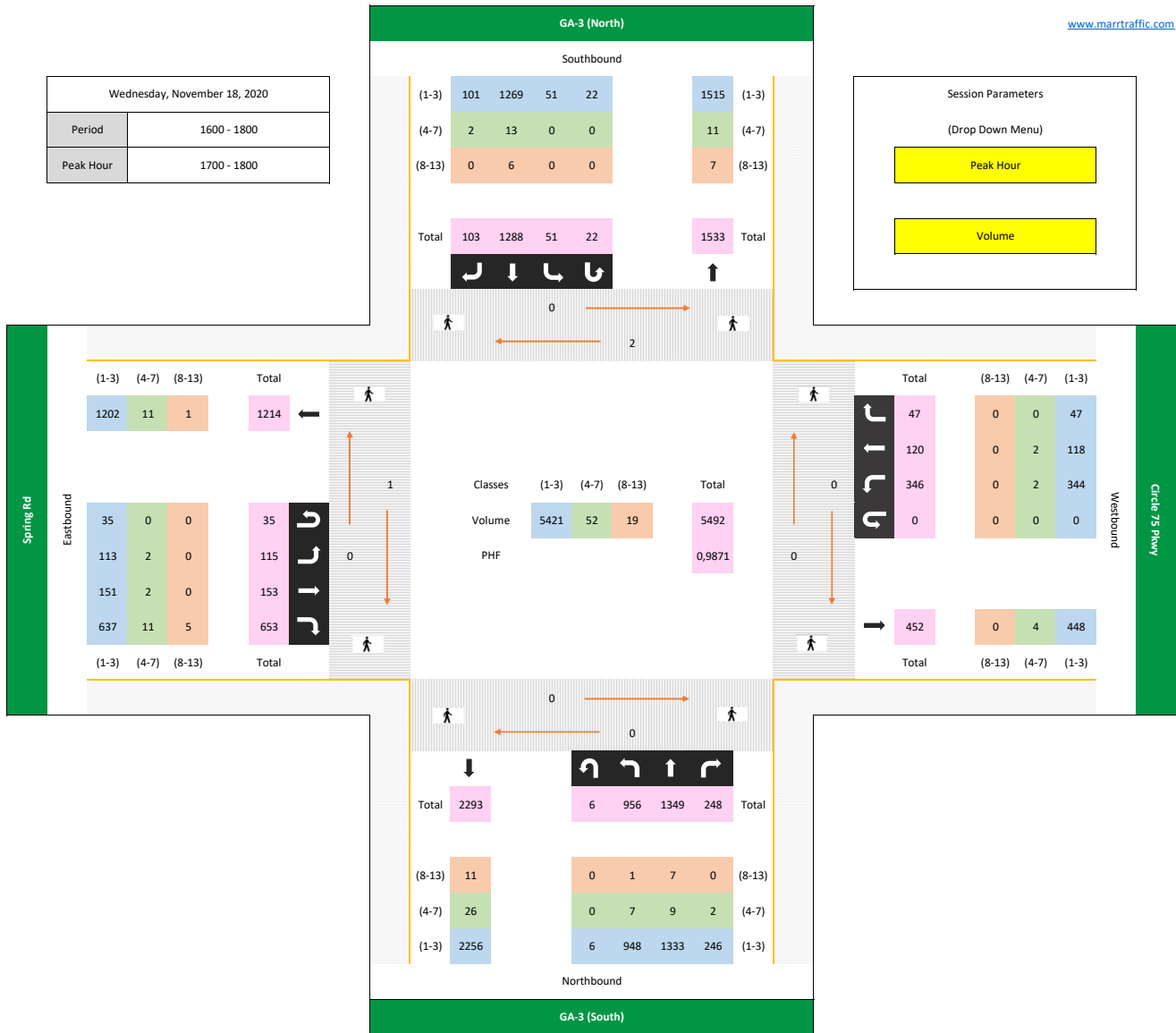
Wednesday, November 18, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Time	Northbound GA-3 (South)					Southbound GA-3 (North)					Eastbound Spring Rd					Westbound Circle 75 Pkwy					Int Total
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
	1.1	1.2	1.3	1.4		1.5	1.6	1.7	1.8		1.9	1.10	1.11	1.12		1.13	1.14	1.15	1.16		
1700 - 1715	215	332	50	2	599	10	359	21	4	394	26	31	151	7	215	104	38	15	0	157	1365
1715 - 1730	260	361	68	1	690	9	287	30	6	332	30	47	147	10	234	70	30	16	0	116	1372
1730 - 1745	211	302	64	2	579	16	332	23	6	377	39	34	192	6	271	95	32	10	0	137	1364
1745 - 1800	270	354	66	1	691	16	310	29	6	361	20	41	163	12	236	77	20	6	0	103	1391
Total	956	1349	248	6	2559	51	1288	103	22	1464	115	153	653	35	956	346	120	47	0	513	5492
Approach %	37.36	52.72	9.69	0.23	-	3.48	87.98	7.04	1.50	-	12.03	16.00	68.31	3.66	-	67.45	23.39	9.16	0.00	-	
PHF	0.89	0.93	0.91	0.75	0.93	0.80	0.90	0.86	0.92	0.93	0.74	0.81	0.85	0.73	0.88	0.83	0.79	0.73	0.00	0.82	0.99

	Northbound GA-3 (South)						Southbound GA-3 (North)						Eastbound Spring Rd						Westbound Circle 75 Pkwy						
Time	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total		Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total		Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total		Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	Int Total	
1700 - 1715	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0
Total	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0
Approach %	0,00	0,00	0,00	0,00	-		0,00	0,00	0,00	0,00	-		0,00	0,00	0,00	0,00	-		0,00	0,00	0,00	0,00	-		
PHF	0,00	0,00	0,00	0,00	0,00		0,00	0,00	0,00	0,00	0,00		0,00	0,00	0,00	0,00	0,00		0,00	0,00	0,00	0,00	0,00		0,00

Time	Northbound GA-3 (South)					Southbound GA-3 (North)					Eastbound Spring Rd					Westbound Circle 75 Pkwy					Int Total
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
	1.1	1.2	1.3	1.4		1.5	1.6	1.7	1.8		1.9	1.10	1.11	1.12		1.13	1.14	1.15	1.16		
1700 - 1715	214	328	50	2	594	10	352	20	4	386	26	31	148	7	212	103	38	15	0	156	1348
1715 - 1730	258	352	68	1	679	9	281	30	6	326	30	46	144	10	230	70	30	16	0	116	1351
1730 - 1745	209	301	63	2	575	16	328	23	6	373	38	34	185	6	263	95	31	10	0	136	1347
1745 - 1800	267	352	65	1	685	16	308	28	6	358	19	40	160	12	231	76	19	6	0	101	1375
Total	948	1333	246	6	2533	51	1269	101	22	1443	113	151	637	35	936	344	118	47	0	509	5421
Approach %	37.43	52.63	9.71	0.24	-	3.53	87.94	7.00	1.52	-	12.07	16.13	68.06	3.74	-	67.58	23.18	9.23	0.00	-	
PHF	0.89	0.95	0.90	0.75	0.92	0.80	0.90	0.84	0.92	0.93	0.74	0.82	0.86	0.73	0.89	0.83	0.78	0.73	0.00	0.82	0.99

Time	Northbound GA-3 (South)					Southbound GA-3 (North)					Eastbound Spring Rd					Westbound Circle 75 Pkwy					Int Total	
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total		
	1.1	1.2	1.3	1.4		1.5	1.6	1.7	1.8		1.9	1.10	1.11	1.12		1.13	1.14	1.15	1.16			
1700 - 1715	1	2	0	0	3	0	5	1	0	6	0	0	2	0	2	1	0	0	0	0	1	12
1715 - 1730	1	5	0	0	6	0	2	0	0	2	0	1	2	0	3	0	0	0	0	0	0	11
1730 - 1745	2	0	1	0	3	0	4	0	0	4	1	0	5	0	6	0	1	0	0	0	1	14
1745 - 1800	3	2	1	1	6	0	2	1	0	3	1	1	2	0	4	1	1	0	0	0	2	15
Total	7	9	2	0	18	0	13	2	0	15	2	2	11	0	15	2	2	0	0	0	4	52
Approach %	38.89	50.00	11.11	0.00	-	0.00	86.67	13.33	0.00	-	13.33	13.33	73.33	0.00	-	50.00	50.00	0.00	0.00	-	-	
PHF	0.58	0.45	0.50	0.00	0.75	0.00	0.65	0.50	0.00	0.63	0.50	0.50	0.55	0.00	0.63	0.50	0.50	0.00	0.00	0.50	0.87	

Time	Northbound GA-3 (South)					Southbound GA-3 (North)					Eastbound Spring Rd					Westbound Circle 75 Pkwy					Int Total
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
	1700 - 1715	0	2	0	0	2	0	2	0	0	2	0	0	1	0	1	0	0	0	0	
1715 - 1730	1	4	0	0	5	0	4	0	0	4	0	0	1	0	1	0	0	0	0	0	10
1730 - 1745	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	3
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	1	7	0	0	8	0	6	0	0	6	0	0	5	0	5	0	0	0	0	0	19
Approach %	12.50	87.50	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.25	0.44	0.00	0.00	0.40	0.00	0.38	0.00	0.00	0.38	0.00	0.00	0.63	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.48

	Northbound GA-3 (South)					Southbound GA-3 (North)					Eastbound Spring Rd					Westbound Circle 75 Pkwy					
	EB 1a	WB 1b			App Total	EB 1c	WB 1d			App Total	NB 1e	SB 1f			App Total	NB 1g	SB 1h			App Total	Int Total
Time	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1700 - 1715	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1715 - 1730	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1730 - 1745	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
1745 - 1800	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Smyrna, GA

Peak Hour Turning Movement Count



Marr Traffic Inc

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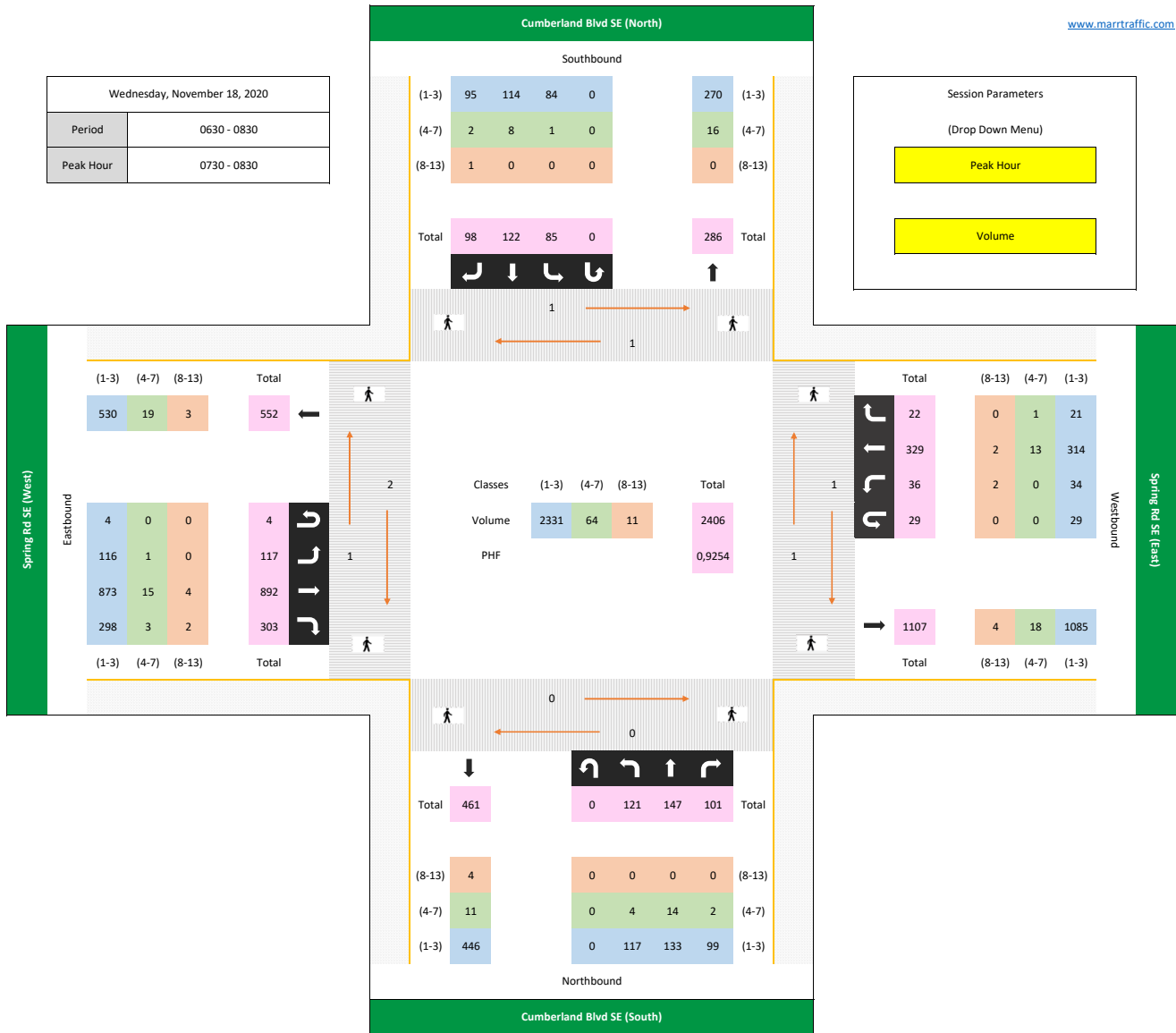
Wednesday, November 18, 2020	
Period	0630 - 0830
Peak Hour	0730 - 0830

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



	Northbound						Southbound					Eastbound					Westbound					Int. Total
	Cumberland Blvd SE (South)						Cumberland Blvd SE (North)					Spring Rd SE (West)					Spring Rd SE (East)					
	Left	Thru	Right	U-Turn	App Total		Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
Time	2.1	2.2	2.3	2.4			2.5	2.6	2.7	2.8		2.9	2.10	2.11	2.12		2.13	2.14	2.15	2.16		
0730 - 0745	23	36	29	0	88		24	22	24	0	70	20	257	81	1	359	12	89	5	8	114	
0745 - 0800	35	42	21	0	98		26	29	19	0	74	42	233	92	2	369	9	86	4	10	109	
0800 - 0815	29	33	21	0	83		12	24	22	0	58	30	210	73	1	314	8	79	4	6	97	
0815 - 0830	34	36	30	0	100		23	47	33	0	103	25	192	57	0	274	7	75	9	5	96	
Total	121	147	101	0	369		85	122	98	0	305	117	892	203	4	1316	36	329	22	29	416	
Approach %	32.79	39.84	27.37	0.00	-		27.87	40.00	32.13	0.00	-	8.89	67.78	23.02	0.30	-	8.65	79.09	5.29	6.97	-	
PHF	0.86	0.88	0.84	0.00	0.92		0.82	0.65	0.74	0.00	0.74	0.70	0.87	0.82	0.50	0.89	0.75	0.92	0.61	0.73	0.91	

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	

Time	Northbound					Southbound					Eastbound					Westbound					Int
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Spring Rd SE (West)					Spring Rd SE (East)					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
0730 - 0745	23	31	29	0	83	24	21	24	0	69	20	252	79	1	352	12	85	5	8	110	614
0745 - 0800	34	39	20	0	93	26	25	18	0	69	41	229	91	2	363	8	81	4	10	103	628
0800 - 0815	27	30	21	0	78	12	23	21	0	56	30	203	71	1	305	7	75	4	6	92	531
0815 - 0830	33	33	29	0	95	22	45	32	0	99	25	189	57	0	271	7	73	8	5	93	558
Total	117	133	99	0	349	84	114	95	0	293	116	873	298	4	1291	34	314	21	29	398	2331
Approach %	33.52	38.11	28.37	0.00	-	28.67	38.91	32.42	0.00	-	8.99	67.62	23.08	0.31	-	8.54	78.89	5.28	7.29	-	-
PHF	0.86	0.85	0.85	0.00	0.92	0.81	0.63	0.74	0.00	0.74	0.71	0.87	0.82	0.50	0.89	0.71	0.92	0.66	0.73	0.90	0.93

Time	Northbound					Southbound					Eastbound					Westbound					Int. Total
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0730 - 0745	0	5	0	0	5	0	1	0	0	1	0	5	2	0	7	0	3	0	0	3	16
0745 - 0800	1	3	1	0	5	0	4	1	0	5	1	2	1	0	4	0	4	0	0	4	18
0800 - 0815	2	3	0	0	5	0	1	0	0	1	0	5	0	0	5	0	4	0	0	4	15
0815 - 0830	1	3	1	0	5	1	2	1	0	4	0	3	0	0	3	0	2	1	0	3	15
Total	4	14	2	0	20	1	8	2	0	11	1	15	3	0	19	0	13	1	0	14	64
Approach %	20.00	70.00	10.00	0.00	-	9.09	72.73	18.18	0.00	-	5.26	78.95	15.79	0.00	-	0.00	92.86	7.14	0.00	-	-
PHF	0.50	0.70	0.50	0.00	1.00	0.25	0.50	0.50	0.00	0.55	0.25	0.75	0.38	0.00	0.68	0.00	0.81	0.25	0.00	0.88	0.89

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	1	0	0	2	4
0800 - 0815	0	0	0	0	0	0	0	1	0	1	0	2	2	0	4	1	0	0	0	1	6
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	1	0	4	2	0	6	2	2	0	0	4	11
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	66.67	33.33	0.00	-	50.00	50.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.00	0.50	0.25	0.00	0.38	0.50	0.50	0.00	0.00	0.50	0.46

[illegible]

Smyrna, GA

Peak Hour Turning Movement Count



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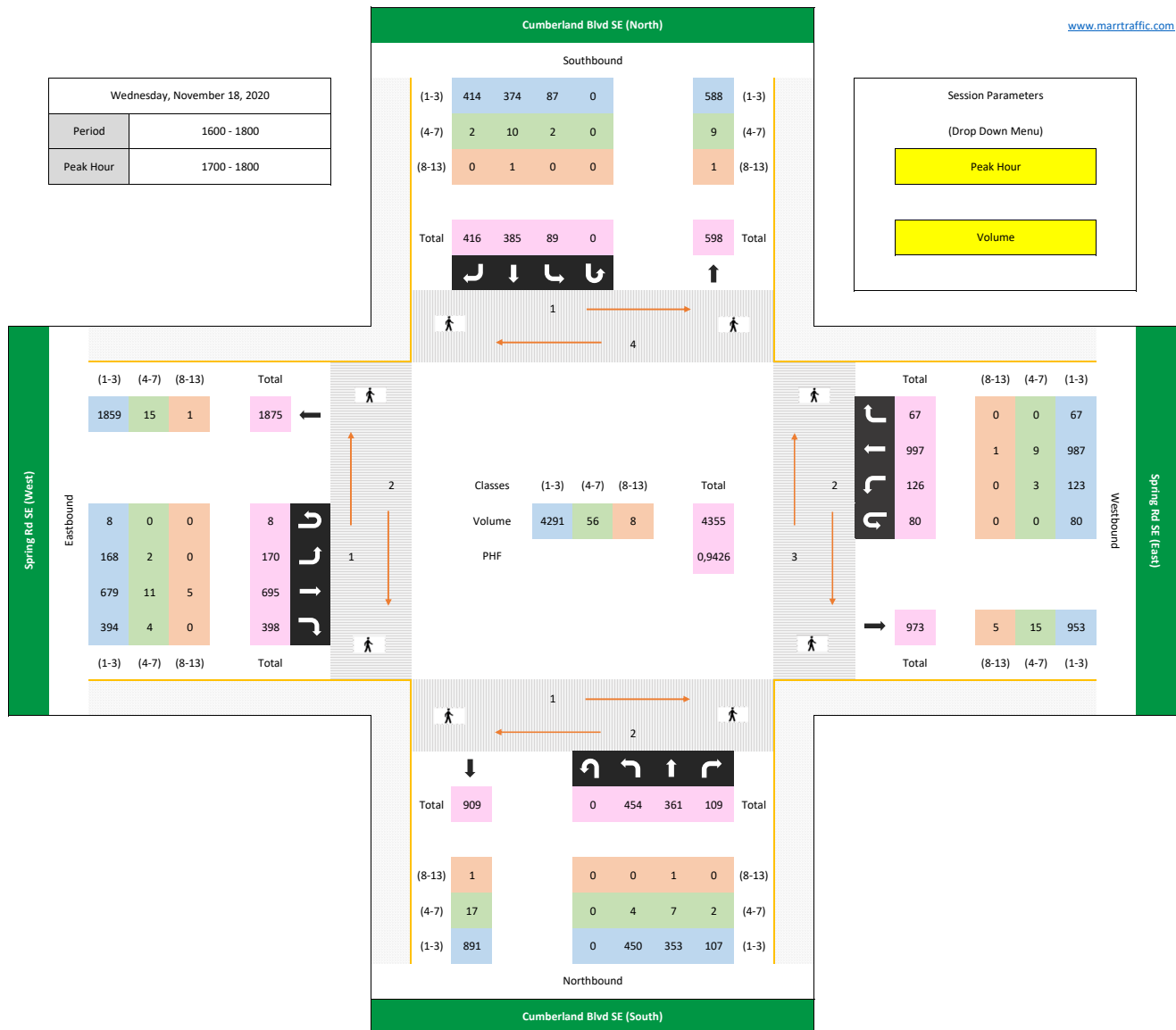
Wednesday, November 18, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Time	Northbound					Southbound					Eastbound					Westbound					Int
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1700 - 1715	115	101	29	0	245	24	107	106	0	237	34	132	107	0	273	28	221	14	22	285	1040
1715 - 1730	116	68	30	0	214	20	87	109	0	216	48	213	108	1	370	34	278	18	25	355	1155
1730 - 1745	131	96	25	0	252	21	88	115	0	224	43	173	98	4	318	24	241	16	17	298	1092
1745 - 1800	92	96	25	0	213	24	103	86	0	213	45	177	85	3	310	40	257	19	16	332	1068
Total	454	361	109	0	924	89	385	416	0	890	170	695	398	8	1271	126	997	67	80	1270	4355
Approach %	49.13	39.07	11.80	0.00	-	10.00	43.26	46.74	0.00	-	13.38	54.68	31.31	0.63	-	9.92	78.50	5.28	6.30	-	-
PHF	0.87	0.89	0.91	0.00	0.92	0.93	0.90	0.90	0.00	0.94	0.89	0.82	0.92	0.50	0.86	0.79	0.90	0.88	0.80	0.89	0.94

Time	Northbound					Southbound					Eastbound					Westbound					Int
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	

Passenger Volumes (x 100)		Northbound					Southbound					Eastbound					Westbound					Int
		Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Spring Rd SE (West)					Spring Rd SE (East)					
		Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
Time		2.1	2.2	2.3	2.4		2.1	2.2	2.7	2.8		2.9	2.10	2.11	2.12		2.13	2.14	2.15	2.16		
1700 - 1715		113	98	29	0	240	22	105	106	0	233	33	131	105	0	269	28	219	14	22	283	
1715 - 1730		115	67	29	0	211	20	86	109	0	215	47	209	108	1	365	34	274	18	25	351	
1730 - 1745		131	93	25	0	249	21	85	114	0	220	43	166	97	4	310	23	239	16	17	295	
1745 - 1800		91	95	24	0	210	24	98	85	0	207	45	173	84	3	305	38	255	19	16	328	
Total		450	353	107	0	910	87	374	414	0	875	168	679	394	8	1249	123	987	67	80	1257	
Approach %		49.45	38.79	11.76	0.00	-	9.94	42.74	47.31	0.00	-	13.45	54.36	31.55	0.64	-	9.79	78.52	5.33	6.36	-	
PHF		0.86	0.90	0.92	0.00	0.91	0.91	0.89	0.91	0.00	0.94	0.89	0.81	0.91	0.50	0.86	0.81	0.90	0.88	0.80	0.90	

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1700 - 1715	2	2	0	0	4	2	2	0	0	4	1	0	2	0	3	0	2	0	0	2	13
1715 - 1730	1	1	1	0	3	0	1	0	0	1	1	4	0	0	5	0	4	0	0	4	13
1730 - 1745	0	3	0	0	3	0	3	1	0	4	0	4	1	0	5	1	2	0	0	3	15
1745 - 1800	1	1	1	0	3	0	4	1	0	5	0	3	1	0	4	2	1	0	0	3	15
Total	4	7	2	0	13	2	10	2	0	14	2	11	4	0	17	3	9	0	0	12	56
Approach %	30.77	53.85	15.38	0.00	-	14.29	71.43	14.29	0.00	-	11.76	64.71	23.53	0.00	-	25.00	75.00	0.00	0.00	-	-
PHF	0.50	0.58	0.50	0.00	0.81	0.25	0.63	0.50	0.00	0.70	0.50	0.69	0.50	0.00	0.85	0.38	0.56	0.00	0.00	0.75	0.93

Combination Trucks (6-15)		Northbound					Southbound					Eastbound					Westbound					Int Total					
		Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Spring Rd SE (West)					Spring Rd SE (East)										
		Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total						
Time		0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2
1700 - 1715		0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2
1715 - 1730		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745		0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
1745 - 1800		0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	0	0	0	0	1	3
Total		0	1	0	0	1	0	1	0	0	1	0	5	0	0	5	0	1	0	0	1	0	0	0	1	1	8
Approach %		0,00	100,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	-
PHF		0,00	0,25	0,00	0,00	0,25	0,00	0,25	0,00	0,00	0,25	0,00	0,42	0,00	0,00	0,42	0,00	0,25	0,00	0,00	0,25	0,00	0,25	0,00	0,00	0,25	0,67

[illegible]

Smyrna, GA

Peak Hour Turning Movement Count



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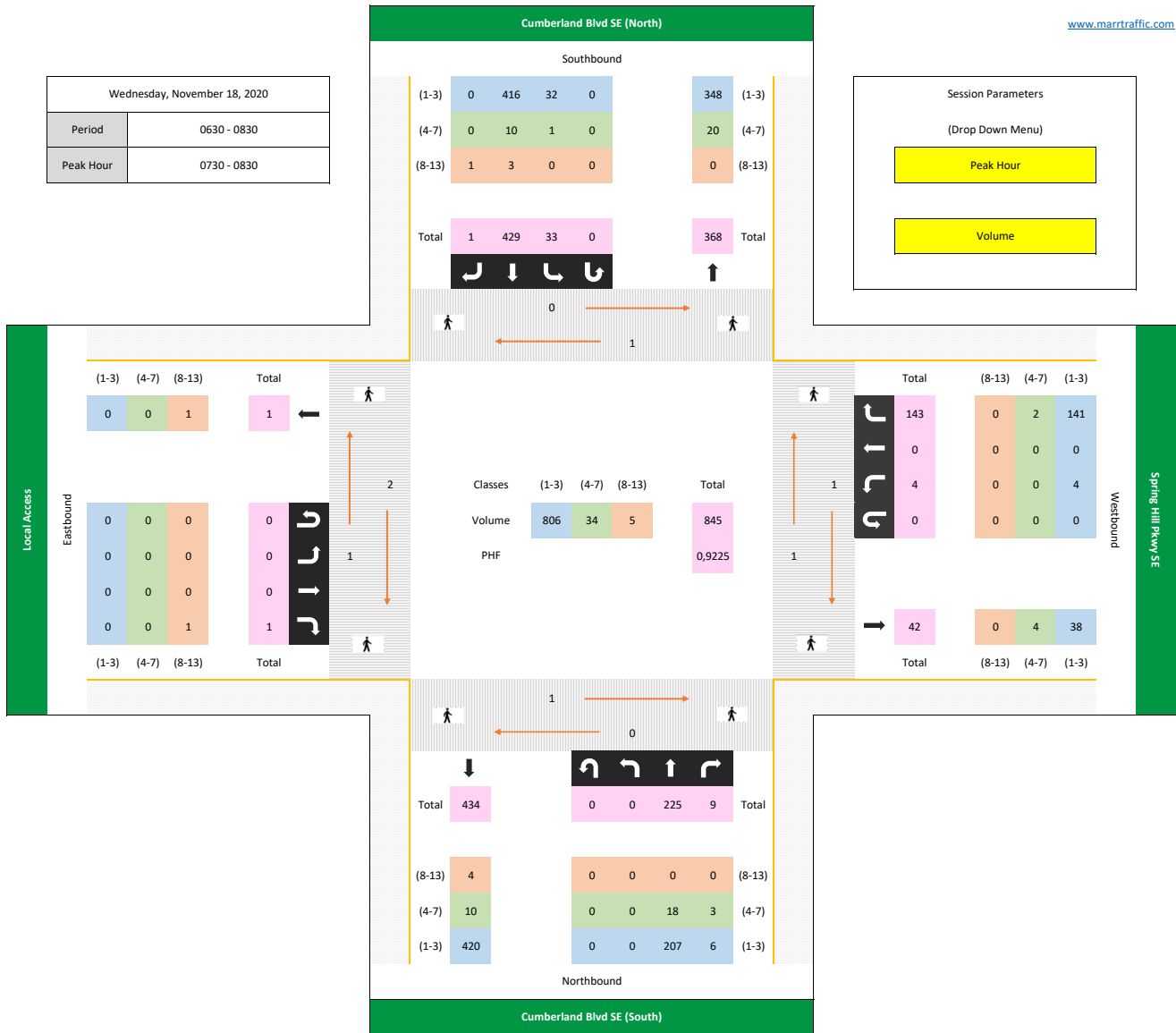
Wednesday, November 18, 2020	
Period	0630 - 0830
Peak Hour	0730 - 0830

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All Vehicles	Northbound					Southbound					Eastbound					Westbound					Int. Total
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Local Access					Spring Hill Pkwy SE					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
Time	0	53	5	0	58	8	110	0	0	118	0	0	0	0	0	1	0	36	0	37	213
0730 - 0745	0	58	3	0	61	11	120	0	0	131	0	0	0	0	0	1	0	36	0	37	229
0745 - 0800	0	51	0	0	51	5	101	1	0	107	0	0	0	0	0	1	0	40	0	41	199
0800 - 0815	0	63	1	0	64	9	98	0	0	107	0	0	1	0	1	1	0	31	0	32	204
0815 - 0830																					
Total	0	225	9	0	234	33	429	1	0	463	0	0	1	0	1	4	0	143	0	147	845
Approach %	0.00	96.15	3.85	0.00	-	7.13	92.66	0.22	0.00	-	0.00	0.00	100.00	0.00	-	2.72	0.00	97.28	0.00	-	
PHF	0.00	0.89	0.45	0.00	0.91	0.75	0.89	0.25	0.00	0.88	0.00	0.00	0.25	0.00	0.25	1.00	0.00	0.89	0.00	0.90	0.92

Time	Northbound					Southbound					Eastbound					Westbound					
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Local Access					Spring Hill Pkwy SE					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	Int Total
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Passenger Volumes (x 100)		Northbound					Southbound					Eastbound					Westbound					Int. Total
		Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Local Access					Spring Hill Pkwy SE					
		Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
Time		0	49	3	0	52	8	107	0	0	115	0	0	0	0	0	1	0	35	0	36	203
0730 - 0745		0	54	2	0	56	10	116	0	0	126	0	0	0	0	0	1	0	35	0	36	218
0745 - 0800		0	45	0	0	45	5	99	0	0	104	0	0	0	0	0	1	0	40	0	41	190
0800 - 0815		0	59	1	0	60	9	94	0	0	103	0	0	0	0	0	4	0	31	0	32	195
0815 - 0830																						
Total		0	207	6	0	213	32	416	0	0	448	0	0	0	0	0	1	0	141	0	145	806
Approach %		0.00	97.18	2.82	0.00	-	7.14	92.86	0.00	0.00	-	0.00	0.00	0.00	0.00	-	2.76	0.00	97.24	0.00	-	
PHF		0.00	0.88	0.50	0.00	0.89	0.80	0.90	0.00	0.00	0.89	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.88	0.00	0.88	0.92

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Local Access					Spring Hill Pkwy SE					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
0730 - 0745	0	4	2	0	6	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	10
0745 - 0800	0	4	1	0	5	1	2	0	0	3	0	0	0	0	0	0	0	1	0	1	9
0800 - 0815	0	6	0	0	6	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	7
0815 - 0830	0	4	0	0	4	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	8
Total	0	18	3	0	21	1	10	0	0	11	0	0	0	0	0	0	0	2	0	2	34
Approach %	0,00	85,71	14,29	0,00	-	9,09	90,91	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	100,00	0,00	-	
PHF	0,00	0,75	0,38	0,00	0,88	0,25	0,63	0,00	0,00	0,69	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,50	0,00	0,50	0,85

		Northbound					Southbound					Eastbound					Westbound					Int Total
		Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Local Access					Spring Hill Pkwy SE					
		Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
Time		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745		0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800		0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	2
0800 - 0815		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
0815 - 0830		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total		0	0	0	0	0	0	3	1	0	4	0	0	1	0	1	0	0	0	0	0	5
Approach %		0,00	0,00	0,00	0,00	-	0,00	75,00	25,00	0,00	-	0,00	0,00	100,00	0,00	-	0,00	0,00	0,00	0,00	-	
PHF		0,00	0,00	0,00	0,00	0,00	0,00	0,38	0,25	0,00	0,50	0,00	0,00	0,25	0,00	0,25	0,00	0,00	0,00	0,00	0,00	0,63

[illegible]

Smyrna, GA

Peak Hour Turning Movement Count



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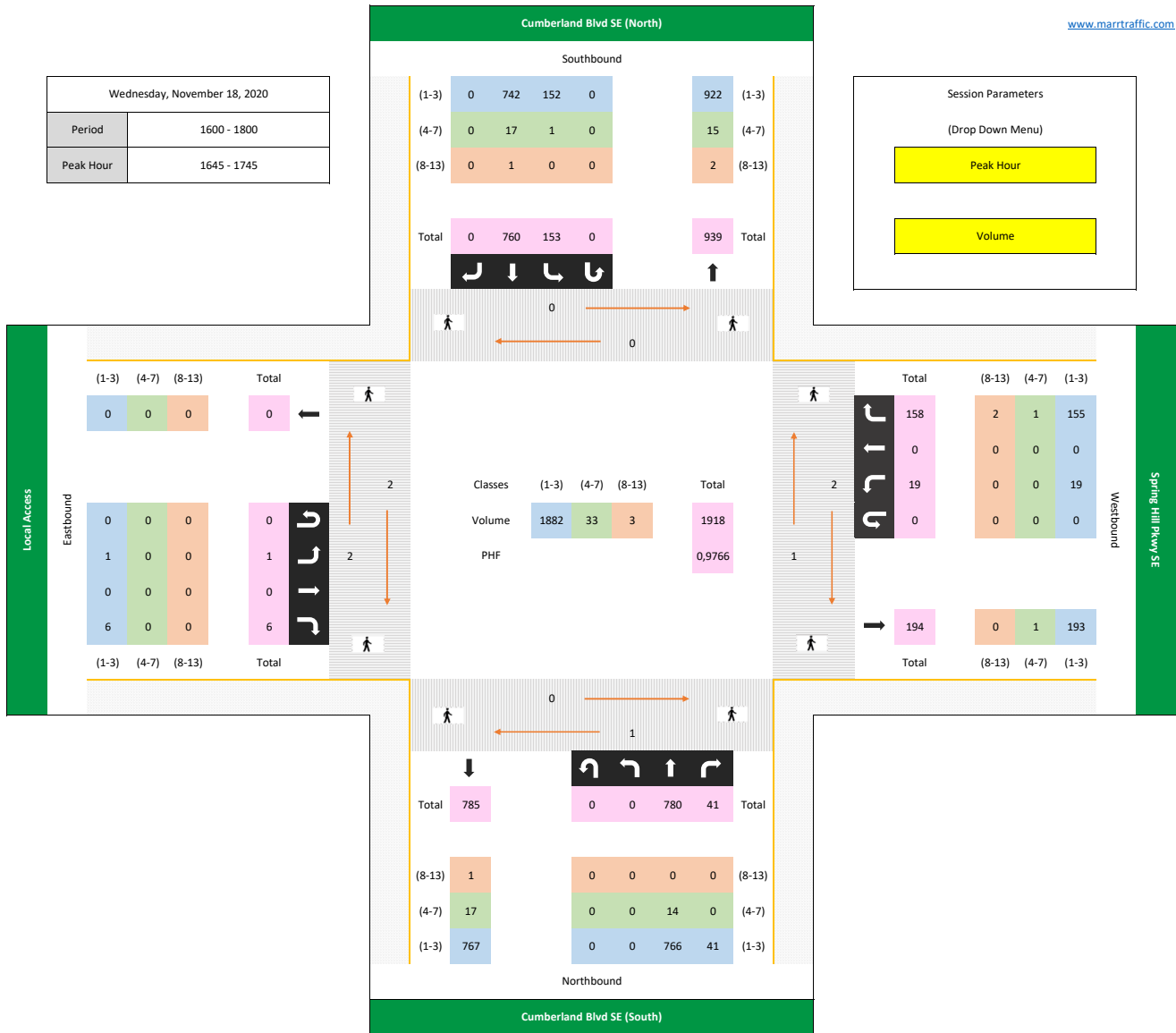
Wednesday, November 18, 2020	
Period	1600 - 1800
Peak Hour	1645 - 1745

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



	Northbound					Southbound					Eastbound					Westbound					Int Total
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Local Access					Spring Hill Pkwy SE					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 4.0	Right 4.1	U-Turn 4.2	App Total	Left 4.3	Thru 4.4	Right 4.5	U-Turn 4.6	App Total	
Time																					
1645 - 1700	0	194	10	0	204	36	197	0	0	233	0	0	0	0	0	2	0	44	0	46	
1700 - 1715	0	197	9	0	206	43	192	0	0	235	0	0	0	0	0	6	0	44	0	50	
1715 - 1730	0	197	10	0	207	38	193	0	0	231	0	0	5	0	5	6	0	31	0	37	
1730 - 1745	0	192	12	0	204	36	178	0	0	214	1	0	1	0	2	5	0	39	0	44	
Total	0	780	41	0	821	153	760	0	0	913	1	0	6	0	7	19	0	158	0	177	
Approach %	0,00	95,01	4,99	0,00	-	16,76	83,24	0,00	0,00	-	14,29	0,00	85,71	0,00	-	10,73	0,00	89,27	0,00	-	
PHF	0,00	0,99	0,85	0,00	0,99	0,89	0,96	0,00	0,00	0,97	0,25	0,00	0,30	0,00	0,35	0,79	0,00	0,90	0,00	0,89	

[illegible]

Time	Northbound					Southbound					Eastbound					Westbound					Int
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Local Access					Spring Hill Pkwy SE					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
	3.1	3.2	3.3	3.4		3.5	3.6	3.7	3.8		3.9	4.0	4.1	4.2		4.3	4.4	4.5	4.6		
1645 - 1700	0	189	10	0	199	36	189	0	0	225	0	0	0	0	0	2	0	42	0	44	468
1700 - 1715	0	193	9	0	202	42	190	0	0	232	0	0	0	0	0	6	0	43	0	49	483
1715 - 1730	0	195	10	0	205	38	190	0	0	228	0	0	5	0	5	6	0	31	0	37	475
1730 - 1745	0	189	12	0	201	36	173	0	0	209	1	0	1	0	2	5	0	39	0	44	456
Total	0	766	41	0	807	152	742	0	0	894	1	0	6	0	7	19	0	155	0	174	1882
Approach %	0,00	94,92	5,08	0,00	-	17,00	83,00	0,00	0,00	-	14,29	0,00	85,71	0,00	-	10,92	0,00	89,08	0,00	-	
PHF	0,00	0,98	0,85	0,00	0,98	0,90	0,98	0,00	0,00	0,96	0,25	0,00	0,30	0,00	0,35	0,79	0,00	0,90	0,00	0,89	0,97

Time	Northbound					Southbound					Eastbound					Westbound					Int. Total	
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Local Access					Spring Hill Pkwy SE						
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total		
1645 - 1700	0	5	0	0	5	0	7	0	0	7	0	0	0	0	0	0	0	0	1	0	1	13
1700 - 1715	0	4	0	0	4	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	7	
1715 - 1730	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	5	
1730 - 1745	0	3	0	0	3	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	8	
Total	0	14	0	0	14	1	17	0	0	18	0	0	0	0	0	0	0	1	0	1	33	
Approach %	0.00	100.00	0.00	0.00	-	5.56	94.44	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	
PHF	0.00	0.70	0.00	0.00	0.70	0.25	0.61	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.63	

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Cumberland Blvd SE (South)					Cumberland Blvd SE (North)					Local Access					Spring Hill Pkwy SE					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
1645 - 1700	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	2
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	3
Approach %	0,00	0,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	100,00	0,00	-	-
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,25	0,00	0,00	0,25	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,50	0,00	0,50	0,38

[illegible]

Smyrna, GA

Peak Hour Turning Movement Count



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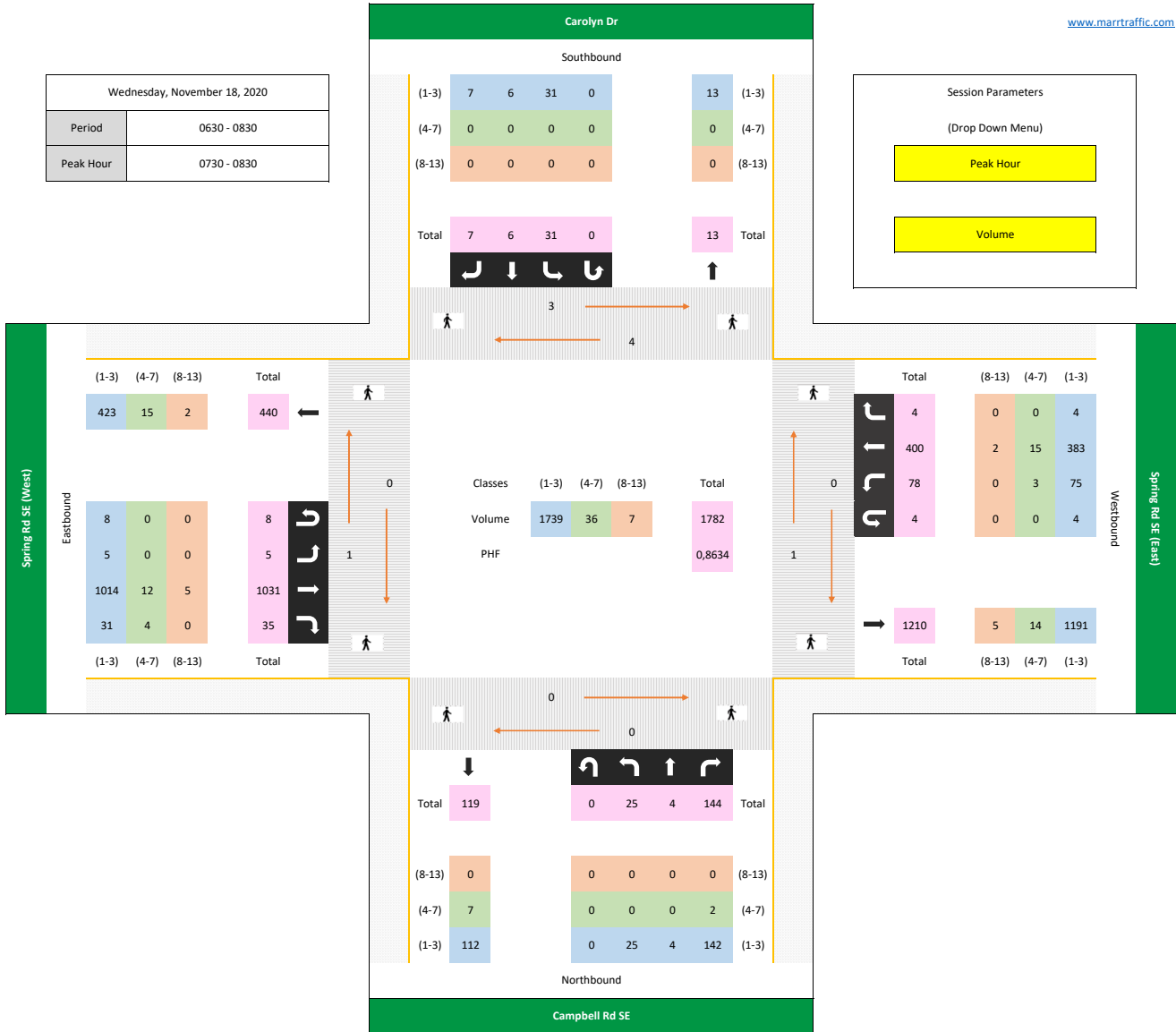
Wednesday, November 18, 2020	
Period	0630 - 0830
Peak Hour	0730 - 0830

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Campbell Rd SE					Carolyn Dr					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	
0730 - 0745	5	0	37	0	42	11	1	1	0	13	1	258	5	2	266	14	91	0	1	106	427
0745 - 0800	9	0	41	0	50	10	1	2	0	13	0	297	12	3	312	20	117	2	2	141	516
0800 - 0815	4	2	41	0	47	5	3	3	0	11	3	208	9	1	221	23	85	2	0	110	389
0815 - 0830	7	2	25	0	34	5	1	1	0	7	1	268	9	2	280	21	107	0	1	129	450
Total	25	4	144	0	173	31	6	7	0	44	5	1031	35	8	1079	78	400	4	4	486	1782
Approach %	14.45	2.31	83.24	0.00	-	70.45	13.64	15.91	0.00	-	0.46	95.55	3.24	0.74	-	16.05	82.30	0.82	0.82	-	-
PHF	0.69	0.50	0.88	0.00	0.87	0.70	0.50	0.58	0.00	0.85	0.42	0.87	0.73	0.67	0.86	0.85	0.85	0.50	0.50	0.86	0.86

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Campbell Rd SE					Carolyn Dr					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Time	Northbound					Southbound					Eastbound					Westbound					Int
	Campbell Rd SE					Carolyn Dr					Spring Rd SE (West)					Spring Rd SE (East)					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
	4.1	4.2	4.3	4.4		4.5	4.6	4.7	4.8		4.9	4.10	4.11	4.12		4.13	4.14	4.15	4.16		
0730 - 0745	5	0	36	0	41	11	1	1	0	13	1	254	3	2	260	14	85	0	1	100	414
0745 - 0800	9	0	40	0	49	10	1	2	0	13	0	294	12	3	309	18	113	2	2	135	506
0800 - 0815	4	2	41	0	47	5	3	3	0	11	3	203	9	1	216	22	83	2	0	107	381
0815 - 0830	7	2	25	0	34	5	1	1	0	7	1	263	7	2	273	21	102	0	1	124	438
Total	25	4	142	0	171	31	6	7	0	44	5	1014	31	8	1058	75	383	4	4	466	1739
Approach %	14.62	2.34	83.04	0.00	-	70.45	13.64	15.91	0.00	-	4.57	95.84	2.93	0.76	-	16.09	82.19	0.86	0.86	-	
PHF	0.69	0.50	0.87	0.00	0.87	0.70	0.50	0.58	0.00	0.85	0.42	0.86	0.65	0.67	0.86	0.85	0.85	0.50	0.50	0.86	0.86

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Campbell Rd SE					Carolyn Dr					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	
0730 - 0745	0	0	1	0	1	0	0	0	0	0	0	3	2	0	5	0	5	0	0	5	11
0745 - 0800	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	2	3	0	0	5	8
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	1	2	0	0	3	6
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	4	2	0	6	0	5	0	0	5	11
Total	0	0	2	0	2	0	0	0	0	0	0	12	4	0	16	3	15	0	0	18	36
Approach %	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	75.00	25.00	0.00	-	16.67	83.33	0.00	0.00	-	
PHF	0.00	0.00	0.50	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.50	0.00	0.67	0.38	0.75	0.00	0.00	0.90	0.82

Time	Northbound Campbell Rd SE					Southbound Carolyn Dr					Eastbound Spring Rd SE (West)					Westbound Spring Rd SE (East)					Int Total
	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	
	0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	2	0	0	2	7
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	-
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,63	0,00	0,00	0,63	0,00	0,50	0,00	0,00	0,50	0,88

[illegible]

Peak Hour Turning Movement Count



Wednesday, November 18, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

Carroll Dr

Southbound

Class	(1-3)	(4-7)	(8-13)
Volume	8	0	0
PHF	0.27	0.00	0.00

Total 8

Northbound

Class	(1-3)	(4-7)	(8-13)
Volume	58	1	0
PHF	0.97	0.02	0.00

Total 59

Carroll Dr

Southbound

Class	(1-3)	(4-7)	(8-13)
Volume	3041	24	6
PHF	0.98	0.08	0.02

Total 3071

Northbound

Class	(1-3)	(4-7)	(8-13)
Volume	0	0	0
PHF	0.00	0.00	0.00

Total 0

Carroll Dr

Southbound

Class	(1-3)	(4-7)	(8-13)
Volume	323	0	0
PHF	0.98	0.00	0.00

Total 323

Northbound

Class	(1-3)	(4-7)	(8-13)
Volume	0	1	0
PHF	0.00	0.03	0.00

Total 1

Carroll Dr

Southbound

Class	(1-3)	(4-7)	(8-13)
Volume	0	0	0
PHF	0.00	0.00	0.00

Total 0

Northbound

Class	(1-3)	(4-7)	(8-13)
Volume	0	90	13
PHF	0.00	0.30	0.04

Total 103

Session Parameters

(Drop Down Menu)

Peak Hour

Volume

Spring Rd SE (West)

Eastbound

Westbound

Spring Rd SE (East)

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Campbell Rd SE					Carolyn Dr					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	
1700 - 1715	18	2	59	0	79	2	4	3	0	9	2	206	23	4	235	53	332	5	2	392	715
1715 - 1730	23	5	41	0	69	6	0	3	0	9	3	274	15	6	295	59	344	7	1	411	787
1730 - 1745	26	4	48	0	78	14	1	2	0	17	4	235	20	6	268	70	392	14	1	417	837
1745 - 1800	24	2	41	0	67	7	2	0	0	9	2	214	14	9	239	62	344	9	2	417	732
Total	91	13	189	0	293	29	7	8	0	44	11	929	72	25	1037	244	1412	35	6	1697	3071
Approach %	31.06	4.44	64.51	0.00	-	65.91	15.91	18.18	0.00	-	1.06	89.59	6.94	2.41	-	14.38	83.21	2.06	0.35	-	-
PHF	0.88	0.65	0.80	0.00	0.93	0.52	0.44	0.67	0.00	0.65	0.69	0.85	0.78	0.69	0.87	0.87	0.90	0.63	0.75	0.89	0.92

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Campbell Rd SE					Carolyn Dr					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Time	Northbound					Southbound					Eastbound					Westbound					Int
	Campbell Rd SE					Carolyn Dr					Spring Rd SE (West)					Spring Rd SE (East)					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
	4.1	4.2	4.3	4.4		4.5	4.6	4.7	4.8		4.9	4.10	4.11	4.12		4.13	4.14	4.15	4.16		
1700 - 1715	18	2	59	0	79	2	4	3	0	9	2	202	23	4	231	53	329	5	2	389	
1715 - 1730	23	5	41	0	69	6	0	3	0	9	3	272	15	6	296	59	341	7	1	408	
1730 - 1745	26	4	48	0	78	14	1	2	0	17	4	272	20	6	297	70	390	14	1	475	
1745 - 1800	23	2	41	0	66	7	2	0	0	9	2	210	14	9	235	62	342	8	2	414	
Total	90	13	189	0	292	29	7	8	0	44	11	911	72	25	1019	244	1402	34	6	1686	
Approach %	30.82	4.45	64.73	0.00	-	65.91	15.91	18.18	0.00	-	1.08	89.40	7.07	2.45	-	14.47	83.16	2.02	0.36	-	
PHF	0.87	0.65	0.80	0.00	0.92	0.52	0.44	0.67	0.00	0.65	0.69	0.84	0.78	0.69	0.86	0.87	0.90	0.61	0.75	0.89	

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Campbell Rd SE					Carolyn Dr					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	1	0	0	1	6
1745 - 1800	1	0	0	0	1	0	0	0	0	0	0	4	0	0	4	0	2	1	0	3	8
Total	1	0	0	0	1	0	0	0	0	0	0	13	0	0	13	0	9	1	0	10	24
Approach %	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	90.00	10.00	0.00	-	
PHF	0.25	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.65	0.00	0.75	0.25	0.00	0.83	0.75

Time	Northbound Campbell Rd SE					Southbound Carolyn Dr					Eastbound Spring Rd SE (West)					Westbound Spring Rd SE (East)					Int Total
	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	
	1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	4
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	1	0	0	1	6
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	-
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,42	0,00	0,00	0,42	0,00	0,25	0,00	0,00	0,25	0,38

[illegible]

Smyrna, GA

Peak Hour Turning Movement Count



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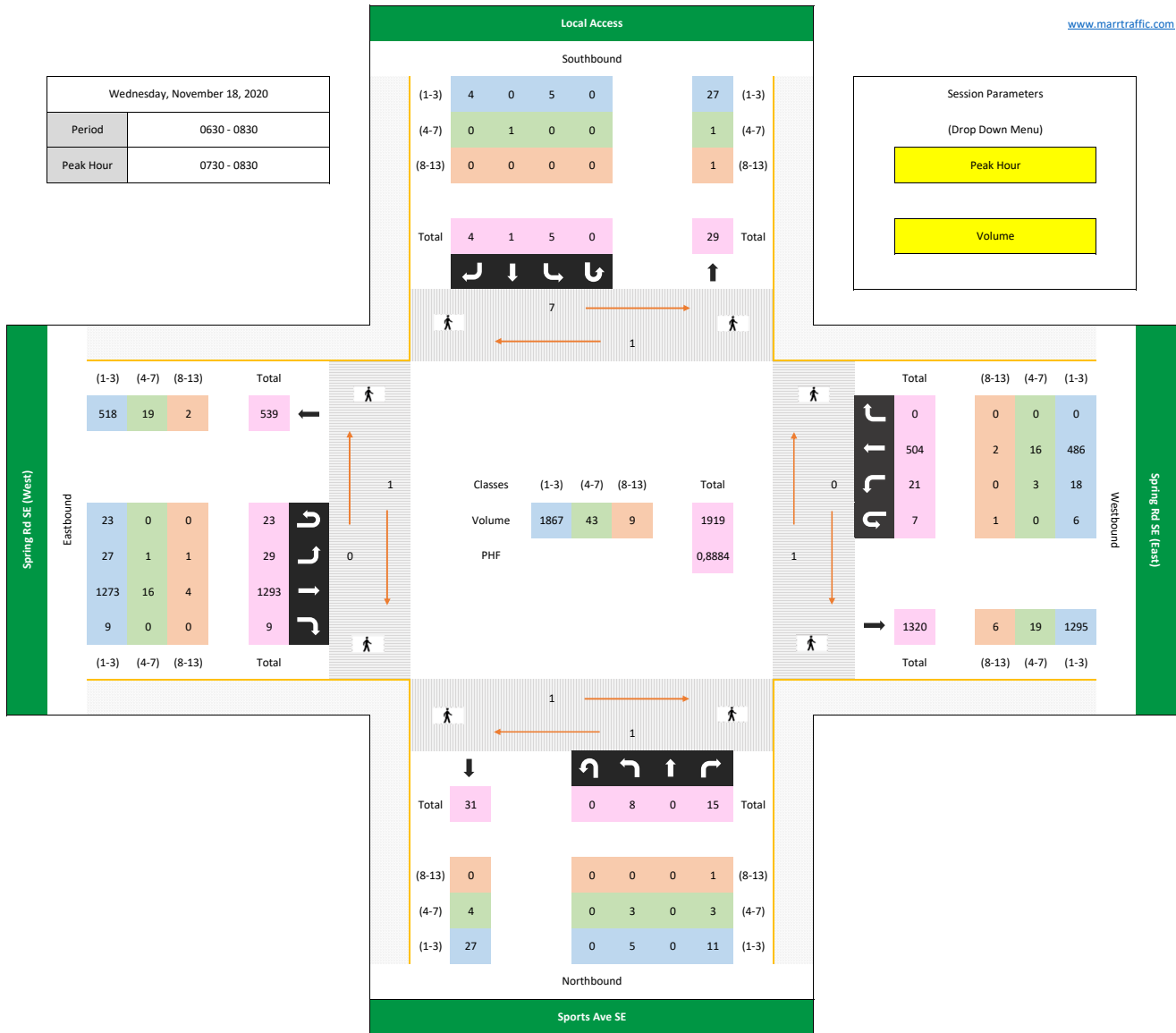
Wednesday, November 18, 2020	
Period	0630 - 0830
Peak Hour	0730 - 0830

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All Vehicles	Northbound					Southbound					Eastbound					Westbound					Int Total
	Sports Ave SE					Local Access					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.1	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
Time	1	0	8	0	9	0	0	1	0	1	7	339	3	7	356	5	121	0	1	127	493
0730 - 0745	3	0	3	0	6	2	1	1	0	4	10	360	2	9	381	6	142	0	1	149	540
0745 - 0800	2	0	1	0	3	2	0	0	0	2	4	316	0	1	321	4	116	0	3	123	449
0800 - 0815	2	0	3	0	5	1	0	2	0	3	8	278	4	6	296	6	125	0	2	133	437
0815 - 0830																					
Total	8	0	15	0	23	5	1	4	0	10	29	1293	9	23	1354	21	504	0	7	532	1919
Approach %	34.78	0.00	65.22	0.00	-	50.00	10.00	40.00	0.00	-	2.14	95.49	0.66	1.70	-	3.95	94.74	0.00	1.32	-	
PHF	0.67	0.00	0.47	0.00	0.64	0.63	0.25	0.50	0.00	0.63	0.73	0.90	0.56	0.64	0.89	0.88	0.89	0.00	0.58	0.89	0.89

Time	Northbound Sports Ave SE					Southbound Local Access					Eastbound Spring Rd SE (West)					Westbound Spring Rd SE (East)					Int Total
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
	0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Passenger Vehicles (1-5)	Northbound					Southbound					Eastbound					Westbound					Int
	Sports Ave SE					Local Access					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	
Time																					
0730 - 0745	1	0	0	0	7	0	0	1	0	1	7	333	3	7	350	4	117	0	1	122	480
0745 - 0800	2	0	0	0	5	2	0	1	0	3	8	356	2	9	375	6	135	0	1	142	525
0800 - 0815	1	0	0	0	1	2	0	0	0	2	4	310	0	1	315	2	111	0	2	115	433
0815 - 0830	1	0	2	0	3	1	0	2	0	3	8	274	4	6	292	6	123	0	2	131	429
Total	5	0	11	0	16	5	0	4	0	9	27	1273	9	23	1332	18	486	0	6	510	1867
Approach %	31.25	0.00	68.75	0.00	-	55.56	0.00	44.44	0.00	-	2.03	95.57	0.68	1.73	-	3.53	95.29	0.00	1.18	-	
PHF	0.63	0.00	0.46	0.00	0.57	0.63	0.00	0.50	0.00	0.75	0.84	0.89	0.56	0.64	0.89	0.75	0.90	0.00	0.75	0.90	0.89

Single Unit Trucks (477)	Northbound					Southbound					Eastbound					Westbound					Int Total
	Sports Ave SE					Local Access					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
Time																					
0730 - 0745	0	0	2	0	2	0	0	0	0	0	0	6	0	0	6	1	4	0	0	5	
0745 - 0800	1	0	0	0	1	0	1	0	0	1	1	3	0	0	4	0	6	0	0	6	
0800 - 0815	1	0	0	0	1	0	0	0	0	0	0	4	0	0	4	2	4	0	0	6	
0815 - 0830	1	0	1	0	2	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	
Total	3	0	3	0	6	0	1	0	0	1	1	16	0	0	17	3	16	0	0	19	
Approach %	50.00	0.00	50.00	0.00	-	0.00	100.00	0.00	0.00	-	5.88	94.12	0.00	0.00	-	15.79	84.21	0.00	0.00	-	
PHF	0.75	0.00	0.38	0.00	0.75	0.00	0.25	0.00	0.00	0.25	0.25	0.67	0.00	0.00	0.71	0.38	0.67	0.00	0.00	0.79	

Combination Trucks (8-15)																					
	Northbound					Southbound					Eastbound					Westbound					
	Sports Ave SE					Local Access					Spring Rd SE (West)					Spring Rd SE (East)					
Time	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	Int Total
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	3
0800 - 0815	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	0	1	0	1	2	5
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	1	0	1	0	0	0	0	0	1	4	0	0	5	0	2	0	1	3	9
Approach %	0,00	0,00	100,00	0,00	-	0,00	0,00	0,00	0,00	-	20,00	80,00	0,00	0,00	-	0,00	66,67	0,00	33,33	-	-
PHF	0,00	0,00	0,25	0,00	0,25	0,00	0,00	0,00	0,00	0,00	0,25	0,50	0,00	0,00	0,63	0,00	0,50	0,00	0,25	0,38	0,45

Pedestrians	Northbound					Southbound					Eastbound					Westbound					Int
	Sports Ave SE					Local Access					Spring Rd SE (West)					Spring Rd SE (East)					
	EB 5a	WB 5b			App Total	EB 5c	WB 5d			App Total	NB 5e	SB 5f			App Total	NB 5g	SB 5h			App Total	
Time																					
0730 - 0745	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0745 - 0800	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0800 - 0815	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
0815 - 0830	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0	0	-	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	-
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Smyrna, GA

Peak Hour Turning Movement Count



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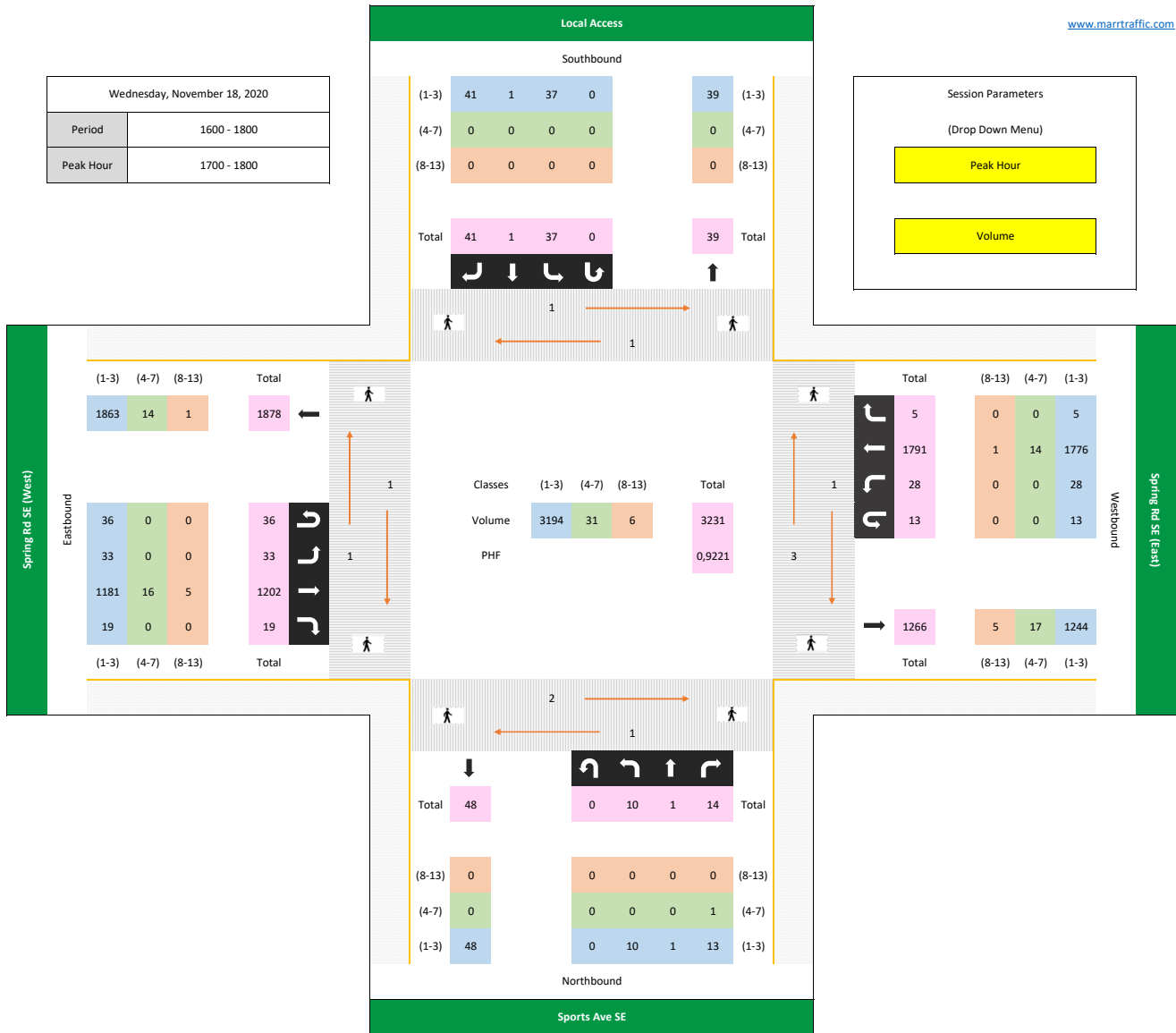
Wednesday, November 18, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All Vehicles	Northbound					Southbound					Eastbound					Westbound					Int
	Sports Ave SE					Local Access					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.1	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
Time	2	0	2	0	4	9	1	8	0	18	9	264	6	5	284	6	407	2	2	417	723
1700 - 1715	3	0	6	0	9	10	0	8	0	18	7	326	4	10	347	6	490	2	4	502	876
1715 - 1730	4	0	1	0	5	12	0	12	0	24	9	321	5	8	343	8	460	0	6	474	846
1730 - 1745	1	1	5	0	7	6	0	13	0	19	8	291	4	13	316	8	434	1	1	444	786
1745 - 1800																					
Total	10	1	14	0	25	37	1	41	0	79	33	1202	19	36	1290	28	1791	5	13	1837	3231
Approach %	40.00	4.00	56.00	0.00	-	46.84	1.27	51.90	0.00	-	2.56	93.18	1.47	2.79	-	1.52	97.50	0.27	0.71	-	
PHF	0.63	0.25	0.58	0.00	0.69	0.77	0.25	0.79	0.00	0.82	0.92	0.92	0.79	0.69	0.93	0.88	0.91	0.63	0.54	0.91	0.92

Time	Northbound Sports Ave SE					Southbound Local Access					Eastbound Spring Rd SE (West)					Westbound Spring Rd SE (East)					Int Total
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
	1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Passenger Vehicles (x 100)	Northbound					Southbound					Eastbound					Westbound					Int. Total
	Sports Ave SE					Local Access					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.1	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
Time	2	0	2	0	4	9	1	8	0	18	9	261	6	5	281	6	403	2	2	413	716
1700 - 1715	5	0	6	0	9	10	0	8	0	18	7	320	4	10	341	6	484	2	4	496	864
1715 - 1730	3	0	1	0	5	12	0	12	0	24	9	313	5	8	335	8	458	0	6	472	836
1730 - 1745	1	1	4	0	6	6	0	13	0	19	8	287	4	13	312	8	431	1	1	441	778
1745 - 1800																					
Total	10	1	13	0	24	37	1	41	0	79	33	1181	19	36	1269	28	1776	5	13	1822	3194
Approach %	41.67	4.17	54.17	0.00	-	46.84	1.27	51.90	0.00	-	2.60	93.07	1.50	2.84	-	1.54	97.48	0.27	0.71	-	-
PHF	0.63	0.25	0.54	0.00	0.67	0.77	0.25	0.79	0.00	0.82	0.92	0.92	0.79	0.69	0.93	0.88	0.92	0.63	0.54	0.92	0.92

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Sports Ave SE					Local Access					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	0	0	4	6
1715 - 1730	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	5	0	0	5	11	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	2	0	0	2	7	
1745 - 1800	0	0	1	0	1	0	0	0	0	0	3	0	0	3	0	3	0	0	3	7	
Total	0	0	1	0	1	0	0	0	0	0	0	16	0	0	16	0	14	0	0	14	31
Approach %	0,00	0,00	100,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	
PHF	0,00	0,00	0,25	0,00	0,25	0,00	0,00	0,00	0,00	0,00	0,00	0,67	0,00	0,00	0,67	0,00	0,70	0,00	0,00	0,70	0,70

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Sports Ave SE					Local Access					Spring Rd SE (West)					Spring Rd SE (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	1	0	0	1	6
Approach %	0,00	0,00	0,00	0,00	-	0,00	0,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	0,00	100,00	0,00	0,00	-	
PHF	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,42	0,00	0,00	0,42	0,00	0,25	0,00	0,00	0,25	0,50

[illegible]

Smyrna, GA
Classified Traffic Count

Site 6
Spring Rd SE,
east of Cumberland Way

Lat/Long
33,883248°, -84,479486°

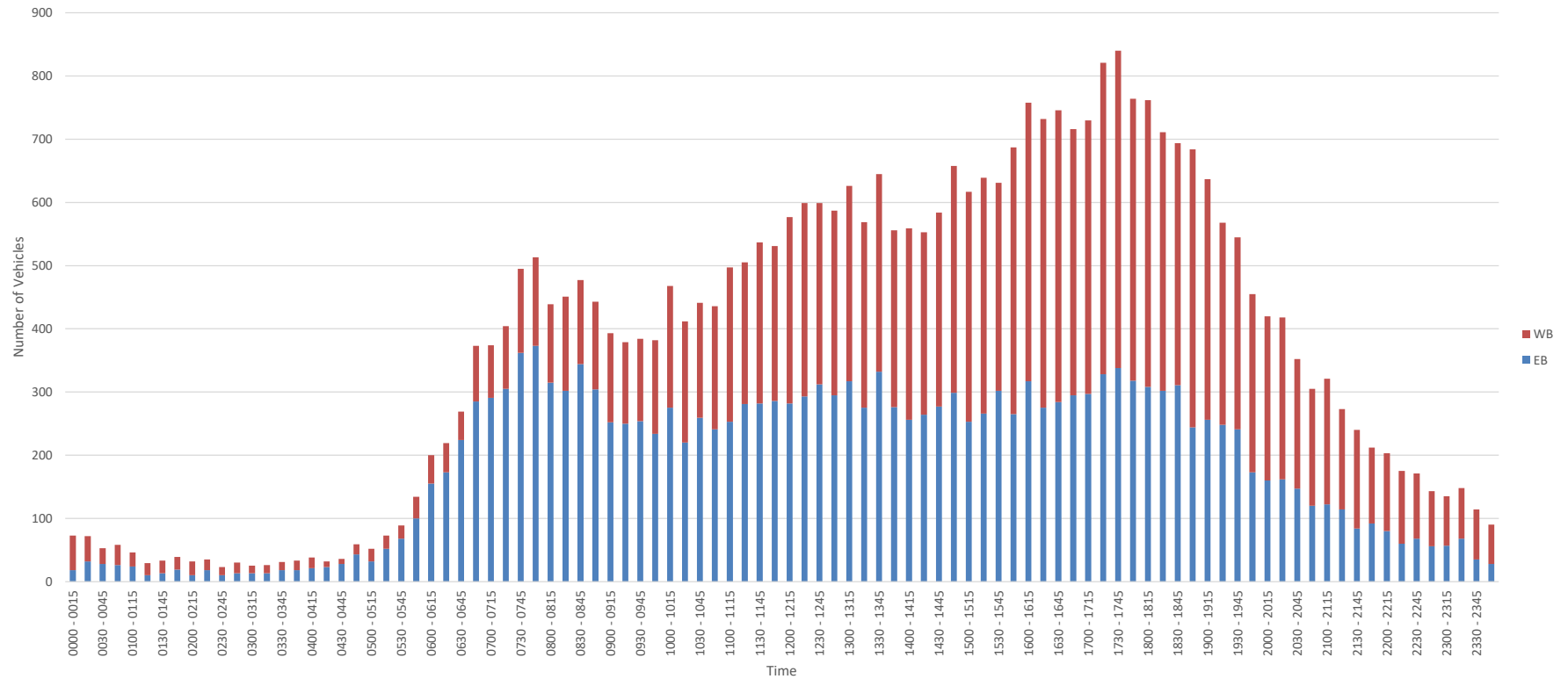
Date
Wednesday, November 18, 2020

Weather
Fair
51°F

0000 - 2400 (Weekday 24h Session)

TIME	Site 6		TOTAL
	EB	WB	
0000 - 0015	18	55	73
0015 - 0030	32	40	72
0030 - 0045	28	25	53
0045 - 0100	25	32	58
0100 - 0115	24	22	46
0115 - 0130	10	19	29
0130 - 0145	13	20	33
0145 - 0200	19	20	39
0200 - 0215	10	22	32
0215 - 0230	18	17	35
0230 - 0245	10	13	23
0245 - 0300	13	17	30
0300 - 0315	13	12	25
0315 - 0330	13	13	26
0330 - 0345	18	13	31
0345 - 0400	18	15	33
0400 - 0415	23	17	38
0415 - 0430	23	9	32
0430 - 0445	28	8	36
0445 - 0500	43	16	59
0500 - 0515	32	20	52
0515 - 0530	52	21	73
0530 - 0545	68	21	89
0545 - 0600	100	34	134
0600 - 0615	155	45	200
0615 - 0630	173	46	219
0630 - 0645	224	45	269
0645 - 0700	285	88	373
0700 - 0715	291	83	374
0715 - 0730	305	99	404
0730 - 0745	362	133	495
0745 - 0800	373	140	513
0800 - 0815	315	124	439
0815 - 0830	302	149	451
0830 - 0845	344	133	477
0845 - 0900	304	139	443
0900 - 0915	252	141	393
0915 - 0930	250	129	379
0930 - 0945	254	130	384
0945 - 1000	234	148	382
1000 - 1015	275	193	468
1015 - 1030	220	192	412
1030 - 1045	259	182	441
1045 - 1100	241	195	436
1100 - 1115	253	244	497
1115 - 1130	281	224	505
1130 - 1145	282	255	537
1145 - 1200	286	245	531
1200 - 1215	282	295	577
1215 - 1230	293	306	599
1230 - 1245	312	287	599
1245 - 1300	295	292	587
1300 - 1315	317	309	626
1315 - 1330	275	294	569
1330 - 1345	332	313	645
1345 - 1400	276	280	556
1400 - 1415	256	303	559
1415 - 1430	264	289	553
1430 - 1445	277	307	584
1445 - 1500	299	359	658
1500 - 1515	253	364	617
1515 - 1530	266	373	639
1530 - 1545	302	329	631
1545 - 1600	265	422	687
1600 - 1615	317	441	758
1615 - 1630	275	457	732
1630 - 1645	284	462	746
1645 - 1700	295	421	716
1700 - 1715	297	433	730
1715 - 1730	328	493	821
1730 - 1745	338	502	840
1745 - 1800	318	446	764
1800 - 1815	308	454	762
1815 - 1830	302	409	711
1830 - 1845	311	383	694
1845 - 1900	244	440	684
1900 - 1915	256	381	637
1915 - 1930	248	320	568
1930 - 1945	241	304	545
1945 - 2000	173	282	455
2000 - 2015	160	260	420
2015 - 2030	162	256	418
2030 - 2045	147	205	352
2045 - 2100	120	185	305
2100 - 2115	122	199	321
2115 - 2130	114	159	273
2130 - 2145	84	156	240
2145 - 2200	92	120	212
2200 - 2215	80	123	203
2215 - 2230	60	115	175
2230 - 2245	68	103	171
2245 - 2300	56	87	143
2300 - 2315	57	78	135
2315 - 2330	68	80	148
2330 - 2345	35	79	114
2345 - 0000	28	62	90
Session Total	17722	18020	35742
Session Average	184.60	187.71	372.31

Site 6, Wednesday, November 18, 2020



Trip Generation

Trip Generation Analysis (10th Ed. with 2nd Edition Handbook Daily IC & 3rd Edition AM/PM IC)
Emerson Center
Smyrna, GA

Land Use			Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
					Total	In	Out	Total	In	Out
<u>Proposed Site Traffic</u>										
221	Multi-Family Housing (Mid-Rise)		350 d.u.	1,906	117	30	87	147	90	57
310	Hotel		188 rooms	1,696	89	53	36	115	59	56
820	Shopping Center		27,958 s.f. gross leasable area	1,056	26	16	10	107	51	56
Gross Trips				4,658	232	99	133	369	200	169
Residential Trips				1,906	117	30	87	147	90	57
Mixed-Use Reductions				-56	-2	-1	-1	-22	-15	-7
Alternative Mode Reductions				0	0	0	0	0	0	0
Adjusted Residential Trips				1,850	115	29	86	125	75	50
Hotel Trips				1,696	89	53	36	115	59	56
Mixed-Use Reductions				-50	-1	0	-1	-6	-5	-1
Alternative Mode Reductions				0	0	0	0	0	0	0
Adjusted Hotel Trips				1,646	88	53	35	109	54	55
Retail Trips				1,056	26	16	10	107	51	56
Mixed-Use Reductions				-106	-3	-2	-1	-24	-6	-18
Alternative Mode Reductions				0	0	0	0	0	0	0
Pass By Reductions (Based on ITE Rates)				-322	0	0	0	-28	-14	-14
Adjusted Retail Trips				628	23	14	9	55	31	24
Mixed-Use Reductions - TOTAL				-212	-6	-3	-3	-52	-26	-26
Alternative Mode Reductions - TOTAL				0	0	0	0	0	0	0
Pass-By Reductions - TOTAL				-322	0	0	0	-28	-14	-14
New Trips				4,124	226	96	130	289	160	129
Driveway Volumes				4,446	226	96	130	317	174	143

Intersection Volume Worksheets

INTERSECTION VOLUME DEVELOPMENT
Intersection #1
Spring Rd SE (West)/Spring Rd SE (East) at Campbell Rd SE/Carolyn Dr
AM PEAK HOUR

Description	Campbell Rd SE				Carolyn Dr				Spring Rd SE (West)				Spring Rd SE (East)			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes	0	25	4	144	0	31	6	7	8	5	1,031	35	4	78	400	4
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor	0.86				0.86				0.86				0.86			
Adjustment	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Adjusted 2020 Volumes	0	40	6	230	0	50	10	11	13	8	1650	56	6	125	640	6
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development		6		8							11			10		
Sports Avenue Residential Development											9				6	
2022 Background Traffic	0	48	6	247	0	52	10	11	14	8	1,737	58	6	140	672	6
2032 Background Traffic	0	53	7	273	0	57	11	13	15	9	1,917	64	7	155	742	7
Project Trips																
Trip Distribution IN											30%					
Trip Distribution OUT															30%	
Residential Trips	0	0	0	0	0	0	0	0	0	0	9	0	0	0	26	0
Trip Distribution IN											30%					
Trip Distribution OUT															30%	
Hotel Trips	0	0	0	0	0	0	0	0	0	0	16	0	0	0	11	0
Trip Distribution IN											20%					
Trip Distribution OUT															20%	
Retail Trips	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	0	0	0	28	0	0	0	39	0
2022 Buildout Total	0	48	6	247	0	52	10	11	14	8	1,765	58	6	140	711	6
2032 Buildout Total (Horizon Year)	0	53	7	273	0	57	11	13	15	9	1,945	64	7	155	781	7

PM PEAK HOUR

Description	Campbell Rd SE				Carolyn Dr				Spring Rd SE (West)				Spring Rd SE (East)			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes	0	91	13	189	0	29	7	8	25	11	929	72	6	244	1,412	35
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor	0.92				0.92				0.92				0.92			
Adjustment	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Adjusted 2020 Volumes	0	118	17	246	0	38	9	10	33	14	1208	94	8	317	1836	46
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development		11		13							3			32		
Sports Avenue Residential Development											3				8	
2022 Background Traffic	0	134	18	269	0	40	9	10	34	15	1,263	98	8	362	1,918	48
2032 Background Traffic	0	148	20	297	0	44	10	11	38	16	1,395	108	9	400	2,118	53
Project Trips																
Trip Distribution IN											30%					
Trip Distribution OUT															30%	
Residential Trips	0	0	0	0	0	0	0	0	0	0	23	0	0	0	15	0
Trip Distribution IN											30%					
Trip Distribution OUT															30%	
Hotel Trips	0	0	0	0	0	0	0	0	0	0	16	0	0	0	17	0
Trip Distribution IN											20%					
Trip Distribution OUT															20%	
Retail Trips	0	0	0	0	0	0	0	0	0	0	6	0	0	0	5	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	0	0	0	45	0	0	0	37	0
2022 Buildout Total	0	134	18	269	0	40	9	10	34	15	1,308	98	8	362	1,955	48
2032 Buildout Total (Horizon Year)	0	148	20	297	0	44	10	11	38	16	1,440	108	9	400	2,155	53

INTERSECTION VOLUME DEVELOPMENT
Intersection #2
Spring Rd SE (West)/Spring Rd SE (East) at Sports Ave SE/Local Access
AM PEAK HOUR

Description	Sports Ave SE				Local Access				Spring Rd SE (West)				Spring Rd SE (East)			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes	0	8	0	15	0	5	1	4	23	29	1,293	9	7	21	504	0
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	0%	2%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%
Peak Hour Factor	0.89				0.89				0.89				0.89			
Adjustment	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Adjusted 2020 Volumes	0	13	0	24	0	8	2	6	37	46	2069	14	11	34	806	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development											19				10	
Sports Avenue Residential Development		6		13								9		20		
2022 Background Traffic	0	20	0	38	0	8	2	6	38	48	2,172	24	11	55	849	0
2032 Background Traffic	0	21	0	41	0	9	2	7	43	53	2,399	25	13	59	937	0
Project Trips																
Trip Distribution IN											30%					
Trip Distribution OUT															30%	
Residential Trips	0	0	0	0	0	0	0	0	0	0	9	0	0	0	26	0
Trip Distribution IN											30%					
Trip Distribution OUT															30%	
Hotel Trips	0	0	0	0	0	0	0	0	0	0	16	0	0	0	11	0
Trip Distribution IN											20%					
Trip Distribution OUT															20%	
Retail Trips	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	0	0	0	28	0	0	0	39	0
2022 Buildout Total	0	20	0	38	0	8	2	6	38	48	2,200	24	11	55	888	0
2032 Buildout Total (Horizon Year)	0	21	0	41	0	9	2	7	43	53	2,427	25	13	59	976	0

PM PEAK HOUR

Description	Sports Ave SE				Local Access				Spring Rd SE (West)				Spring Rd SE (East)			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes	0	10	1	14	0	37	1	41	36	33	1,202	19	13	28	1,791	5
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor	0.92				0.92				0.92				0.92			
Adjustment	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Adjusted 2020 Volumes	0	13	1	18	0	48	1	53	47	43	1563	25	17	36	2328	7
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development																
Sports Avenue Residential Development		8		19								3		7		
2022 Background Traffic	0	22	1	38	0	50	1	55	49	45	1,626	29	18	44	2,422	7
2032 Background Traffic	0	23	1	40	0	55	1	61	54	49	1,796	32	20	48	2,675	8
Project Trips																
Trip Distribution IN											30%					
Trip Distribution OUT															30%	
Residential Trips	0	0	0	0	0	0	0	0	0	0	23	0	0	0	15	0
Trip Distribution IN											30%					
Trip Distribution OUT															30%	
Hotel Trips	0	0	0	0	0	0	0	0	0	0	16	0	0	0	17	0
Trip Distribution IN											20%					
Trip Distribution OUT															20%	
Retail Trips	0	0	0	0	0	0	0	0	0	0	6	0	0	0	5	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	0	0	0	45	0	0	0	37	0
2022 Buildout Total	0	22	1	38	0	50	1	55	49	45	1,671	29	18	44	2,459	7
2032 Buildout Total (Horizon Year)	0	23	1	40	0	55	1	61	54	49	1,841	32	20	48	2,712	8

INTERSECTION VOLUME DEVELOPMENT

Intersection #3

Spring Rd SE (West)/Spring Rd SE (East) at Cumberland Blvd SE (South)/Cumberland Blvd SE (North)
AM PEAK HOUR

Description	Cumberland Blvd SE (South)				Cumberland Blvd SE (North)				Spring Rd SE (West)				Spring Rd SE (East)			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes	0	121	147	101	0	85	122	98	4	117	892	303	29	36	329	22
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor	0.93				0.93				0.93				0.93			
Adjustment	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Adjusted 2020 Volumes	0	194	235	162	0	136	195	157	6	187	1427	485	46	58	526	35
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development											19				32	
Sports Avenue Residential Development		3						3		2	10	2			15	
2022 Background Traffic	0	205	244	169	0	141	203	166	6	197	1,514	507	48	60	594	36
2032 Background Traffic	0	226	270	186	0	156	224	183	7	217	1,671	559	53	67	655	40
Project Trips																
Trip Distribution IN											10%	20%	20%	40%		
Trip Distribution OUT		25%		30%											5%	
Residential Trips	0	22	0	26	0	0	0	0	0	0	3	6	6	12	4	0
Trip Distribution IN											10%	20%	20%	40%		
Trip Distribution OUT		25%		30%											5%	
Hotel Trips	0	9	0	11	0	0	0	0	0	0	5	11	11	21	2	0
Trip Distribution IN							5%				15%	5%	35%	30%		
Trip Distribution OUT		15%	5%	15%											5%	
Retail Trips	0	1	0	1	0	0	1	0	0	0	2	1	5	4	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	32	0	38	0	0	1	0	0	0	10	18	22	37	6	0
2022 Buildout Total	0	237	244	207	0	141	204	166	6	197	1,524	525	70	97	600	36
2032 Buildout Total (Horizon Year)	0	258	270	224	0	156	225	183	7	217	1,681	577	75	104	661	40

PM PEAK HOUR

Description	Cumberland Blvd SE (South)				Cumberland Blvd SE (North)				Spring Rd SE (West)				Spring Rd SE (East)			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes	0	454	361	109	0	89	385	416	8	170	695	398	80	126	997	67
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor	0.94				0.94				0.94				0.94			
Adjustment	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Adjusted 2020 Volumes	0	590	469	142	0	116	501	541	10	221	904	517	104	164	1296	87
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development											33				10	
Sports Avenue Residential Development		1						1		3	14	3			5	
2022 Background Traffic	0	615	488	148	0	121	521	564	10	233	988	541	108	171	1,363	91
2032 Background Traffic	0	679	539	163	0	133	576	623	11	257	1,089	597	120	188	1,505	100
Project Trips																
Trip Distribution IN											10%	20%	20%	40%		
Trip Distribution OUT		25%		30%											5%	
Residential Trips	0	13	0	15	0	0	0	0	0	0	8	15	15	30	3	0
Trip Distribution IN											10%	20%	20%	40%		
Trip Distribution OUT		25%		30%											5%	
Hotel Trips	0	14	0	17	0	0	0	0	0	0	5	11	11	22	3	0
Trip Distribution IN							5%				15%	5%	35%	30%		
Trip Distribution OUT		15%	5%	15%											5%	
Retail Trips	0	4	1	4	0	0	2	0	0	0	5	2	11	9	1	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	31	1	36	0	0	2	0	0	0	18	28	37	61	7	0
2022 Buildout Total	0	646	489	184	0	121	523	564	10	233	1,006	569	145	232	1,370	91
2032 Buildout Total (Horizon Year)	0	710	540	199	0	133	578	623	11	257	1,107	625	157	249	1,512	100

INTERSECTION VOLUME DEVELOPMENT
Intersection #4
GA-3 (South)/GA-3 (North) at Spring Rd/Circle 75 Pkwy
AM PEAK HOUR

Description	GA-3 (South)				GA-3 (North)				Spring Rd				Circle 75 Pkwy			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes	0	404	570	268	5	29	1,057	61	25	54	119	903	0	130	30	16
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	2%	2%	2%
Peak Hour Factor	0.97				0.97				0.97				0.97			
Adjustment	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Adjusted 2020 Volumes	0	646	912	429	8	46	1691	98	40	86	190	1445	0	208	48	26
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development		16						8		5	5	9			8	
Sports Avenue Residential Development		7						4		3	3	4			4	
2022 Background Traffic	0	695	949	446	8	48	1,759	114	42	97	206	1,516	0	216	62	27
2032 Background Traffic	0	767	1,048	493	9	53	1,943	125	46	107	227	1,675	0	239	68	30
Project Trips																
Trip Distribution IN		40%						10%							10%	
Trip Distribution OUT									5%	10%	10%	40%				
Residential Trips	0	12	0	0	0	0	0	3	4	9	9	34	0	0	3	0
Trip Distribution IN		40%						10%							10%	
Trip Distribution OUT									5%	10%	10%	40%				
Hotel Trips	0	21	0	0	0	0	0	5	2	4	4	14	0	0	5	0
Trip Distribution IN		40%						15%							10%	
Trip Distribution OUT									5%	15%	10%	40%				
Retail Trips	0	6	0	0	0	0	0	2	0	1	1	4	0	0	1	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	39	0	0	0	0	0	10	6	14	14	52	0	0	9	0
2022 Buildout Total	0	734	949	446	8	48	1,759	124	48	111	220	1,568	0	216	71	27
2032 Buildout Total (Horizon Year)	0	806	1,048	493	9	53	1,943	135	52	121	241	1,727	0	239	77	30

PM PEAK HOUR

Description	GA-3 (South)				GA-3 (North)				Spring Rd				Circle 75 Pkwy			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes	6	956	1,349	248	22	51	1,288	103	35	115	153	653	0	346	120	47
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	2%	2%	2%
Peak Hour Factor	0.99				0.99				0.99				0.99			
Adjustment	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Adjusted 2020 Volumes	8	1243	1754	322	29	66	1674	134	46	150	199	849	0	450	156	61
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development		4						3		8	8	17			3	
Sports Avenue Residential Development		3						1		4	4	6			1	
2022 Background Traffic	8	1,300	1,825	335	30	69	1,742	143	48	168	219	906	0	468	166	63
2032 Background Traffic	9	1,436	2,016	370	33	76	1,924	158	53	185	242	1,000	0	517	184	70
Project Trips																
Trip Distribution IN		40%						10%							10%	
Trip Distribution OUT									5%	10%	10%	40%				
Residential Trips	0	30	0	0	0	0	0	8	3	5	5	20	0	0	8	0
Trip Distribution IN		40%						10%							10%	
Trip Distribution OUT									5%	10%	10%	40%				
Hotel Trips	0	22	0	0	0	0	0	5	3	6	6	22	0	0	5	0
Trip Distribution IN		40%						15%							10%	
Trip Distribution OUT									5%	15%	10%	40%				
Retail Trips	0	12	0	0	0	0	0	5	1	4	2	10	0	0	3	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	64	0	0	0	0	0	18	7	15	13	52	0	0	16	0
2022 Buildout Total	8	1,364	1,825	335	30	69	1,742	161	55	183	232	958	0	468	182	63
2032 Buildout Total (Horizon Year)	9	1,500	2,016	370	33	76	1,924	176	60	200	255	1,052	0	517	200	70

INTERSECTION VOLUME DEVELOPMENT

Intersection #5

Cumberland Blvd SE (South)/Cumberland Blvd SE (North) at Local Access/Spring Hill Pkwy SE
AM PEAK HOUR

Description	Cumberland Blvd SE (South)				Cumberland Blvd SE (North)				Local Access				Spring Hill Pkwy SE			
	<u>Northbound</u>				<u>Southbound</u>				<u>Eastbound</u>				<u>Westbound</u>			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes	0	0	225	9	0	33	429	1	0	0	0	1	0	4	0	143
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	2%	2%	0%	2%	2%	2%	0%	0%	0%	2%	0%	2%	0%	2%
Peak Hour Factor	0.92				0.92				0.92				0.92			
Adjustment	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Adjusted 2020 Volumes	0	0	360	14	0	53	686	2	0	0	0	2	0	6	0	229
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development																
Sports Avenue Residential Development			3				2									
2022 Background Traffic	0	0	378	15	0	55	716	2	0	0	0	2	0	6	0	238
2032 Background Traffic	0	0	417	16	0	61	790	2	0	0	0	2	0	7	0	263
Project Trips																
Trip Distribution IN				5%		60%										
Trip Distribution OUT														5%		55%
Residential Trips	0	0	0	1	0	17	0	0	0	0	0	0	0	4	0	47
Trip Distribution IN				5%		60%										
Trip Distribution OUT														5%		55%
Hotel Trips	0	0	0	3	0	32	0	0	0	0	0	0	0	2	0	19
Trip Distribution IN				5%		40%										
Trip Distribution OUT														5%		35%
Retail Trips	0	0	0	1	0	6	0	0	0	0	0	0	0	0	0	3
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	5	0	55	0	0	0	0	0	0	0	6	0	69
2022 Buildout Total	0	0	378	20	0	110	716	2	0	0	0	2	0	12	0	307
2032 Buildout Total (Horizon Year)	0	0	417	21	0	116	790	2	0	0	0	2	0	13	0	332

PM PEAK HOUR

Description	Cumberland Blvd SE (South)				Cumberland Blvd SE (North)				Local Access				Spring Hill Pkwy SE			
	<u>Northbound</u>				<u>Southbound</u>				<u>Eastbound</u>				<u>Westbound</u>			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes	0	0	780	41	0	153	760	0	0	1	0	6	0	19	0	158
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	2%	2%	0%	2%	2%	0%	0%	2%	0%	2%	0%	2%	0%	2%
Peak Hour Factor	0.98				0.98				0.98				0.98			
Adjustment	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Adjusted 2020 Volumes	0	0	1014	53	0	199	988	0	0	1	0	8	0	25	0	205
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development																
Sports Avenue Residential Development			1				3									
2022 Background Traffic	0	0	1,056	55	0	207	1,031	0	0	1	0	8	0	26	0	213
2032 Background Traffic	0	0	1,166	61	0	229	1,138	0	0	1	0	9	0	29	0	236
Project Trips																
Trip Distribution IN				5%		60%										
Trip Distribution OUT														5%		55%
Residential Trips	0	0	0	4	0	45	0	0	0	0	0	0	0	3	0	28
Trip Distribution IN				5%		60%										
Trip Distribution OUT														5%		55%
Hotel Trips	0	0	0	3	0	32	0	0	0	0	0	0	0	3	0	30
Trip Distribution IN				5%		40%										
Trip Distribution OUT														5%		35%
Retail Trips	0	0	0	2	0	12	0	0	0	0	0	0	0	1	0	8
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	9	0	89	0	0	0	0	0	0	0	7	0	66
2022 Buildout Total	0	0	1,056	64	0	296	1,031	0	0	1	0	8	0	33	0	279
2032 Buildout Total (Horizon Year)	0	0	1,166	70	0	318	1,138	0	0	1	0	9	0	36	0	302

INTERSECTION VOLUME DEVELOPMENT
Intersection #6
Spring Rd SE (West)/Spring Rd SE (East) at Site Driveway W/
AM PEAK HOUR

Description	Site Driveway W								Spring Rd SE (West)				Spring Rd SE (East)			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes											1,107				416	
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	2%	0%
Peak Hour Factor	0.93				0.93				0.93				0.93			
Adjustment	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Adjusted 2020 Volumes	0	0	0	0	0	0	0	0	0	0	1771	0	0	0	666	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development											19				32	
Sports Avenue Residential Development											10				15	
2022 Background Traffic	0	0	0	0	0	0	0	0	0	0	1,872	0	0	0	740	0
2032 Background Traffic	0	0	0	0	0	0	0	0	0	0	2,066	0	0	0	816	0
Project Trips																
Trip Distribution IN											15%	15%			60%	
Trip Distribution OUT				20%							30%				5%	
Residential Trips	0	0	0	17	0	0	0	0	0	0	30	4	0	0	21	0
Trip Distribution IN											15%	15%			60%	
Trip Distribution OUT				20%							30%				5%	
Hotel Trips	0	0	0	7	0	0	0	0	0	0	19	8	0	0	34	0
Trip Distribution IN											20%	30%			65%	
Trip Distribution OUT				35%							15%				5%	
Retail Trips	0	0	0	3	0	0	0	0	0	0	4	4	0	0	9	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	27	0	0	0	0	0	0	53	16	0	0	64	0
2022 Buildout Total	0	0	0	27	0	0	0	0	0	0	1,925	16	0	0	804	0
2032 Buildout Total (Horizon Year)	0	0	0	27	0	0	0	0	0	0	2,119	16	0	0	880	0

PM PEAK HOUR

Description	Site Driveway W								Spring Rd SE (West)				Spring Rd SE (East)			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes											973				1,270	
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	2%	0%
Peak Hour Factor	0.94				0.94				0.94				0.94			
Adjustment	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Adjusted 2020 Volumes	0	0	0	0	0	0	0	0	0	0	1265	0	0	0	1651	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development											33				10	
Sports Avenue Residential Development											14				5	
2022 Background Traffic	0	0	0	0	0	0	0	0	0	0	1,363	0	0	0	1,733	0
2032 Background Traffic	0	0	0	0	0	0	0	0	0	0	1,504	0	0	0	1,913	0
Project Trips																
Trip Distribution IN											15%	15%			60%	
Trip Distribution OUT				20%							30%				5%	
Residential Trips	0	0	0	10	0	0	0	0	0	0	26	11	0	0	48	0
Trip Distribution IN											15%	15%			60%	
Trip Distribution OUT				20%							30%				5%	
Hotel Trips	0	0	0	11	0	0	0	0	0	0	25	8	0	0	35	0
Trip Distribution IN											20%	30%			65%	
Trip Distribution OUT				35%							15%				5%	
Retail Trips	0	0	0	8	0	0	0	0	0	0	10	9	0	0	21	0
Pass-By Trips	0	0	0	11	0	0	0	0	0	0	-11	11	0	0	0	0
Total Project Trips	0	0	0	40	0	0	0	0	0	0	50	39	0	0	104	0
2022 Buildout Total	0	0	0	40	0	0	0	0	0	0	1,413	39	0	0	1,837	0
2032 Buildout Total (Horizon Year)	0	0	0	40	0	0	0	0	0	0	1,554	39	0	0	2,017	0

INTERSECTION VOLUME DEVELOPMENT
Intersection #7
Spring Rd SE (West)/Spring Rd SE (East) at Site Driveway E/
AM PEAK HOUR

Description	Site Driveway E								Spring Rd SE (West)				Spring Rd SE (East)			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes											1,107				416	
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	2%	0%
Peak Hour Factor	0.93				0.93				0.93				0.93			
Adjustment	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Adjusted 2020 Volumes	0	0	0	0	0	0	0	0	0	0	1771	0	0	0	666	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development											19				32	
Sports Avenue Residential Development											10				15	
2022 Background Traffic	0	0	0	0	0	0	0	0	0	0	1,872	0	0	0	740	0
2032 Background Traffic	0	0	0	0	0	0	0	0	0	0	2,066	0	0	0	816	0
Project Trips																
Trip Distribution IN												15%			60%	
Trip Distribution OUT				15%							50%					
Residential Trips	0	0	0	13	0	0	0	0	0	0	43	4	0	0	17	0
Trip Distribution IN												15%			60%	
Trip Distribution OUT				15%							50%					
Hotel Trips	0	0	0	5	0	0	0	0	0	0	18	8	0	0	32	0
Trip Distribution IN												20%			65%	
Trip Distribution OUT				20%							50%				5%	
Retail Trips	0	0	0	2	0	0	0	0	0	0	5	3	0	0	9	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	20	0	0	0	0	0	0	66	15	0	0	58	0
2022 Buildout Total	0	0	0	20	0	0	0	0	0	0	1,938	15	0	0	798	0
2032 Buildout Total (Horizon Year)	0	0	0	20	0	0	0	0	0	0	2,132	15	0	0	874	0

PM PEAK HOUR

Description	Site Driveway E								Spring Rd SE (West)				Spring Rd SE (East)			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes											973				1,270	
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	2%	0%
Peak Hour Factor	0.94				0.94				0.94				0.94			
Adjustment	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Adjusted 2020 Volumes	0	0	0	0	0	0	0	0	0	0	1265	0	0	0	1651	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development											33				10	
Sports Avenue Residential Development											14				5	
2022 Background Traffic	0	0	0	0	0	0	0	0	0	0	1,363	0	0	0	1,733	0
2032 Background Traffic	0	0	0	0	0	0	0	0	0	0	1,504	0	0	0	1,913	0
Project Trips																
Trip Distribution IN												15%			60%	
Trip Distribution OUT				15%							50%					
Residential Trips	0	0	0	8	0	0	0	0	0	0	25	11	0	0	45	0
Trip Distribution IN												15%			60%	
Trip Distribution OUT				15%							50%					
Hotel Trips	0	0	0	8	0	0	0	0	0	0	28	8	0	0	32	0
Trip Distribution IN												20%			65%	
Trip Distribution OUT				20%							50%				5%	
Retail Trips	0	0	0	5	0	0	0	0	0	0	12	6	0	0	21	0
Pass-By Trips	0	0	0	4	0	0	0	0	0	0	-4	4	0	0	0	0
Total Project Trips	0	0	0	25	0	0	0	0	0	0	61	29	0	0	98	0
2022 Buildout Total	0	0	0	25	0	0	0	0	0	0	1,424	29	0	0	1,831	0
2032 Buildout Total (Horizon Year)	0	0	0	25	0	0	0	0	0	0	1,565	29	0	0	2,011	0

INTERSECTION VOLUME DEVELOPMENT

Intersection #8
Spring Hill Pkwy SE at /Site Driveway S
AM PEAK HOUR

Description	Northbound				Site Driveway S				Spring Hill Pkwy SE				Spring Hill Pkwy SE			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes											42				147	
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	2%	0%
Peak Hour Factor	0.92				0.92				0.92				0.92			
Adjustment	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Adjusted 2020 Volumes	0	0	0	0	0	0	0	0	0	0	67	0	0	0	235	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development																
Sports Avenue Residential Development																
2022 Background Traffic	0	0	0	0	0	0	0	0	0	0	70	0	0	0	244	0
2032 Background Traffic	0	0	0	0	0	0	0	0	0	0	77	0	0	0	270	0
Project Trips																
Trip Distribution IN											65%					5%
Trip Distribution OUT						5%		60%								
Residential Trips	0	0	0	0	0	4	0	52	0	19	0	0	0	0	0	1
Trip Distribution IN											65%					5%
Trip Distribution OUT						5%		60%								
Hotel Trips	0	0	0	0	0	2	0	21	0	34	0	0	0	0	0	3
Trip Distribution IN																
Trip Distribution OUT						5%		40%			45%					5%
Retail Trips	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	6	0	77	0	57	0	0	0	0	0	4
2022 Buildout Total	0	0	0	0	0	6	0	77	0	57	70	0	0	0	244	4
2032 Buildout Total (Horizon Year)	0	0	0	0	0	6	0	77	0	57	77	0	0	0	270	4

PM PEAK HOUR

Description	Northbound				Site Driveway S				Spring Hill Pkwy SE				Spring Hill Pkwy SE			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2020 Traffic Volumes											194				177	
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	2%	0%
Peak Hour Factor	0.98				0.98				0.98				0.98			
Adjustment	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Adjusted 2020 Volumes	0	0	0	0	0	0	0	0	0	0	252	0	0	0	230	0
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
Annual Growth Rate (Horizon Year)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Growth Factor (Horizon Year)	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Campbell Road Residential Development																
Sports Avenue Residential Development																
2022 Background Traffic	0	0	0	0	0	0	0	0	0	0	262	0	0	0	239	0
2032 Background Traffic	0	0	0	0	0	0	0	0	0	0	290	0	0	0	264	0
Project Trips																
Trip Distribution IN											65%					5%
Trip Distribution OUT						5%		60%								
Residential Trips	0	0	0	0	0	3	0	30	0	49	0	0	0	0	0	4
Trip Distribution IN											65%					5%
Trip Distribution OUT						5%		60%								
Hotel Trips	0	0	0	0	0	3	0	33	0	35	0	0	0	0	0	3
Trip Distribution IN																
Trip Distribution OUT						5%		40%			45%					5%
Retail Trips	0	0	0	0	0	1	0	10	0	11	0	0	0	0	0	1
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	7	0	73	0	95	0	0	0	0	0	8
2022 Buildout Total	0	0	0	0	0	7	0	73	0	95	262	0	0	0	239	8
2032 Buildout Total (Horizon Year)	0	0	0	0	0	7	0	73	0	95	290	0	0	0	264	8

Synchro Analysis Reports

HCM 6th Signalized Intersection Summary

1: Campbell Rd/Carolyn Dr & Spring Rd

Emerson Center TIA

Existing 2020 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1650	56	131	640	6	40	6	230	50	10	11
Future Volume (veh/h)	21	1650	56	131	640	6	40	6	230	50	10	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	1919	42	152	744	7	47	7	161	58	12	8
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	605	2613	1166	205	2711	26	185	25	183	120	24	12
Arrive On Green	0.02	0.74	0.74	0.07	1.00	1.00	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3607	34	1238	214	1585	695	205	103
Grp Volume(v), veh/h	24	1919	42	152	366	385	54	0	161	78	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1864	1452	0	1585	1003	0	0
Q Serve(g_s), s	0.5	49.7	1.2	3.6	0.0	0.0	0.0	0.0	16.0	8.2	0.0	0.0
Cycle Q Clear(g_c), s	0.5	49.7	1.2	3.6	0.0	0.0	5.4	0.0	16.0	13.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.87		1.00	0.74		0.10
Lane Grp Cap(c), veh/h	605	2613	1166	205	1335	1401	210	0	183	155	0	0
V/C Ratio(X)	0.04	0.73	0.04	0.74	0.27	0.27	0.26	0.00	0.88	0.50	0.00	0.00
Avail Cap(c_a), veh/h	668	2613	1166	307	1335	1401	286	0	267	225	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.8	12.2	5.8	24.8	0.0	0.0	64.9	0.0	69.7	70.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.1	5.2	0.5	0.5	0.6	0.0	19.7	2.5	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(95%),veh/ln	0.3	24.7	0.7	8.1	0.3	0.3	3.7	0.0	12.1	5.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.9	14.0	5.8	30.0	0.5	0.5	65.6	0.0	89.4	72.8	0.0	0.0
LnGrp LOS	A	B	A	C	A	A	E	A	F	E	A	A
Approach Vol, veh/h		1985			903			215			78	
Approach Delay, s/veh		13.8			5.5			83.4			72.8	
Approach LOS		B			A			F			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	123.7		24.5	9.3	126.2		24.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	15.0	100.0		27.0	9.0	106.0		27.0				
Max Q Clear Time (g_c+l1), s	5.6	51.7		18.0	2.5	2.0		15.6				
Green Ext Time (p_c), s	0.2	24.2		0.5	0.0	4.7		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				17.6								
HCM 6th LOS				B								
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th Signalized Intersection Summary

2: Sports Ave/Aldi Dwy & Spring Rd

Emerson Center TIA
Existing 2020 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	2069	14	45	806	0	13	0	24	8	2	6
Future Volume (veh/h)	83	2069	14	45	806	0	13	0	24	8	2	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	2325	16	51	906	0	15	0	1	9	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	0	0	2	2	2	2
Cap, veh/h	613	4380	30	223	4261	0	82	0	35	55	6	2
Arrive On Green	0.06	1.00	1.00	0.06	1.00	0.00	0.02	0.00	0.02	0.02	0.02	0.02
Sat Flow, veh/h	1781	5232	36	1781	5274	0	1682	0	1585	707	250	87
Grp Volume(v), veh/h	93	1512	829	51	906	0	15	0	1	12	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1864	1781	1702	0	1682	0	1585	1044	0	0
Q Serve(g_s), s	1.2	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.1	1.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	0.6	0.0	0.0	1.3	0.0	0.1	2.3	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.00	1.00		1.00	0.75		0.08
Lane Grp Cap(c), veh/h	613	2850	1561	223	4261	0	82	0	35	63	0	0
V/C Ratio(X)	0.15	0.53	0.53	0.23	0.21	0.00	0.18	0.00	0.03	0.19	0.00	0.00
Avail Cap(c_a), veh/h	659	2850	1561	296	4261	0	230	0	198	216	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.5	0.0	0.0	1.5	0.0	0.0	77.1	0.0	76.5	78.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.7	1.3	0.5	0.1	0.0	1.0	0.0	0.3	1.5	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(95%),veh/ln	0.4	0.5	1.0	0.3	0.1	0.0	1.1	0.0	0.1	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.6	0.7	1.3	2.0	0.1	0.0	78.2	0.0	76.9	79.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	A
Approach Vol, veh/h	2434				957				16			
Approach Delay, s/veh	0.9				0.2				78.1			
Approach LOS	A				A				E			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	140.0		9.6	10.9	139.5		9.6				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	11.0	111.0		20.0	9.0	113.0		20.0				
Max Q Clear Time (g_c+l1), s	2.6	2.0		3.3	3.2	2.0		4.3				
Green Ext Time (p_c), s	0.0	39.0		0.0	0.1	7.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	1.4											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
Existing 2020 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	193	1427	485	104	526	35	194	235	162	136	195	157
Future Volume (veh/h)	193	1427	485	104	526	35	194	235	162	136	195	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	208	1534	439	112	566	29	209	253	77	146	210	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	2410	682	221	2600	132	259	308	92	214	438	195
Arrive On Green	0.17	0.81	0.81	0.04	0.52	0.52	0.02	0.04	0.04	0.08	0.12	0.00
Sat Flow, veh/h	1781	3954	1119	1781	4975	253	3456	2699	803	1781	3554	1585
Grp Volume(v), veh/h	208	1318	655	112	386	209	209	165	165	146	210	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1669	1781	1702	1825	1728	1777	1726	1781	1777	1585
Q Serve(g_s), s	18.3	24.2	24.9	4.7	9.8	9.9	9.6	14.7	15.2	11.5	8.8	0.0
Cycle Q Clear(g_c), s	18.3	24.2	24.9	4.7	9.8	9.9	9.6	14.7	15.2	11.5	8.8	0.0
Prop In Lane	1.00		0.67	1.00		0.14	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	230	2075	1017	221	1779	954	259	202	197	214	438	195
V/C Ratio(X)	0.90	0.64	0.64	0.51	0.22	0.22	0.81	0.81	0.84	0.68	0.48	0.00
Avail Cap(c_a), veh/h	345	2075	1017	346	1779	954	389	267	259	220	444	198
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	65.2	8.2	8.3	16.9	20.6	20.6	76.9	75.3	75.6	56.9	65.4	0.0
Incr Delay (d2), s/veh	16.3	1.2	2.6	1.8	0.3	0.5	7.4	13.4	17.0	8.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.4	9.3	9.8	3.6	7.0	7.7	8.3	12.4	12.7	9.5	7.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.5	9.4	10.9	18.7	20.8	21.1	84.3	88.7	92.6	64.9	66.2	0.0
LnGrp LOS	F	A	B	B	C	C	F	F	F	E	E	A
Approach Vol, veh/h		2181			707			539			356	
Approach Delay, s/veh		16.7			20.6			88.2			65.6	
Approach LOS		B			C			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	103.5	19.5	24.2	26.7	89.6	18.0	25.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	18.0	80.0	14.0	24.0	31.0	67.0	18.0	20.0				
Max Q Clear Time (g_c+l1), s	6.7	26.9	13.5	17.2	20.3	11.9	11.6	10.8				
Green Ext Time (p_c), s	0.2	22.7	0.0	1.0	0.4	3.8	0.3	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			32.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
Existing 2020 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	190	1445	208	48	26	646	912	429	54	1691	98
Future Volume (veh/h)	126	190	1445	208	48	26	646	912	429	54	1691	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	196	1459	214	49	1	666	1057	255	56	1743	94
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	466	1467	279	111	2	2108	4442	941	240	2004	108
Arrive On Green	0.05	0.04	0.04	0.06	0.03	0.03	0.39	0.59	0.59	0.07	0.27	0.27
Sat Flow, veh/h	1781	3554	2790	5023	3562	72	5344	7481	1585	3456	7457	401
Grp Volume(v), veh/h	130	196	1459	214	24	26	666	1057	255	56	1416	421
Grp Sat Flow(s),veh/h/ln	1781	1777	1395	1674	1777	1857	1781	1870	1585	1728	1515	1798
Q Serve(g_s), s	11.4	8.6	20.5	6.7	2.2	2.2	13.8	10.7	12.5	2.5	35.7	35.8
Cycle Q Clear(g_c), s	11.4	8.6	20.5	6.7	2.2	2.2	13.8	10.7	12.5	2.5	35.7	35.8
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	277	466	1467	279	56	58	2108	4442	941	240	1629	483
V/C Ratio(X)	0.47	0.42	0.99	0.77	0.44	0.44	0.32	0.24	0.27	0.23	0.87	0.87
Avail Cap(c_a), veh/h	277	466	1467	345	200	209	2108	4442	941	240	1629	483
HCM Platoon Ratio	0.33	0.33	0.33	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	1.00	1.00
Uniform Delay (d), s/veh	69.5	70.6	44.8	74.5	76.1	76.1	33.5	15.4	15.7	70.4	55.8	55.9
Incr Delay (d2), s/veh	1.2	0.6	22.2	8.0	5.4	5.2	0.1	0.1	0.7	0.5	6.6	19.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	7.3	17.2	5.6	1.9	2.0	9.9	8.0	8.4	2.0	20.3	25.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.7	71.2	67.0	82.5	81.5	81.3	33.6	15.5	16.4	70.9	62.4	74.9
LnGrp LOS	E	E	E	F	F	F	C	B	B	E	E	E
Approach Vol, veh/h	1785			264			1978			1893		
Approach Delay, s/veh	67.7			82.3			21.7			65.4		
Approach LOS	E			F			C			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.1	101.0	14.9	27.0	69.1	49.0	30.9	11.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	95.0	11.0	21.0	61.0	43.0	14.0	18.0				
Max Q Clear Time (g_c+l1), s	4.5	14.5	8.7	22.5	15.8	37.8	13.4	4.2				
Green Ext Time (p_c), s	0.0	10.2	0.2	0.0	2.6	4.2	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			52.3									
HCM 6th LOS			D									
Notes												

HCM 6th Signalized Intersection Summary

5: Cumberland Blvd & Utility Dwy/Spring Hill Pkwy

Emerson Center TIA
Existing 2020 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	2	6	0	229	0	360	14	53	686	2
Future Volume (veh/h)	0	0	2	6	0	229	0	360	14	53	686	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1900	1900	1900	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	1	7	0	1	0	391	11	58	746	2
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	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	0	0	18	105	0	18	613	4657	130	859	4410	12
Arrive On Green	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.72	0.72	0.06	1.00	1.00
Sat Flow, veh/h	0	0	1610	1416	0	1610	1810	6482	181	1781	5258	14
Grp Volume(v), veh/h	0	0	1	7	0	1	0	290	112	58	483	265
Grp Sat Flow(s),veh/h/ln	0	0	1610	1416	0	1610	1810	1609	1838	1781	1702	1868
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.4	1.5	0.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.4	1.5	0.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.10	1.00		0.01
Lane Grp Cap(c), veh/h	0	0	18	105	0	18	613	3467	1320	859	2855	1566
V/C Ratio(X)	0.00	0.00	0.05	0.07	0.00	0.05	0.00	0.08	0.08	0.07	0.17	0.17
Avail Cap(c_a), veh/h	0	0	382	425	0	382	814	3467	1320	979	2855	1566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	0.0	0.0	39.1	39.3	0.0	39.1	0.0	3.4	3.4	1.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.2	0.3	0.0	1.2	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.6	0.8	0.2	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	40.4	39.6	0.0	40.4	0.0	3.4	3.5	1.9	0.1	0.2
LnGrp LOS	A	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	1		8			402			806			
Approach Delay, s/veh	40.4		39.7			3.4			0.3			
Approach LOS	D		D			A			A			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	9.6	63.5	6.9		0.0	73.1	6.9					
Change Period (Y+Rc), s	6.0	6.0	6.0		6.0	6.0	6.0					
Max Green Setting (Gmax), s	9.0	34.0	19.0		9.0	34.0	19.0					
Max Q Clear Time (g_c+l1), s	2.6	3.5	2.0		0.0	2.0	2.4					
Green Ext Time (p_c), s	0.0	2.6	0.0		0.0	5.2	0.0					
Intersection Summary												
HCM 6th Ctrl Delay			1.6									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary

1: Campbell Rd/Carolyn Dr & Spring Rd

Emerson Center TIA
Existing 2020 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	1208	94	325	1836	46	118	17	246	38	9	10
Future Volume (veh/h)	47	1208	94	325	1836	46	118	17	246	38	9	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	1313	55	353	1996	49	128	18	16	41	10	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	2314	1032	385	2532	62	220	25	230	86	20	8
Arrive On Green	0.03	0.65	0.65	0.18	1.00	1.00	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3545	87	1226	172	1585	328	135	54
Grp Volume(v), veh/h	51	1313	55	353	996	1049	146	0	16	57	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1855	1399	0	1585	517	0	0
Q Serve(g_s), s	1.5	32.7	2.0	11.6	0.0	0.0	0.0	0.0	1.4	5.2	0.0	0.0
Cycle Q Clear(g_c), s	1.5	32.7	2.0	11.6	0.0	0.0	16.0	0.0	1.4	21.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.05	0.88		1.00	0.72		0.11
Lane Grp Cap(c), veh/h	229	2314	1032	385	1269	1325	245	0	230	114	0	0
V/C Ratio(X)	0.22	0.57	0.05	0.92	0.78	0.79	0.60	0.00	0.07	0.50	0.00	0.00
Avail Cap(c_a), veh/h	279	2314	1032	634	1269	1325	279	0	267	148	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.5	15.4	10.1	19.3	0.0	0.0	65.3	0.0	59.1	72.5	0.0	0.0
Incr Delay (d2), s/veh	0.5	1.0	0.1	12.0	4.9	4.9	2.7	0.0	0.1	3.4	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(95%),veh/ln	1.1	18.6	1.3	14.6	3.1	3.2	9.8	0.0	1.0	4.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.0	16.5	10.2	31.3	4.9	4.9	68.0	0.0	59.2	75.9	0.0	0.0
LnGrp LOS	A	B	B	C	A	A	E	A	E	E	A	A
Approach Vol, veh/h	1419		2398				162		57			
Approach Delay, s/veh	15.9		8.8				67.1		75.9			
Approach LOS	B		A				E		E			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	20.6	110.2	29.2		10.5	120.3	29.2					
Change Period (Y+Rc), s	6.0	6.0	6.0		6.0	6.0	6.0					
Max Green Setting (Gmax), s	37.0	78.0	27.0		9.0	106.0	27.0					
Max Q Clear Time (g_c+I1), s	13.6	34.7	18.0		3.5	2.0	23.2					
Green Ext Time (p_c), s	1.0	12.3	0.5		0.0	34.1	0.1					
Intersection Summary												
HCM 6th Ctrl Delay	14.6											
HCM 6th LOS	B											
Notes												

HCM 6th Signalized Intersection Summary

2: Sports Ave/Aldi Dwy & Spring Rd

Emerson Center TIA

Existing 2020 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	90	1563	25	53	2328	7	13	1	18	48	1	53
Future Volume (veh/h)	90	1563	25	53	2328	7	13	1	18	48	1	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	1699	26	58	2530	8	14	1	2	52	1	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	4065	62	317	4112	13	132	8	117	94	6	38
Arrive On Green	0.06	1.00	1.00	0.06	1.00	1.00	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1781	5181	79	1781	5255	17	1201	108	1585	784	86	509
Grp Volume(v), veh/h	98	1116	609	58	1638	900	15	0	2	84	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1856	1781	1702	1867	1309	0	1585	1379	0	0
Q Serve(g_s), s	1.8	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.2	8.1	0.0	0.0
Cycle Q Clear(g_c), s	1.8	0.0	0.0	1.0	0.0	0.0	1.7	0.0	0.2	9.8	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.01	0.93		1.00	0.62		0.37
Lane Grp Cap(c), veh/h	199	2671	1456	317	2664	1461	140	0	117	139	0	0
V/C Ratio(X)	0.49	0.42	0.42	0.18	0.62	0.62	0.11	0.00	0.02	0.61	0.00	0.00
Avail Cap(c_a), veh/h	311	2671	1456	366	2664	1461	221	0	208	223	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.18	0.18	0.18	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.9	0.0	0.0	2.9	0.0	0.0	69.3	0.0	68.7	73.4	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.5	0.9	0.0	0.2	0.4	0.3	0.0	0.1	4.2	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(95%),veh/ln	1.0	0.3	0.6	0.5	0.1	0.3	1.1	0.0	0.1	6.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.7	0.5	0.9	2.9	0.2	0.4	69.7	0.0	68.7	77.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	A
Approach Vol, veh/h	1823				2596				17			
Approach Delay, s/veh	0.8				0.3				69.6			
Approach LOS	A				A				E			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	131.5		17.9	10.9	131.2		17.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	112.0		21.0	15.0	106.0		21.0				
Max Q Clear Time (g_c+l1), s	3.0	2.0		3.7	3.8	2.0		11.8				
Green Ext Time (p_c), s	0.0	18.7		0.0	0.1	47.2		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	2.2											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA

Existing 2020 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	231	904	517	268	1296	87	590	469	142	116	501	541
Future Volume (veh/h)	231	904	517	268	1296	87	590	469	142	116	501	541
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	246	962	449	285	1379	86	628	499	124	123	533	286
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	1262	588	333	1680	105	583	829	205	297	683	304
Arrive On Green	0.29	0.74	0.74	0.12	0.34	0.34	0.28	0.49	0.49	0.07	0.19	0.19
Sat Flow, veh/h	1781	3404	1585	1781	4913	306	3456	2824	698	1781	3554	1585
Grp Volume(v), veh/h	246	962	449	285	955	510	628	313	310	123	533	286
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1815	1728	1777	1745	1781	1777	1585
Q Serve(g_s), s	21.5	26.9	27.0	16.4	41.1	41.1	27.0	20.4	20.6	8.8	22.8	28.5
Cycle Q Clear(g_c), s	21.5	26.9	27.0	16.4	41.1	41.1	27.0	20.4	20.6	8.8	22.8	28.5
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	262	1262	588	333	1164	621	583	522	512	297	683	304
V/C Ratio(X)	0.94	0.76	0.76	0.86	0.82	0.82	1.08	0.60	0.61	0.41	0.78	0.94
Avail Cap(c_a), veh/h	267	1262	588	411	1164	621	583	522	513	300	689	307
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	16.5	16.5	32.7	48.2	48.2	57.5	34.0	34.1	47.2	61.4	63.7
Incr Delay (d2), s/veh	35.7	4.0	8.3	13.8	6.6	11.6	59.0	1.8	1.9	0.9	5.7	35.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.0	10.0	10.4	12.9	25.1	27.5	22.8	12.5	12.5	7.2	16.2	20.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.4	20.4	24.8	46.5	54.7	59.8	116.4	35.8	36.0	48.1	67.2	99.3
LnGrp LOS	F	C	C	D	D	E	F	D	D	D	E	F
Approach Vol, veh/h	1657				1750				1251			
Approach Delay, s/veh	32.1				54.9				76.3			
Approach LOS	C				D				E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.9	65.3	16.8	53.0	29.6	60.7	33.0	36.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	26.0	52.0	11.0	47.0	24.0	54.0	27.0	31.0				
Max Q Clear Time (g_c+l1), s	18.4	29.0	10.8	22.6	23.5	43.1	29.0	30.5				
Green Ext Time (p_c), s	0.5	10.0	0.0	3.9	0.0	6.5	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay	56.2											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA

Existing 2020 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	199	849	450	156	61	1251	1754	322	95	1674	134
Future Volume (veh/h)	196	199	849	450	156	61	1251	1754	322	95	1674	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	984	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	201	818	455	158	36	1264	1772	167	96	1691	126
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	339	1129	980	205	46	1653	3367	713	378	1823	135
Arrive On Green	0.37	0.16	0.16	0.20	0.07	0.07	0.31	0.45	0.45	0.11	0.25	0.25
Sat Flow, veh/h	938	3554	2790	5023	2889	642	5344	7481	1585	3456	7291	542
Grp Volume(v), veh/h	198	201	818	455	96	98	1264	1772	167	96	1405	412
Grp Sat Flow(s),veh/h/ln	938	1777	1395	1674	1777	1755	1781	1870	1585	1728	1515	1773
Q Serve(g_s), s	33.1	8.4	0.0	12.8	8.5	8.8	34.2	27.3	10.4	4.1	36.2	36.4
Cycle Q Clear(g_c), s	33.1	8.4	0.0	12.8	8.5	8.8	34.2	27.3	10.4	4.1	36.2	36.4
Prop In Lane	1.00		1.00	1.00		0.37	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	206	339	1129	980	126	125	1653	3367	713	378	1515	443
V/C Ratio(X)	0.96	0.59	0.72	0.46	0.76	0.79	0.76	0.53	0.23	0.25	0.93	0.93
Avail Cap(c_a), veh/h	217	777	1473	980	200	197	1653	3367	713	378	1515	443
HCM Platoon Ratio	1.67	1.67	1.67	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	1.00	1.00
Uniform Delay (d), s/veh	50.0	64.3	36.2	57.0	73.0	73.1	50.0	31.7	27.0	65.3	58.6	58.6
Incr Delay (d2), s/veh	49.1	1.6	1.3	0.3	8.9	10.5	2.2	0.6	0.8	0.4	11.3	28.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.7	6.6	18.3	9.4	7.5	7.8	21.7	18.0	7.5	3.2	21.1	26.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.1	66.0	37.5	57.3	81.9	83.7	52.2	32.3	27.8	65.6	69.8	87.1
LnGrp LOS	F	E	D	E	F	F	D	C	C	E	E	F
Approach Vol, veh/h	1217			649			3203			1913		
Approach Delay, s/veh	52.2			64.9			39.9			73.3		
Approach LOS	D			E			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.5	78.0	37.2	21.3	55.5	46.0	41.1	17.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	72.0	20.0	35.0	41.0	40.0	37.0	18.0				
Max Q Clear Time (g_c+l1), s	6.1	29.3	14.8	10.4	36.2	38.4	35.1	10.8				
Green Ext Time (p_c), s	0.1	19.4	0.9	4.9	2.3	1.4	0.1	0.5				

Intersection Summary

HCM 6th Ctrl Delay 53.5

HCM 6th LOS D

Notes

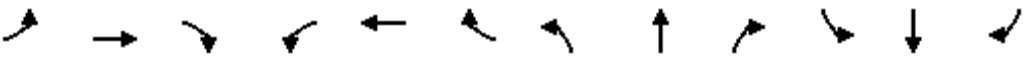
User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

5: Cumberland Blvd & Utility Dwy/Spring Hill Pkwy

Emerson Center TIA

Existing 2020 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↑↑↑		↔	↑↑↑	
Traffic Volume (veh/h)	1	0	8	25	0	205	0	1014	53	199	988	0
Future Volume (veh/h)	1	0	8	25	0	205	0	1014	53	199	988	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1900	1900	1900	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	1	26	0	15	0	1035	48	203	1008	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	89	9	30	145	0	62	475	4281	198	519	4144	0
Arrive On Green	0.04	0.00	0.04	0.04	0.00	0.04	0.00	0.67	0.67	0.12	1.00	0.00
Sat Flow, veh/h	547	239	787	1416	0	1610	1810	6350	293	1781	5274	0
Grp Volume(v), veh/h	2	0	0	26	0	15	0	785	298	203	1008	0
Grp Sat Flow(s),veh/h/ln	1574	0	0	1416	0	1610	1810	1609	1818	1781	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.3	0.0	0.7	0.0	5.1	5.1	2.6	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	1.4	0.0	0.7	0.0	5.1	5.1	2.6	0.0	0.0
Prop In Lane	0.50		0.50	1.00		1.00	1.00		0.16	1.00		0.00
Lane Grp Cap(c), veh/h	128	0	0	145	0	62	475	3254	1226	519	4144	0
V/C Ratio(X)	0.02	0.00	0.00	0.18	0.00	0.24	0.00	0.24	0.24	0.39	0.24	0.00
Avail Cap(c_a), veh/h	466	0	0	462	0	423	677	3254	1226	764	4144	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.46	0.46	0.00
Uniform Delay (d), s/veh	37.0	0.0	0.0	37.7	0.0	37.3	0.0	5.1	5.1	2.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	2.0	0.0	0.2	0.5	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.0	0.9	0.0	0.6	0.0	2.4	2.9	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	0.0	0.0	38.2	0.0	39.3	0.0	5.2	5.5	3.1	0.1	0.0
LnGrp LOS	D	A	A	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	2				41				1083			
Approach Delay, s/veh	37.1				38.6				5.3			
Approach LOS	D				D				A			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	59.9		9.1	0.0	70.9		9.1				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	16.0	25.0		21.0	9.0	32.0		21.0				
Max Q Clear Time (g_c+l1), s	4.6	7.1		2.1	0.0	2.0		3.4				
Green Ext Time (p_c), s	0.4	6.8		0.0	0.0	8.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay	3.5											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

1: Campbell Rd/Carolyn Dr & Spring Rd

Emerson Center TIA
No-Build 2022 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1737	58	146	672	6	48	6	247	52	10	11
Future Volume (veh/h)	22	1737	58	146	672	6	48	6	247	52	10	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	2020	43	170	781	7	56	7	186	60	12	8
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	573	2534	1130	190	2653	24	209	24	208	129	25	13
Arrive On Green	0.02	0.71	0.71	0.09	1.00	1.00	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3609	32	1268	181	1585	681	189	97
Grp Volume(v), veh/h	26	2020	43	170	384	404	63	0	186	80	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1448	0	1585	966	0	0
Q Serve(g_s), s	0.6	60.5	1.3	4.7	0.0	0.0	0.0	0.0	18.5	8.6	0.0	0.0
Cycle Q Clear(g_c), s	0.6	60.5	1.3	4.7	0.0	0.0	6.2	0.0	18.5	14.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.89		1.00	0.75		0.10
Lane Grp Cap(c), veh/h	573	2534	1130	190	1306	1371	232	0	208	166	0	0
V/C Ratio(X)	0.05	0.80	0.04	0.89	0.29	0.29	0.27	0.00	0.90	0.48	0.00	0.00
Avail Cap(c_a), veh/h	635	2534	1130	280	1306	1371	286	0	267	215	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.7	15.3	6.8	33.9	0.0	0.0	63.1	0.0	68.4	68.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.7	0.1	21.2	0.6	0.5	0.6	0.0	25.3	2.2	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(95%),veh/ln	0.4	30.3	0.8	9.6	0.4	0.4	4.3	0.0	14.0	5.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.8	18.0	6.8	55.1	0.6	0.5	63.7	0.0	93.7	71.0	0.0	0.0
LnGrp LOS	A	B	A	E	A	A	E	A	F	E	A	A
Approach Vol, veh/h	2089				958				249			
Approach Delay, s/veh	17.6				10.2				86.1			
Approach LOS	B				B				F			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	120.1		27.0	9.4	123.6		27.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	15.0	100.0		27.0	9.0	106.0		27.0				
Max Q Clear Time (g_c+l1), s	6.7	62.5		20.5	2.6	2.0		16.8				
Green Ext Time (p_c), s	0.3	22.9		0.5	0.0	5.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	21.8											
HCM 6th LOS	C											
Notes												

HCM 6th Signalized Intersection Summary

2: Sports Ave/Aldi Dwy & Spring Rd

Emerson Center TIA
No-Build 2022 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	86	2172	24	66	849	0	20	0	38	8	2	6
Future Volume (veh/h)	86	2172	24	66	849	0	20	0	38	8	2	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	2440	27	74	954	0	22	0	1	9	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	0	0	2	2	2	2
Cap, veh/h	589	4336	48	211	4248	0	87	0	39	54	8	2
Arrive On Green	0.06	1.00	1.00	0.06	1.00	0.00	0.02	0.00	0.02	0.02	0.02	0.02
Sat Flow, veh/h	1781	5207	58	1781	5274	0	1688	0	1585	573	313	81
Grp Volume(v), veh/h	97	1594	873	74	954	0	22	0	1	12	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1860	1781	1702	0	1688	0	1585	967	0	0
Q Serve(g_s), s	1.3	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.1	0.7	0.0	0.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0	1.0	0.0	0.0	1.9	0.0	0.1	2.7	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.00	1.00		1.00	0.75		0.08
Lane Grp Cap(c), veh/h	589	2835	1549	211	4248	0	87	0	39	63	0	0
V/C Ratio(X)	0.16	0.56	0.56	0.35	0.22	0.00	0.25	0.00	0.03	0.19	0.00	0.00
Avail Cap(c_a), veh/h	635	2835	1549	280	4248	0	231	0	198	213	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.5	0.0	0.0	1.5	0.0	0.0	77.0	0.0	76.2	77.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.8	1.5	0.9	0.1	0.0	1.5	0.0	0.3	1.4	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(95%),veh/ln	0.5	0.6	1.2	0.4	0.1	0.0	1.7	0.0	0.1	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.7	0.8	1.5	2.4	0.1	0.0	78.6	0.0	76.4	78.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	A
Approach Vol, veh/h	2564				1028				23			
Approach Delay, s/veh	1.1				0.3				78.5			
Approach LOS	A				A				E			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	139.2		9.9	10.9	139.1		9.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	11.0	111.0		20.0	9.0	113.0		20.0				
Max Q Clear Time (g_c+I1), s	3.0	2.0		3.9	3.3	2.0		4.7				
Green Ext Time (p_c), s	0.1	44.7		0.0	0.1	7.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	1.6											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
No-Build 2022 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	203	1514	507	108	594	36	205	244	169	141	203	166
Future Volume (veh/h)	203	1514	507	108	594	36	205	244	169	141	203	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	218	1628	464	116	639	31	220	262	82	152	218	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	2383	667	205	2548	123	270	316	97	219	450	201
Arrive On Green	0.18	0.80	0.80	0.04	0.51	0.51	0.03	0.04	0.04	0.09	0.13	0.13
Sat Flow, veh/h	1781	3964	1110	1781	4990	241	3456	2679	820	1781	3554	1585
Grp Volume(v), veh/h	218	1394	698	116	435	235	220	172	172	152	218	1
Grp Sat Flow(s),veh/h/ln	1781	1702	1670	1781	1702	1827	1728	1777	1723	1781	1777	1585
Q Serve(g_s), s	19.2	28.9	30.2	5.0	11.5	11.6	10.1	15.4	15.9	11.9	9.1	0.1
Cycle Q Clear(g_c), s	19.2	28.9	30.2	5.0	11.5	11.6	10.1	15.4	15.9	11.9	9.1	0.1
Prop In Lane	1.00		0.66	1.00		0.13	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	240	2046	1004	205	1738	933	270	209	203	219	450	201
V/C Ratio(X)	0.91	0.68	0.70	0.57	0.25	0.25	0.82	0.82	0.85	0.70	0.48	0.00
Avail Cap(c_a), veh/h	345	2046	1004	327	1738	933	389	267	258	220	450	201
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.7	9.3	9.4	18.8	22.0	22.0	76.8	75.2	75.5	56.3	65.0	61.1
Incr Delay (d2), s/veh	16.9	1.4	3.1	2.4	0.3	0.6	8.6	14.7	18.6	9.1	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.8	10.5	11.4	3.9	8.2	8.8	8.7	13.0	13.2	9.9	7.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.6	10.7	12.5	21.3	22.3	22.6	85.4	89.9	94.0	65.4	65.8	61.1
LnGrp LOS	F	B	B	C	C	C	F	F	F	E	E	E
Approach Vol, veh/h		2310			786			564			371	
Approach Delay, s/veh		18.0			22.3			89.4			65.6	
Approach LOS		B			C			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	102.2	19.9	24.9	27.6	87.7	18.5	26.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	18.0	80.0	14.0	24.0	31.0	67.0	18.0	20.0				
Max Q Clear Time (g_c+l1), s	7.0	32.2	13.9	17.9	21.2	13.6	12.1	11.1				
Green Ext Time (p_c), s	0.2	24.0	0.0	1.0	0.4	4.3	0.3	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			33.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
No-Build 2022 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	206	1516	216	62	27	695	949	446	56	1759	114
Future Volume (veh/h)	139	206	1516	216	62	27	695	949	446	56	1759	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	143	212	1530	223	64	0	716	1093	264	58	1813	111
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	466	1462	288	112	0	2099	4442	941	234	1988	122
Arrive On Green	0.05	0.04	0.04	0.06	0.03	0.00	0.39	0.59	0.59	0.07	0.27	0.27
Sat Flow, veh/h	1781	3554	2790	5023	3647	0	5344	7481	1585	3456	7397	452
Grp Volume(v), veh/h	143	212	1530	223	64	0	716	1093	264	58	1485	439
Grp Sat Flow(s),veh/h/ln	1781	1777	1395	1674	1777	0	1781	1870	1585	1728	1515	1789
Q Serve(g_s), s	12.5	9.3	21.0	7.0	2.8	0.0	15.0	11.1	13.0	2.5	38.0	38.1
Cycle Q Clear(g_c), s	12.5	9.3	21.0	7.0	2.8	0.0	15.0	11.1	13.0	2.5	38.0	38.1
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	280	466	1462	288	112	0	2099	4442	941	234	1629	481
V/C Ratio(X)	0.51	0.45	1.05	0.78	0.57	0.00	0.34	0.25	0.28	0.25	0.91	0.91
Avail Cap(c_a), veh/h	280	466	1462	345	400	0	2099	4442	941	234	1629	481
HCM Platoon Ratio	0.33	0.33	0.33	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	69.9	70.9	45.1	74.4	76.4	0.0	34.1	15.5	15.8	70.7	56.7	56.7
Incr Delay (d2), s/veh	1.6	0.7	36.8	8.8	4.5	0.0	0.1	0.1	0.7	0.5	9.3	24.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.2	7.9	21.5	5.9	2.5	0.0	10.6	8.2	8.7	2.0	21.7	27.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.4	71.6	81.9	83.2	81.0	0.0	34.2	15.6	16.6	71.3	65.9	81.0
LnGrp LOS	E	E	F	F	F	A	C	B	B	E	E	F
Approach Vol, veh/h	1885			287			2073			1982		
Approach Delay, s/veh	79.9			82.7			22.1			69.4		
Approach LOS	E			F			C			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.8	101.0	15.2	27.0	68.8	49.0	31.1	11.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	95.0	11.0	21.0	61.0	43.0	14.0	18.0				
Max Q Clear Time (g_c+l1), s	4.5	15.0	9.0	23.0	17.0	40.1	14.5	4.8				
Green Ext Time (p_c), s	0.0	10.7	0.2	0.0	2.8	2.5	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay	57.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

5: Cumberland Blvd & Utility Dwy/Spring Hill Pkwy

Emerson Center TIA
No-Build 2022 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (veh/h)	0	0	2	6	0	238	0	378	15	55	716	2
Future Volume (veh/h)	0	0	2	6	0	238	0	378	15	55	716	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1900	1900	1900	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	1	7	0	1	0	411	12	60	778	2
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	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	0	0	18	105	0	18	597	4647	135	845	4410	11
Arrive On Green	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.72	0.72	0.06	1.00	1.00
Sat Flow, veh/h	0	0	1610	1416	0	1610	1810	6475	187	1781	5258	14
Grp Volume(v), veh/h	0	0	1	7	0	1	0	305	118	60	504	276
Grp Sat Flow(s),veh/h/ln	0	0	1610	1416	0	1610	1810	1609	1837	1781	1702	1868
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.5	1.5	0.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.5	1.5	0.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.10	1.00		0.01
Lane Grp Cap(c), veh/h	0	0	18	105	0	18	597	3463	1318	845	2855	1567
V/C Ratio(X)	0.00	0.00	0.05	0.07	0.00	0.05	0.00	0.09	0.09	0.07	0.18	0.18
Avail Cap(c_a), veh/h	0	0	382	425	0	382	798	3463	1318	964	2855	1567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	0.0	0.0	39.1	39.3	0.0	39.1	0.0	3.4	3.4	1.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.2	0.3	0.0	1.2	0.0	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.6	0.8	0.2	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	40.4	39.6	0.0	40.4	0.0	3.5	3.5	1.9	0.1	0.2
LnGrp LOS	A	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	1			8			423			840		
Approach Delay, s/veh	40.4			39.7			3.5			0.3		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	63.4		6.9	0.0	73.1		6.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	34.0		19.0	9.0	34.0		19.0				
Max Q Clear Time (g_c+I1), s	2.6	3.5		2.0	0.0	2.0		2.4				
Green Ext Time (p_c), s	0.0	2.8		0.0	0.0	5.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	1.6											
HCM 6th LOS	A											
Notes												

HCM 6th Signalized Intersection Summary

1: Campbell Rd/Carolyn Dr & Spring Rd

Emerson Center TIA
No-Build 2022 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	1263	98	370	1918	48	134	18	269	40	9	10
Future Volume (veh/h)	49	1263	98	370	1918	48	134	18	269	40	9	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	1373	55	402	2085	51	146	20	21	43	10	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	2081	928	421	2482	60	240	27	252	89	19	8
Arrive On Green	0.03	0.59	0.59	0.29	1.00	1.00	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3545	86	1242	170	1585	312	121	49
Grp Volume(v), veh/h	53	1373	55	402	1041	1095	166	0	21	59	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1855	1412	0	1585	482	0	0
Q Serve(g_s), s	1.9	41.7	2.4	19.7	0.0	0.0	0.0	0.0	1.8	5.5	0.0	0.0
Cycle Q Clear(g_c), s	1.9	41.7	2.4	19.7	0.0	0.0	18.0	0.0	1.8	23.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.05	0.88		1.00	0.73		0.10
Lane Grp Cap(c), veh/h	206	2081	928	421	1244	1299	267	0	252	116	0	0
V/C Ratio(X)	0.26	0.66	0.06	0.96	0.84	0.84	0.62	0.00	0.08	0.51	0.00	0.00
Avail Cap(c_a), veh/h	256	2081	928	601	1244	1299	281	0	267	130	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.3	22.4	14.2	26.9	0.0	0.0	64.1	0.0	57.3	72.3	0.0	0.0
Incr Delay (d2), s/veh	0.7	1.7	0.1	21.3	6.8	6.8	3.9	0.0	0.1	3.5	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(95%),veh/ln	1.4	23.9	1.6	21.4	4.2	4.4	11.0	0.0	1.3	4.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	24.0	14.3	48.2	6.8	6.8	68.0	0.0	57.5	75.8	0.0	0.0
LnGrp LOS	B	C	B	D	A	A	E	A	E	E	A	A
Approach Vol, veh/h	1481		2538			187			59			
Approach Delay, s/veh	23.3		13.4			66.8			75.8			
Approach LOS	C		B			E			E			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	28.8	99.7	31.5		10.5	118.0	31.5					
Change Period (Y+Rc), s	6.0	6.0	6.0		6.0	6.0	6.0					
Max Green Setting (Gmax), s	39.0	76.0	27.0		9.0	106.0	27.0					
Max Q Clear Time (g_c+l1), s	21.7	43.7	20.0		3.9	2.0	25.4					
Green Ext Time (p_c), s	1.1	12.1	0.5		0.0	39.1	0.0					
Intersection Summary												
HCM 6th Ctrl Delay	20.0											
HCM 6th LOS	C											
Notes												

HCM 6th Signalized Intersection Summary

2: Sports Ave/Aldi Dwy & Spring Rd

Emerson Center TIA
No-Build 2022 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	94	1626	29	62	2422	7	22	1	38	50	1	55
Future Volume (veh/h)	94	1626	29	62	2422	7	22	1	38	50	1	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	1767	31	67	2633	8	24	1	1	54	1	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	4005	70	301	4066	12	144	5	131	95	8	39
Arrive On Green	0.06	1.00	1.00	0.06	1.00	1.00	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	5167	91	1781	5256	16	1207	62	1585	711	95	469
Grp Volume(v), veh/h	102	1164	634	67	1705	936	25	0	1	87	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1854	1781	1702	1867	1269	0	1585	1276	0	0
Q Serve(g_s), s	2.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.1	8.1	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0	1.2	0.0	0.0	3.0	0.0	0.1	11.1	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.01	0.96		1.00	0.62		0.37
Lane Grp Cap(c), veh/h	188	2638	1437	301	2634	1445	149	0	131	142	0	0
V/C Ratio(X)	0.54	0.44	0.44	0.22	0.65	0.65	0.17	0.00	0.01	0.61	0.00	0.00
Avail Cap(c_a), veh/h	289	2638	1437	348	2634	1445	234	0	228	232	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.1	0.0	0.0	3.1	0.0	0.0	68.6	0.0	67.3	73.0	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.5	1.0	0.0	0.1	0.2	0.5	0.0	0.0	4.2	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(95%),veh/ln	1.2	0.4	0.7	0.6	0.1	0.1	1.8	0.0	0.1	6.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.6	0.5	1.0	3.1	0.1	0.2	69.2	0.0	67.4	77.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	A
Approach Vol, veh/h	1900				2708				26			
Approach Delay, s/veh	1.0				0.2				69.1			
Approach LOS	A				A				E			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	130.0		19.3	10.9	129.8		19.3				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	110.0		23.0	14.0	105.0		23.0				
Max Q Clear Time (g_c+l1), s	3.2	2.0		5.0	4.0	2.0		13.1				
Green Ext Time (p_c), s	0.0	20.4		0.1	0.1	51.7		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	2.3											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
No-Build 2022 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	243	988	541	279	1363	91	615	488	148	121	521	564
Future Volume (veh/h)	243	988	541	279	1363	91	615	488	148	121	521	564
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	259	1051	479	297	1450	90	654	519	130	129	554	311
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	1233	562	320	1659	103	583	828	206	291	689	307
Arrive On Green	0.30	0.72	0.72	0.13	0.34	0.34	0.28	0.49	0.49	0.07	0.19	0.19
Sat Flow, veh/h	1781	3430	1563	1781	4914	305	3456	2818	703	1781	3554	1585
Grp Volume(v), veh/h	259	1043	487	297	1004	536	654	326	323	129	554	311
Grp Sat Flow(s),veh/h/ln	1781	1702	1589	1781	1702	1815	1728	1777	1744	1781	1777	1585
Q Serve(g_s), s	23.0	35.6	35.6	18.1	44.4	44.4	27.0	21.6	21.8	9.2	23.8	31.0
Cycle Q Clear(g_c), s	23.0	35.6	35.6	18.1	44.4	44.4	27.0	21.6	21.8	9.2	23.8	31.0
Prop In Lane	1.00		0.98	1.00		0.17	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	267	1223	571	320	1149	613	583	522	512	291	689	307
V/C Ratio(X)	0.97	0.85	0.85	0.93	0.87	0.87	1.12	0.63	0.63	0.44	0.80	1.01
Avail Cap(c_a), veh/h	267	1223	571	381	1149	613	583	522	512	291	689	307
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	19.4	19.4	37.9	49.8	49.8	57.5	34.3	34.3	47.0	61.6	64.5
Incr Delay (d2), s/veh	43.2	6.8	13.4	26.4	9.3	15.9	74.7	2.2	2.4	1.1	6.9	54.6
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(95%),veh/ln	17.3	12.8	13.5	14.6	27.3	30.1	24.9	13.2	13.2	7.6	16.9	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.8	26.2	32.8	64.3	59.2	65.7	132.1	36.5	36.7	48.1	68.5	119.1
LnGrp LOS	F	C	C	E	E	E	F	D	D	D	E	F
Approach Vol, veh/h	1789			1837			1303			994		
Approach Delay, s/veh	38.5			61.9			84.6			81.7		
Approach LOS	D			E			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.5	63.5	17.0	53.0	30.0	60.0	33.0	37.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	26.0	52.0	11.0	47.0	24.0	54.0	27.0	31.0				
Max Q Clear Time (g_c+l1), s	20.1	37.6	11.2	23.8	25.0	46.4	29.0	33.0				
Green Ext Time (p_c), s	0.4	8.3	0.0	4.0	0.0	5.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	63.2											
HCM 6th LOS	E											

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA

No-Build 2022 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	219	906	468	166	63	1308	1825	335	99	1742	143
Future Volume (veh/h)	216	219	906	468	166	63	1308	1825	335	99	1742	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	984	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	218	221	875	473	168	39	1321	1843	169	100	1760	135
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	364	1106	991	215	49	1571	3413	723	325	1864	143
Arrive On Green	0.38	0.17	0.17	0.20	0.07	0.07	0.29	0.46	0.46	0.09	0.26	0.26
Sat Flow, veh/h	938	3554	2790	5023	2878	652	5344	7481	1585	3456	7273	557
Grp Volume(v), veh/h	218	221	875	473	102	105	1321	1843	169	100	1466	429
Grp Sat Flow(s),veh/h/ln	938	1777	1395	1674	1777	1753	1781	1870	1585	1728	1515	1770
Q Serve(g_s), s	36.0	9.2	0.0	13.4	9.0	9.4	37.1	28.4	10.4	4.3	38.0	38.1
Cycle Q Clear(g_c), s	36.0	9.2	0.0	13.4	9.0	9.4	37.1	28.4	10.4	4.3	38.0	38.1
Prop In Lane	1.00		1.00	1.00		0.37	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	211	364	1106	991	133	131	1571	3413	723	325	1553	454
V/C Ratio(X)	1.03	0.61	0.79	0.48	0.77	0.80	0.84	0.54	0.23	0.31	0.94	0.95
Avail Cap(c_a), veh/h	211	733	1395	991	200	197	1571	3413	723	325	1553	454
HCM Platoon Ratio	1.67	1.67	1.67	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	1.00	1.00
Uniform Delay (d), s/veh	49.9	63.3	37.9	56.9	72.7	72.8	53.0	31.4	26.5	67.6	58.4	58.4
Incr Delay (d2), s/veh	71.0	1.6	2.5	0.4	9.6	12.8	4.3	0.6	0.8	0.5	12.9	30.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.4	7.2	20.1	9.7	8.0	8.3	23.6	18.6	7.5	3.4	22.1	28.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.9	64.9	40.4	57.3	82.3	85.6	57.3	32.0	27.2	68.2	71.3	89.2
LnGrp LOS	F	E	D	E	F	F	E	C	C	E	E	F
Approach Vol, veh/h	1314			680			3333			1995		
Approach Delay, s/veh	57.9			65.4			41.8			75.0		
Approach LOS	E			E			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	79.0	37.6	22.4	53.0	47.0	42.0	18.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	73.0	21.0	33.0	41.0	41.0	36.0	18.0				
Max Q Clear Time (g_c+l1), s	6.3	30.4	15.4	11.2	39.1	40.1	38.0	11.4				
Green Ext Time (p_c), s	0.1	20.6	1.0	5.2	1.1	0.8	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay 55.9

HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

5: Cumberland Blvd & Utility Dwy/Spring Hill Pkwy

Emerson Center TIA
No-Build 2022 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↖		↗	↑↑↑		↗	↑↑↑	
Traffic Volume (veh/h)	1	0	8	26	0	213	0	1056	55	207	1031	0
Future Volume (veh/h)	1	0	8	26	0	213	0	1056	55	207	1031	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1900	1900	1900	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	0	27	0	15	0	1078	50	211	1052	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	132	0	0	148	0	62	459	4269	197	506	4144	0
Arrive On Green	0.04	0.00	0.00	0.04	0.00	0.04	0.00	0.67	0.67	0.13	1.00	0.00
Sat Flow, veh/h	1087	0	0	1418	0	1610	1810	6350	293	1781	5274	0
Grp Volume(v), veh/h	1	0	0	27	0	15	0	818	310	211	1052	0
Grp Sat Flow(s),veh/h/ln	1087	0	0	1418	0	1610	1810	1609	1818	1781	1702	0
Q Serve(g_s), s	0.1	0.0	0.0	0.5	0.0	0.7	0.0	5.4	5.4	2.8	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	0.0	1.3	0.0	0.7	0.0	5.4	5.4	2.8	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.16	1.00		0.00
Lane Grp Cap(c), veh/h	132	0	0	148	0	62	459	3244	1222	506	4144	0
V/C Ratio(X)	0.01	0.00	0.00	0.18	0.00	0.24	0.00	0.25	0.25	0.42	0.25	0.00
Avail Cap(c_a), veh/h	432	0	0	448	0	403	660	3244	1222	748	4144	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.41	0.41	0.00
Uniform Delay (d), s/veh	37.7	0.0	0.0	37.6	0.0	37.3	0.0	5.2	5.2	2.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	2.0	0.0	0.2	0.5	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	1.0	0.0	0.6	0.0	2.6	3.1	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	0.0	0.0	38.2	0.0	39.3	0.0	5.4	5.7	3.2	0.1	0.0
LnGrp LOS	D	A	A	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	1			42			1128			1263		
Approach Delay, s/veh	37.7			38.6			5.4			0.6		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	59.8		9.1	0.0	70.9		9.1				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	16.0	26.0		20.0	9.0	33.0		20.0				
Max Q Clear Time (g_c+I1), s	4.8	7.4		2.8	0.0	2.0		3.3				
Green Ext Time (p_c), s	0.4	7.3		0.0	0.0	8.6		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				3.5								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

1: Campbell Rd/Carolyn Dr & Spring Rd

Emerson Center TIA
Build 2022 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1765	58	146	711	6	48	6	247	52	10	11
Future Volume (veh/h)	22	1765	58	146	711	6	48	6	247	52	10	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	2052	43	170	827	7	56	7	186	60	12	8
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	550	2521	1124	190	2654	22	209	24	208	129	25	13
Arrive On Green	0.02	0.71	0.71	0.09	1.00	1.00	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3611	31	1268	181	1585	681	189	97
Grp Volume(v), veh/h	26	2052	43	170	407	427	63	0	186	80	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1448	0	1585	966	0	0
Q Serve(g_s), s	0.6	63.5	1.3	5.3	0.0	0.0	0.0	0.0	18.5	8.6	0.0	0.0
Cycle Q Clear(g_c), s	0.6	63.5	1.3	5.3	0.0	0.0	6.2	0.0	18.5	14.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.89		1.00	0.75		0.10
Lane Grp Cap(c), veh/h	550	2521	1124	190	1306	1371	232	0	208	166	0	0
V/C Ratio(X)	0.05	0.81	0.04	0.89	0.31	0.31	0.27	0.00	0.90	0.48	0.00	0.00
Avail Cap(c_a), veh/h	612	2521	1124	273	1306	1371	286	0	267	215	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.9	16.0	6.9	36.5	0.0	0.0	63.1	0.0	68.4	68.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.0	0.1	22.2	0.6	0.6	0.6	0.0	25.3	2.2	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(95%),veh/ln	0.4	31.8	0.8	9.6	0.4	0.4	4.3	0.0	14.0	5.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.9	19.0	7.0	58.7	0.6	0.6	63.7	0.0	93.7	71.0	0.0	0.0
LnGrp LOS	A	B	A	E	A	A	E	A	F	E	A	A
Approach Vol, veh/h	2121		1004			249			80			
Approach Delay, s/veh	18.6		10.4			86.1			71.0			
Approach LOS	B		B			F			E			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	119.5		27.0	9.4	123.6		27.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	15.0	100.0		27.0	9.0	106.0		27.0				
Max Q Clear Time (g_c+l1), s	7.3	65.5		20.5	2.6	2.0		16.8				
Green Ext Time (p_c), s	0.2	22.2		0.5	0.0	5.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	22.3											
HCM 6th LOS	C											
Notes												

HCM 6th Signalized Intersection Summary

2: Sports Ave/Aldi Dwy & Spring Rd

Emerson Center TIA
Build 2022 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑↑			↰ ↑↑↑				↰ ↑	↰		↰	
Traffic Volume (veh/h)	86	2200	24	66	888	0	20	0	38	8	2	6
Future Volume (veh/h)	86	2200	24	66	888	0	20	0	38	8	2	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	2472	26	74	998	0	22	0	1	9	2	-21
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	576	4396	46	209	4304	0	64	0	22	0	236	262
Arrive On Green	0.06	1.00	1.00	0.06	1.00	0.00	0.01	0.00	0.01	0.01	0.01	0.00
Sat Flow, veh/h	1781	5210	55	1781	5274	0	1418	0	1585	0	0	0
Grp Volume(v), veh/h	97	1614	884	74	998	0	22	0	1	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1861	1781	1702	0	1418	0	1585	0	0	0
Q Serve(g_s), s	1.2	0.0	0.0	0.9	0.0	0.0	2.2	0.0	0.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	0.9	0.0	0.0	2.2	0.0	0.1	0.0	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.00	1.00		1.00	-0.90		2.10
Lane Grp Cap(c), veh/h	576	2872	1570	209	4304	0	64	0	22	0	0	0
V/C Ratio(X)	0.17	0.56	0.56	0.35	0.23	0.00	0.34	0.00	0.05	0.00	0.00	0.00
Avail Cap(c_a), veh/h	621	2872	1570	278	4304	0	222	0	198	0	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	1.3	0.0	0.0	1.3	0.0	0.0	79.0	0.0	77.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.8	1.5	0.9	0.1	0.0	3.1	0.0	0.9	0.0	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(95%),veh/ln	0.4	0.6	1.2	0.4	0.1	0.0	1.7	0.0	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.4	0.8	1.5	2.2	0.1	0.0	82.1	0.0	78.7	0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	F	A	E	A	A	A
Approach Vol, veh/h	2595			1072			23			0		
Approach Delay, s/veh	1.1			0.3			82.0			0.0		
Approach LOS	A			A			F					
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	141.0		8.2	10.9	140.9		8.2				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	111.0			20.0	9.0	113.0		20.0				
Max Q Clear Time (g_c+I), s	2.0			4.2	3.2	2.0		0.0				
Green Ext Time (p_c), s	0.1	46.1		0.0	0.1	8.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	1.3
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA

Build 2022 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↱ ↲ ↳			↰ ↱ ↲ ↳			↰ ↱ ↲ ↳			↰ ↱ ↲ ↳		
Traffic Volume (veh/h)	203	1524	525	167	600	36	237	244	207	141	204	166
Future Volume (veh/h)	203	1524	525	167	600	36	237	244	207	141	204	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	218	1639	482	180	645	31	255	262	99	152	219	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	2273	656	224	2524	121	304	313	115	217	432	193
Arrive On Green	0.18	0.77	0.77	0.06	0.51	0.51	0.03	0.04	0.04	0.09	0.12	0.12
Sat Flow, veh/h	1781	3935	1135	1781	4993	239	3456	2542	937	1781	3554	1585
Grp Volume(v), veh/h	218	1413	708	180	439	237	255	181	180	152	219	1
Grp Sat Flow(s),veh/h/ln	1781	1702	1666	1781	1702	1827	1728	1777	1702	1781	1777	1585
Q Serve(g_s), s	19.2	34.4	36.2	7.8	11.7	11.8	11.7	16.2	16.8	11.8	9.2	0.1
Cycle Q Clear(g_c), s	19.2	34.4	36.2	7.8	11.7	11.8	11.7	16.2	16.8	11.8	9.2	0.1
Prop In Lane	1.00		0.68	1.00		0.13	1.00		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	240	1966	962	224	1721	924	304	219	210	217	432	193
V/C Ratio(X)	0.91	0.72	0.74	0.80	0.26	0.26	0.84	0.83	0.86	0.70	0.51	0.01
Avail Cap(c_a), veh/h	345	1966	962	313	1721	924	389	267	255	219	444	198
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.7	11.8	12.0	26.5	22.5	22.5	76.5	75.1	75.4	55.9	65.8	61.8
Incr Delay (d2), s/veh	16.8	1.8	3.8	9.9	0.4	0.7	12.1	16.2	20.9	9.3	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.8	13.6	14.6	7.2	8.3	8.9	10.0	13.6	13.9	9.9	7.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.4	13.6	15.8	36.4	22.8	23.2	88.7	91.2	96.3	65.2	66.7	61.8
LnGrp LOS	F	B	B	D	C	C	F	F	F	E	E	E
Approach Vol, veh/h	2339			856			616			372		
Approach Delay, s/veh	20.6			25.8			91.6			66.1		
Approach LOS	C			C			F			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	98.4	19.8	25.7	27.6	86.9	20.1	25.5				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	10.0	80.0	14.0	24.0	31.0	67.0	18.0	20.0				
Max Q Clear Time (g_c+I), s	10.8	38.2	13.8	18.8	21.2	13.8	13.7	11.2				
Green Ext Time (p_c), s	0.3	23.0	0.0	0.9	0.4	4.4	0.3	0.8				

Intersection Summary

HCM 6th Ctrl Delay	36.2
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
Build 2022 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	220	1568	216	71	27	734	949	446	56	1759	124
Future Volume (veh/h)	159	220	1568	216	71	27	734	949	446	56	1759	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	164	227	1583	223	73	5	757	1082	262	58	1813	118
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	466	1462	288	120	8	2099	4442	941	234	1979	129
Arrive On Green	0.05	0.04	0.04	0.06	0.04	0.04	0.39	0.59	0.59	0.07	0.27	0.27
Sat Flow, veh/h	1781	3554	2790	5023	3377	229	5344	7481	1585	3456	7366	479
Grp Volume(v), veh/h	164	227	1583	223	38	40	757	1082	262	58	1491	440
Grp Sat Flow(s),veh/h/ln	1781	1777	1395	1674	1777	1829	1781	1870	1585	1728	1515	1784
Q Serve(g_s), s	14.4	10.0	21.0	7.0	3.4	3.4	16.0	11.0	12.9	2.5	38.2	38.3
Cycle Q Clear(g_c), s	14.4	10.0	21.0	7.0	3.4	3.4	16.0	11.0	12.9	2.5	38.2	38.3
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	273	466	1462	288	63	65	2099	4442	941	234	1629	480
V/C Ratio(X)	0.60	0.49	1.08	0.78	0.60	0.62	0.36	0.24	0.28	0.25	0.92	0.92
Avail Cap(c_a), veh/h	273	466	1462	345	200	206	2099	4442	941	234	1629	480
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.2	71.3	45.1	74.4	76.1	76.1	34.4	15.4	15.8	70.7	56.7	56.8
Incr Delay (d2), s/veh	3.7	0.8	49.4	8.8	9.0	9.2	0.1	0.1	0.7	0.5	9.6	24.9
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(95%),veh/ln	11.6	8.3	25.1	5.9	3.1	3.2	11.2	8.2	8.6	2.0	21.8	27.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	72.1	94.6	83.2	85.1	85.2	34.5	15.6	16.6	71.3	66.3	81.7
LnGrp LOS	E	E	F	F	F	F	C	B	B	E	E	F
Approach Vol, veh/h	1974			301			2101			1989		
Approach Delay, s/veh	90.3			83.7			22.5			69.9		
Approach LOS	F			F			C			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.8	101.0	15.2	27.0	68.8	49.0	30.5	11.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	95.0	11.0	21.0	61.0	43.0	14.0	18.0				
Max Q Clear Time (g_c+I4.5s	14.9	14.9	9.0	23.0	18.0	40.3	16.4	5.4				
Green Ext Time (p_c), s	0.0	10.5	0.2	0.0	3.0	2.3	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay 61.2
HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

5: Cumberland Blvd & Utility Dwy/Spring Hill Pkwy

Emerson Center TIA
Build 2022 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↑↑↑		↕	↑↑↑	
Traffic Volume (veh/h)	0	0	2	12	0	307	0	378	20	110	716	2
Future Volume (veh/h)	0	0	2	12	0	307	0	378	20	110	716	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	-7	13	0	87	0	411	12	120	778	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	0	376	219	0	115	538	4172	121	791	4088	11
Arrive On Green	0.00	0.00	0.00	0.07	0.00	0.07	0.00	0.64	0.64	0.08	1.00	1.00
Sat Flow, veh/h	0	0	1585	1781	0	1585	1781	6475	187	1781	5258	14
Grp Volume(v), veh/h	0	0	-7	13	0	87	0	305	118	120	504	276
Grp Sat Flow(s), veh/h/ln	0	0	1585	1781	0	1585	1781	1609	1837	1781	1702	1868
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	4.3	0.0	1.9	1.9	1.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.5	0.0	4.3	0.0	1.9	1.9	1.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.10	1.00		0.01
Lane Grp Cap(c), veh/h	0	0	0	219	0	115	538	3109	1183	791	2647	1452
V/C Ratio(X)	0.00	0.00	0.00	0.06	0.00	0.76	0.00	0.10	0.10	0.15	0.19	0.19
Avail Cap(c_a), veh/h	0	0	0	513	0	376	737	3109	1183	888	2647	1452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	0.0	0.0	0.0	34.7	0.0	36.4	0.0	5.4	5.4	3.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	9.7	0.0	0.1	0.2	0.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	0.4	0.0	3.5	0.0	1.0	1.2	0.7	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	34.8	0.0	46.1	0.0	5.5	5.6	3.3	0.1	0.2
LnGrp LOS	A	A	A	C	A	D	A	A	A	A	A	A
Approach Vol, veh/h	-7			100			423			900		
Approach Delay, s/veh	0.0			44.6			5.5			0.6		
Approach LOS	A			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	57.5		11.8	0.0	68.2		11.8				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	34.0	34.0		19.0	9.0	34.0		19.0				
Max Q Clear Time (g_c+I), s	3.9	3.9		0.0	0.0	2.0		6.3				
Green Ext Time (p_c), s	0.1	2.8		0.0	0.0	5.5		0.3				

Intersection Summary

HCM 6th Ctrl Delay	5.2
HCM 6th LOS	A

Notes

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

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↗
Traffic Vol, veh/h	1925	16	0	804	0	27
Future Vol, veh/h	1925	16	0	804	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2070	17	0	865	0	29
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1044
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	194
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	194
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		26.8	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	194	-	-	-		
HCM Lane V/C Ratio	0.15	-	-	-		
HCM Control Delay (s)	26.8	-	-	-		
HCM Lane LOS	D	-	-	-		
HCM 95th %tile Q(veh)	0.5	-	-	-		

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	1938	15	0	802	0	20
Future Vol, veh/h	1938	15	0	802	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2084	16	0	862	0	22
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	1050
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	192
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	192
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0	26.1			
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	192	-	-	-		
HCM Lane V/C Ratio	0.112	-	-	-		
HCM Control Delay (s)	26.1	-	-	-		
HCM Lane LOS	D	-	-	-		
HCM 95th %tile Q(veh)	0.4	-	-	-		

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	57	70	244	4	6	77
Future Vol, veh/h	57	70	244	4	6	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	76	265	4	7	84
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	269	0	-	0	467	267
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	200	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1295	-	-	-	554	772
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	834	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1295	-	-	-	526	772
Mov Cap-2 Maneuver	-	-	-	-	526	-
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	834	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.6	0		10.5		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1295	-	-	-	747	
HCM Lane V/C Ratio	0.048	-	-	-	0.121	
HCM Control Delay (s)	7.9	0	-	-	10.5	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	

HCM 6th Signalized Intersection Summary

1: Campbell Rd/Carolyn Dr & Spring Rd

Emerson Center TIA
Build 2022 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	1308	98	370	1955	48	134	18	269	40	9	10
Future Volume (veh/h)	49	1308	98	370	1955	48	134	18	269	40	9	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	1422	54	402	2125	51	146	20	21	43	10	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	2049	914	421	2483	59	240	27	252	89	19	8
Arrive On Green	0.03	0.58	0.58	0.30	1.00	1.00	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3547	85	1242	170	1585	312	121	49
Grp Volume(v), veh/h	53	1422	54	402	1060	1116	166	0	21	59	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1855	1412	0	1585	482	0	0
Q Serve(g_s), s	1.9	45.2	2.4	21.2	0.0	0.0	0.0	0.0	1.8	5.5	0.0	0.0
Cycle Q Clear(g_c), s	1.9	45.2	2.4	21.2	0.0	0.0	18.0	0.0	1.8	23.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.05	0.88		1.00	0.73		0.10
Lane Grp Cap(c), veh/h	200	2049	914	421	1244	1299	267	0	252	116	0	0
V/C Ratio(X)	0.27	0.69	0.06	0.96	0.85	0.86	0.62	0.00	0.08	0.51	0.00	0.00
Avail Cap(c_a), veh/h	250	2049	914	584	1244	1299	281	0	267	130	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.9	23.9	14.9	29.0	0.0	0.0	64.1	0.0	57.3	72.3	0.0	0.0
Incr Delay (d2), s/veh	0.7	2.0	0.1	22.2	7.5	7.6	3.9	0.0	0.1	3.5	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(95%),veh/ln	1.4	25.7	1.6	21.2	4.7	4.9	11.0	0.0	1.3	4.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.6	25.9	15.0	51.2	7.5	7.6	68.0	0.0	57.5	75.8	0.0	0.0
LnGrp LOS	B	C	B	D	A	A	E	A	E	E	A	A
Approach Vol, veh/h	1529		2578			187			59			
Approach Delay, s/veh	25.1		14.3			66.8			75.8			
Approach LOS	C		B			E			E			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	30.3	98.2	31.5		10.5	118.0	31.5					
Change Period (Y+Rc), s	6.0	6.0	6.0		6.0	6.0	6.0					
Max Green Setting (Gmax), s	39.0	76.0	27.0		9.0	106.0	27.0					
Max Q Clear Time (g_c+l1), s	23.2	47.2	20.0		3.9	2.0	25.4					
Green Ext Time (p_c), s	1.1	12.2	0.5		0.0	41.4	0.0					
Intersection Summary												
HCM 6th Ctrl Delay			21.2									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Summary

2: Sports Ave/Aldi Dwy & Spring Rd

Emerson Center TIA
Build 2022 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑↑			↰ ↑↑↑			↰ ↑↑↑			↰ ↑↑↑		
Traffic Volume (veh/h)	94	1671	29	62	2459	7	22	1	38	50	1	55
Future Volume (veh/h)	94	1671	29	62	2459	7	22	1	38	50	1	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	1816	31	67	2673	8	24	1	1	54	1	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	4007	68	291	4067	12	144	5	131	95	8	39
Arrive On Green	0.06	1.00	1.00	0.06	1.00	1.00	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1781	5170	88	1781	5256	16	1207	62	1585	711	95	469
Grp Volume(v), veh/h	102	1195	652	67	1731	950	25	0	1	87	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1854	1781	1702	1868	1269	0	1585	1276	0	0
Q Serve(g_s), s	2.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.1	8.1	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0	1.2	0.0	0.0	3.0	0.0	0.1	11.1	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.01	0.96		1.00	0.62		0.37
Lane Grp Cap(c), veh/h	185	2638	1437	291	2634	1445	149	0	131	142	0	0
V/C Ratio(X)	0.55	0.45	0.45	0.23	0.66	0.66	0.17	0.00	0.01	0.61	0.00	0.00
Avail Cap(c_a), veh/h	286	2638	1437	339	2634	1445	234	0	228	232	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.1	0.0	0.0	3.1	0.0	0.0	68.6	0.0	67.3	73.0	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.6	1.0	0.0	0.1	0.2	0.5	0.0	0.0	4.2	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(95%),veh/ln	1.2	0.4	0.7	0.6	0.1	0.2	1.8	0.0	0.1	6.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	0.6	1.0	3.2	0.1	0.2	69.2	0.0	67.4	77.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	A
Approach Vol, veh/h	1949			2748			26			87		
Approach Delay, s/veh	1.0			0.2			69.1			77.2		
Approach LOS	A			A			E			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	130.0		19.3	10.9	129.8		19.3				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	110.0		23.0	14.0	105.0		23.0				
Max Q Clear Time (g_c+I), s	1.2	2.0		5.0	4.0	2.0		13.1				
Green Ext Time (p_c), s	0.0	21.7		0.1	0.1	53.6		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				2.3								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
Build 2022 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↱ ↑↑			↰ ↑↑ ↱		↰ ↱
Traffic Volume (veh/h)	243	1006	569	377	1370	91	646	489	184	121	523	564
Future Volume (veh/h)	243	1006	569	377	1370	91	646	489	184	121	523	564
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	259	1070	505	401	1457	90	687	520	160	129	556	311
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	1106	515	340	1659	102	583	787	241	279	689	307
Arrive On Green	0.30	0.65	0.65	0.16	0.34	0.34	0.28	0.49	0.49	0.07	0.19	0.19
Sat Flow, veh/h	1781	3404	1585	1781	4916	304	3456	2679	820	1781	3554	1585
Grp Volume(v), veh/h	259	1070	505	401	1009	538	687	344	336	129	556	311
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1816	1728	1777	1723	1781	1777	1585
Q Serve(g_s), s	23.0	47.4	49.2	26.0	44.6	44.7	27.0	23.3	23.6	9.2	23.9	31.0
Cycle Q Clear(g_c), s	23.0	47.4	49.2	26.0	44.6	44.7	27.0	23.3	23.6	9.2	23.9	31.0
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	267	1106	515	340	1149	613	583	522	506	279	689	307
V/C Ratio(X)	0.97	0.97	0.98	1.18	0.88	0.88	1.18	0.66	0.66	0.46	0.81	1.01
Avail Cap(c_a), veh/h	267	1106	515	340	1149	613	583	522	506	279	689	307
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	27.2	27.5	52.8	49.9	49.9	57.5	34.7	34.8	47.1	61.6	64.5
Incr Delay (d2), s/veh	42.9	18.5	32.5	106.7	9.6	16.3	96.1	2.9	3.1	1.2	7.1	54.6
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(95%),veh/ln	17.2	20.9	22.6	28.2	27.4	30.4	27.6	14.1	13.9	7.6	17.0	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.5	45.7	60.0	159.5	59.5	66.2	153.6	37.6	37.9	48.3	68.7	119.1
LnGrp LOS	F	D	E	F	E	E	F	D	D	D	E	F
Approach Vol, veh/h	1834			1948			1367			996		
Approach Delay, s/veh	57.1			82.0			96.0			81.8		
Approach LOS	E			F			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.0	58.0	17.0	53.0	30.0	60.0	33.0	37.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (G_max), s	26.0	52.0	11.0	47.0	24.0	54.0	27.0	31.0				
Max Q Clear Time (g_c+2B), s	23.0	51.2	11.2	25.6	25.0	46.7	29.0	33.0				
Green Ext Time (p_c), s	0.0	0.7	0.0	4.2	0.0	5.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 77.6
HCM 6th LOS E

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
Build 2022 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	232	958	468	182	63	1372	1825	335	99	1742	161
Future Volume (veh/h)	238	232	958	468	182	63	1372	1825	335	99	1742	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	984	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	234	929	473	184	42	1386	1843	169	100	1760	153
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	383	1106	991	231	52	1542	3413	723	306	1843	160
Arrive On Green	0.38	0.18	0.18	0.20	0.08	0.08	0.29	0.46	0.46	0.09	0.26	0.26
Sat Flow, veh/h	938	3554	2790	5023	2887	644	5344	7481	1585	3456	7194	624
Grp Volume(v), veh/h	240	234	929	473	112	114	1386	1843	169	100	1482	431
Grp Sat Flow(s),veh/h/ln	938	1777	1395	1674	1777	1754	1781	1870	1585	1728	1515	1758
Q Serve(g_s), s	36.0	9.7	0.0	13.4	9.9	10.3	39.9	28.4	10.4	4.3	38.5	38.7
Cycle Q Clear(g_c), s	36.0	9.7	0.0	13.4	9.9	10.3	39.9	28.4	10.4	4.3	38.5	38.7
Prop In Lane	1.00		1.00	1.00		0.37	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	211	383	1106	991	142	141	1542	3413	723	306	1553	451
V/C Ratio(X)	1.14	0.61	0.84	0.48	0.78	0.81	0.90	0.54	0.23	0.33	0.95	0.96
Avail Cap(c_a), veh/h	211	733	1381	991	200	197	1542	3413	723	306	1553	451
HCM Platoon Ratio	1.67	1.67	1.67	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	1.00	1.00
Uniform Delay (d), s/veh	49.9	62.5	38.6	56.9	72.2	72.4	54.7	31.4	26.5	68.4	58.6	58.6
Incr Delay (d2), s/veh	104.0	1.6	3.9	0.4	12.5	16.0	7.5	0.6	0.8	0.6	14.3	32.9
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(95%),veh	20.8	7.6	21.8	9.7	8.7	9.0	25.6	18.6	7.5	3.5	22.6	28.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	153.9	64.1	42.5	57.3	84.7	88.4	62.1	32.0	27.2	69.0	72.9	91.5
LnGrp LOS	F	E	D	E	F	F	E	C	C	E	E	F
Approach Vol, veh/h	1403		699			3398			2013			
Approach Delay, s/veh	65.2		66.8			44.1			76.7			
Approach LOS	E		E			D			E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),s	20.2	79.0	37.6	23.3	52.2	47.0	42.0	18.8				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax),s	73.0	73.0	21.0	33.0	41.0	41.0	36.0	18.0				
Max Q Clear Time (g_c+I),s	30.4	30.4	15.4	11.7	41.9	40.7	38.0	12.3				
Green Ext Time (p_c), s	0.1	20.6	1.0	5.6	0.0	0.3	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	58.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

5: Cumberland Blvd & Utility Dwy/Spring Hill Pkwy

Emerson Center TIA

Build 2022 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↑↑↑		↕	↑↑↑	
Traffic Volume (veh/h)	1	0	8	33	0	279	0	1056	64	296	1031	0
Future Volume (veh/h)	1	0	8	33	0	279	0	1056	64	296	1031	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	0	34	0	24	0	1078	57	302	1052	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	0	0	160	0	72	435	4034	212	530	4107	0
Arrive On Green	0.05	0.00	0.00	0.05	0.00	0.05	0.00	0.64	0.64	0.18	1.00	0.00
Sat Flow, veh/h	941	0	0	1418	0	1585	1781	6304	332	1781	5274	0
Grp Volume(v), veh/h	1	0	0	34	0	24	0	824	311	302	1052	0
Grp Sat Flow(s),veh/h/ln	941	0	0	1418	0	1585	1781	1609	1811	1781	1702	0
Q Serve(g_s), s	0.1	0.0	0.0	0.3	0.0	1.2	0.0	5.9	6.0	4.5	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	1.6	0.0	1.2	0.0	5.9	6.0	4.5	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.18	1.00		0.00
Lane Grp Cap(c), veh/h	133	0	0	160	0	72	435	3088	1159	530	4107	0
V/C Ratio(X)	0.01	0.00	0.00	0.21	0.00	0.33	0.00	0.27	0.27	0.57	0.26	0.00
Avail Cap(c_a), veh/h	416	0	0	450	0	396	634	3088	1159	726	4107	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.15	0.15	0.00
Uniform Delay (d), s/veh	37.6	0.0	0.0	37.1	0.0	37.0	0.0	6.3	6.3	3.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	2.6	0.0	0.2	0.6	0.1	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(95%),veh/ln	0.0	0.0	0.0	1.2	0.0	0.9	0.0	3.0	3.6	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	0.0	0.0	37.8	0.0	39.6	0.0	6.5	6.8	3.6	0.0	0.0
LnGrp LOS	D	A	A	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	1			58			1135			1354		
Approach Delay, s/veh	37.6			38.6			6.6			0.8		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.2	57.2		9.7	0.0	70.3		9.7				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (G_max), s	10.0	26.0		20.0	9.0	33.0		20.0				
Max Q Clear Time (g_c+I), s	10.5	8.0		3.2	0.0	2.0		3.6				
Green Ext Time (p_c), s	0.6	7.2		0.0	0.0	8.6		0.1				

Intersection Summary

HCM 6th Ctrl Delay	4.3
HCM 6th LOS	A

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↗
Traffic Vol, veh/h	1413	39	0	1837	0	40
Future Vol, veh/h	1413	39	0	1837	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1503	41	0	1954	0	43
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	772
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	294
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	294
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		19.3	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	294	-	-	-		
HCM Lane V/C Ratio	0.145	-	-	-		
HCM Control Delay (s)	19.3	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	0.5	-	-	-		

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑↱			↑↑↑↑		↱
Traffic Vol, veh/h	1424	29	0	1834	0	25
Future Vol, veh/h	1424	29	0	1834	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1515	31	0	1951	0	27
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	773
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	293
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	293
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		18.5	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	293	-	-	-		
HCM Lane V/C Ratio	0.091	-	-	-		
HCM Control Delay (s)	18.5	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	0.3	-	-	-		

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	262	239	8	7	73
Future Vol, veh/h	95	262	239	8	7	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	97	267	244	8	7	74
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	252	0	-	0	709	248
Stage 1	-	-	-	-	248	-
Stage 2	-	-	-	-	461	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1313	-	-	-	401	791
Stage 1	-	-	-	-	793	-
Stage 2	-	-	-	-	635	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1313	-	-	-	366	791
Mov Cap-2 Maneuver	-	-	-	-	366	-
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	635	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.1	0		10.7		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1313	-	-	-	718	
HCM Lane V/C Ratio	0.074	-	-	-	0.114	
HCM Control Delay (s)	8	0	-	-	10.7	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	

HCM 6th Signalized Intersection Summary

1: Campbell Rd/Carolyn Dr & Spring Rd

Emerson Center TIA
No-Build Horizon Year 2032 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1917	64	162	742	7	53	7	273	57	11	13
Future Volume (veh/h)	24	1917	64	162	742	7	53	7	273	57	11	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	2229	50	188	863	8	62	8	223	66	13	10
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	510	2377	1060	197	2603	24	223	26	228	133	26	15
Arrive On Green	0.02	0.67	0.67	0.15	1.00	1.00	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	3554	1585	1781	3608	33	1254	183	1585	651	178	105
Grp Volume(v), veh/h	28	2229	50	188	425	446	70	0	223	89	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1864	1436	0	1585	934	0	0
Q Serve(g_s), s	0.8	89.2	1.7	11.0	0.0	0.0	0.0	0.0	22.4	9.9	0.0	0.0
Cycle Q Clear(g_c), s	0.8	89.2	1.7	11.0	0.0	0.0	7.0	0.0	22.4	16.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.89		1.00	0.74		0.11
Lane Grp Cap(c), veh/h	510	2377	1060	197	1282	1345	249	0	228	173	0	0
V/C Ratio(X)	0.05	0.94	0.05	0.96	0.33	0.33	0.28	0.00	0.98	0.51	0.00	0.00
Avail Cap(c_a), veh/h	571	2377	1060	197	1282	1345	249	0	228	173	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.8	23.5	9.1	51.7	0.0	0.0	61.6	0.0	68.3	68.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	8.7	0.1	51.2	0.7	0.7	0.6	0.0	53.4	2.6	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	46.1	1.1	11.9	0.4	0.4	4.7	0.0	18.4	6.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.8	32.3	9.1	103.0	0.7	0.7	62.2	0.0	121.7	70.7	0.0	0.0
LnGrp LOS	A	C	A	F	A	A	E	A	F	E	A	A
Approach Vol, veh/h	2307		1059				293				89	
Approach Delay, s/veh	31.5		18.8				107.5				70.7	
Approach LOS	C		B				F				E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	113.0		29.0	9.6	121.4		29.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	12.0	107.0		23.0	9.0	110.0		23.0				
Max Q Clear Time (g_c+l1), s	13.0	91.2		24.4	2.8	2.0		18.8				
Green Ext Time (p_c), s	0.0	13.2		0.0	0.0	5.8		0.1				
Intersection Summary												
HCM 6th Ctrl Delay	34.8											
HCM 6th LOS	C											
Notes												

HCM 6th Signalized Intersection Summary 2: Sports Ave/Aldi Dwy & Spring Rd

Emerson Center TIA
No-Build Horizon Year 2032 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↱ ↲ ↳			↰ ↱ ↲ ↳				↰ ↱ ↲ ↳			↰ ↱ ↲ ↳	
Traffic Volume (veh/h)	96	2399	25	72	937	0	21	0	41	9	2	7
Future Volume (veh/h)	96	2399	25	72	937	0	21	0	41	9	2	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1900	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	2696	28	81	1053	0	24	0	1	10	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	0	0	2	2	2	2
Cap, veh/h	546	4333	45	186	4243	0	88	0	40	54	7	2
Arrive On Green	0.06	1.00	1.00	0.06	1.00	0.00	0.03	0.00	0.03	0.03	0.03	0.03
Sat Flow, veh/h	1781	5211	54	1781	5274	0	1706	0	1585	555	291	71
Grp Volume(v), veh/h	108	1759	965	81	1053	0	24	0	1	13	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1861	1781	1702	0	1706	0	1585	917	0	0
Q Serve(g_s), s	1.5	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.1	0.9	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.0	0.0	1.1	0.0	0.0	2.1	0.0	0.1	3.0	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.00	1.00		1.00	0.77		0.08
Lane Grp Cap(c), veh/h	546	2831	1547	186	4243	0	88	0	40	63	0	0
V/C Ratio(X)	0.20	0.62	0.62	0.43	0.25	0.00	0.27	0.00	0.02	0.21	0.00	0.00
Avail Cap(c_a), veh/h	591	2831	1547	266	4243	0	213	0	178	192	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.89	0.89	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.6	0.0	0.0	1.6	0.0	0.0	77.0	0.0	76.0	77.6	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.0	1.9	1.4	0.1	0.0	1.6	0.0	0.2	1.6	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.7	1.5	0.5	0.1	0.0	1.8	0.0	0.1	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.7	1.0	1.9	3.0	0.1	0.0	78.6	0.0	76.3	79.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	A
Approach Vol, veh/h	2832			1134			25			13		
Approach Delay, s/veh	1.4			0.3			78.5			79.2		
Approach LOS	A			A			E			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	139.1		10.1	11.0	139.0		10.1				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	12.0	112.0		18.0	9.0	115.0		18.0				
Max Q Clear Time (g_c+I), s	2.0	2.0		4.1	3.5	2.0		5.0				
Green Ext Time (p_c), s	0.1	57.4		0.0	0.1	8.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	1.8											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
No-Build Horizon Year 2032 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑↑			↰ ↑↑↑			↰ ↑↑			↰ ↑↑		↰
Traffic Volume (veh/h)	224	1671	559	120	655	40	226	270	186	156	224	183
Future Volume (veh/h)	224	1671	559	120	655	40	226	270	186	156	224	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	241	1797	521	129	704	35	243	290	100	168	241	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	2275	639	179	2377	118	288	345	116	231	505	225
Arrive On Green	0.20	0.76	0.76	0.05	0.48	0.48	0.03	0.04	0.04	0.09	0.14	0.00
Sat Flow, veh/h	1781	3962	1112	1781	4983	247	3456	2608	881	1781	3554	1585
Grp Volume(v), veh/h	241	1536	782	129	480	259	243	196	194	168	241	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1670	1781	1702	1826	1728	1777	1712	1781	1777	1585
Q Serve(g_s), s	21.2	42.6	47.0	5.9	13.7	13.8	11.2	17.5	18.1	12.9	10.0	0.0
Cycle Q Clear(g_c), s	21.2	42.6	47.0	5.9	13.7	13.8	11.2	17.5	18.1	12.9	10.0	0.0
Prop In Lane	1.00		0.67	1.00		0.14	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	263	1955	959	179	1624	871	288	235	226	231	505	225
V/C Ratio(X)	0.92	0.79	0.82	0.72	0.30	0.30	0.84	0.83	0.86	0.73	0.48	0.00
Avail Cap(c_a), veh/h	334	1955	959	256	1624	871	324	289	278	242	600	267
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.4	13.1	13.6	29.8	25.5	25.5	76.8	74.8	75.0	54.2	63.2	0.0
Incr Delay (d2), s/veh	19.5	2.3	5.4	5.6	0.5	0.9	16.5	15.6	19.5	10.0	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.0	16.3	18.4	4.9	9.5	10.2	9.9	14.5	14.7	10.6	8.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.9	15.4	19.0	35.4	25.9	26.4	93.3	90.4	94.5	64.2	63.9	0.0
LnGrp LOS	F	B	B	D	C	C	F	F	F	E	E	A
Approach Vol, veh/h	2559			868			633			409		
Approach Delay, s/veh	22.8			27.5			92.8			64.0		
Approach LOS	C			C			F			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	97.9	20.9	27.2	29.6	82.3	19.3	28.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	79.0	16.0	26.0	30.0	64.0	15.0	27.0				
Max Q Clear Time (g_c+I1), s	17.9	49.0	14.9	20.1	23.2	15.8	13.2	12.0				
Green Ext Time (p_c), s	0.2	21.0	0.0	1.1	0.4	4.9	0.1	1.2				

Intersection Summary

HCM 6th Ctrl Delay	37.4											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
No-Build Horizon Year 2032 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	227	1675	239	68	30	767	1048	493	62	1943	125
Future Volume (veh/h)	153	227	1675	239	68	30	767	1048	493	62	1943	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	234	1695	246	70	1	791	1202	290	64	2003	122
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	444	1448	312	118	2	2107	4442	941	239	1988	121
Arrive On Green	0.05	0.04	0.04	0.06	0.03	0.03	0.39	0.59	0.59	0.07	0.27	0.27
Sat Flow, veh/h	1781	3554	2790	5023	3587	51	5344	7481	1585	3456	7399	450
Grp Volume(v), veh/h	158	234	1695	246	35	36	791	1202	290	64	1640	485
Grp Sat Flow(s),veh/h/ln	1781	1777	1395	1674	1777	1861	1781	1870	1585	1728	1515	1789
Q Serve(g_s), s	13.9	10.3	20.0	7.7	3.1	3.1	16.8	12.4	14.6	2.8	43.0	43.0
Cycle Q Clear(g_c), s	13.9	10.3	20.0	7.7	3.1	3.1	16.8	12.4	14.6	2.8	43.0	43.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	274	444	1448	312	59	61	2107	4442	941	239	1629	481
V/C Ratio(X)	0.58	0.53	1.17	0.79	0.59	0.59	0.38	0.27	0.31	0.27	1.01	1.01
Avail Cap(c_a), veh/h	274	444	1448	377	200	209	2107	4442	941	239	1629	481
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.8	72.1	45.2	74.0	76.3	76.3	34.5	15.7	16.2	70.6	58.5	58.5
Incr Delay (d2), s/veh	2.9	1.2	84.4	9.0	9.1	8.8	0.1	0.2	0.8	0.6	24.1	43.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.2	8.6	34.2	6.5	2.8	2.9	11.7	9.0	9.5	2.3	26.0	33.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.8	73.2	129.5	83.0	85.4	85.1	34.6	15.9	17.0	71.2	82.6	101.5
LnGrp LOS	E	E	F	F	F	F	C	B	B	E	F	F
Approach Vol, veh/h	2087		317			2283			2189			
Approach Delay, s/veh	119.0		83.5			22.5			86.4			
Approach LOS	F		F			C			F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	71.1	101.0	15.9	26.0	69.1	49.0	30.6	11.3				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	95.0	95.0	12.0	20.0	61.0	43.0	14.0	18.0				
Max Q Clear Time (g_c+I4.8s	16.6	16.6	9.7	22.0	18.8	45.0	15.9	5.1				
Green Ext Time (p_c), s	0.0	12.5	0.2	0.0	3.2	0.0	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay 74.9

HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

5: Cumberland Blvd & Utility Dwy/Spring Hill Pkwy

Emerson Center TIA
No-Build Horizon Year 2032 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↑↑↑		↔	↑↑↑	
Traffic Volume (veh/h)	0	0	2	7	0	263	0	417	16	61	790	2
Future Volume (veh/h)	0	0	2	7	0	263	0	417	16	61	790	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1900	1900	1900	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	1	8	0	1	0	453	14	66	859	2
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	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	0	0	20	107	0	20	558	4617	142	817	4405	10
Arrive On Green	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.71	0.71	0.05	0.84	0.84
Sat Flow, veh/h	0	0	1610	1416	0	1610	1810	6462	198	1781	5260	12
Grp Volume(v), veh/h	0	0	1	8	0	1	0	337	130	66	556	305
Grp Sat Flow(s), veh/h/ln	0	0	1610	1416	0	1610	1810	1609	1835	1781	1702	1868
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.7	1.7	0.7	2.5	2.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.7	1.7	0.7	2.5	2.5
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.11	1.00		0.01
Lane Grp Cap(c), veh/h	0	0	20	107	0	20	558	3448	1311	817	2851	1565
V/C Ratio(X)	0.00	0.00	0.05	0.07	0.00	0.05	0.00	0.10	0.10	0.08	0.19	0.20
Avail Cap(c_a), veh/h	0	0	564	585	0	564	760	3448	1311	932	2851	1565
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)	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	0.0	0.0	39.0	39.3	0.0	39.0	0.0	3.5	3.5	2.0	1.3	1.3
Incr Delay (d2), s/veh	0.0	0.0	1.0	0.3	0.0	1.0	0.0	0.1	0.2	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.7	0.9	0.2	0.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	40.1	39.6	0.0	40.1	0.0	3.6	3.7	2.0	1.4	1.5
LnGrp LOS	A	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	1			9			467			927		
Approach Delay, s/veh	40.1			39.6			3.6			1.5		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	63.2		7.0	0.0	73.0		7.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.8	25.0		28.0	9.0	25.0		28.0				
Max Q Clear Time (g_c+I_2), s	12.7	3.7		2.0	0.0	4.5		2.5				
Green Ext Time (p_c), s	0.1	2.9		0.0	0.0	5.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay	2.4
HCM 6th LOS	A

Notes

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

HCM 6th Signalized Intersection Summary

1: Campbell Rd/Carolyn Dr & Spring Rd

Emerson Center TIA
No-Build Horizon Year 2032 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	1395	108	409	2118	53	148	20	297	44	10	11
Future Volume (veh/h)	54	1395	108	409	2118	53	148	20	297	44	10	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	1516	62	445	2302	57	161	22	24	48	11	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	1884	840	462	2489	61	233	26	248	68	15	6
Arrive On Green	0.03	0.53	0.53	0.40	1.00	1.00	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3544	87	1221	167	1585	186	94	38
Grp Volume(v), veh/h	59	1516	62	445	1149	1210	183	0	24	67	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1855	1387	0	1585	318	0	0
Q Serve(g_s), s	2.4	55.9	3.1	29.2	0.0	0.0	0.0	0.0	2.1	4.5	0.0	0.0
Cycle Q Clear(g_c), s	2.4	55.9	3.1	29.2	0.0	0.0	20.5	0.0	2.1	25.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.05	0.88		1.00	0.72		0.12
Lane Grp Cap(c), veh/h	177	1884	840	462	1248	1302	259	0	248	88	0	0
V/C Ratio(X)	0.33	0.80	0.07	0.96	0.92	0.93	0.71	0.00	0.10	0.76	0.00	0.00
Avail Cap(c_a), veh/h	225	1884	840	560	1248	1302	259	0	248	88	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.1	30.8	18.4	32.1	0.0	0.0	65.6	0.0	57.8	75.3	0.0	0.0
Incr Delay (d2), s/veh	1.1	3.8	0.2	26.6	12.5	12.9	8.5	0.0	0.2	30.9	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(95%),veh/ln	1.9	31.9	2.1	22.7	7.7	8.2	12.5	0.0	1.5	6.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	34.6	18.5	58.7	12.5	12.9	74.1	0.0	58.0	106.3	0.0	0.0
LnGrp LOS	B	C	B	E	B	B	E	A	E	F	A	A
Approach Vol, veh/h	1637		2804			207			67			
Approach Delay, s/veh	33.3		20.0			72.2			106.3			
Approach LOS	C		B			E			F			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	38.2	90.8		31.0	10.6	118.4		31.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	41.0	76.0		25.0	9.0	108.0		25.0				
Max Q Clear Time (g_c+I1), s	31.2	57.9		22.5	4.4	2.0		27.0				
Green Ext Time (p_c), s	1.0	10.3		0.2	0.0	53.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.1									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Summary

2: Sports Ave/Aldi Dwy & Spring Rd

Emerson Center TIA
No-Build Horizon Year 2032 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	1796	32	68	2675	8	23	1	40	55	1	61
Future Volume (veh/h)	103	1796	32	68	2675	8	23	1	40	55	1	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	1952	34	74	2908	9	25	1	1	60	1	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	3952	69	265	4013	12	152	5	147	101	8	46
Arrive On Green	0.06	1.00	1.00	0.06	1.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1781	5168	90	1781	5255	16	1163	57	1585	697	85	499
Grp Volume(v), veh/h	112	1285	701	74	1883	1034	26	0	1	100	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1854	1781	1702	1867	1219	0	1585	1281	0	0
Q Serve(g_s), s	2.3	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.1	9.5	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	1.4	0.0	0.0	3.2	0.0	0.1	12.7	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.01	0.96		1.00	0.60		0.39
Lane Grp Cap(c), veh/h	166	2603	1418	265	2600	1426	157	0	147	155	0	0
V/C Ratio(X)	0.67	0.49	0.49	0.28	0.72	0.73	0.17	0.00	0.01	0.65	0.00	0.00
Avail Cap(c_a), veh/h	278	2603	1418	312	2600	1426	219	0	218	221	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	3.4	0.0	0.0	67.3	0.0	65.9	72.3	0.0	0.0
Incr Delay (d2), s/veh	4.7	0.7	1.2	0.1	0.2	0.3	0.5	0.0	0.0	4.5	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(95%),veh/ln	3.6	0.4	0.9	0.7	0.1	0.2	1.8	0.0	0.1	7.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.4	0.7	1.2	3.5	0.2	0.3	67.8	0.0	65.9	76.8	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	E	A	E	E	A	A
Approach Vol, veh/h	2098				2991				27			
Approach Delay, s/veh	1.8				0.3				67.7			
Approach LOS	A				A				E			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	128.3		20.8	11.0	128.2		20.8				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	111.0		22.0	15.0	105.0		22.0				
Max Q Clear Time (g_c+l1), s	3.4	2.0		5.2	4.3	2.0		14.7				
Green Ext Time (p_c), s	0.1	25.8		0.1	0.2	64.6		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	2.7											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
No-Build Horizon Year 2032 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	1089	597	308	1505	100	679	539	163	133	576	623
Future Volume (veh/h)	268	1089	597	308	1505	100	679	539	163	133	576	623
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	285	1159	539	328	1601	99	722	573	146	141	613	368
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	1066	494	334	1598	99	583	844	214	284	733	327
Arrive On Green	0.30	0.63	0.63	0.16	0.32	0.32	0.28	0.50	0.50	0.07	0.21	0.21
Sat Flow, veh/h	1781	3410	1580	1781	4916	304	3456	2806	713	1781	3554	1585
Grp Volume(v), veh/h	285	1157	541	328	1108	592	722	362	357	141	613	368
Grp Sat Flow(s),veh/h/ln	1781	1702	1586	1781	1702	1816	1728	1777	1742	1781	1777	1585
Q Serve(g_s), s	24.0	50.0	50.0	25.3	52.0	52.0	27.0	24.6	24.8	9.9	26.5	33.0
Cycle Q Clear(g_c), s	24.0	50.0	50.0	25.3	52.0	52.0	27.0	24.6	24.8	9.9	26.5	33.0
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	267	1064	496	334	1106	590	583	534	524	284	733	327
V/C Ratio(X)	1.07	1.09	1.09	0.98	1.00	1.00	1.24	0.68	0.68	0.50	0.84	1.13
Avail Cap(c_a), veh/h	267	1064	496	334	1106	590	583	534	524	286	733	327
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	30.0	30.0	53.4	54.0	54.0	57.5	34.0	34.0	45.3	60.9	63.5
Incr Delay (d2), s/veh	69.2	52.6	64.6	43.8	27.5	37.7	120.6	3.2	3.4	1.3	8.4	88.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	20.6	29.8	30.1	18.5	34.3	38.2	30.8	14.7	14.6	8.0	18.6	30.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.2	82.6	94.6	97.3	81.5	91.7	178.0	37.2	37.4	46.7	69.3	151.7
LnGrp LOS	F	F	F	F	F	F	F	D	D	D	E	F
Approach Vol, veh/h	1983			2028			1441			1122		
Approach Delay, s/veh	92.0			87.0			107.8			93.5		
Approach LOS	F			F			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.0	56.0	17.9	54.1	30.0	58.0	33.0	39.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	26.0	50.0	12.0	48.0	24.0	52.0	27.0	33.0				
Max Q Clear Time (g_c+l1), s	27.3	52.0	11.9	26.8	26.0	54.0	29.0	35.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	94.2											
HCM 6th LOS	F											

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
No-Build Horizon Year 2032 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	242	1000	517	184	70	1445	2016	370	109	1924	158
Future Volume (veh/h)	238	242	1000	517	184	70	1445	2016	370	109	1924	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	984	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	244	971	522	186	46	1460	2036	199	110	1943	151
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	394	1109	985	233	56	1532	3413	723	300	1862	145
Arrive On Green	0.38	0.19	0.19	0.20	0.08	0.08	0.29	0.46	0.46	0.09	0.26	0.26
Sat Flow, veh/h	938	3554	2790	5023	2839	685	5344	7481	1585	3456	7265	564
Grp Volume(v), veh/h	240	244	971	522	115	117	1460	2036	199	110	1620	474
Grp Sat Flow(s),veh/h/ln	938	1777	1395	1674	1777	1747	1781	1870	1585	1728	1515	1769
Q Serve(g_s), s	36.0	10.1	0.0	14.9	10.1	10.6	42.9	32.5	12.5	4.8	41.0	41.0
Cycle Q Clear(g_c), s	36.0	10.1	0.0	14.9	10.1	10.6	42.9	32.5	12.5	4.8	41.0	41.0
Prop In Lane	1.00		1.00	1.00		0.39	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	211	394	1109	985	146	143	1532	3413	723	300	1553	453
V/C Ratio(X)	1.14	0.62	0.88	0.53	0.79	0.82	0.95	0.60	0.28	0.37	1.04	1.04
Avail Cap(c_a), veh/h	211	689	1340	985	200	197	1532	3413	723	300	1553	453
HCM Platoon Ratio	1.67	1.67	1.67	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	1.00	1.00
Uniform Delay (d), s/veh	49.9	62.1	39.0	57.7	72.1	72.3	56.0	32.5	27.0	68.9	59.5	59.5
Incr Delay (d2), s/veh	104.0	1.6	5.9	0.5	13.3	17.2	13.5	0.8	0.9	0.8	35.1	54.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	20.8	7.8	23.2	10.6	8.9	9.3	28.2	20.9	8.7	3.8	27.0	33.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	153.9	63.6	44.9	58.2	85.4	89.5	69.4	33.3	28.0	69.7	94.6	113.9
LnGrp LOS	F	E	D	E	F	F	E	C	C	E	F	F
Approach Vol, veh/h	1455			754			3695			2204		
Approach Delay, s/veh	66.0			67.2			47.3			97.5		
Approach LOS	E			E			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.9	79.0	37.4	23.8	51.9	47.0	42.0	19.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	73.0	23.0	31.0	41.0	41.0	36.0	18.0				
Max Q Clear Time (g_c+l1), s	6.8	34.5	16.9	12.1	44.9	43.0	38.0	12.6				
Green Ext Time (p_c), s	0.1	22.7	1.1	5.6	0.0	0.0	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay 66.2

HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

5: Cumberland Blvd & Utility Dwy/Spring Hill Pkwy

Emerson Center TIA
No-Build Horizon Year 2032 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↑↑↑		↔	↑↑↑	
Traffic Volume (veh/h)	1	0	9	29	0	236	0	1166	61	229	1138	0
Future Volume (veh/h)	1	0	9	29	0	236	0	1166	61	229	1138	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1900	1900	1900	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	0	30	0	18	0	1190	56	234	1161	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	133	0	0	153	0	67	418	4206	197	477	4128	0
Arrive On Green	0.04	0.00	0.00	0.04	0.00	0.04	0.00	0.66	0.66	0.14	1.00	0.00
Sat Flow, veh/h	1046	0	0	1418	0	1610	1810	6345	298	1781	5274	0
Grp Volume(v), veh/h	1	0	0	30	0	18	0	904	342	234	1161	0
Grp Sat Flow(s),veh/h/ln	1047	0	0	1418	0	1610	1810	1609	1817	1781	1702	0
Q Serve(g_s), s	0.1	0.0	0.0	0.5	0.0	0.9	0.0	6.2	6.2	3.2	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	0.0	1.4	0.0	0.9	0.0	6.2	6.2	3.2	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.16	1.00		0.00
Lane Grp Cap(c), veh/h	133	0	0	153	0	67	418	3199	1204	477	4128	0
V/C Ratio(X)	0.01	0.00	0.00	0.20	0.00	0.27	0.00	0.28	0.28	0.49	0.28	0.00
Avail Cap(c_a), veh/h	429	0	0	449	0	403	619	3199	1204	729	4128	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.33	0.33	0.00
Uniform Delay (d), s/veh	37.6	0.0	0.0	37.4	0.0	37.2	0.0	5.6	5.6	3.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	2.1	0.0	0.2	0.6	0.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	1.1	0.0	0.7	0.0	3.0	3.7	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	0.0	0.0	38.0	0.0	39.3	0.0	5.8	6.2	3.5	0.1	0.0
LnGrp LOS	D	A	A	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	1			48			1246			1395		
Approach Delay, s/veh	37.6			38.5			5.9			0.6		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	59.0		9.3	0.0	70.7		9.3				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	17.0	25.0		20.0	9.0	33.0		20.0				
Max Q Clear Time (g_c+I1), s	5.2	8.2		2.9	0.0	2.0		3.4				
Green Ext Time (p_c), s	0.5	7.6		0.0	0.0	9.7		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				3.8								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

1: Campbell Rd/Carolyn Dr & Spring Rd

Emerson Center TIA
Build Horizon Year 2032 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1945	64	162	781	7	53	7	273	57	11	13
Future Volume (veh/h)	24	1945	64	162	781	7	53	7	273	57	11	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	2262	50	188	908	8	62	8	224	66	13	10
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	492	2377	1060	193	2604	23	223	26	228	133	26	15
Arrive On Green	0.02	0.67	0.67	0.15	1.00	1.00	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	3554	1585	1781	3610	32	1254	183	1585	651	178	105
Grp Volume(v), veh/h	28	2262	50	188	447	469	70	0	224	89	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1865	1436	0	1585	933	0	0
Q Serve(g_s), s	0.8	92.8	1.7	11.5	0.0	0.0	0.0	0.0	22.5	9.9	0.0	0.0
Cycle Q Clear(g_c), s	0.8	92.8	1.7	11.5	0.0	0.0	7.0	0.0	22.5	16.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.89		1.00	0.74		0.11
Lane Grp Cap(c), veh/h	492	2377	1060	193	1282	1345	249	0	228	173	0	0
V/C Ratio(X)	0.06	0.95	0.05	0.98	0.35	0.35	0.28	0.00	0.98	0.51	0.00	0.00
Avail Cap(c_a), veh/h	553	2377	1060	193	1282	1345	249	0	228	173	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.8	24.2	9.1	53.2	0.0	0.0	61.6	0.0	68.3	68.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	10.2	0.1	57.7	0.7	0.7	0.6	0.0	54.6	2.6	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	48.2	1.1	14.9	0.5	0.5	4.7	0.0	18.5	6.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.8	34.3	9.1	110.9	0.7	0.7	62.2	0.0	123.0	70.7	0.0	0.0
LnGrp LOS	A	C	A	F	A	A	E	A	F	E	A	A
Approach Vol, veh/h		2340			1104			294			89	
Approach Delay, s/veh		33.5			19.5			108.5			70.7	
Approach LOS		C			B			F			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	113.0		29.0	9.6	121.4		29.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	12.0	107.0		23.0	9.0	110.0		23.0				
Max Q Clear Time (g_c+l1), s	13.5	94.8		24.5	2.8	2.0		18.8				
Green Ext Time (p_c), s	0.0	10.6		0.0	0.0	6.2		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			36.1									
HCM 6th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th Signalized Intersection Summary

2: Sports Ave/Aldi Dwy & Spring Rd

Emerson Center TIA
Build Horizon Year 2032 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑↑			↰ ↑↑↑				↰ ↑	↰		↰	
Traffic Volume (veh/h)	96	2427	25	72	976	0	21	0	41	9	2	7
Future Volume (veh/h)	96	2427	25	72	976	0	21	0	41	9	2	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	2727	28	81	1097	0	24	0	1	10	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	527	4334	44	184	4243	0	88	0	40	54	7	2
Arrive On Green	0.06	1.00	1.00	0.06	1.00	0.00	0.03	0.00	0.03	0.03	0.03	0.03
Sat Flow, veh/h	1781	5211	53	1781	5274	0	1683	0	1585	545	290	70
Grp Volume(v), veh/h	108	1779	976	81	1097	0	24	0	1	13	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1861	1781	1702	0	1683	0	1585	904	0	0
Q Serve(g_s), s	1.5	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.1	0.9	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.0	0.0	1.1	0.0	0.0	2.1	0.0	0.1	3.0	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.00	1.00		1.00	0.77		0.08
Lane Grp Cap(c), veh/h	527	2831	1547	184	4243	0	88	0	40	63	0	0
V/C Ratio(X)	0.20	0.63	0.63	0.44	0.26	0.00	0.27	0.00	0.02	0.21	0.00	0.00
Avail Cap(c_a), veh/h	572	2831	1547	263	4243	0	211	0	178	192	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.87	0.87	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.6	0.0	0.0	1.6	0.0	0.0	77.0	0.0	76.0	77.6	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.1	2.0	1.4	0.1	0.0	1.7	0.0	0.2	1.6	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.8	1.5	0.5	0.1	0.0	1.8	0.0	0.1	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.8	1.1	2.0	3.0	0.1	0.0	78.7	0.0	76.3	79.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	A
Approach Vol, veh/h	2863			1178			25			13		
Approach Delay, s/veh	1.4			0.3			78.6			79.2		
Approach LOS	A			A			E			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	139.1		10.1	11.0	139.0		10.1				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	12.0	112.0		18.0	9.0	115.0		18.0				
Max Q Clear Time (g_c+I), s	2.0	2.0		4.1	3.5	2.0		5.0				
Green Ext Time (p_c), s	0.1	59.0		0.0	0.1	9.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	1.8											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
Build Horizon Year 2032 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑↑			↰ ↑↑↑			↰ ↑↑			↰ ↑↑		↰
Traffic Volume (veh/h)	224	1681	577	179	661	40	258	270	224	156	225	183
Future Volume (veh/h)	224	1681	577	179	661	40	258	270	224	156	225	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	241	1808	538	192	711	35	277	290	121	168	242	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	2124	610	213	2349	115	320	341	139	229	494	220
Arrive On Green	0.20	0.72	0.72	0.08	0.47	0.47	0.03	0.05	0.05	0.09	0.14	0.14
Sat Flow, veh/h	1781	3939	1131	1781	4986	244	3456	2463	1004	1781	3554	1585
Grp Volume(v), veh/h	241	1554	792	192	485	261	277	207	204	168	242	1
Grp Sat Flow(s),veh/h/ln	1781	1702	1667	1781	1702	1826	1728	1777	1690	1781	1777	1585
Q Serve(g_s), s	21.2	52.6	58.5	10.6	14.0	14.1	12.8	18.5	19.2	12.8	10.1	0.1
Cycle Q Clear(g_c), s	21.2	52.6	58.5	10.6	14.0	14.1	12.8	18.5	19.2	12.8	10.1	0.1
Prop In Lane	1.00		0.68	1.00		0.13	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	263	1835	899	213	1604	861	320	246	234	229	494	220
V/C Ratio(X)	0.92	0.85	0.88	0.90	0.30	0.30	0.87	0.84	0.87	0.73	0.49	0.00
Avail Cap(c_a), veh/h	334	1835	899	239	1604	861	324	289	275	241	600	267
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	17.9	18.7	42.0	26.1	26.1	76.6	74.6	74.9	53.6	63.6	59.4
Incr Delay (d2), s/veh	19.3	3.5	8.7	31.4	0.5	0.9	21.0	17.4	22.2	10.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.9	21.9	25.0	14.6	9.7	10.4	11.2	15.3	15.5	10.6	8.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.7	21.4	27.4	73.4	26.6	27.0	97.6	92.0	97.1	64.0	64.4	59.4
LnGrp LOS	F	C	C	E	C	C	F	F	F	E	E	E
Approach Vol, veh/h	2587			938			688			411		
Approach Delay, s/veh	28.9			36.3			95.7			64.2		
Approach LOS	C			D			F			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.7	92.3	20.8	28.2	29.6	81.4	20.8	28.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	15.0	79.0	16.0	26.0	30.0	64.0	15.0	27.0				
Max Q Clear Time (g_c+1.0), s	12.6	60.5	14.8	21.2	23.2	16.1	14.8	12.1				
Green Ext Time (p_c), s	0.1	14.6	0.1	1.0	0.4	4.9	0.0	1.2				

Intersection Summary

HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
Build Horizon Year 2032 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	241	1727	239	77	30	806	1048	493	62	1943	135
Future Volume (veh/h)	173	241	1727	239	77	30	806	1048	493	62	1943	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	248	1717	246	79	1	831	1080	154	64	2003	128
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	281	466	1431	312	128	2	2040	4536	961	174	2028	130
Arrive On Green	0.05	0.04	0.04	0.06	0.04	0.04	0.38	0.61	0.61	0.05	0.28	0.28
Sat Flow, veh/h	1781	3554	2790	5023	3594	45	5344	7481	1585	3456	7375	471
Grp Volume(v), veh/h	178	248	1717	246	39	41	831	1080	154	64	1646	485
Grp Sat Flow(s),veh/h/ln	1781	1777	1395	1674	1777	1862	1781	1870	1585	1728	1515	1786
Q Serve(g_s), s	15.7	10.9	21.0	7.7	3.5	3.5	18.2	10.6	6.8	2.9	43.2	43.3
Cycle Q Clear(g_c), s	15.7	10.9	21.0	7.7	3.5	3.5	18.2	10.6	6.8	2.9	43.2	43.3
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	281	466	1431	312	63	66	2040	4536	961	174	1666	491
V/C Ratio(X)	0.63	0.53	1.20	0.79	0.62	0.62	0.41	0.24	0.16	0.37	0.99	0.99
Avail Cap(c_a), veh/h	281	466	1431	377	200	209	2040	4536	961	174	1666	491
HCM Platoon Ratio	0.33	0.33	0.33	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	1.00	1.00
Uniform Delay (d), s/veh	71.3	71.7	46.0	74.0	76.1	76.1	36.2	14.5	13.7	73.5	57.7	57.7
Incr Delay (d2), s/veh	4.6	1.2	96.9	9.0	9.3	9.0	0.1	0.1	0.4	1.3	19.3	37.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.5	9.0	38.1	6.5	3.2	3.3	12.5	7.9	4.7	2.3	25.5	32.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.9	72.9	142.9	83.0	85.4	85.1	36.3	14.6	14.1	74.8	77.0	95.6
LnGrp LOS	E	E	F	F	F	F	D	B	B	E	E	F
Approach Vol, veh/h	2143			326			2065			2195		
Approach Delay, s/veh	129.3			83.6			23.3			81.0		
Approach LOS	F			F			C			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.1	103.0	15.9	27.0	67.1	50.0	31.2	11.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	97.0	97.0	12.0	21.0	59.0	44.0	15.0	18.0				
Max Q Clear Time (g_c+I4.9s	12.6	12.6	9.7	23.0	20.2	45.3	17.7	5.5				
Green Ext Time (p_c), s	0.0	9.8	0.2	0.0	3.3	0.0	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay 78.8

HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

5: Cumberland Blvd & Utility Dwy/Spring Hill Pkwy

Emerson Center TIA
Build Horizon Year 2032 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↑↑↑		↕	↑↑↑	
Traffic Volume (veh/h)	0	0	2	13	0	332	0	417	21	116	790	2
Future Volume (veh/h)	0	0	2	13	0	332	0	417	21	116	790	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	1	14	0	7	0	453	18	126	859	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	0	38	123	0	38	537	4429	174	811	4344	10
Arrive On Green	0.00	0.00	0.02	0.02	0.00	0.02	0.00	0.69	0.69	0.04	0.55	0.55
Sat Flow, veh/h	0	0	1585	1416	0	1585	1781	6399	252	1781	5260	12
Grp Volume(v), veh/h	0	0	1	14	0	7	0	340	131	126	556	305
Grp Sat Flow(s),veh/h/ln	0	0	1585	1416	0	1585	1781	1609	1825	1781	1702	1868
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.3	0.0	1.9	1.9	1.4	6.6	6.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.8	0.0	0.3	0.0	1.9	1.9	1.4	6.6	6.6
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.14	1.00		0.01
Lane Grp Cap(c), veh/h	0	0	38	123	0	38	537	3340	1263	811	2811	1543
V/C Ratio(X)	0.00	0.00	0.03	0.11	0.00	0.18	0.00	0.10	0.10	0.16	0.20	0.20
Avail Cap(c_a), veh/h	0	0	594	620	0	594	735	3340	1263	907	2811	1543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	0.0	0.0	38.1	38.5	0.0	38.3	0.0	4.1	4.1	2.3	4.6	4.6
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.4	0.0	2.3	0.0	0.1	0.2	0.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	0.5	0.0	0.3	0.0	0.9	1.1	0.5	1.8	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	38.4	38.9	0.0	40.5	0.0	4.1	4.2	2.4	4.7	4.8
LnGrp LOS	A	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	1		21			471			987			
Approach Delay, s/veh	38.4		39.5			4.2			4.4			
Approach LOS	D		D			A			A			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	10.7	61.4	7.9		0.0	72.1	7.9					
Change Period (Y+Rc), s	6.0	6.0	6.0		6.0	6.0	6.0					
Max Green Setting (Gmax), s	9.0	23.0	30.0		9.0	23.0	30.0					
Max Q Clear Time (g_c+I), s	13.4	3.9	2.0		0.0	8.6	2.8					
Green Ext Time (p_c), s	0.1	2.8	0.0		0.0	4.7	0.0					
Intersection Summary												
HCM 6th Ctrl Delay			4.9									
HCM 6th LOS			A									
Notes												

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↗
Traffic Vol, veh/h	2119	16	0	880	0	27
Future Vol, veh/h	2119	16	0	880	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2278	17	0	946	0	29
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1148
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	165
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	165
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		31.4	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	165	-	-	-		
HCM Lane V/C Ratio	0.176	-	-	-		
HCM Control Delay (s)	31.4	-	-	-		
HCM Lane LOS	D	-	-	-		
HCM 95th %tile Q(veh)	0.6	-	-	-		

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	2132	15	0	878	0	20
Future Vol, veh/h	2132	15	0	878	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2292	16	0	944	0	22
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	1154
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	164
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	164
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0	30.2			
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	164	-	-	-		
HCM Lane V/C Ratio	0.131	-	-	-		
HCM Control Delay (s)	30.2	-	-	-		
HCM Lane LOS	D	-	-	-		
HCM 95th %tile Q(veh)	0.4	-	-	-		

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	57	77	270	4	6	77
Future Vol, veh/h	57	77	270	4	6	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	84	293	4	7	84
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	297	0	-	0	503	295
Stage 1	-	-	-	-	295	-
Stage 2	-	-	-	-	208	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1264	-	-	-	528	744
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	827	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1264	-	-	-	501	744
Mov Cap-2 Maneuver	-	-	-	-	501	-
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	827	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.4	0		10.7		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1264	-	-	-	719	
HCM Lane V/C Ratio	0.049	-	-	-	0.125	
HCM Control Delay (s)	8	0	-	-	10.7	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	

HCM 6th Signalized Intersection Summary

1: Campbell Rd/Carolyn Dr & Spring Rd

Emerson Center TIA
Build Horizon Year 2032 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	1440	108	409	2155	53	148	20	297	44	10	11
Future Volume (veh/h)	54	1440	108	409	2155	53	148	20	297	44	10	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	1565	62	445	2342	57	161	22	24	48	11	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	1859	829	461	2490	60	233	26	248	68	15	6
Arrive On Green	0.03	0.52	0.52	0.42	1.00	1.00	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3546	86	1221	167	1585	186	94	38
Grp Volume(v), veh/h	59	1565	62	445	1169	1230	183	0	24	67	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1855	1387	0	1585	318	0	0
Q Serve(g_s), s	2.5	60.0	3.1	30.3	0.0	0.0	0.0	0.0	2.1	4.5	0.0	0.0
Cycle Q Clear(g_c), s	2.5	60.0	3.1	30.3	0.0	0.0	20.5	0.0	2.1	25.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.05	0.88		1.00	0.72		0.12
Lane Grp Cap(c), veh/h	173	1859	829	461	1248	1303	259	0	248	88	0	0
V/C Ratio(X)	0.34	0.84	0.07	0.96	0.94	0.94	0.71	0.00	0.10	0.76	0.00	0.00
Avail Cap(c_a), veh/h	221	1859	829	547	1248	1303	259	0	248	88	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.6	32.5	18.9	33.2	0.0	0.0	65.6	0.0	57.8	75.3	0.0	0.0
Incr Delay (d2), s/veh	1.2	4.8	0.2	27.5	14.2	14.8	8.5	0.0	0.2	30.9	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(95%),veh/ln	1.9	34.2	2.1	22.8	8.6	9.1	12.5	0.0	1.5	6.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	37.3	19.1	60.7	14.2	14.8	74.1	0.0	58.0	106.3	0.0	0.0
LnGrp LOS	B	D	B	E	B	B	E	A	E	F	A	A
Approach Vol, veh/h		1686			2844			207			67	
Approach Delay, s/veh		36.0			21.7			72.2			106.3	
Approach LOS		D			C			E			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	39.3	89.7		31.0	10.6	118.4		31.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	41.0	76.0		25.0	9.0	108.0		25.0				
Max Q Clear Time (g_c+I1), s	32.3	62.0		22.5	4.5	2.0		27.0				
Green Ext Time (p_c), s	0.9	8.9		0.2	0.0	56.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			30.1									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 6th Signalized Intersection Summary 2: Sports Ave/Aldi Dwy & Spring Rd

Emerson Center TIA
Build Horizon Year 2032 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩ ↑↑↑			↩ ↑↑↑			↩ ↑			↩		
Traffic Volume (veh/h)	103	1841	32	68	2712	8	23	1	40	55	1	61
Future Volume (veh/h)	103	1841	32	68	2712	8	23	1	40	55	1	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	2001	34	74	2948	9	25	1	1	60	1	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	3954	67	257	4013	12	152	5	147	101	8	46
Arrive On Green	0.06	1.00	1.00	0.06	1.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1781	5171	88	1781	5256	16	1163	57	1585	697	85	499
Grp Volume(v), veh/h	112	1317	718	74	1908	1049	26	0	1	100	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1855	1781	1702	1867	1219	0	1585	1281	0	0
Q Serve(g_s), s	2.3	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.1	9.5	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	1.4	0.0	0.0	3.2	0.0	0.1	12.7	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.01	0.96		1.00	0.60		0.39
Lane Grp Cap(c), veh/h	164	2603	1418	257	2600	1426	157	0	147	155	0	0
V/C Ratio(X)	0.68	0.51	0.51	0.29	0.73	0.74	0.17	0.00	0.01	0.65	0.00	0.00
Avail Cap(c_a), veh/h	275	2603	1418	304	2600	1426	219	0	218	221	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.1	0.0	0.0	3.4	0.0	0.0	67.3	0.0	65.9	72.3	0.0	0.0
Incr Delay (d2), s/veh	5.0	0.7	1.3	0.1	0.2	0.3	0.5	0.0	0.0	4.5	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(95%),veh/ln	14.1	0.5	0.9	0.7	0.1	0.2	1.8	0.0	0.1	7.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	0.7	1.3	3.5	0.2	0.3	67.8	0.0	65.9	76.8	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	E	A	E	E	A	A
Approach Vol, veh/h	2147			3031			27			100		
Approach Delay, s/veh	1.9			0.3			67.7			76.8		
Approach LOS	A			A			E			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	128.3		20.8	11.0	128.2		20.8				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	90.0	111.0		22.0	15.0	105.0		22.0				
Max Q Clear Time (g_c+I), s	13.4	2.0		5.2	4.3	2.0		14.7				
Green Ext Time (p_c), s	0.1	27.4		0.1	0.2	66.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				2.7								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
Build Horizon Year 2032 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑↑ ↱			↰ ↑↑ ↱			↰ ↱ ↑↑			↰ ↑↑ ↱		↱
Traffic Volume (veh/h)	268	1107	625	406	1512	100	710	540	199	133	578	623
Future Volume (veh/h)	268	1107	625	406	1512	100	710	540	199	133	578	623
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	285	1178	566	432	1609	99	755	574	176	141	615	368
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	1064	495	334	1598	98	583	806	246	273	733	327
Arrive On Green	0.30	0.63	0.63	0.16	0.32	0.32	0.28	0.50	0.50	0.07	0.21	0.21
Sat Flow, veh/h	1781	3404	1585	1781	4918	302	3456	2680	820	1781	3554	1585
Grp Volume(v), veh/h	285	1178	566	432	1113	595	755	380	370	141	615	368
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1816	1728	1777	1723	1781	1777	1585
Q Serve(g_s), s	24.0	50.0	50.0	26.0	52.0	52.0	27.0	26.5	26.7	9.9	26.6	33.0
Cycle Q Clear(g_c), s	24.0	50.0	50.0	26.0	52.0	52.0	27.0	26.5	26.7	9.9	26.6	33.0
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	267	1064	495	334	1106	590	583	534	518	273	733	327
V/C Ratio(X)	1.07	1.11	1.14	1.29	1.01	1.01	1.29	0.71	0.71	0.52	0.84	1.13
Avail Cap(c_a), veh/h	267	1064	495	334	1106	590	583	534	518	274	733	327
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	30.0	30.0	53.9	54.0	54.0	57.5	34.4	34.5	45.5	61.0	63.5
Incr Delay (d2), s/veh	68.9	60.0	82.9	151.8	28.6	38.9	144.1	4.0	4.3	1.7	8.6	88.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh	20.6	31.4	34.1	34.7	34.6	38.6	33.8	15.7	15.4	8.0	18.7	30.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	124.9	90.0	112.9	205.8	82.6	92.9	201.5	38.5	38.7	47.2	69.5	151.7
LnGrp LOS	F	F	F	F	F	F	F	D	D	D	E	F
Approach Vol, veh/h	2029			2140			1505			1124		
Approach Delay, s/veh	101.3			110.3			120.3			93.6		
Approach LOS	F			F			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.0	56.0	17.9	54.1	30.0	58.0	33.0	39.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	20.0	50.0	12.0	48.0	24.0	52.0	27.0	33.0				
Max Q Clear Time (g_c+2B), s	20.0	52.0	11.9	28.7	26.0	54.0	29.0	35.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	107.1
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
Build Horizon Year 2032 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	255	1052	517	200	70	1509	2016	370	109	1924	176
Future Volume (veh/h)	260	255	1052	517	200	70	1509	2016	370	109	1924	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	984	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	258	1024	522	202	49	1524	2036	199	110	1943	168
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	413	1110	984	248	59	1505	3413	723	282	1844	159
Arrive On Green	0.38	0.19	0.19	0.20	0.09	0.09	0.28	0.46	0.46	0.08	0.26	0.26
Sat Flow, veh/h	938	3554	2790	5023	2850	676	5344	7481	1585	3456	7197	622
Grp Volume(v), veh/h	263	258	1024	522	124	127	1524	2036	199	110	1636	475
Grp Sat Flow(s),veh/h/ln	938	1777	1395	1674	1777	1749	1781	1870	1585	1728	1515	1758
Q Serve(g_s), s	36.0	10.7	5.9	14.9	11.0	11.4	45.0	32.5	12.5	4.8	41.0	41.0
Cycle Q Clear(g_c), s	36.0	10.7	5.9	14.9	11.0	11.4	45.0	32.5	12.5	4.8	41.0	41.0
Prop In Lane	1.00		1.00	1.00		0.39	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	211	413	1110	984	155	152	1505	3413	723	282	1553	451
V/C Ratio(X)	1.25	0.62	0.92	0.53	0.80	0.83	1.01	0.60	0.28	0.39	1.05	1.05
Avail Cap(c_a), veh/h	211	689	1326	984	200	197	1505	3413	723	282	1553	451
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	61.2	39.8	57.7	71.7	71.9	57.5	32.5	27.0	69.7	59.5	59.5
Incr Delay (d2), s/veh	144.2	1.5	9.7	0.5	16.2	20.3	26.4	0.8	0.9	0.9	38.4	57.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	24.9	8.1	25.2	10.6	9.7	10.0	31.7	20.9	8.7	3.9	27.6	34.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	194.2	62.8	49.5	58.3	87.8	92.2	83.9	33.3	28.0	70.6	97.9	117.0
LnGrp LOS	F	E	D	E	F	F	F	C	C	E	F	F
Approach Vol, veh/h	1545			773			3759			2221		
Approach Delay, s/veh	76.4			68.6			53.5			100.6		
Approach LOS	E			E			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	79.0	37.3	24.6	51.0	47.0	42.0	20.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	73.0	23.0	31.0	41.0	41.0	36.0	18.0				
Max Q Clear Time (g_c+I), s	10.8	34.5	16.9	12.7	47.0	43.0	38.0	13.4				
Green Ext Time (p_c), s	0.1	22.7	1.1	6.0	0.0	0.0	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay 71.8

HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

5: Cumberland Blvd & Utility Dwy/Spring Hill Pkwy

Emerson Center TIA
Build Horizon Year 2032 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↑↑↑		↕	↑↑↑	
Traffic Volume (veh/h)	1	0	9	36	0	302	0	1166	70	318	1138	0
Future Volume (veh/h)	1	0	9	36	0	302	0	1166	70	318	1138	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	0	37	0	26	0	1190	63	324	1161	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	0	0	163	0	75	397	3976	210	504	4098	0
Arrive On Green	0.05	0.00	0.00	0.05	0.00	0.05	0.00	0.63	0.63	0.19	1.00	0.00
Sat Flow, veh/h	921	0	0	1418	0	1585	1781	6303	333	1781	5274	0
Grp Volume(v), veh/h	1	0	0	37	0	26	0	910	343	324	1161	0
Grp Sat Flow(s),veh/h/ln	921	0	0	1418	0	1585	1781	1609	1810	1781	1702	0
Q Serve(g_s), s	0.1	0.0	0.0	0.4	0.0	1.3	0.0	6.9	6.9	5.1	0.0	0.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0	1.7	0.0	1.3	0.0	6.9	6.9	5.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.18	1.00		0.00
Lane Grp Cap(c), veh/h	134	0	0	163	0	75	397	3044	1142	504	4098	0
V/C Ratio(X)	0.01	0.00	0.00	0.23	0.00	0.35	0.00	0.30	0.30	0.64	0.28	0.00
Avail Cap(c_a), veh/h	414	0	0	450	0	396	596	3044	1142	710	4098	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.09	0.09	0.00
Uniform Delay (d), s/veh	37.5	0.0	0.0	37.1	0.0	36.9	0.0	6.7	6.7	4.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	2.7	0.0	0.3	0.7	0.1	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(95%),veh/ln	0.0	0.0	0.0	1.3	0.0	1.0	0.0	3.6	4.3	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	0.0	0.0	37.8	0.0	39.6	0.0	7.0	7.4	4.1	0.0	0.0
LnGrp LOS	D	A	A	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	1			63			1253			1485		
Approach Delay, s/veh	37.6			38.5			7.1			0.9		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.7	56.5		9.8	0.0	70.2		9.8				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	17.0	25.0		20.0	9.0	33.0		20.0				
Max Q Clear Time (g_c+I1),s	8.9	8.9		3.3	0.0	2.0		3.7				
Green Ext Time (p_c), s	0.7	7.5		0.0	0.0	9.7		0.1				
Intersection Summary												
HCM 6th Ctrl Delay	4.5											
HCM 6th LOS	A											

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↗
Traffic Vol, veh/h	1554	39	0	2017	0	40
Future Vol, veh/h	1554	39	0	2017	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1653	41	0	2146	0	43
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	847
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	262
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	262
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		21.4	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	262	-	-	-		
HCM Lane V/C Ratio	0.162	-	-	-		
HCM Control Delay (s)	21.4	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	0.6	-	-	-		

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑↱			↑↑↑↑		↱
Traffic Vol, veh/h	1565	29	0	2014	0	25
Future Vol, veh/h	1565	29	0	2014	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1665	31	0	2143	0	27
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	848
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	0	262
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	262
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		20.3	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	262	-	-	-		
HCM Lane V/C Ratio	0.102	-	-	-		
HCM Control Delay (s)	20.3	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	0.3	-	-	-		

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	95	290	264	8	7	73
Future Vol, veh/h	95	290	264	8	7	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	97	296	269	8	7	74
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	277	0	-	0	763	273
Stage 1	-	-	-	-	273	-
Stage 2	-	-	-	-	490	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1286	-	-	-	372	766
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	616	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1286	-	-	-	339	766
Mov Cap-2 Maneuver	-	-	-	-	339	-
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	616	-
Approach	EB	WB		SB		
HCM Control Delay, s	2	0		10.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1286	-	-	-	690	
HCM Lane V/C Ratio	0.075	-	-	-	0.118	
HCM Control Delay (s)	8	0	-	-	10.9	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
No-Build Horizon Year 2032 AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	1671	559	120	655	40	226	270	186	156	224	183
Future Volume (veh/h)	224	1671	559	120	655	40	226	270	186	156	224	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	241	1797	300	129	704	39	243	290	115	168	241	17
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	3197	1806	249	2341	129	288	342	133	229	520	466
Arrive On Green	0.20	0.76	0.76	0.05	0.47	0.47	0.03	0.05	0.05	0.09	0.15	0.15
Sat Flow, veh/h	1781	5611	3170	1781	4952	273	3456	2503	970	1781	3554	1585
Grp Volume(v), veh/h	241	1797	300	129	483	260	243	204	201	168	241	17
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1702	1821	1728	1777	1696	1781	1777	1585
Q Serve(g_s), s	21.2	21.6	4.2	6.0	13.9	14.0	11.2	18.2	18.9	12.8	9.9	1.2
Cycle Q Clear(g_c), s	21.2	21.6	4.2	6.0	13.9	14.0	11.2	18.2	18.9	12.8	9.9	1.2
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.57	1.00		1.00
Lane Grp Cap(c), veh/h	263	3197	1806	249	1609	861	288	243	232	229	520	466
V/C Ratio(X)	0.92	0.56	0.17	0.52	0.30	0.30	0.84	0.84	0.87	0.73	0.46	0.04
Avail Cap(c_a), veh/h	334	3197	1806	326	1609	861	324	289	276	242	600	501
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	11.0	8.8	19.8	25.9	25.9	76.8	74.6	74.9	53.7	62.5	40.3
Incr Delay (d2), s/veh	19.5	0.5	0.1	1.7	0.5	0.9	16.5	16.9	21.4	10.3	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.0	10.0	2.6	4.6	9.6	10.3	9.9	15.1	15.2	10.6	8.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.9	11.5	9.0	21.5	26.4	26.8	93.3	91.5	96.3	64.1	63.2	40.4
LnGrp LOS	F	B	A	C	C	C	F	F	F	E	E	D
Approach Vol, veh/h	2338			872			648			426		
Approach Delay, s/veh	18.5			25.8			93.7			62.6		
Approach LOS	B			C			F			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.1	97.2	20.9	27.9	29.6	81.7	19.3	29.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	15.0	79.0	16.0	26.0	30.0	64.0	15.0	27.0				
Max Q Clear Time (g_c+l1), s	8.0	23.6	14.8	20.9	23.2	16.0	13.2	11.9				
Green Ext Time (p_c), s	0.2	23.6	0.0	1.0	0.4	4.9	0.1	1.2				

Intersection Summary

HCM 6th Ctrl Delay	35.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
No-Build Horizon Year 2032 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↰↰↰	↰↰↰	↑↑		↰↰↰	↑↑↑	↰	↰↰↑↑↑		
Traffic Volume (veh/h)	153	227	1675	239	68	30	767	1048	493	62	1943	125
Future Volume (veh/h)	153	227	1675	239	68	30	767	1048	493	62	1943	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	234	1664	246	70	0	791	1080	156	64	2003	119
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	389	1876	312	118	0	2190	4442	941	293	1992	118
Arrive On Green	0.05	0.04	0.04	0.06	0.03	0.00	0.41	0.59	0.59	0.08	0.27	0.27
Sat Flow, veh/h	1781	3554	3614	5023	3647	0	5344	7481	1585	3456	7411	440
Grp Volume(v), veh/h	158	234	1664	246	70	0	791	1080	156	64	1638	484
Grp Sat Flow(s),veh/h/ln	1781	1777	1205	1674	1777	0	1781	1870	1585	1728	1515	1791
Q Serve(g_s), s	14.0	10.4	6.4	7.7	3.1	0.0	16.4	11.0	7.1	2.8	43.0	43.0
Cycle Q Clear(g_c), s	14.0	10.4	6.4	7.7	3.1	0.0	16.4	11.0	7.1	2.8	43.0	43.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	246	389	1876	312	118	0	2190	4442	941	293	1629	481
V/C Ratio(X)	0.64	0.60	0.89	0.79	0.59	0.00	0.36	0.24	0.17	0.22	1.01	1.01
Avail Cap(c_a), veh/h	246	444	1933	377	400	0	2190	4442	941	293	1629	481
HCM Platoon Ratio	0.33	0.33	0.33	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	72.5	73.7	39.7	74.0	76.3	0.0	32.7	15.4	14.6	68.3	58.5	58.5
Incr Delay (d2), s/veh	5.6	1.8	5.3	9.0	4.6	0.0	0.1	0.1	0.4	0.4	23.6	42.6
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(95%),veh/ln	11.5	8.7	30.9	6.5	2.7	0.0	11.4	8.1	4.9	2.2	26.0	33.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.0	75.5	45.1	83.0	80.9	0.0	32.8	15.6	15.0	68.6	82.1	101.1
LnGrp LOS	E	E	D	F	F	A	C	B	B	E	F	F
Approach Vol, veh/h	2056		316			2027			2186			
Approach Delay, s/veh	51.0		82.6			22.2			85.9			
Approach LOS	D		F			C			F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.6	101.0	15.9	23.5	71.6	49.0	28.1	11.3				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	95.0	95.0	12.0	20.0	61.0	43.0	14.0	18.0				
Max Q Clear Time (g_c+I4.8s	13.0	13.0	9.7	12.4	18.4	45.0	16.0	5.1				
Green Ext Time (p_c), s	0.0	9.8	0.2	5.1	3.2	0.0	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay 55.3

HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
No-Build Horizon Year 2032 PM-Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	268	1089	597	308	1505	100	679	539	163	133	576	623
Future Volume (veh/h)	268	1089	597	308	1505	100	679	539	163	133	576	623
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	285	1238	404	328	1601	99	722	573	145	141	613	554
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	1991	563	389	1690	104	670	896	226	247	600	495
Arrive On Green	0.29	0.71	0.71	0.13	0.34	0.34	0.32	0.53	0.53	0.04	0.17	0.17
Sat Flow, veh/h	1781	5611	1585	1781	4916	304	3456	2810	709	1781	3554	1585
Grp Volume(v), veh/h	285	1238	404	328	1108	592	722	362	356	141	613	554
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1702	1816	1728	1777	1743	1781	1777	1585
Q Serve(g_s), s	23.0	18.3	24.1	18.9	50.7	50.8	31.0	23.1	23.2	7.0	27.0	27.0
Cycle Q Clear(g_c), s	23.0	18.3	24.1	18.9	50.7	50.8	31.0	23.1	23.2	7.0	27.0	27.0
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	256	1991	563	389	1170	624	670	566	555	247	600	495
V/C Ratio(X)	1.11	0.62	0.72	0.84	0.95	0.95	1.08	0.64	0.64	0.57	1.02	1.12
Avail Cap(c_a), veh/h	256	1991	563	420	1170	624	670	566	555	247	600	495
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	17.6	18.5	30.0	51.1	51.1	54.1	30.9	30.9	54.8	66.5	55.0
Incr Delay (d2), s/veh	85.5	1.2	6.5	13.6	16.3	25.3	56.8	2.3	2.4	3.1	42.5	77.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.8	8.9	10.3	14.4	31.7	35.3	25.3	13.6	13.5	3.3	22.5	41.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	142.5	18.9	25.0	43.6	67.4	76.4	110.9	33.1	33.3	58.0	109.0	132.0
LnGrp LOS	F	B	C	D	E	E	F	C	C	E	F	F
Approach Vol, veh/h	1927			2028			1440			1308		
Approach Delay, s/veh	38.4			66.2			72.2			113.3		
Approach LOS	D			E			E			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.2	62.8	13.0	57.0	29.0	61.0	37.0	33.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	24.0	54.0	7.0	51.0	23.0	55.0	31.0	27.0				
Max Q Clear Time (g_c+I1), s	20.9	26.1	9.0	25.2	25.0	52.8	33.0	29.0				
Green Ext Time (p_c), s	0.3	11.5	0.0	4.7	0.0	1.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 68.7

HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
No-Build Horizon Year 2032 PM-Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	242	1000	517	184	70	1445	2016	370	109	1924	158
Future Volume (veh/h)	238	242	1000	517	184	70	1445	2016	370	109	1924	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	984	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	244	948	522	186	43	1460	2036	53	110	1943	148
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	392	1439	983	233	53	1538	3413	723	303	1865	142
Arrive On Green	0.38	0.18	0.18	0.20	0.08	0.08	0.29	0.46	0.46	0.09	0.26	0.26
Sat Flow, veh/h	938	3554	3614	5023	2879	651	5344	7481	1585	3456	7277	554
Grp Volume(v), veh/h	240	244	948	522	113	116	1460	2036	53	110	1618	473
Grp Sat Flow(s),veh/h/ln	938	1777	1205	1674	1777	1753	1781	1870	1585	1728	1515	1771
Q Serve(g_s), s	36.0	10.1	0.0	14.9	10.0	10.4	42.8	32.5	3.0	4.8	41.0	41.0
Cycle Q Clear(g_c), s	36.0	10.1	0.0	14.9	10.0	10.4	42.8	32.5	3.0	4.8	41.0	41.0
Prop In Lane	1.00		1.00	1.00		0.37	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	211	392	1439	983	144	142	1538	3413	723	303	1553	454
V/C Ratio(X)	1.14	0.62	0.66	0.53	0.79	0.82	0.95	0.60	0.07	0.36	1.04	1.04
Avail Cap(c_a), veh/h	211	689	1740	983	200	197	1538	3413	723	303	1553	454
HCM Platoon Ratio	1.67	1.67	1.67	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	1.00	1.00
Uniform Delay (d), s/veh	49.9	62.2	35.0	57.8	72.2	72.3	55.8	32.5	24.5	68.8	59.5	59.5
Incr Delay (d2), s/veh	104.0	1.6	0.7	0.5	12.9	16.5	12.9	0.8	0.2	0.7	34.5	53.9
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(95%),veh/ln	20.8	7.8	14.2	10.6	8.8	9.2	28.1	20.9	2.2	3.8	26.9	33.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	153.9	63.8	35.7	58.3	85.1	88.9	68.8	33.3	24.7	69.5	94.0	113.4
LnGrp LOS	F	E	D	E	F	F	E	C	C	E	F	F
Approach Vol, veh/h	1432			751			3549			2201		
Approach Delay, s/veh	60.3			67.1			47.7			97.0		
Approach LOS	E			E			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	79.0	37.3	23.7	52.0	47.0	42.0	19.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	73.0	23.0	31.0	41.0	41.0	36.0	18.0				
Max Q Clear Time (g_c+l1), s	6.8	34.5	16.9	12.1	44.8	43.0	38.0	12.4				
Green Ext Time (p_c), s	0.1	21.8	1.1	5.5	0.0	0.0	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay 65.5
HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
Build Horizon Year 2032 AM-Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	224	1681	577	179	661	40	258	270	224	156	225	183
Future Volume (veh/h)	224	1681	577	179	661	40	258	270	224	156	225	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	241	1808	309	192	711	39	277	290	139	168	242	17
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	3053	863	270	2311	126	320	338	158	227	511	461
Arrive On Green	0.20	0.72	0.72	0.07	0.47	0.47	0.03	0.05	0.05	0.09	0.14	0.14
Sat Flow, veh/h	1781	5611	1585	1781	4955	271	3456	2351	1099	1781	3554	1585
Grp Volume(v), veh/h	241	1808	309	192	488	262	277	217	212	168	242	17
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1702	1822	1728	1777	1673	1781	1777	1585
Q Serve(g_s), s	21.2	24.9	11.6	9.0	14.3	14.4	12.8	19.4	20.1	12.7	10.0	1.2
Cycle Q Clear(g_c), s	21.2	24.9	11.6	9.0	14.3	14.4	12.8	19.4	20.1	12.7	10.0	1.2
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.66	1.00		1.00
Lane Grp Cap(c), veh/h	263	3053	863	270	1588	850	320	256	241	227	511	461
V/C Ratio(X)	0.92	0.59	0.36	0.71	0.31	0.31	0.87	0.85	0.88	0.74	0.47	0.04
Avail Cap(c_a), veh/h	334	3053	863	313	1588	850	324	289	272	240	600	501
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	13.5	11.7	21.2	26.6	26.6	76.6	74.5	74.8	53.1	62.9	40.6
Incr Delay (d2), s/veh	19.3	0.6	0.8	6.2	0.5	0.9	21.0	19.1	24.5	10.9	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.9	12.0	6.5	7.4	9.8	10.6	11.2	16.1	16.1	10.6	8.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.7	14.1	12.5	27.4	27.1	27.6	97.6	93.6	99.4	64.0	63.6	40.7
LnGrp LOS	F	B	B	C	C	C	F	F	F	E	E	D
Approach Vol, veh/h		2358			942			706			427	
Approach Delay, s/veh		20.9			27.3			96.9			62.9	
Approach LOS		C			C			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.1	93.1	20.8	29.0	29.6	80.6	20.8	29.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	15.0	79.0	16.0	26.0	30.0	64.0	15.0	27.0				
Max Q Clear Time (g_c+I1), s	11.0	26.9	14.7	22.1	23.2	16.4	14.8	12.0				
Green Ext Time (p_c), s	0.2	23.0	0.1	0.9	0.4	5.0	0.0	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			38.4									
HCM 6th LOS			D									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
Build Horizon Year 2032 AM-Improved



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↰↰↰	↰↰↰	↑↑		↰↰↰	↑↑↑	↰	↰↰↑↑↑		
Traffic Volume (veh/h)	173	241	1727	239	77	30	806	1048	493	62	1943	135
Future Volume (veh/h)	173	241	1727	239	77	30	806	1048	493	62	1943	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	248	1717	246	79	1	831	1080	156	64	2003	128
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	410	1922	312	128	2	2225	4395	931	294	1890	121
Arrive On Green	0.05	0.04	0.04	0.06	0.04	0.04	0.42	0.59	0.59	0.09	0.26	0.26
Sat Flow, veh/h	1781	3554	3614	5023	3594	45	5344	7481	1585	3456	7375	471
Grp Volume(v), veh/h	178	248	1717	246	39	41	831	1080	156	64	1646	485
Grp Sat Flow(s),veh/h/ln	1781	1777	1205	1674	1777	1862	1781	1870	1585	1728	1515	1786
Q Serve(g_s), s	15.8	11.0	7.7	7.7	3.5	3.5	17.2	11.1	7.2	2.8	41.0	41.0
Cycle Q Clear(g_c), s	15.8	11.0	7.7	7.7	3.5	3.5	17.2	11.1	7.2	2.8	41.0	41.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	253	410	1922	312	63	66	2225	4395	931	294	1553	458
V/C Ratio(X)	0.70	0.60	0.89	0.79	0.62	0.62	0.37	0.25	0.17	0.22	1.06	1.06
Avail Cap(c_a), veh/h	253	466	1979	377	200	209	2225	4395	931	294	1553	458
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.0	73.4	39.2	74.0	76.1	76.1	32.3	15.9	15.1	68.2	59.5	59.5
Incr Delay (d2), s/veh	8.6	1.8	5.6	9.0	9.3	9.0	0.1	0.1	0.4	0.4	40.5	59.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.9	9.1	32.1	6.5	3.2	3.3	11.8	8.2	5.0	2.2	28.0	35.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.5	75.1	44.8	83.0	85.4	85.1	32.4	16.0	15.5	68.6	100.0	118.5
LnGrp LOS	F	E	D	F	F	F	C	B	B	E	F	F
Approach Vol, veh/h	2143					326	2067		2195			
Approach Delay, s/veh	51.4					83.6	22.6		103.2			
Approach LOS	D					F	C		F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),s	19.6	100.0	15.9	24.5	72.6	47.0	28.7	11.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax),s	94.0	94.0	12.0	21.0	62.0	41.0	15.0	18.0				
Max Q Clear Time (g_c+I4.8s	13.1	13.1	9.7	13.0	19.2	43.0	17.8	5.5				
Green Ext Time (p_c), s	0.0	9.8	0.2	5.5	3.3	0.0	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay 61.0
HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Cumberland Blvd & Spring Rd

Emerson Center TIA
Build Horizon Year 2032 PM-Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	1107	625	406	1512	100	710	540	199	133	578	623
Future Volume (veh/h)	268	1107	625	406	1512	100	710	540	199	133	578	623
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	285	1281	416	432	1609	99	755	574	176	141	615	554
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	1894	535	399	1690	104	670	854	261	238	600	495
Arrive On Green	0.29	0.68	0.68	0.15	0.34	0.34	0.32	0.53	0.53	0.04	0.17	0.17
Sat Flow, veh/h	1781	5611	1585	1781	4918	302	3456	2680	820	1781	3554	1585
Grp Volume(v), veh/h	285	1281	416	432	1113	595	755	380	370	141	615	554
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1702	1816	1728	1777	1723	1781	1777	1585
Q Serve(g_s), s	23.0	21.8	28.7	24.0	51.0	51.1	31.0	24.9	25.1	7.0	27.0	27.0
Cycle Q Clear(g_c), s	23.0	21.8	28.7	24.0	51.0	51.1	31.0	24.9	25.1	7.0	27.0	27.0
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	256	1894	535	399	1170	624	670	566	549	238	600	495
V/C Ratio(X)	1.11	0.68	0.78	1.08	0.95	0.95	1.13	0.67	0.67	0.59	1.03	1.12
Avail Cap(c_a), veh/h	256	1894	535	399	1170	624	670	566	549	238	600	495
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	20.8	21.9	33.5	51.2	51.2	54.1	31.3	31.3	55.2	66.5	55.0
Incr Delay (d2), s/veh	85.2	1.6	9.0	69.1	17.0	26.0	74.3	2.8	3.0	3.8	43.4	77.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.7	10.2	12.9	25.3	32.0	35.7	27.8	14.5	14.3	3.5	22.6	41.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	142.2	22.4	30.9	102.6	68.2	77.3	128.4	34.1	34.3	59.1	109.9	132.0
LnGrp LOS	F	C	C	F	E	E	F	C	C	E	F	F
Approach Vol, veh/h	1982				2140				1505			
Approach Delay, s/veh	41.4				77.7				81.5			
Approach LOS	D				E				F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	60.0	13.0	57.0	29.0	61.0	37.0	33.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	24.0	54.0	7.0	51.0	23.0	55.0	31.0	27.0				
Max Q Clear Time (g_c+I1), s	26.0	30.7	9.0	27.1	25.0	53.1	33.0	29.0				
Green Ext Time (p_c), s	0.0	11.0	0.0	4.8	0.0	1.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	75.0
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Cobb Pkwy (SR 3) & Spring Rd/Circle 75 Pkwy

Emerson Center TIA
Build Horizon Year 2032 PM-Improved

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	255	1052	517	200	70	1509	2016	370	109	1924	176
Future Volume (veh/h)	260	255	1052	517	200	70	1509	2016	370	109	1924	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	984	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	258	1001	522	202	46	1524	2036	53	110	1943	164
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	411	1439	983	249	55	1510	3413	723	285	1848	156
Arrive On Green	0.38	0.19	0.19	0.20	0.09	0.09	0.28	0.46	0.46	0.08	0.26	0.26
Sat Flow, veh/h	938	3554	3614	5023	2888	644	5344	7481	1585	3456	7213	608
Grp Volume(v), veh/h	263	258	1001	522	123	125	1524	2036	53	110	1632	475
Grp Sat Flow(s),veh/h/ln	938	1777	1205	1674	1777	1754	1781	1870	1585	1728	1515	1761
Q Serve(g_s), s	36.0	10.7	0.0	14.9	10.8	11.3	45.2	32.5	3.0	4.8	41.0	41.0
Cycle Q Clear(g_c), s	36.0	10.7	0.0	14.9	10.8	11.3	45.2	32.5	3.0	4.8	41.0	41.0
Prop In Lane	1.00		1.00	1.00		0.37	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	211	411	1439	983	153	151	1510	3413	723	285	1553	451
V/C Ratio(X)	1.25	0.63	0.70	0.53	0.80	0.83	1.01	0.60	0.07	0.39	1.05	1.05
Avail Cap(c_a), veh/h	211	689	1721	983	200	197	1510	3413	723	285	1553	451
HCM Platoon Ratio	1.67	1.67	1.67	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	1.00	1.00
Uniform Delay (d), s/veh	49.9	61.4	35.4	57.8	71.8	71.9	57.4	32.5	24.5	69.6	59.5	59.5
Incr Delay (d2), s/veh	144.2	1.6	1.0	0.5	15.8	19.7	25.5	0.8	0.2	0.9	37.6	56.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	24.9	8.1	15.0	10.6	9.5	9.9	31.6	20.9	2.2	3.9	27.5	34.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	194.2	63.0	36.4	58.3	87.5	91.6	82.9	33.3	24.7	70.4	97.1	116.3
LnGrp LOS	F	E	D	E	F	F	F	C	C	E	F	F
Approach Vol, veh/h	1522			770			3613			2217		
Approach Delay, s/veh	68.1			68.4			54.1			99.9		
Approach LOS	E			E			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.2	79.0	37.3	24.5	51.2	47.0	42.0	19.8				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	73.0	23.0	31.0	41.0	41.0	36.0	18.0				
Max Q Clear Time (g_c+l1), s	6.8	34.5	16.9	12.7	47.2	43.0	38.0	13.3				
Green Ext Time (p_c), s	0.1	21.8	1.1	5.8	0.0	0.0	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	70.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Programmed Project Fact Sheets

Short Title

CONNECT COBB / NORTHWEST ATLANTA HIGH CAPACITY PREMIUM TRANSIT SERVICE FROM KENNESAW STATE UNIVERSITY TO MIDTOWN ATLANTA

GDOT Project No.

N/A

Federal ID No.

N/A

Status

Long Range

Service Type

Transit / BRT Capital

Sponsor

Cobb County

Jurisdiction

Regional - Northwest

Analysis Level

In the Region's Air Quality Conformity Analysis

Existing Thru Lane

N/A

LCI

☐

Planned Thru Lane

N/A

Flex

☐

Network Year

2050

Corridor Length

25.3 miles



Detailed Description and Justification

This project connects Kennesaw University in Cobb County to midtown Atlanta via BRT on a 25 mile corridor. The first phase of the project will include the construction of dedicated guideway on US 41 from Kennesaw State University to the Cumberland Activity Center. The new BRT service will utilize the new US 41 dedicated guideway, continue onto the I-75 North managed lanes, and then into Midtown Atlanta via Northside Drive and 17th Street. The project also includes transit improvements in Midtown Atlanta and Arts Center MARTA station to accommodate the new BRT vehicles and service.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	STP - Urban (>200K) (ARC)	AUTH	2012	\$1,700,000	\$1,266,667	\$0,000	\$0,000	\$433,333
ALL	New Starts		LR 2041-2050	\$491,000,000	\$171,850,000	\$0,000	\$0,000	\$319,150,000
				\$492,700,000	\$173,116,667	\$0,000	\$0,000	\$319,583,333

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquisition
 UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases



For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

