Black River Road Corridor Study

Submited to:
Kershaw County, South Carolina

December 2017 (revised)

BLACK RIVER ROAD | SOUTH CAROLINA
CORRIDOR STUDY
Kershaw County | City of Camden

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Executive Summary

The Black River Road corridor has potential for significant growth if properties develop as currently zoned. While there has been little growth over the past 10 years, the area is primed for development with the Central Carolina Technical College expansion combined with the planned commercial and industrial properties. This substantial development is expected to impact existing traffic patterns in the area by increasing congestion and creating potential safety issues without improvements to the roadway infrastructure. By understanding the potential growth patterns in the corridor, the traffic impacts can be anticipated and mitigated.

Recognizing the rapid growth in the area and the increasing traffic congestion and safety issues, Kershaw County contracted AECOM to conduct this corridor study by taking a holistic approach at growth and traffic issues in the area over the next 20 years. AECOM studied not only Black River Road but development along US 521, Mount Olivet Road, and Dr. Humphries Road. Rather than focusing on one particular area or intersection, this study seeks to understand the existing and future growth patterns and to provide sequential recommendations on improvements that should be considered over the next 20 years.

In the 2040 No-Build scenario, a 0.6 percent linear growth factor was applied to existing traffic volumes. This correlated with the 0.6 percent employment growth and exceeded the 0.4 percent population growth from the South Carolina Statewide Travel Demand Model. It was also consistent with the historical traffic growth in the study area over a 10 year period between 2006 and 2016. All intersections are expected to continue to operate at an acceptable level of service except US 521 at Century Boulevard and the US 521 at I-20 eastbound exit ramp.

Two different scenarios were studied where the undeveloped properties along the Black River Road corridor would be developed using reasonable assumptions as to the type of development. The assumptions were based on the zoning, acreage available and included approved developments such as the expansion of the Central Carolina Technical College, new residential developments, and industrial areas located on or near Black River Road and Mount Olivet Road.

- 2040 Build Scenario 1. All new traffic was assumed to use the most convenient interchange with I-20 and roughly follow existing traffic patterns.
- 2040 Build Scenario 2. The industrial properties were assumed to primarily use the Dr. Humphries Road interchange with I-20. All other assumptions remained the same with regard to property, growth, or distribution.

In the 2040 Build Scenario 1 condition where traffic used the most convenient interchange and roughly followed existing traffic patterns, impacts to the roadway system are substantial with intersection levels of service dropping at most locations without significant roadway improvements. The recommended improvements include the following and are shown on **Figure 31** through **Figure 35**.

- Widen Black River Road from US 521 to the intersection of Southern Oaks Drive/Steeplechase Industrial Boulevard to four lanes with turn lanes as needed.
- Implement a superstreet design between Century Boulevard and Wall Street. Access includes left- or U-turns from US 521, but only right-turn movements from the side street approaches. A southbound and a northbound auxiliary lane along US 521 would reduce the conflict of U-turns and right turns from side streets. The auxiliary lanes between Wall Street and Century Boulevard would provide a free flow right-turn movement onto US 521, reducing queuing on the side street approaches.

- Change the free flow right-turn from the I-20 westbound exit ramp at US 521 to stop control and with a smaller turning radius.
- Install a signal when warranted along US 521 at the I-20 eastbound exit ramp, Century Boulevard, Entrance to Apartment Complex, Black River Road, and Ehrenclou Drive.
- Install signals when warranted on Black River Road at Technical College/Shopping Center Drive, Southern Oaks Drive/Steeplechase Industrial Boulevard and Precipice Road, and at the intersection of Dr. Humphries Road and Mount Olivet Road.
- Install a four-way stop at SC 34 and Dr. Humphries Road or potentially a single lane roundabout.

In the 2040 Build Scenario 2 condition where industrial traffic primarily used the Dr. Humphries Road interchange, impacts to the roadway system are also substantial. Intersection levels of service dropped at most locations without significant roadway improvements. The recommended improvements include the following and are shown on **Figure 36** through **Figure 40**.

- Widen Black River Road to four lanes from US 521 to Tickle Hill Road and widen to four lanes from Southern Oaks Drive/Steeplechase Industrial Boulevard to Mount Olivet Road.
- Widen Dr. Humphries Road to four lanes from I-20 to Mount Olivet Road and two receiving lanes for westbound traffic on Mount Olivet Road. Two northbound lanes across I-20 are needed along Dr. Humphries Road, but only one southbound lane. As a result, the widening may not require a new bridge over I-20.
- At the Dr. Humphries Road interchange, provide additional lanes at the on/off ramps and a new signal when warranted at the I-20 eastbound ramp.
- Implement a superstreet design between Century Boulevard and Wall Street. Access includes left- or U-turns from US 521, but only right-turn movements from the side street approaches. The additions of a southbound and a northbound auxiliary lane along US 521 are also recommended to reduce the conflict of U-turns and right turns from side streets. The auxiliary lanes between Wall Street and Century Boulevard would provide a free flow right-turn movement onto US 521, reducing queuing on the side street approaches.
- Change the free flow right turn from the I-20 westbound exit ramp at US 521 to stop control and with a smaller turning radius.
- Install a signal when warranted along US 521 at the I-20 eastbound exit ramp, Century Drive, Wall Street, Black River Road, and Ehrenclou Drive.
- Install signals when warranted on Black River Road at Technical College/Shopping Center Drive, Southern Oaks Drive/Steeplechase Industrial Boulevard and Precipice Road, and at the intersection of Dr. Humphries Road and Mount Olivet Road.
- Install a four-way stop at SC 34 and Dr. Humphries Road or potentially a single lane roundabout.

Roadway improvements can be applied incrementally to address congestion or safety concerns. A proposed sequencing of roadway improvements to the study area is as follows:

1. Build new Technical College/Shopping Center Drive driveway with left turn and right-turn lanes to/from Black River Road. Signalize intersection when warranted.
2. Install a traffic signal at the intersection of US 521 at Black River Road.

3. Implement access management strategies along US 521 using a superstreet design by providing left turns into Wall Street and into Century Boulevard but only right turns out of the side streets.
4. Change the free flow right turn from the I-20 westbound exit ramp at US 521 to stop control and with a smaller turning radius.
5. Install a traffic signal at the intersection of US 521 at I-20 eastbound exit ramp when warranted.
6. Widen Black River Road.
7. Widen US 521 to provide auxiliary lanes between Wall Street and Century Boulevard. Add U-turn traffic signals when warranted.
8. Widen Dr. Humphries Road from I-20 to Mount Olivet Road. Provide additional lanes on the I-20 eastbound ramp at Dr. Humphries Road.
9. Widen Mount Olivet Road and consider realignment of Black River Road and Mount Olivet Road.

1. Introduction

Kershaw County is anticipating growth in population and changes to existing land uses around the Black River Road corridor. Changes include expansion of the Central Carolina Technical College Kershaw County Campus, and residential, commercial, and industrial development.

In the spring of 2017, Kershaw County contracted AECOM to prepare a corridor study for the entire area surrounding Black River Road. Recognizing the growth and traffic issues, Kershaw County asked AECOM to look holistically at the growth patterns in the area along with the transportation infrastructure and make recommendations on necessary improvements. With the results of this corridor study, Kershaw County can begin programming funds and projects to implement the recommendations.

The Black River Road corridor is approximately 4.5 miles long and encompasses the area bounded by US 521 (Sumter Highway) to the west, I-20 to the south, S-329 (Dr. Humphries Road) to the east, and areas north of S-12 (Black River Road) and S-189 (Mount Olivet Road) as shown on **Figure 1**.

The purpose of the corridor study was to assess existing and future traffic conditions and identify future roadway needs for industrial, commercial, and residential properties in the Black River Road corridor study area. The impacts of existing and future traffic volumes were analyzed and compared by estimating vehicle trip generations and distribution. A further goal of the corridor study is identify and make recommendations about needed bicycle and pedestrian improvements along the corridor.

AECOM was tasked with analyzing traffic conditions in the Black River Road corridor during the weekday AM and PM peak hours for four scenarios:

- **2017 Existing**: An analysis of existing conditions in 2017.
- **2040 No-Build**: An analysis of future conditions in 2040 using historic traffic volume trends in the study area.
- **2040 Build Scenario 1**: An analysis of conditions in 2040 if the identified properties are developed. Vehicles are assumed to use the US 521 (Sumter Highway) interchange or the S-329 (Dr. Humphries Road) interchange with I-20 based on current traffic patterns.
- **2040 Build Scenario 2**: An analysis of conditions in 2040 if the identified properties are developed. Vehicles to and from the industrial sites are assumed to primarily use the S-329 (Dr. Humphries Road) interchange with I-20.

The traffic analysis included a review of the collision history, level of service (LOS) calculations, and queuing for 2017 Existing, 2040 No-Build, 2040 Build Scenario 1, and 2040 Build Scenario 2 conditions. Based on these scenarios, the study determined what roadway improvements are needed to mitigate impacts in the study area and improve overall safety concerns.

Black River Road Corridor Study

Existing Study Area

AECOM

July 2017
Camden, SC

2. Existing Conditions

The study area consists of the following four roadway segments.

- US 521 for 1.3 miles from I-20 to S-897 (Ehrenclou Drive) is a four lane divided highway, posted at 45 mph that has 12 foot travel lanes with 6 foot grass shoulders.
- Black River Road for 4.0 miles from US 521 to S-91 (Cleveland School Road) is a two lane roadway, posted at 45-55 mph that has 11 foot travel lanes and varying shoulder widths.
- S-189 (Mount Olivet Road) from Black River Road to Dr. Humphries Road for 1.5 miles is a two lane roadway with no posted speed limit that has 11 foot travel lanes and varying shoulder widths.
- Dr. Humphries Road for 1.8 miles from S-91 (Cleveland School Road) to S-34 (Bishopville Highway) is a two lane roadway, posted at 45 mph that has 12 foot lanes with 4 foot grass shoulders.

Table 1 provides a summary of the roadway segments in the study area. No bicycle or pedestrian facilities are located along the corridor; however, “share the road” signs are located on US 521 and Black River Road. **Figure 2** through **Figure 6** show the existing lane configuration and turn lane storage lengths for these segments.

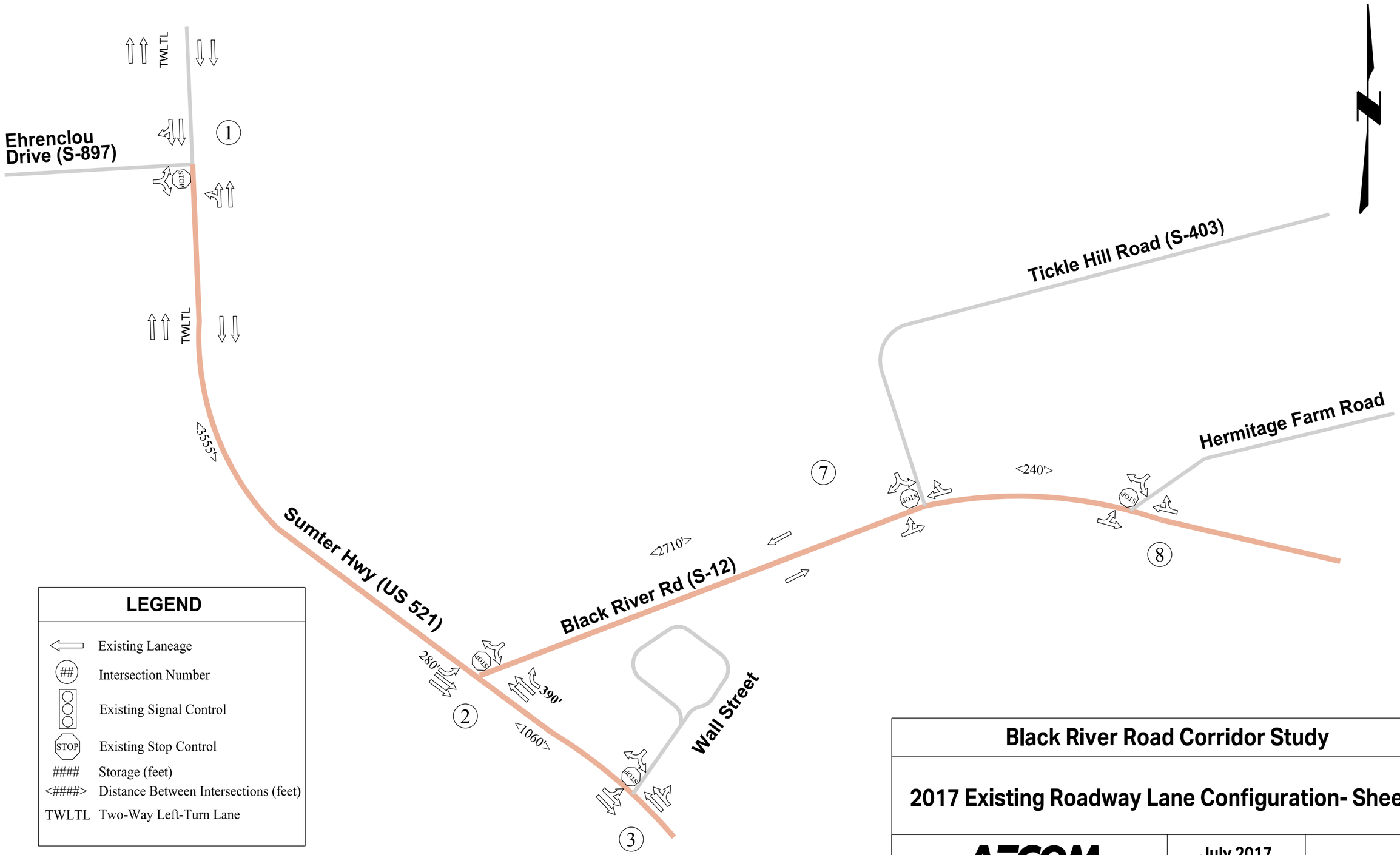
Table 1. Summary of Roadway Conditions

Roadway	Profile	Length (miles)	Speed Limit
US 521	4-lane, divided highway, 12-foot travel lanes	1.3	45 mph
Black River Road	2-lane roadway, 11-foot travel lanes	4.0	45-55 mph
S-189	2-lane roadway, 11-foot travel lanes	1.5	Not posted
Dr. Humphries Road	2-lane roadway, 11-foot travel lanes	1.8	45 mph

2.1 Traffic Counts

To analyze existing conditions, traffic data were collected throughout the study area using National Data Surveying Services. The 24-hour traffic data were collected over a three day period on typical weekdays while school was in session. Data were gathered from Tuesday, May 16, 2017, to Thursday, May 19, 2017, at three locations on US 521, three locations on Black River Road, one location on Mount Olivet Road, and three locations on Dr. Humphries Road. The 24-hour count data are shown in **Appendix A**. Turning movement counts were also collected at the following locations on May 16, 2017, from 6:30 AM to 8:30 AM and 4:30 PM to 6:30 PM.

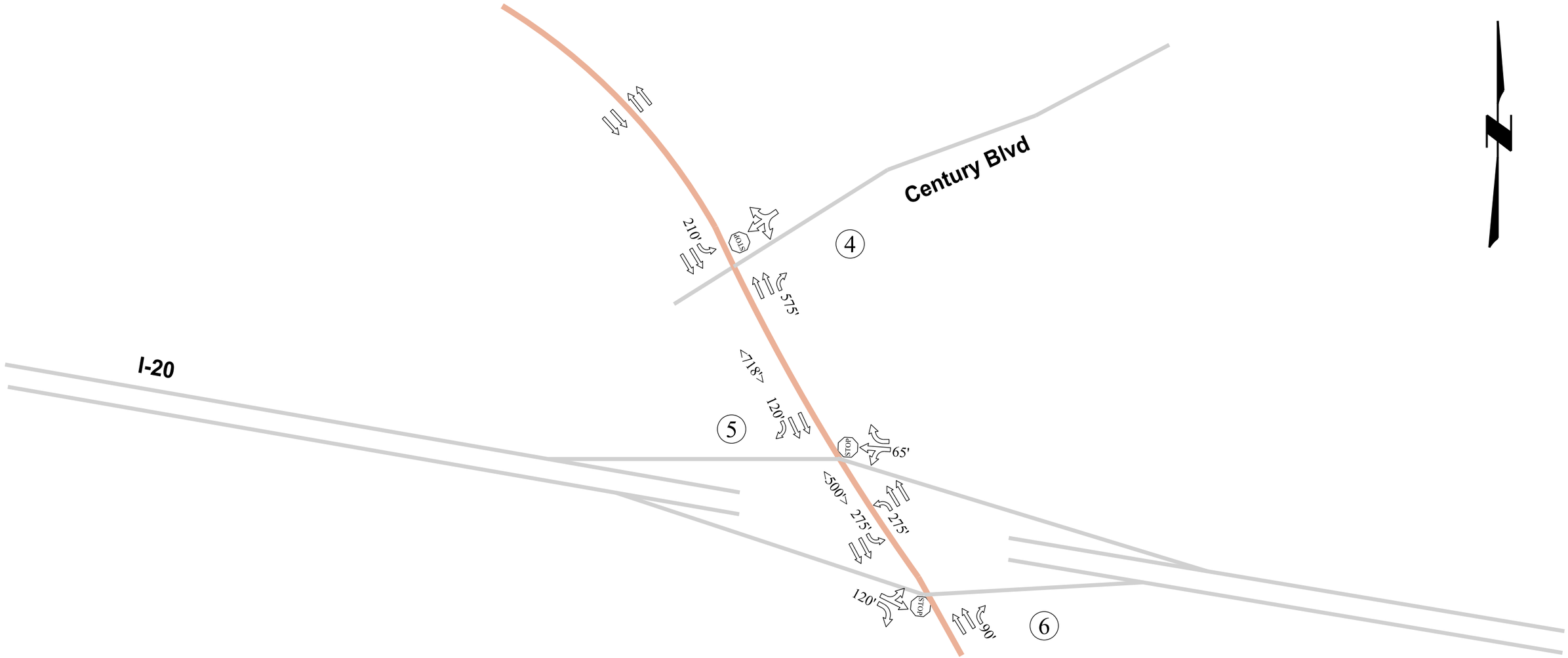
- US 521 (Sumter Highway) and S-897 (Ehrenclou Drive)
- US 521 (Sumter Highway) and S-12 (Black River Road)
- US 521 (Sumter Highway) and Wall Street
- US 521 (Sumter Highway) and Century Boulevard
- US 521 (Sumter Highway) and I-20 westbound ramps



Black River Road Corridor Study

2017 Existing Roadway Lane Configuration- Sheet 1

AECOM	July 2017 Camden, SC	Figure 2



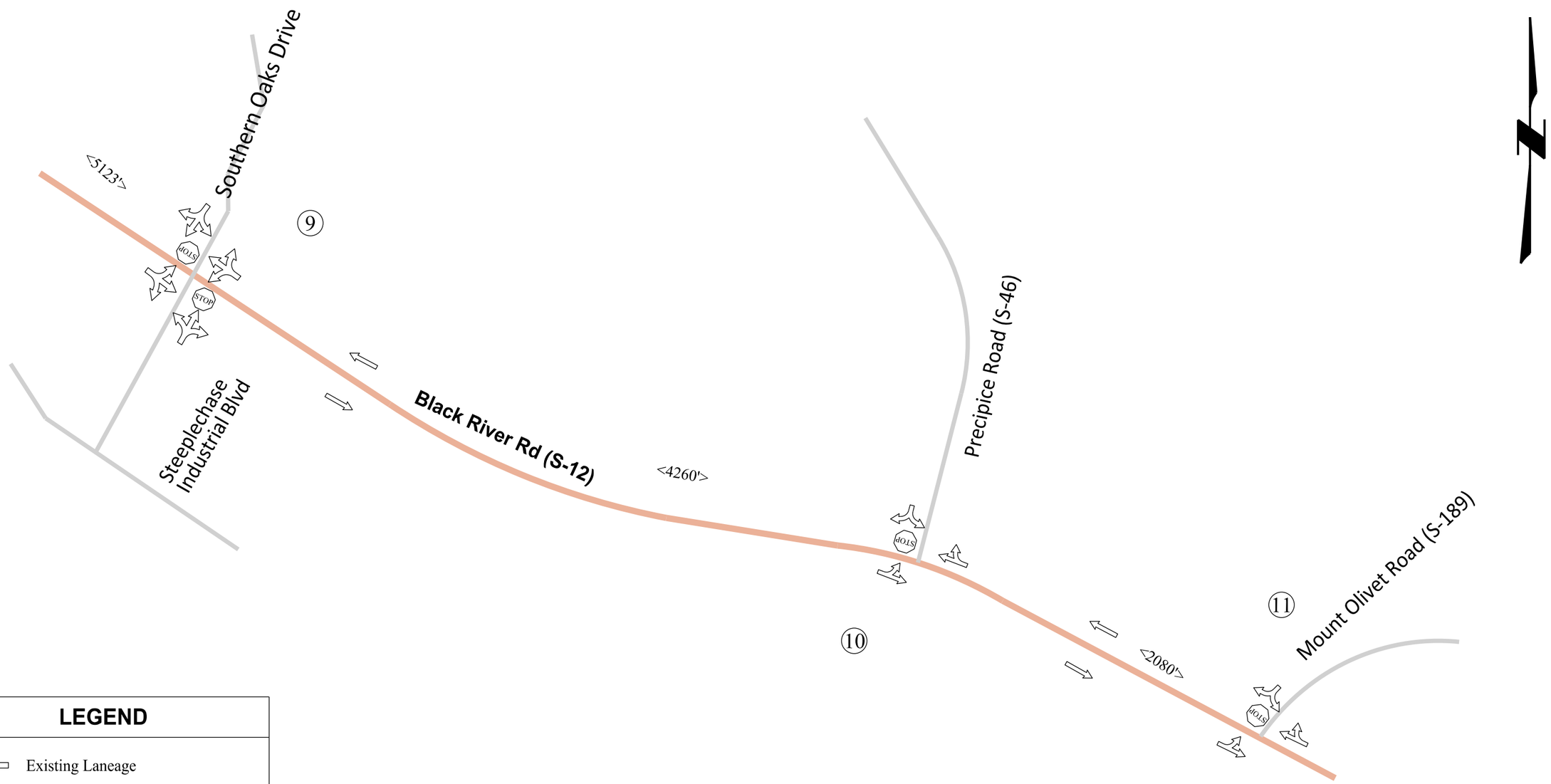
LEGEND

- Existing Laneage
- ## Intersection Number
- Existing Signal Control
- STOP Existing Stop Control
- #### Storage (feet)
- <####> Distance Between Intersections (feet)
- TWLTL Two-Way Left-Turn Lane

Black River Road Corridor Study

2017 Existing Roadway Lane Configuration-Sheet 2

AECOM | July 2017 Camden, SC | Figure 3



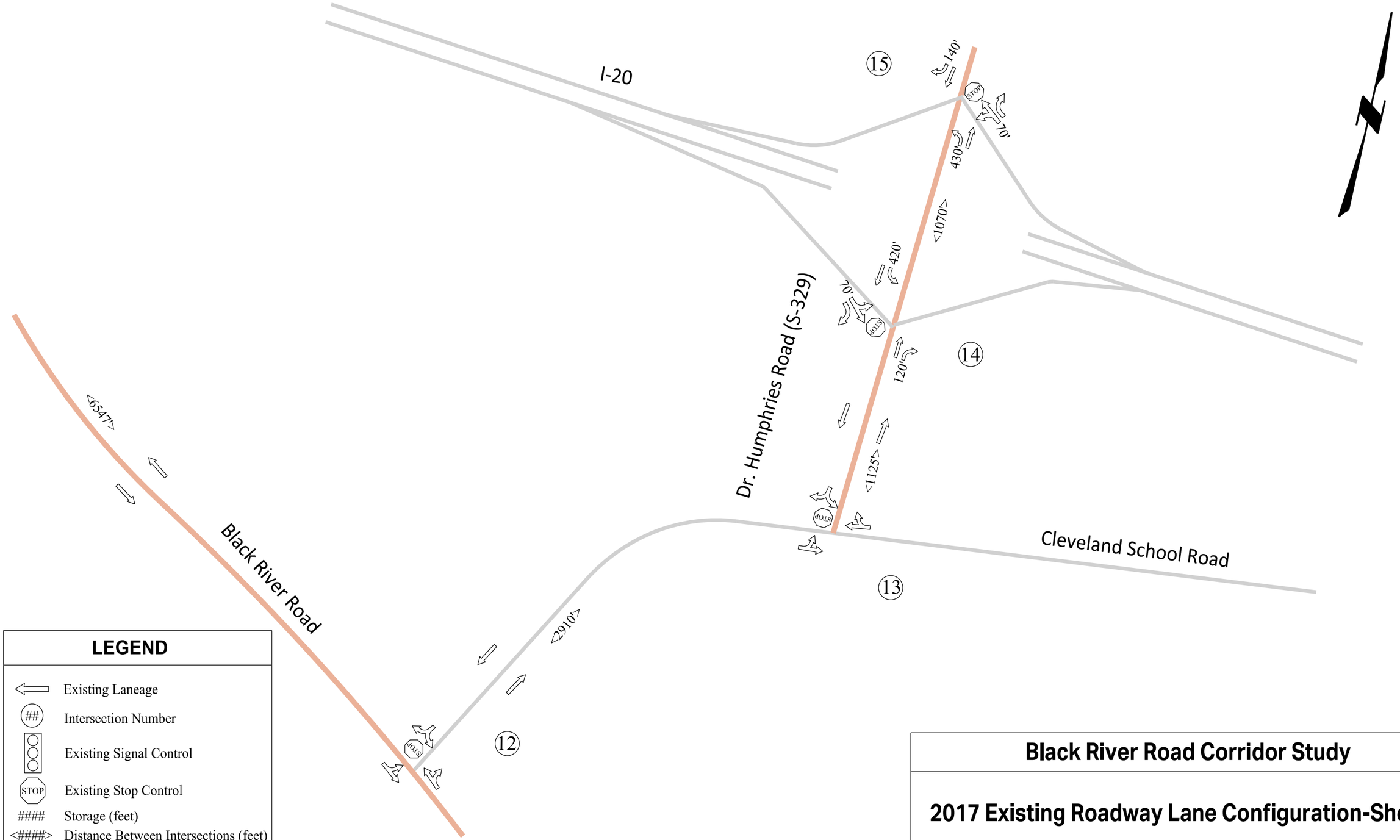
LEGEND

- Existing Laneage
- ## Intersection Number
- Existing Signal Control
- STOP Existing Stop Control
- #### Storage (feet)
- <####> Distance Between Intersections (feet)
- TWLTL Two-Way Left-Turn Lane

Black River Road Corridor Study

2017 Existing Roadway Lane Configuration-Sheet 3

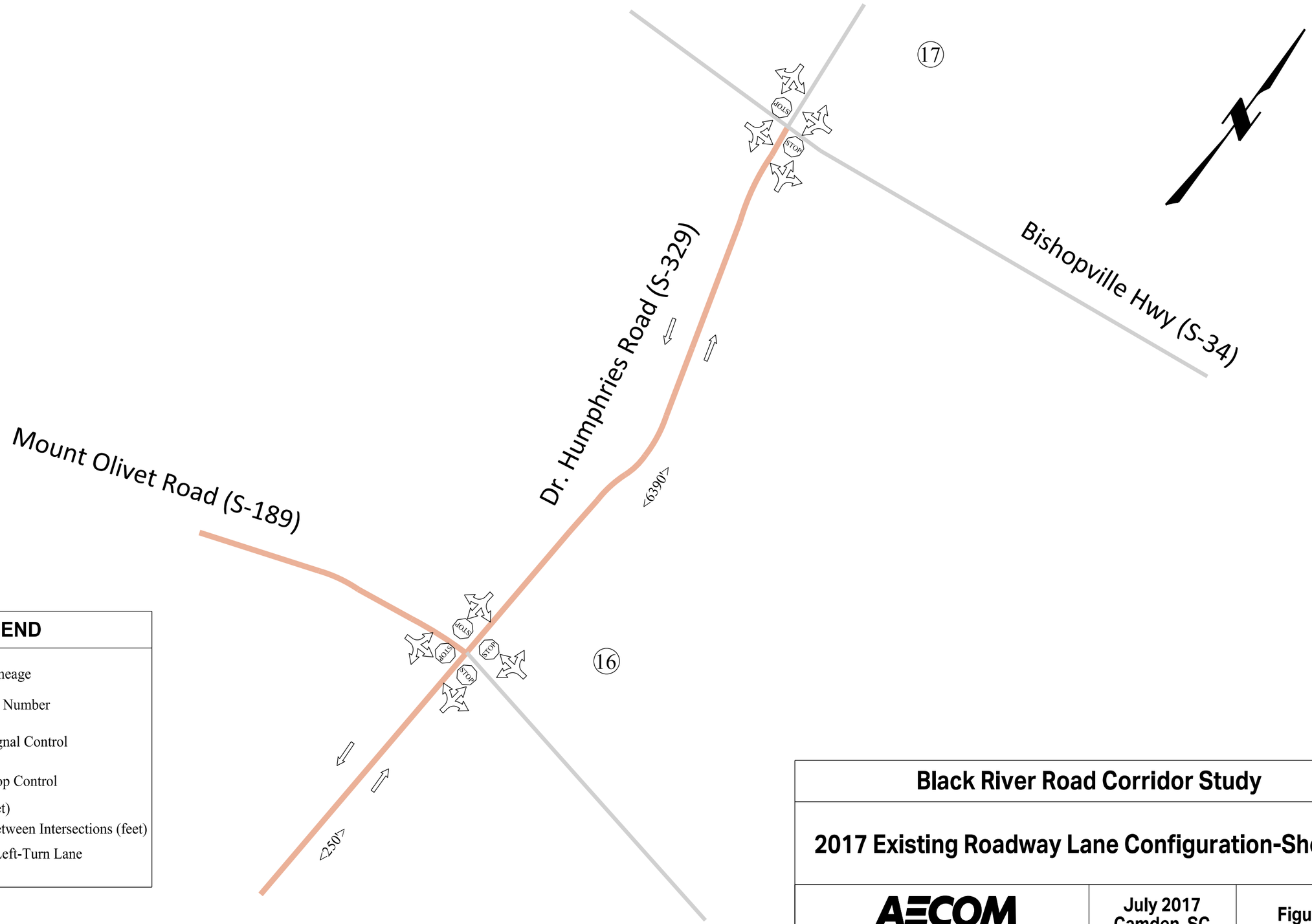
AECOM	July 2017 Camden, SC	Figure 4



Black River Road Corridor Study

2017 Existing Roadway Lane Configuration-Sheet 4

AECOM	July 2017 Camden, SC	Figure 5



LEGEND

- Existing Laneage
- ## Intersection Number
- Existing Signal Control
- STOP Existing Stop Control
- #### Storage (feet)
- <####> Distance Between Intersections (feet)
- TWLTL Two-Way Left-Turn Lane

Black River Road Corridor Study

2017 Existing Roadway Lane Configuration-Sheet 5

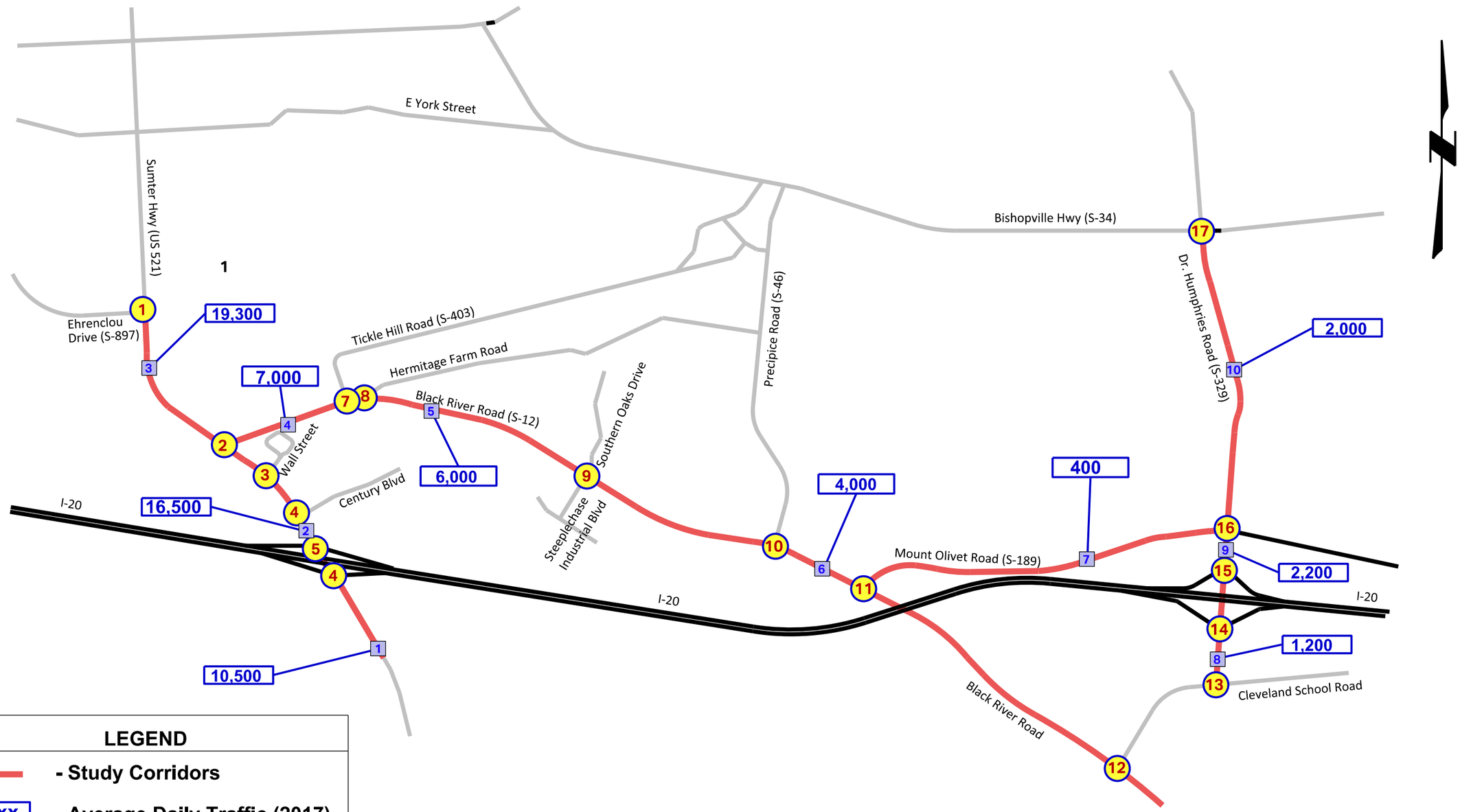
AECOM | July 2017 Camden, SC | Figure 6

- US 521 (Sumter Highway) and I-20 eastbound ramps
- S-12 (Black River Road) and S-403 (Tickle Hill Road)
- S-12 (Black River Road) and Hermitage Farm Road
- S-12 (Black River Road) and Southern Oaks Drive
- S-12 (Black River Road) and S-46 (Precipice Road)
- S-12 (Black River Road) and S-189 (Mount Olivet Road)
- S-12 (Black River Road) and S-91 (Cleveland School Road)
- S-329 (Dr. Humphries Road) and S-91 (Cleveland School Road)
- S-329 (Dr. Humphries Road) and I-20 westbound ramps
- S-329 (Dr. Humphries Road) and I-20 eastbound ramps
- S-329 (Dr. Humphries Road) and S-189 (Mount Olivet Road)
- S-329 (Dr. Humphries Road) and SC 34 (Bishopville Highway)

The average 24-hour traffic volumes and turning movement count locations are shown on **Figure 7**. Detailed peak hour turning movement volumes are shown on **Figure 8** through **Figure 12**. Data sheets for the turning movement counts are included in **Appendix B**.

2.2 Crash Data

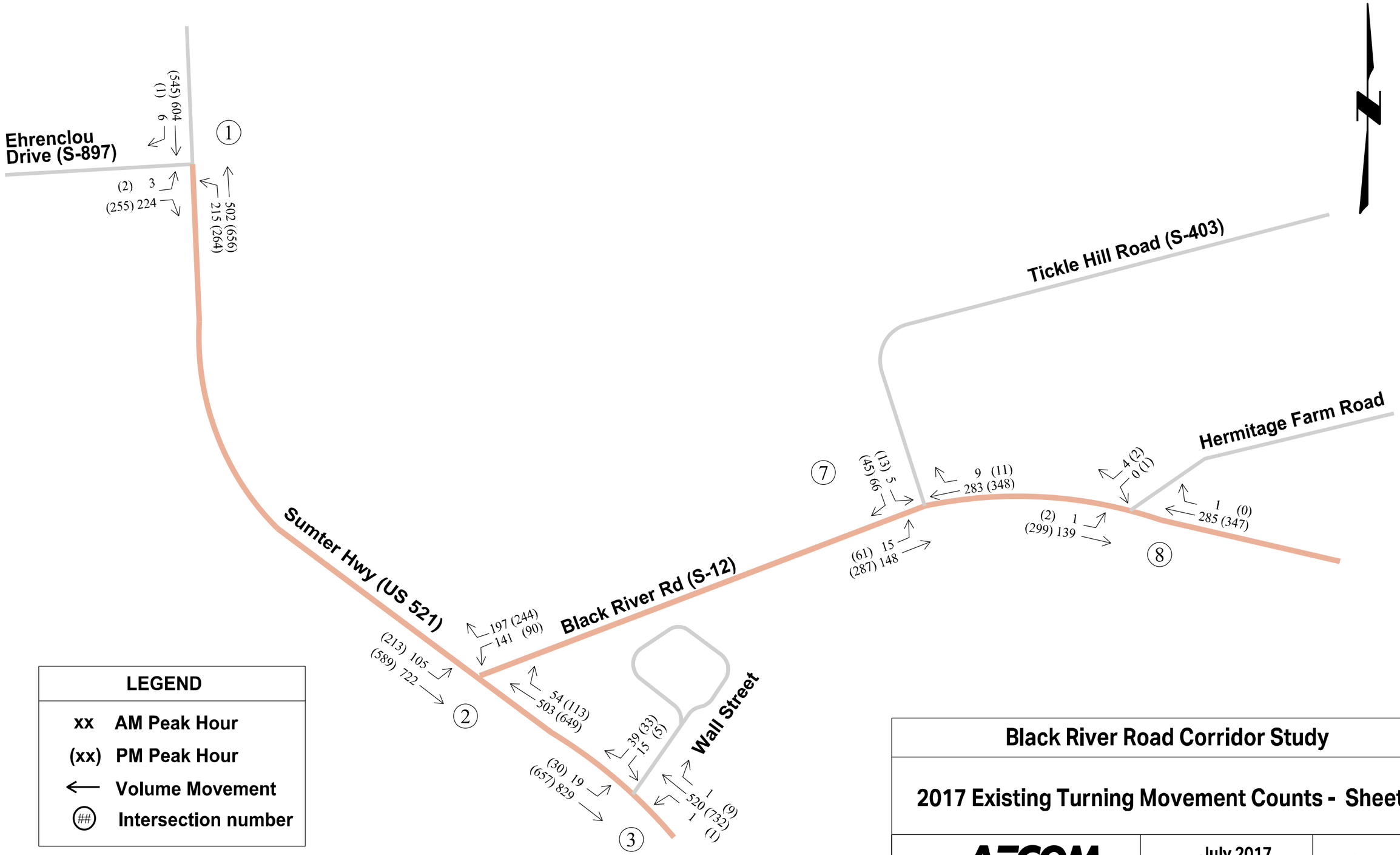
Crash data were reviewed for a three year period from January 2014 to December 2016. During this period, 115 crashes occurred, including 27 injury crashes and 2 fatal crashes. The location with the highest number of crashes was US 521 at the eastbound ramps, while the location with the highest number of injury crashes was at the US 521 and Century Boulevard intersection. The majority of the injury crashes were left turns from Century Boulevard onto US 521. A summary of crashes by intersection within the corridor is shown in **Figure 13** and in **Appendix C**.



LEGEND

- Study Corridors
- x,xxx - Average Daily Traffic (2017)
- X - Average Daily Traffic (2017) Location ID
- X - Turning Movement Count Location ID

Black River Road Corridor Study		
Count Locations		
AECOM	July 2017 Camden, SC	Figure 7



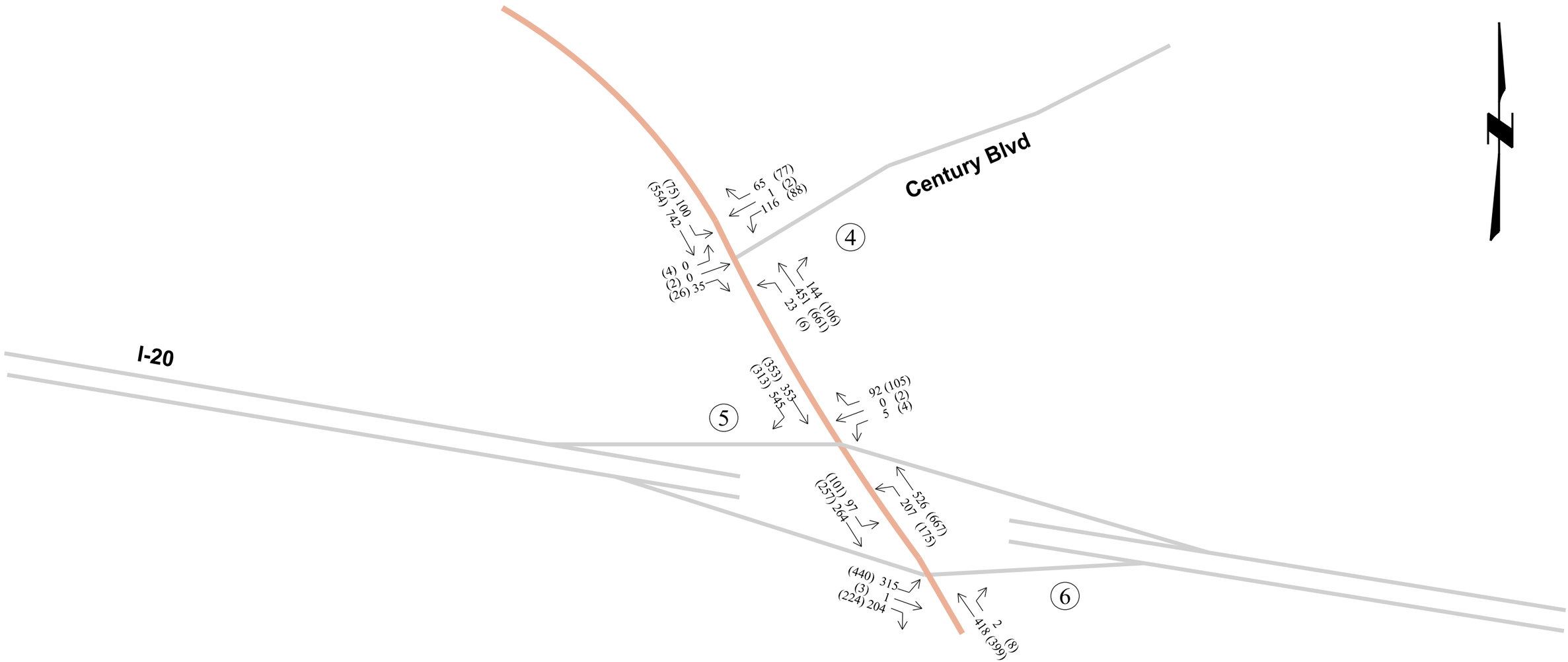
Black River Road Corridor Study

2017 Existing Turning Movement Counts - Sheet 1

AECOM

July 2017
Camden, SC

Figure 8

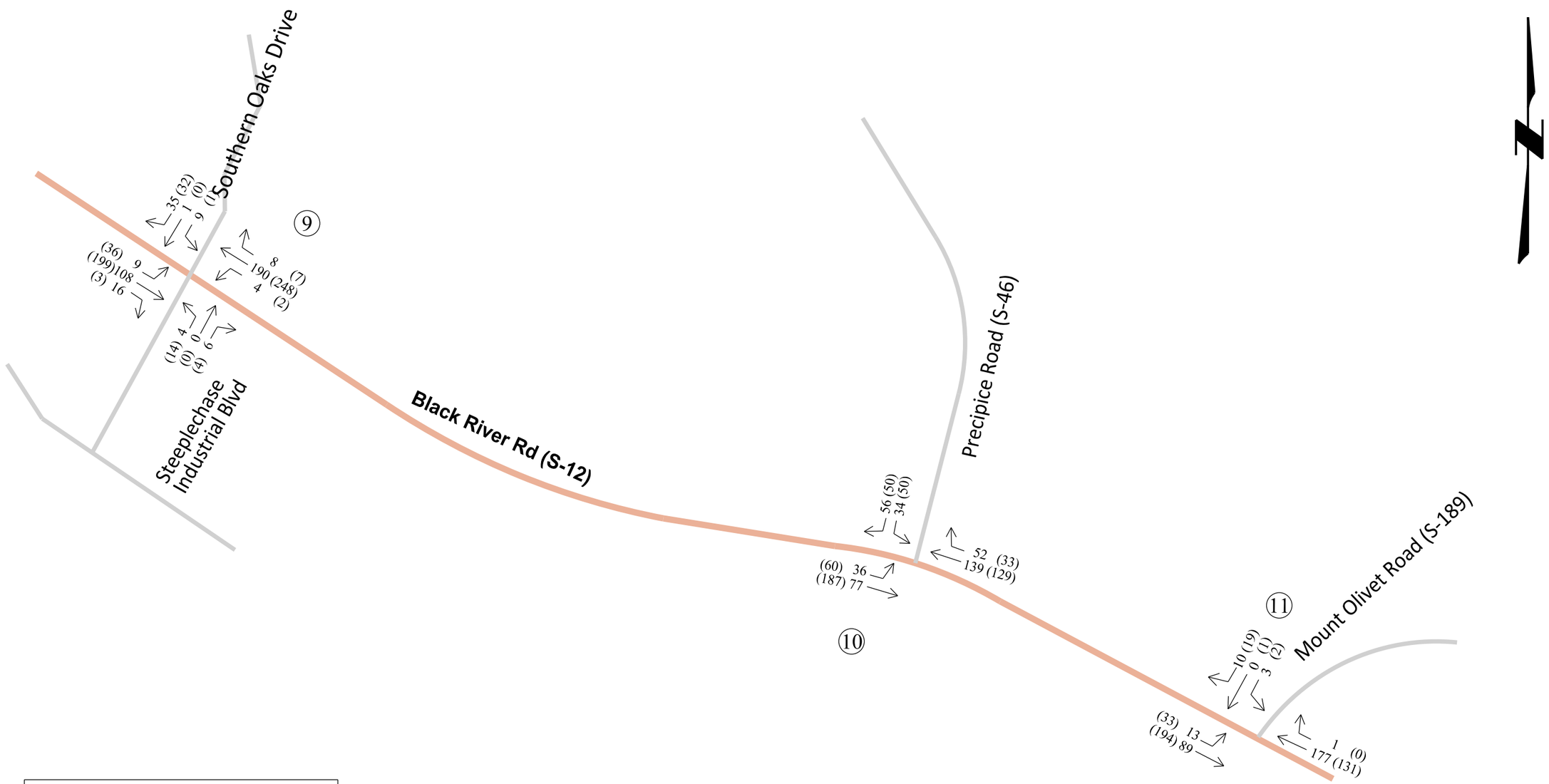


LEGEND	
xx	AM Peak Hour
(xx)	PM Peak Hour
←	Volume Movement
(##)	Intersection number

Black River Road Corridor Study

2017 Existing Turning Movement Counts - Sheet 2

AECOM	July 2017 Camden, SC	Figure 9

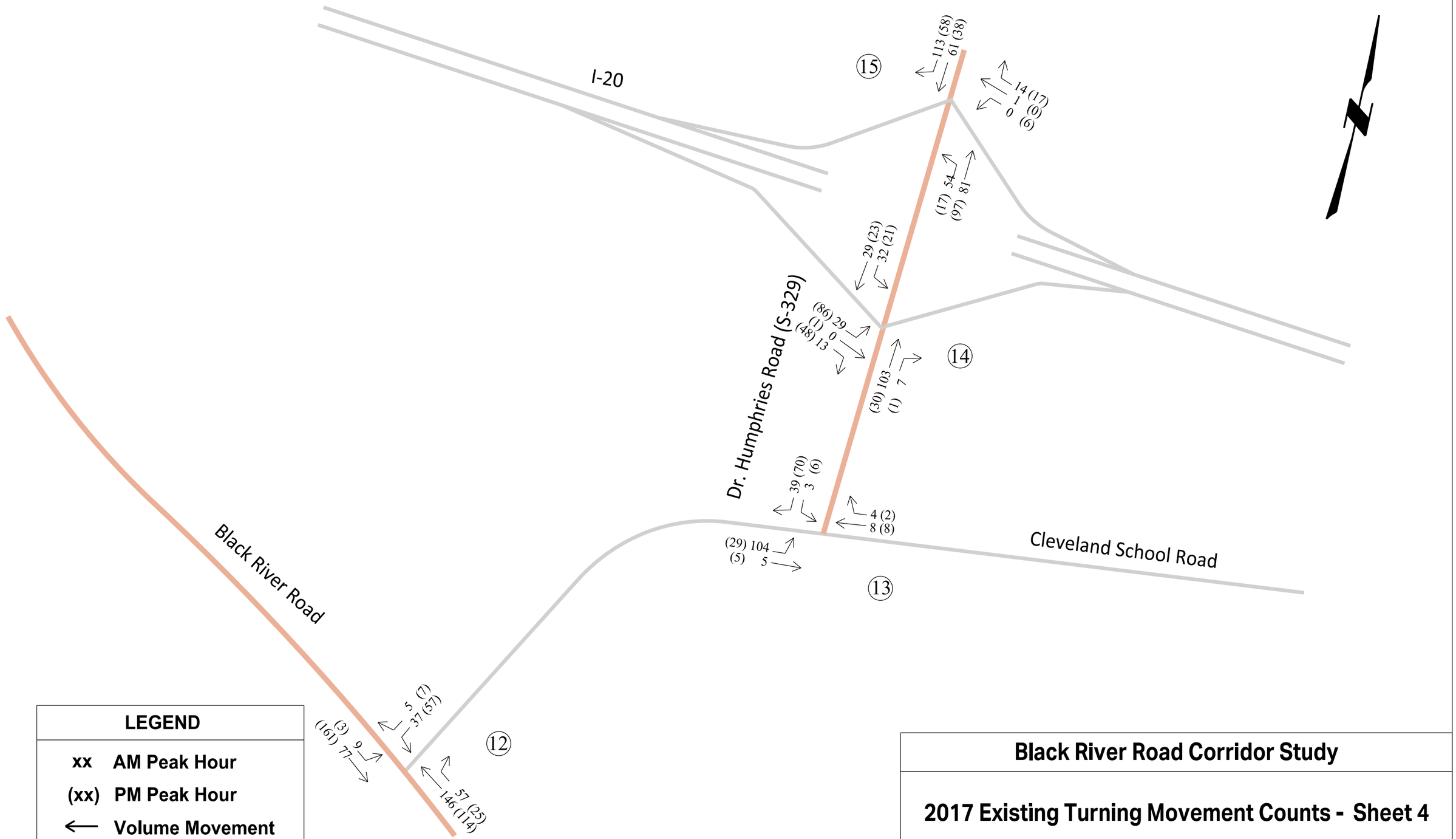


LEGEND	
xx	AM Peak Hour
(xx)	PM Peak Hour
←	Volume Movement
(##)	Intersection number

Black River Road Corridor Study

2017 Existing Turning Movement Counts - Sheet 3

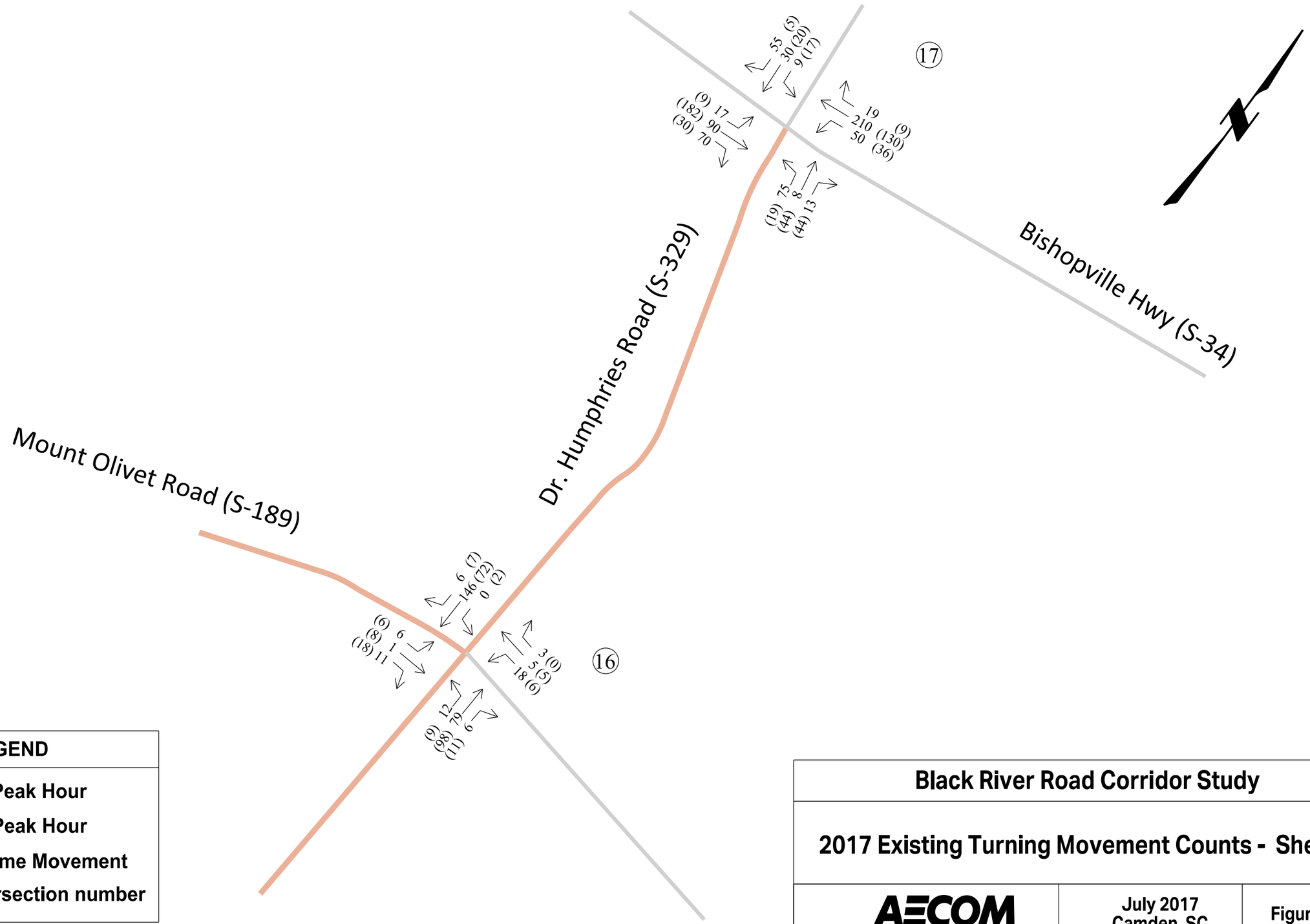
AECOM	July 2017 Camden, SC	Figure 10



Black River Road Corridor Study

2017 Existing Turning Movement Counts - Sheet 4

AECOM | July 2017 Camden, SC | Figure 11

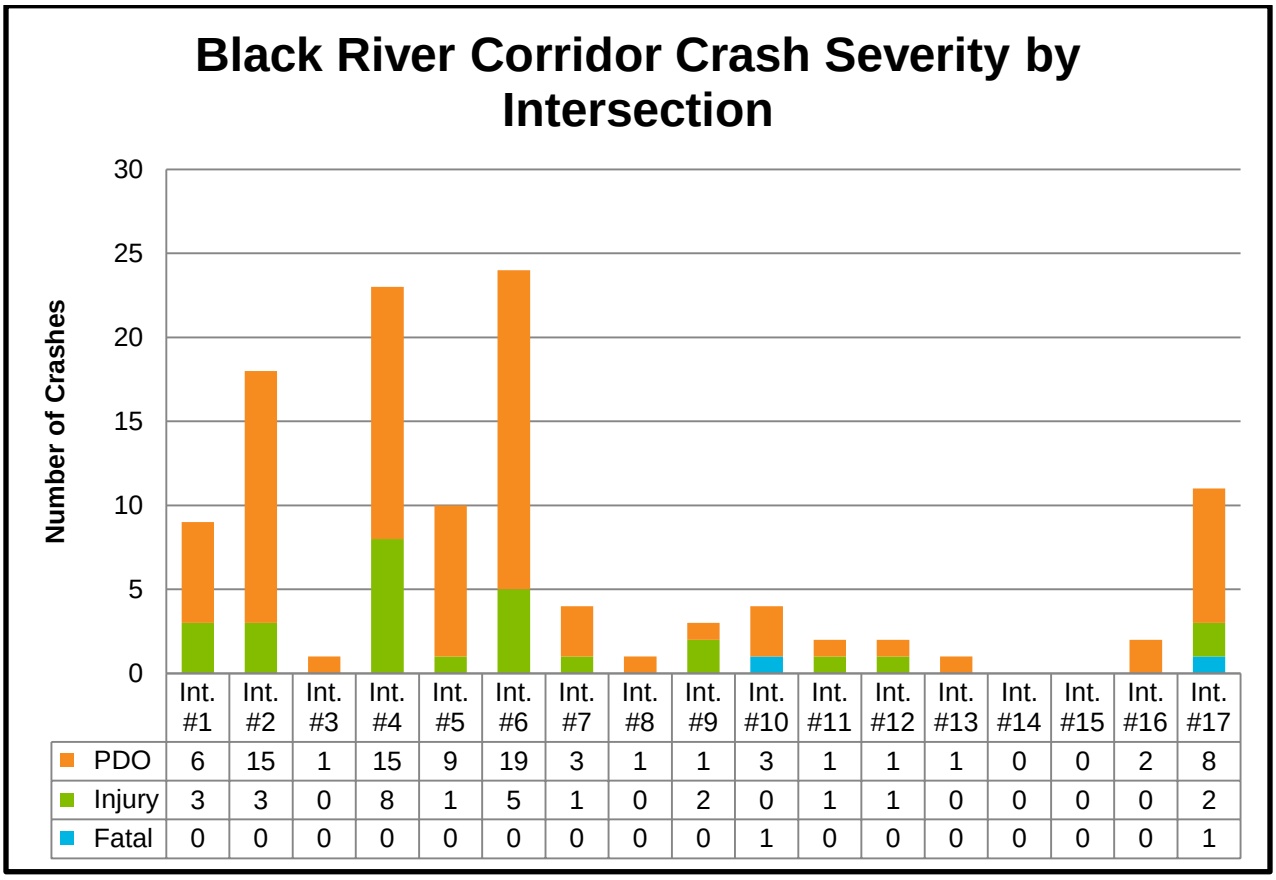


LEGEND	
xx	AM Peak Hour
(xx)	PM Peak Hour
←	Volume Movement
(##)	Intersection number

Black River Road Corridor Study

2017 Existing Turning Movement Counts - Sheet 5

AECOM	July 2017 Camden, SC	Figure 12



	Int. #1	Int. #2	Int. #3	Int. #4	Int. #5	Int. #6	Int. #7	Int. #8	Int. #9	Int. #10	Int. #11	Int. #12	Int. #13	Int. #14	Int. #15	Int. #16	Int. #17
PDO	6	15	1	15	9	19	3	1	1	3	1	1	1	0	0	2	8
Injury	3	3	0	8	1	5	1	0	2	0	1	1	0	0	0	0	2
Fatal	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1

1. Sumter Highway and Ehrenclou Drive
2. Sumter Highway and Black River Road
3. Sumter Highway and Wall Street
4. Sumter Highway and Century Boulevard
5. Sumter Highway and I-20 westbound ramps
6. Sumter Highway and I-20 eastbound ramps
7. Black River Road and Tickle Hill Road
8. Black River Road and Hermitage Farm Road
9. Black River Road and Southern Oaks Drive
10. Black River Road and Precipice Road
11. Black River Road and Mount Olivet Road
12. Black River Road and Cleveland School Road
13. Dr. Humphries Road and Cleveland School Road
14. Dr. Humphries Road and I-20 westbound ramps
15. Dr. Humphries Road and I-20 eastbound ramps
16. Dr. Humphries Road and Mount Olivet Road
17. Dr. Humphries Road and Bishopville Highway

Figure 13. Corridor Crash Severity by Intersection

3. Land Use

In assessing and developing a land use plan for the corridor study, existing conditions and background documents were reviewed for relevant data and projections. This chapter presents existing land use conditions and projections of future growth. Potentially conflicting land uses are also discussed.

3.1 Existing Land Uses

The corridor has a variety of land uses that cover the unincorporated areas of Kershaw County. According to the Kershaw County zoning map,[1] the corridor includes zoning uses of Municipal, R-15, GD, I-1, RD-1, and B-2 as defined in **Table 2**. Under the zoning uses shown in **Table 2**, the corridor contains residential, industrial, commercial, and rural or agricultural uses.

Table 2. Kershaw County Primary Zoning Districts

Zoning Symbol	District Name/Description
Municipal	NA – Incorporated in City of Camden
R-15	Low density, single family residential district
GD	General development district
I-1	Industrial district
RD-1	Rural resource district
B-2	General business district

Source: Kershaw County (2016).

There are two industrial parks in varying stages of construction in the corridor: Steeplechase and Governor's Hill, the first being in a more advanced stage than the latter. Steeplechase Industrial Park, zoned as I-1, contains 256 acres, of which 109 acres are developable. In the five parcels with available space for development, 1.45 million square feet of building space is available. Tenants at Steeplechase Industrial Park include Hengst, Accuride, and Haier (GE). Hengst recently expanded with an $8 million, 75,000 square foot facility in 2014 resulting in 20 jobs.[2] Accuride also expanded by investing $8.7 million and adding 80,000 square feet and 25 jobs in 2012.[3]

Steeplechase Industrial Park, Haier, and Accuride

[1] https://kershawsc.wthgis.com/
[2] https://www.sccommerce.com/news/hengst-announces-third-corporate-expansion-kershaw-county
[3] https://www.sccommerce.com/news/accuride-expanding-facility-kershaw-county

At Governor's Hill Industrial Park, there is no existing industry but plans call for 12 parcels on 205 acres, of which approximately 185 acres are developable. Current zoning at the park is RD-1 (i.e., rural resource district). Under this zoning designation, the land is proposed to remain as natural as possible, maintaining Kershaw County's rural environment. Therefore, developing an industrial park on a land zoned as RD-1 is a land use challenge. A change in zoning may already be underway; however, it is not currently reflected on the county's website or reflected in future projections.

Main entrance to Governor's Hill Industrial Park, July 2017

In addition to the two industrial parks, the Kershaw County campus of the Central Carolina Technical College (CCTC) is expanding on the western end of the Black River Road corridor. The campus plans to add a number of future buildings, including a 40,000 square foot academic building, 15,000 square foot office building, 25,000 square foot office building for Kershaw County called the Applied Technology Education Center (ATEC), and three other future buildings. CCTC envisions growing to 1,000 students within five years,[4] up from 541 enrolled in the spring of 2011.[5] Part of the City of Camden, the CCTC campus is zoned as municipal.

CCTC Kershaw County Campus Expansion, July 2017

[4] http://www.chronicle-independent.com/archives/43612/.
[5] https://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&cad=rja&uact=8&ved=0ahUKEwjLptCBkrrWAhVCZVAKHfc_AgkQFghRMAY&url=http%3A%2F%2Fwww.ptc.edu%2Fsites%2Fdefault%2Ffiles%2Fdocuments%2Fstudent_development%2FSatellite%2520Campuses%2520PTC%2520Presentation%25202.pptx&usg=AFQjCNFrLm3tLgIB2vIIPgpdBXbHTUctsw.

3.2 Background Documentation

Kershaw County has plans for a number of development sites inside and outside of the study area, as described in the *Economic Development Plan for Infrastructure Improvements to Five (5) Kershaw County Industrial Sites/Parks in Kershaw County, SC* (2015). The *Economic Development Plan* includes maps, estimated costs of clearing the land to prepare for construction, and preliminary schedules for Steeplechase, Governors Hill, ATEC, and CCTC.

Other documents reviewed for corridor-specific information included *Vision Kershaw 2030* (Kershaw County 2016), the *Kershaw County Bicycle, Pedestrian, and Greenways Plan* (Kershaw County 2013), and the *Santee-Lynches 2040 Long Range Transportation Plan* (LRTP) (2014).

Two of the goals in *Vision Kershaw 2030* include economic growth and effective land use. Two objectives for economic growth are within the corridor, including expanding CCTC and constructing ATEC and fully utilizing the industrial parks. Other objectives include leveraging the tourism and equine industries.

The *Kershaw County Bicycle, Pedestrian, and Greenways Plan* notes that, among other factors, the density of land use affects decisions to bike, walk, or drive in a corridor, and that Kershaw County lacks adequate connectivity among facilities to encourage biking and walking. The Black River Road Connector is both a high-priority route and near-term project for a 1.5-mile multi-use trail between Black River Road and US 1 within the Progress Energy easement. The proposed project is in response to requests from residents to provide connectivity to the City of Camden and other parks.

Lack of Bicycle Facilities in Black River Road corridor, July 2017

Also noted in the *Kershaw County Bicycle, Pedestrian, and Greenways Plan* is the need for bicycle parking at all public facilities and bicycle parking policies. The plan recommends requiring bicycle parking by land use based on square footage. The recommendations for the corridor's existing land uses are shown in **Table 3**.

Table 3. Kershaw County Recommended Bicycle Parking by Land Use

Corridor Land Use	Recommended Long-term Bicycle Parking
Colleges/Universities	1 space/10 employees and 1 space/10 students or 1 space/20,000 square feet, whichever is greater
Residential	No spaces required
Offices	1 space/10,000 square feet (2 minimum)
Retail	1 space/12,000 square feet (2 minimum)
Industrial/Manufacturing	1 space/15,000 square feet (2 minimum)

Source: Kershaw County Bicycle, Pedestrian, and Greenways Plan (2013)

The *Santee-Lynches 2040 LRTP* describes the region's transportation plan considering all modes, population and employment growth, changes to land use, and transportation investments over the next two decades. The region, which includes Clarendon, Kershaw, Lee, and Sumter counties, had a population totaling 223,344 in 2010. The following projects in the LRTP are related to the Black River Road corridor.

- A 2.75-mile segment of Black River Road from US 521 to S-189 is the second highest priority project to provide shoulders, improve access for vehicles and pedestrians, and safely accommodate the growth in traffic projected in the corridor. The cost of these segment improvements is estimated at $2.06 million.
- The intersection of Black River Road and US 521 is the eighth most important intersection improvement project included in the fiscally constrained plan at a cost of $1 million.
- The Black River Road corridor from US 521 to Dr. Humphries Road is noted as a topic for further study due to it being an area of growth or importance in the region.
- Finally, feasibility studies are recommended for Black River Road at the interchanges of I-20 and US 521 to accommodate increased development, traffic, and safety concerns in the area. This corridor study fulfills the second-highest priority project on that list.

The LRTP includes other relevant data, including population growth rates and population density changes for the region. The City of Camden in Kershaw County has high projected growth, and US 521 from I-20 to SC-97 is already four or five lanes, which limits the footprint in which to potentially widen the road any further. In addition, widening may not adequately correct all of the traffic issues on some of the corridors, and may not be fiscally possible. As a result, alternatives should be investigated to reduce incidents, such as access management strategies, coordinated signals, upgrades to infrastructure to the latest design standards, and better signage to improve traffic flow.

City of Camden, Kershaw County

3.3 Existing Population and Employment

Existing and projected population and employment for the corridor come from the Statewide Travel Demand Model, which is used to estimate future traffic and road conditions based on projections at the corridor-level. The study area is within the jurisdiction of the Santee-Lynches region, which does not produce a Travel Demand Model. As a result, the Statewide Travel Demand Model was used for this study.

The Travel Demand Model data were collected at the most granular level available in order to obtain the most precise estimates for the corridor. Population and employment were estimated for 2015 and 2045. Assessing the individual tracts shows the percent change and absolute changes expected in the corridor. Assuming that the existing industries will remain the dominant industries in the corridor, and that square footage per employee will remain constant, the projections for the corridor are shown in **Table 4**. The population and employment for 2015 in the corridor total 4,540 and 751, respectively, for transportation analysis zones (TAZ) 103 and 123.

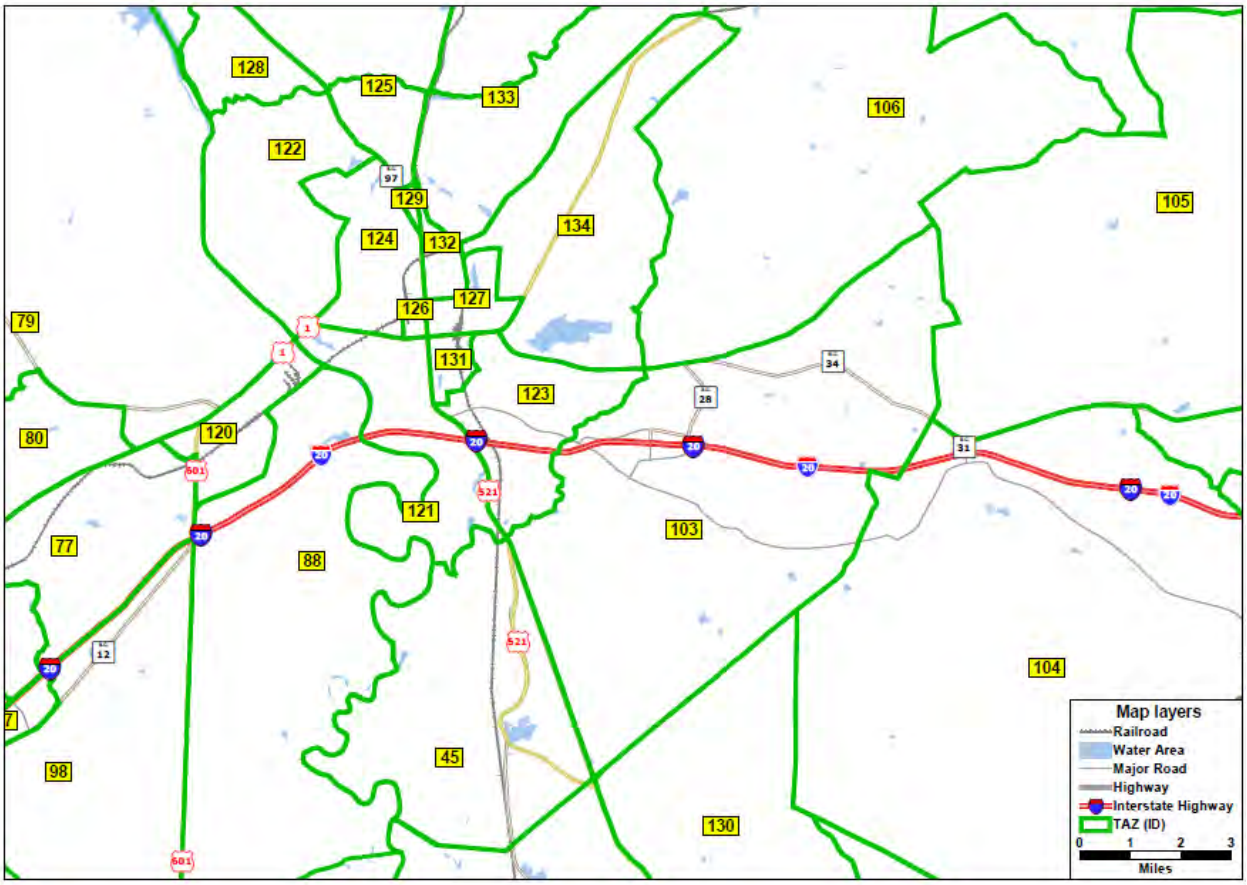
Table 4. Black River Road Corridor Population and Employment, 2015

TAZ	Population	Employment
103	2,899	193
123	1,641	558
Total	4,540	751

Source: South Carolina Statewide Travel Demand Model

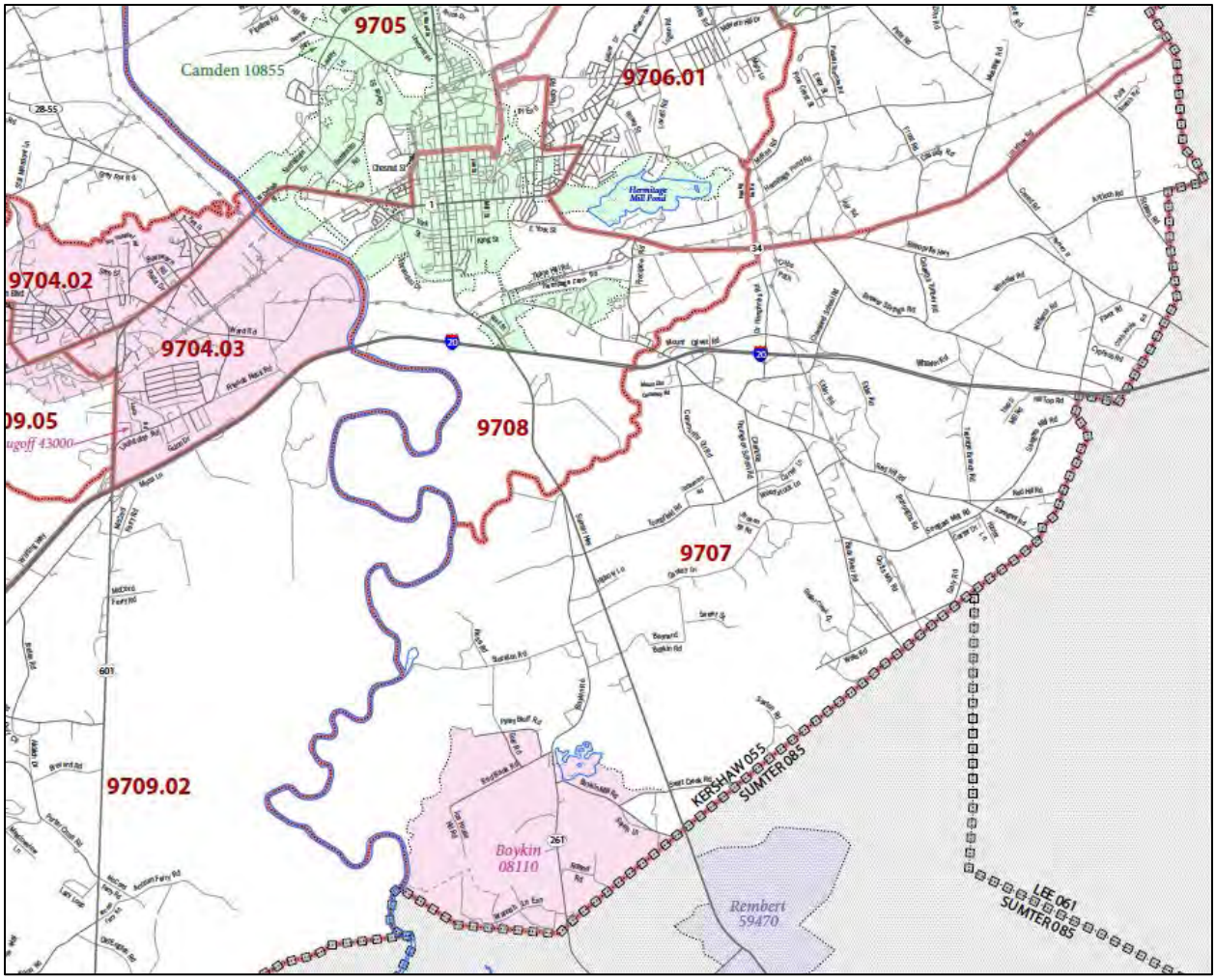
Other sources for current population and employment estimates included the *Santee-Lynches 2040 LRTP* and the Kershaw County Community Profile (S.C. Department of Employment & Workforce 2017). These sources provide the population and employments estimates for the region and county, and are not as accurate at the corridor level as the Statewide Travel Demand Model.

An alternate source for estimating the population in 2015 that is more refined than the two sources mentioned previously is the American Community Survey (ACS) through the US Census. Estimated in 2015, the ACS provides population estimates at the Census Tract and Census Block Group (CBG) levels. Adding the applicable CBGs in the tracts (9707.1, 9707.2, 9708.5, 9708.6) for the corridor results in a 2015 population of 6,620. Note that the Census Tracts and TAZs do not match the same geographic areas – the census tracts are larger than the TAZs. See **Figure 14** and **Figure 15** for comparisons of the TAZ and census tracts in the study area. Note that the CBGs are subsections of the tracts.



Source: Statewide Travel Demand Model. Note: TAZs 123 and 103 were used for population and employment estimates.

Figure 14. TAZs in Black River Road Study Area



Source: Census. Note: Census Tracks 9707 and 9708 were used for population and employment estimates.

Figure 15. Census Tracts in Black River Road Study Area

3.4 Future Population and Employment

The projected population and employment in 2045 were also obtained from the Statewide Travel Demand Model. As shown in **Table 5**, the population in the corridor TAZs is expected to increase from 4,540 to 5,130 by 2045, and employment is expected to reach 892 from 751. This reflects a total growth of 13 percent for population and 29 percent for employment over 30 years, or annual rates of 0.4 percent and 1.0 percent, respectively.

Table 5. Black River Road Corridor Existing Population and Employment, 2045

TAZ	Population	Employment
103	3,274	248
123	1,856	643
Total	5,130	892

Source: South Carolina Statewide Travel Demand Model

The population and employment figures in **Table 5** do not consider future development growth projected for the Black River Road corridor. Based on stakeholder input at the three meetings

held on-site in July 2017, population and employment projections were adjusted to consider future developments in the corridor. A map of the future land uses and development potential was compiled from the feedback received at the meetings. The projected land use map is shown in **Figure 16**.

The future land uses shown in **Figure 16** were used to estimate future population and employment in the corridor by 2040. Based on the assumption that 40 percent of the acreage is developable, including parking, and 20 percent of that acreage is building space, approximate square footages of future developments were estimated. A summary of the projected land uses by square foot and units is shown in **Table 6**.

Table 6. Projected Corridor Square Footage and Units of Development Through 2040

Commercial (square feet)	Apartment (units)	Educational (square feet)	Industrial (square feet)	Residential (units)
80,000	50	40,000	5,793,480	636

Source: AECOM analysis.

Note: Apartments and residential units are kept separate for population estimations.

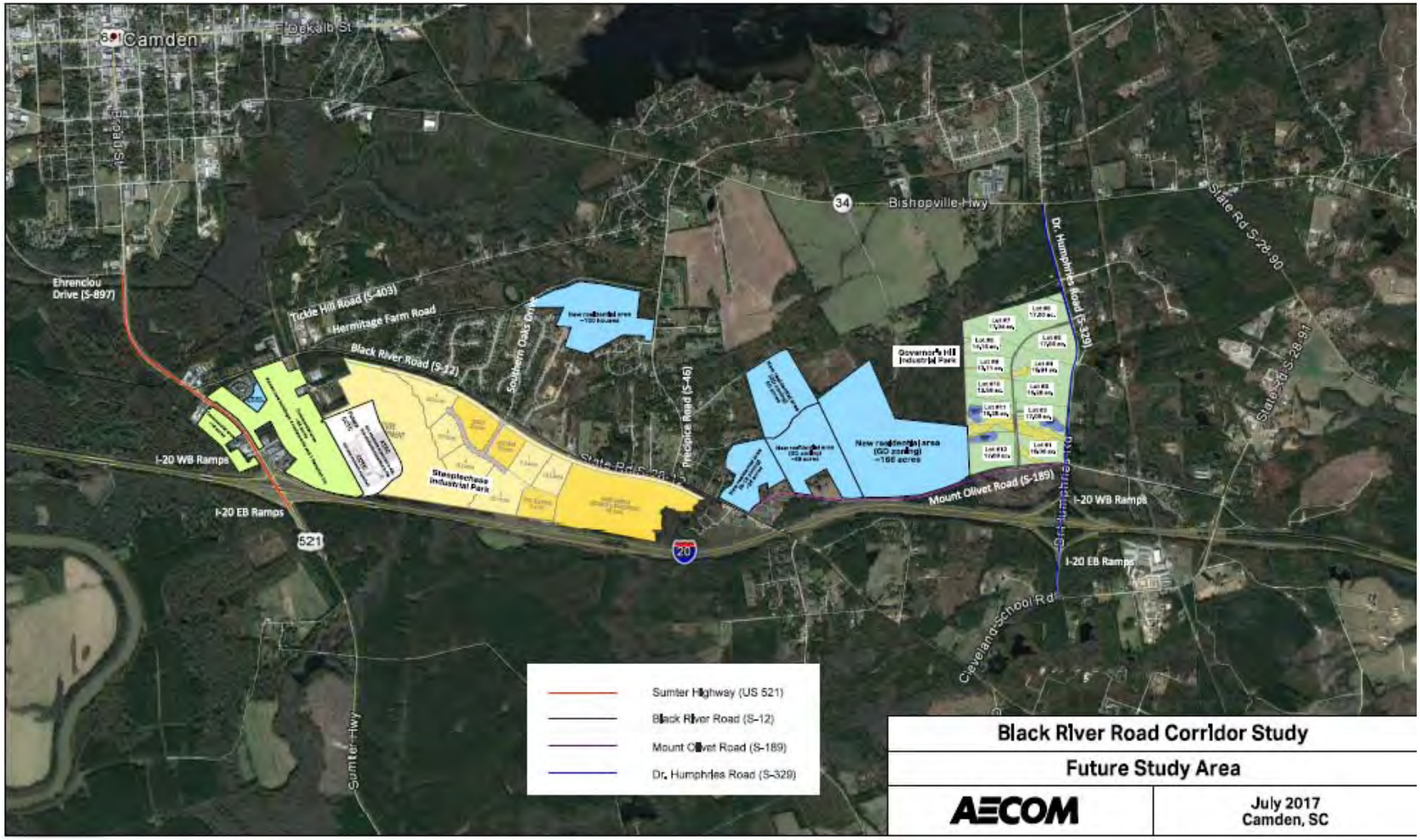
Using four publicly available sources, estimates of square footage per employee were developed for the three land uses that would result in employment impacts: commercial, educational, and industrial. The sources include the Institute of Transportation Engineers (ITE), the U.S. Green Building Council, Snohomish County in Washington, and the Metropolitan Washington Council of Governments (MWCOG). Finally, local news releases were used to estimate the square footage per employee based on three Steeplechase Industrial Park expansion announcements. The estimates are shown in **Table 7**. Average and maximum values were developed based on **Table 7** by type of land use.

Based on the average and maximum square footage per employee estimates for the three land uses, the estimated numbers of jobs were projected. These projections are shown in **Table 8**. Using the average, the corridor can expect employment to grow by 3,985, or 199 jobs per year over 20 years. Alternately, a lower projected employment of 2,532, or 127 additional jobs per year by 2040, is estimated when using the maximum square footage per employee.

These projections for employment appear high for a 20-year period, especially considering that these annual employment growth estimates account for 62 percent (average) and 39 percent (maximum) of Kershaw County's growth per year based on the Statewide Travel Demand Model. A more likely scenario would be that this development occurs over a longer period of time, perhaps 50 years instead of the assumed 20 years.

Regardless, the industries that are likely to experience this growth in employment in the corridor include educational services, retail trade, accommodation and food services, and manufacturing. These industries are consistent with many of the highest-growth industries in Kershaw County based on the South Carolina Department of Employment and Workforce employment projections through 2022 as shown in **Figure 17** and with the industries currently present in the corridor.

Estimating the projected population in the corridor is based on Census data for the average persons per unit for renter-occupied housing units and owner-occupied housing units. It is assumed that the apartments are renter-occupied and that new houses built in the corridor would be owner-occupied. In 2010, renter-occupied units averaged 2.55 persons and owner-occupied units averaged 2.59 persons. It is assumed that the persons-per-unit ratios remain constant over the analysis period.



Source: AECOM and stakeholder input

Figure 16. Projected Corridor Square Footage and Units of Development Through 2040

Table 7. Square Footage per Employee Estimates

Source	Type of Land Use		
	Commercial	Educational	Industrial
Institute of Transportation Engineers	507	—	500
U.S. Green Building Council	550	2,100	2,500
Snohomish County, WA	700	300	500
Metropolitan Washington Council of Governments			
Montgomery County	400	—	450
Fairfax County	400	500	450
City of Alexandria	500	—	—
Loudon County	909	840	833
Prince William County	450	—	800
Steeplechase Industrial Park (news releases)			
Hengst	—	—	3,750
Accuride	—	—	3,200
Haier	—	—	451
Average square feet per Employee	552	935	2,467
Maximum square feet per Employee	909	2,100	3,750

Sources: Institute of Transportation Engineers, https://www.usgbc.org/Docs/Archive/General/Docs4111.pdf

U.S. Green Building Council, https://www.usgbc.org/credits/new-construction-existing-buildings-commercial-interiors-core-and-shell-schools-new-constr-3

Snohomish County, WA, https://www.usgbc.org/credits/new-construction-existing-buildings-commercial-interiors-core-and-shell-schools-new-constr-3

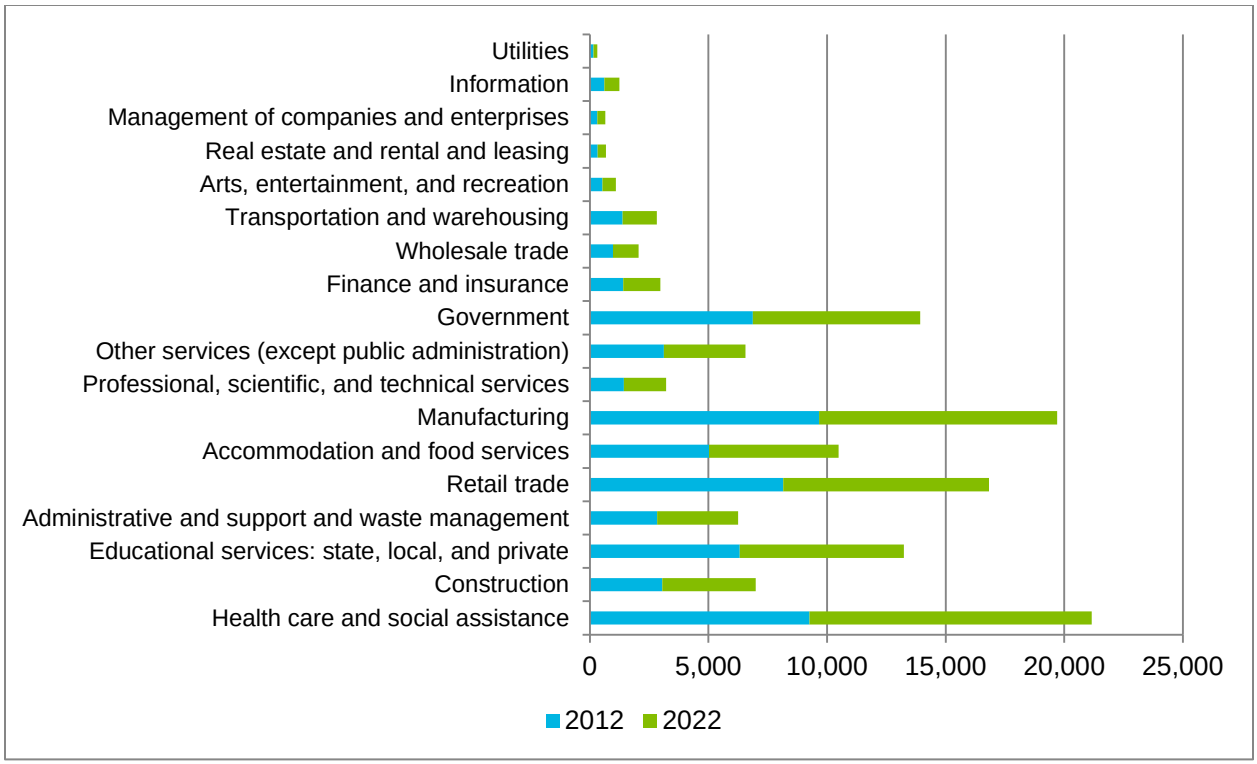
Metropolitan Washington Council of Governments, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwis9ouqjr_WAhVX9mMKHSW2DTUQFggoMAA&url=http%3A%2F%2Fwww.mwcog.org%2Fasset.aspx%3Fid%3Dcommittee-documents%2FZl1aVlhe20131217082723.pdf&usg=AFQjCNGvyde2i8169lFjEA7VlxMntIgS7Q

Steeplechase News Releases, http://www.chronicle-independent.com/archives/45759/, https://www.sccommerce.com/news/hengst-announces-third-corporate-expansion-kershaw-county, http://www.chronicle-independent.com/archives/40100/

Table 8. Projected Employment by Land Use Using Average and Maximum Square Footage per Employee Estimates

	Type of Land Use			Total
	Commercial	Educational	Industrial	
Average square feet per Employee	552	935	2,467	
Estimated Jobs	1,594	43	2,348	3,985
Annual Growth until 2040	80	2	117	199
Maximum square feet per Employee	909	2,100	3,750	
Estimated Jobs	968	19	1,545	2,532
Annual Growth until 2040	48	1	77	127

Source: AECOM analysis.



Source: Kershaw County Community Profile, 2017

Figure 17. Kershaw County Employment by Industry, 2012-2022

Based on **Table 6**, the corridor is projected to grow by 50 apartment units and 636 houses over the next 20 years. Multiplying the number of units by the appropriate average persons-per-unit ratio results in the projected population growth of 1,751 persons over the next 20 years, or 88 people per year. As a share of Kershaw County's projected population growth based on the Statewide Travel Demand Model, 88 people per year represents 12 percent of the county's population growth.

3.5 Potentially Conflicting Land Uses

The Black River Road corridor has a unique potential for growth due to its variety of land uses along a single corridor. The western end of the corridor is currently focused on retail, fast food, hotels, small commercial uses, and education. Moving east, the corridor changes to residential uses on the north side of the road, and industrial uses on the south side. Continuing east are more residential uses, religious institutions, and more industrial properties. Typically, industrial and residential uses are not seen as compatible adjacent uses. However, given that the industrial uses are light manufacturing and distribution centers, and there is adequate spacing between buildings and residences, the uses seem to be compatible currently. It is recommended that future developments maintain enough setbacks between the uses to ensure compatibility in the future.

In summary, the land use element of the corridor study examined the background documentation and plans for the corridor, reviewed the existing conditions with regard to population, employment, and industries in the corridor, and considered projected population and employment based on stakeholder feedback from the three meetings held in Kershaw County in July 2017. Together, the information demonstrated that the corridor is posed for many changes in the next 20 years, with high projected employment growth as the industrial, commercial, educational, and retail properties are developed. In addition, population is expected to increase with the continued development of corridor apartments and single family neighborhoods. As a result, traffic projections for the corridor are forecasted to increase, resulting in the need for improved roadway infrastructure and signalized intersections to ensure efficient and safe traffic movements. The road improvements will also consider how to safely accommodate bicycle and pedestrian traffic while providing connections for users to the City of Camden and other recreational opportunities. Finally, while some land uses in the corridor, namely residential and industrial, are typically conflicting when adjacent, they have thus far been seemingly compatible.

Potential conflicting land uses: Steeplechase Industrial Park in the foreground with residential neighborhoods in the background

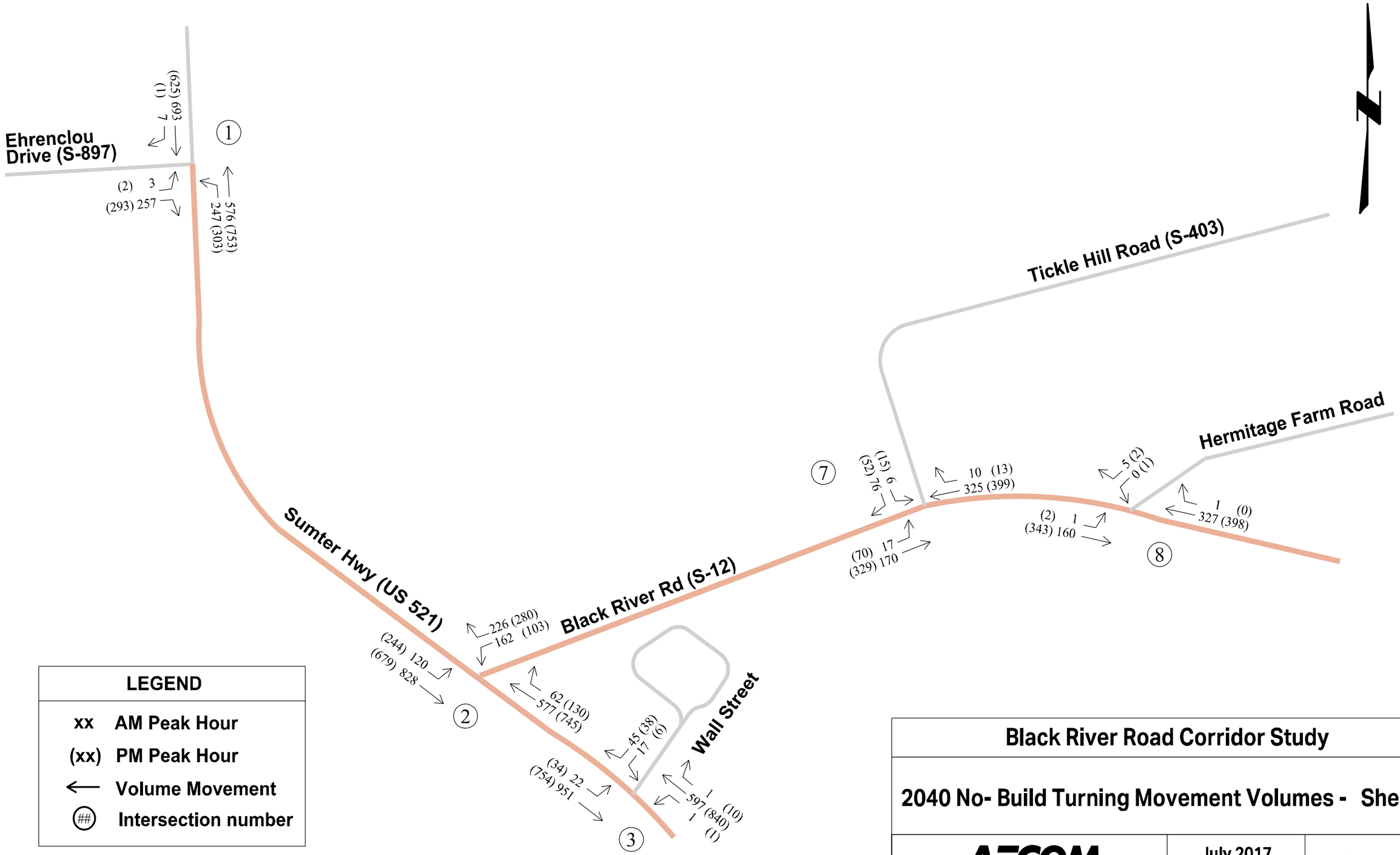
4. Historical Traffic Growth

Traffic growth in the Black River Road corridor was reviewed using two methods. One method was to look at growth patterns over the last 10 years. By comparing the annual average daily traffic (AADT) volumes from 2006 to 2016, the growth rate was calculated using a standard linear growth formula. The South Carolina Department of Transportation (SCDOT) collects and manages this data. A summary of historical data and growth over 10 years is shown in **Table 9**.

Table 9. Historical Traffic Growth in Black River Road Corridor

Sta. #	Description	2006 volume	2016 volume	Growth
141	US 521 S of S897	14,400	14,400	0%
139	US 521 N of I-20	13,800	13,000	-0.6%
137	US 521 S of I-20	8,100	9,100	1.2%
285	S-12 E of US 521	5,500	5,900	0.7%
287	S-12 E of S-46	4,000	3,800	-0.5%
289	S-12 S of S-568	3,200	3,100	-0.3%
314	S-329 S of SC 34	1,100	1,600	3.8%
315	S-328 N of I-20	1,200	1,750	3.8%
313	S-329 S of I-20	850	950	1.1%

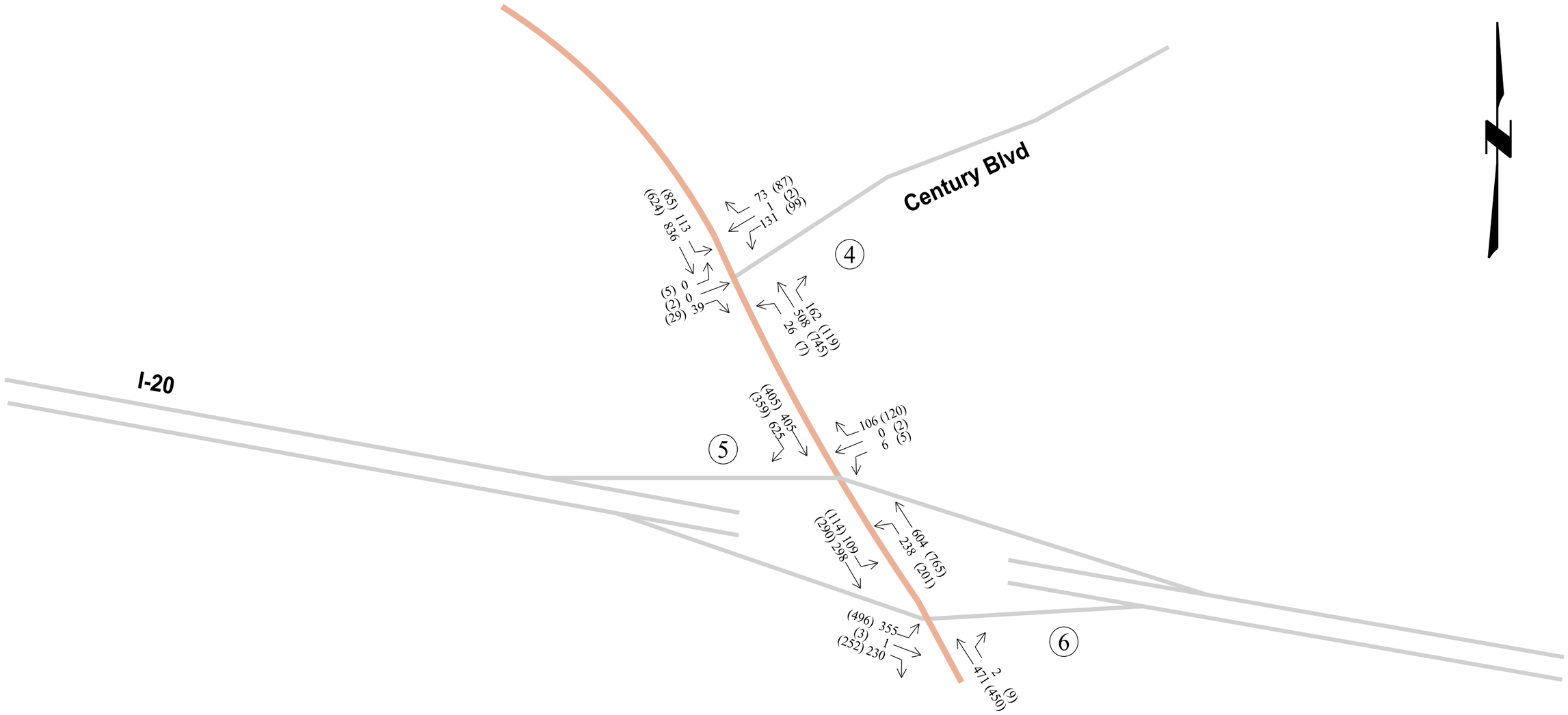
Another method was to look at population and employment rates in the Statewide Travel Demand Model between the years 2015 and 2045. The model shows an average population growth rate of 0.4 percent and average employment growth rate of 0.6 percent over the 30 year period. For the purposes of this study, a 0.6 percent background growth rate was used for the 2040 No-Build condition. Turning movement volumes under the 2040 No-Build condition are shown on **Figure 18** through **Figure 22**.



Black River Road Corridor Study

2040 No- Build Turning Movement Volumes - Sheet 1

AECOM | July 2017 Camden, SC | Figure 18

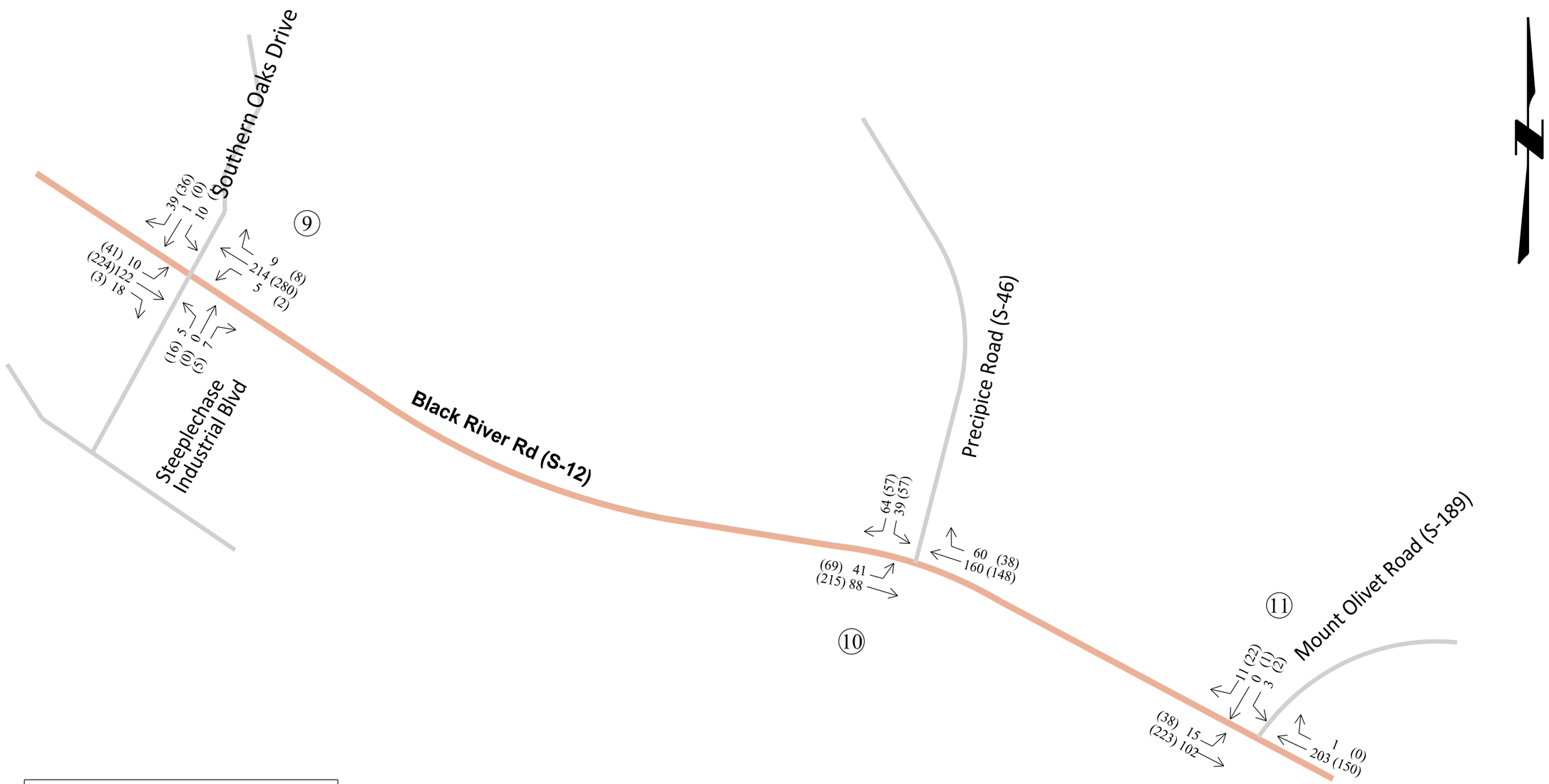


LEGEND	
xx	AM Peak Hour
(xx)	PM Peak Hour
←	Volume Movement
(##)	Intersection number

Black River Road Corridor Study

2040 No- Build Turning Movement Volumes - Sheet 2

AECOM	July 2017 Camden, SC	Figure 19

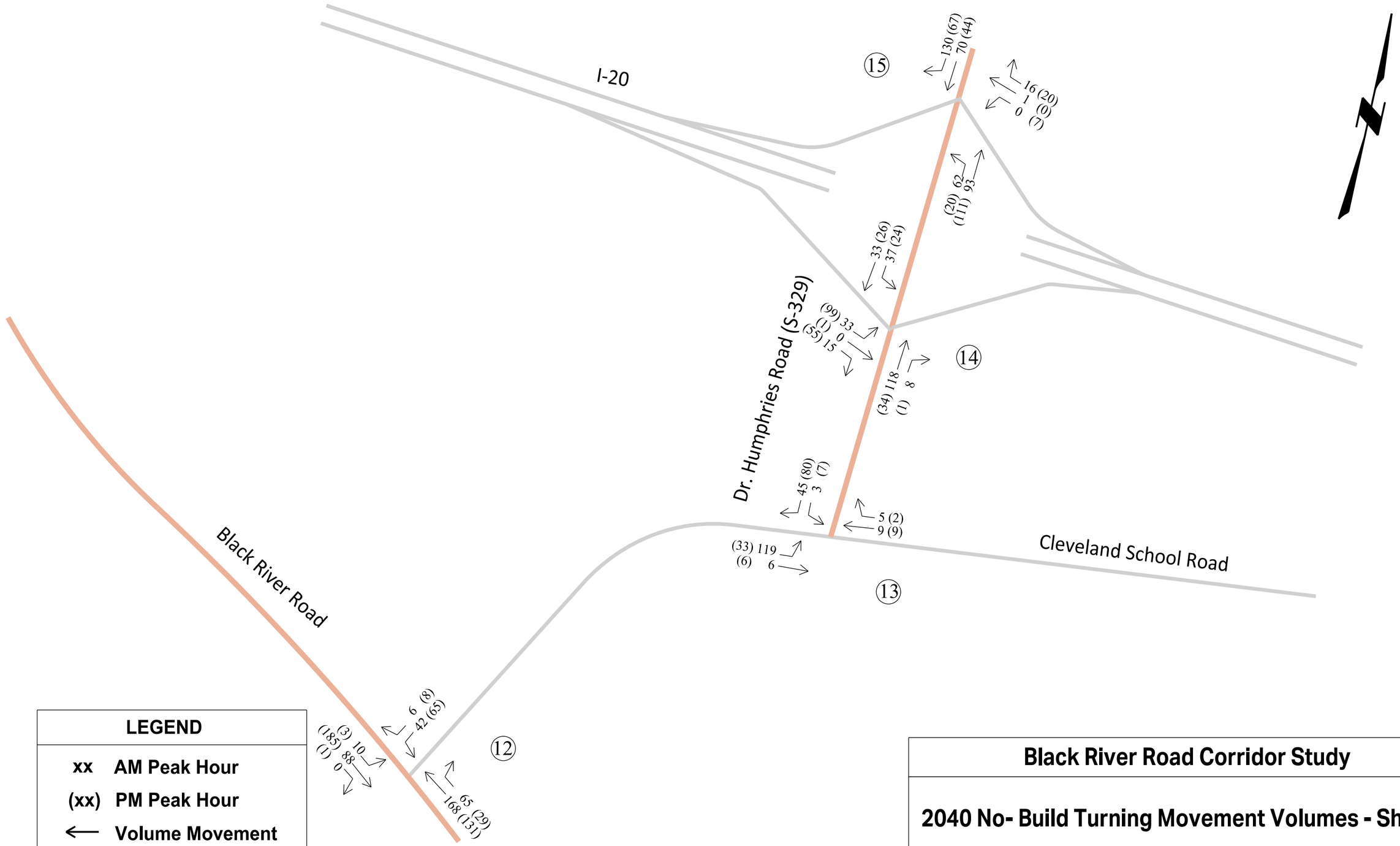


LEGEND	
xx	AM Peak Hour
(xx)	PM Peak Hour
←	Volume Movement
(##)	Intersection number

Black River Road Corridor Study

2040 No- Build Turning Movement Volumes - Sheet 3

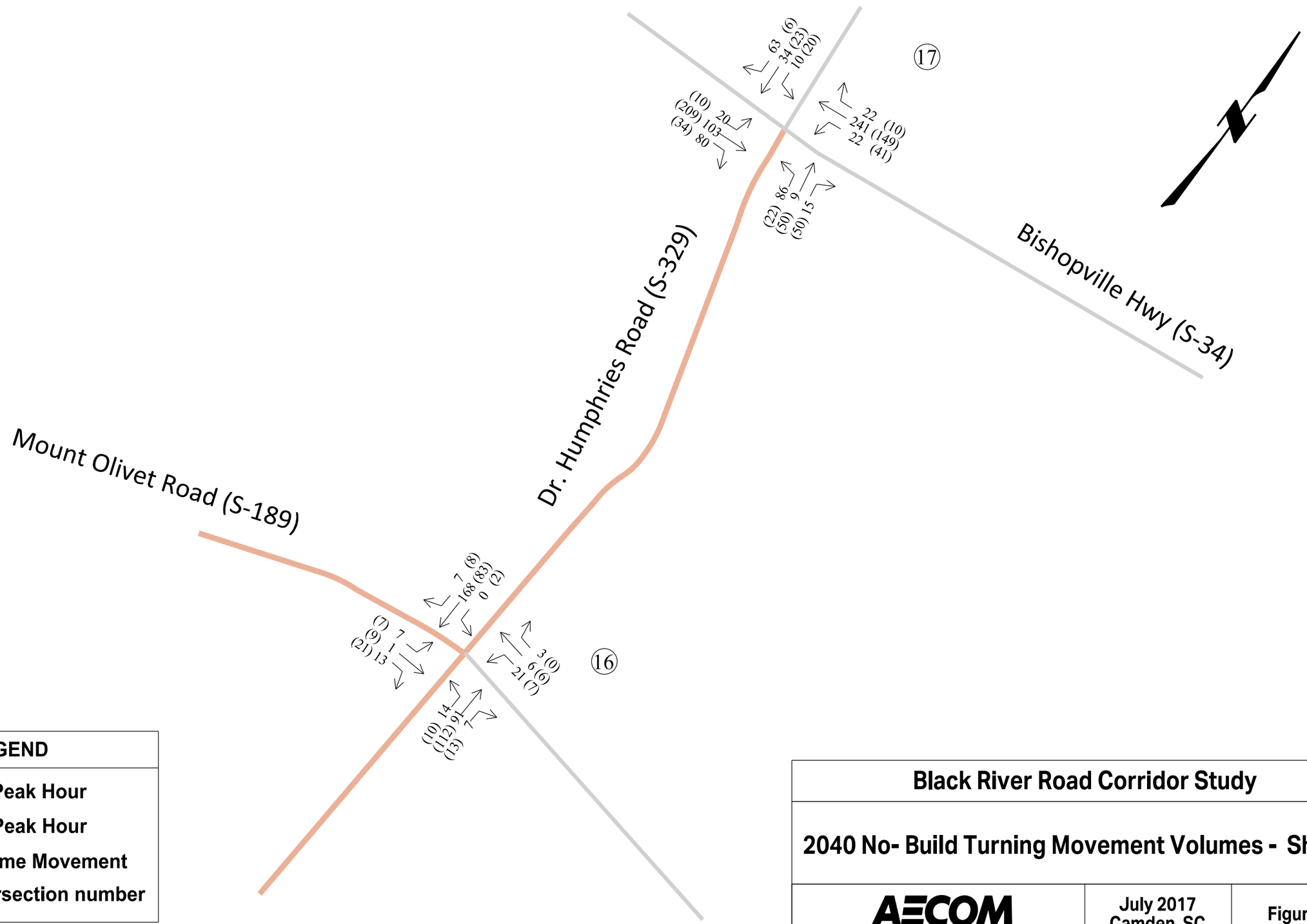
AECOM	July 2017 Camden, SC	Figure 20



Black River Road Corridor Study

2040 No- Build Turning Movement Volumes - Sheet 4

AECOM	July 2017 Camden, SC	Figure 21



LEGEND	
xx	AM Peak Hour
(xx)	PM Peak Hour
←	Volume Movement
(##)	Intersection number

Black River Road Corridor Study

2040 No- Build Turning Movement Volumes - Sheet 5

AECOM	July 2017 Camden, SC	Figure 22

5. Trip Generation and Distribution

Based on stakeholder meetings and input from Kershaw County, properties within the study area with development potential were identified. Some uses were specifically identified while other parcels only identified the zoning as shown on **Figure 16**. As shown in **Table 10**, assumptions were made on the types of development likely to occur along the Black River Road corridor. This is consistent with the development potential used in Chapter 3.

Table 10. Properties with Development Potential

Available Parcel	Potential Development
16 acres commercial along US 521	Shopping Center 139K SF [a]
85 acres commercial along US 521	Shopping Center 741K SF [a]
Apartments	50 units
Technical College	900 students
Steeplechase Hengst	Manufacture 78K SF
Steeplechase Accuride	Manufacture 77K SF
Steeplechase Hengst 2	Manufacture 75K SF
Steeplechase Haier R&D	Manufacture 285K SF
Steeplechase (remaining property)	Industrial Park 293 acres
Residential area	Single Family 100 units
36 acres residential zoning	Single Family 125 units
50 acres + 68 acres general zoning along Mount Olivet Road	Single Family 411 units [a]
166 acres general zoning along Mount Olivet Road	Industrial Park 166 acres [a]
Governor's Hill	Industrial Park 206 acres

[a] *Assumed.*

Kershaw County zoning stipulates that only 40 percent of a property can have structures or impervious pavement and that every 350 square feet of building space requires one parking space. Using this zoning stipulation, the shopping center building size was assumed to utilize 20 percent of the total property available. For residential areas, the maximum buildout of 8.7 homes per usable acre was utilized. AECOM used the development data provided by the stakeholders and Kershaw County and the *Trip Generation Manual* (ITE 2012) to generate site trips.

Internal capture and pass-by trips were not included in this analysis. This report assumes that any new development would generate all new traffic. This is a conservative approach that should represent a worst case scenario. **Table 11** provides a summary of the estimated trips generated for the Black River Road corridor if completely redeveloped using the prior assumptions.

The Black River Road corridor is over 4 miles long with multiple points of entry. The trip distributions are estimated by parcel. Once the traffic entered into the roadway system it was estimated to follow the existing traffic patterns for 2040 Build Scenario 1 conditions. A summary of the traffic splits at the entry points for 2040 Build Scenario 1 is shown in **Table 12**.

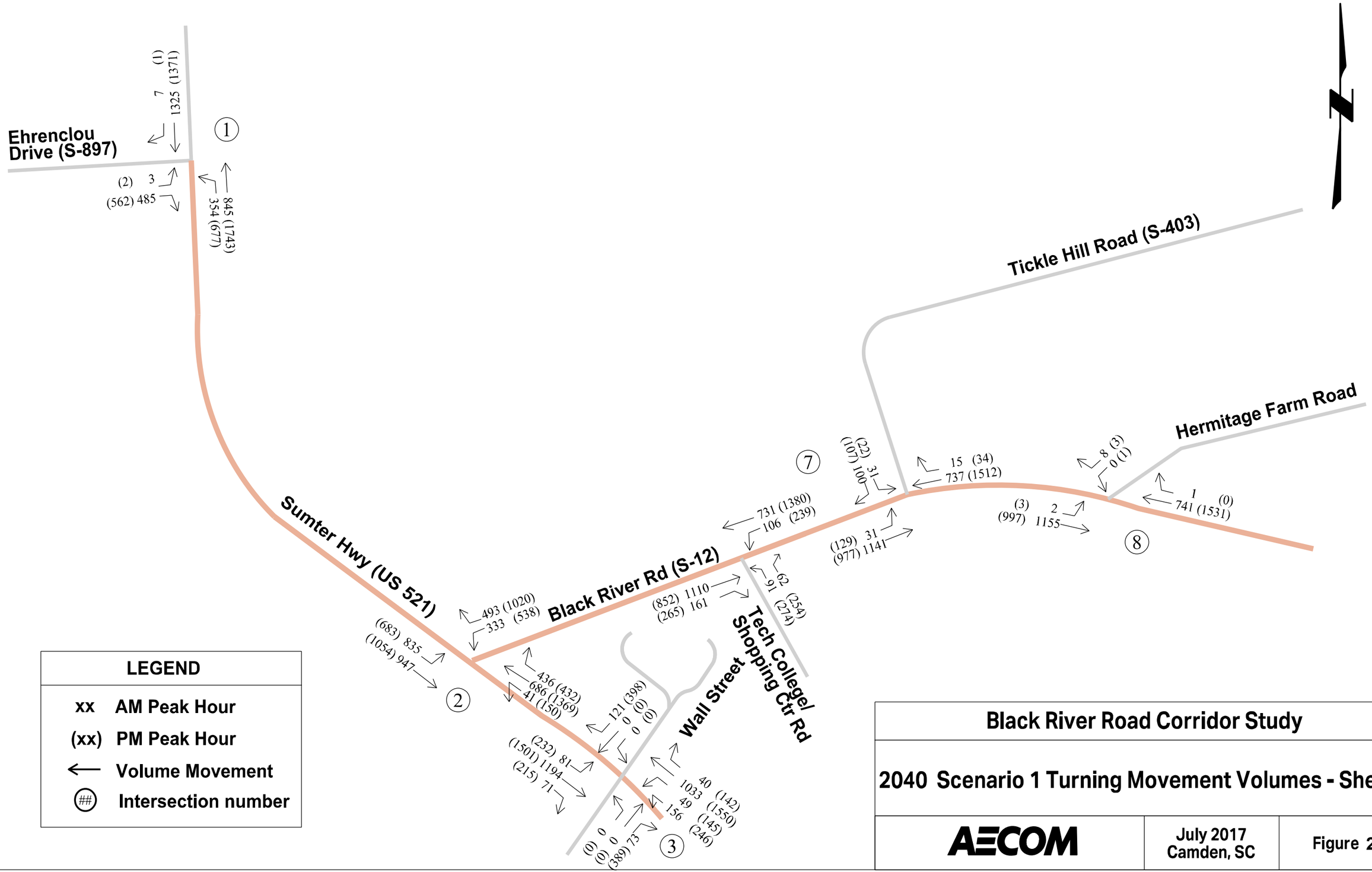
Table 11. Trip Generation

Land Use	ITE Code	Total	AM Hour	AM Entr	AM Exit	PM Hour	PM Entr	PM Exit
Shopping Center 139K SF	820	8,412	192	119	73	748	359	389
Shopping Center 741K SF	820	24,964	530	329	201	2,292	1,100	1,192
Apartments 50 units	220	428	30	9	21	46	28	18
Tech College 900 students	540	1,378	208	135	73	116	64	52
Manufacture 78K SF	140	282	50	39	11	54	19	35
Manufacture 77K SF	140	278	50	39	11	54	19	35
Manufacture 75K SF	140	270	48	37	11	52	19	33
Manufacture 285K SF	140	1,086	222	173	49	212	76	136
Industrial Park 293 acres	130	14,532	1,103	960	143	1,048	220	828
Single Family 100 units	210	1,050	82	21	61	108	68	40
Single Family 125 units	210	1,290	100	25	75	130	82	48
Single Family 411 units	210	3,856	300	75	225	372	234	138
Industrial Park 166 acres	130	8,458	754	656	98	741	156	585
Industrial Park 206 acres	130	10,352	870	757	113	845	177	668

Table 12. Development Distribution for 2040 Build Scenario 1

Land Use	Road	Northbound	Southbound	Eastbound	Westbound
Shopping Center 139K SF	US 521	60%	40%	—	—
Shopping Center 741K SF	US 521/S-12	36%	24%	20%	20%
Apartments 50 units	S-12	—	—	10%	90%
Tech College 900 students	S-12	—	—	30%	70%
Manufacture 78K SF	S-12	—	—	50%	50%
Manufacture 77K SF	S-12	—	—	50%	50%
Manufacture 75K SF	S-12	—	—	50%	50%
Manufacture 285K SF	S-12	—	—	50%	50%
Industrial Park 293 acres	S-12	—	—	50%	50%
Single Family 100 units	S-46/Herm	33%	33%	—	34%
Single Family 125 units	S-12	—	—	40%	60%
Single Family 411 units	S-189	—	—	40%	60%
Industrial Park 166 acres	S-189	—	—	60%	40%
Industrial Park 206 acres	S-329/S-189	32%	30%	30%	8%

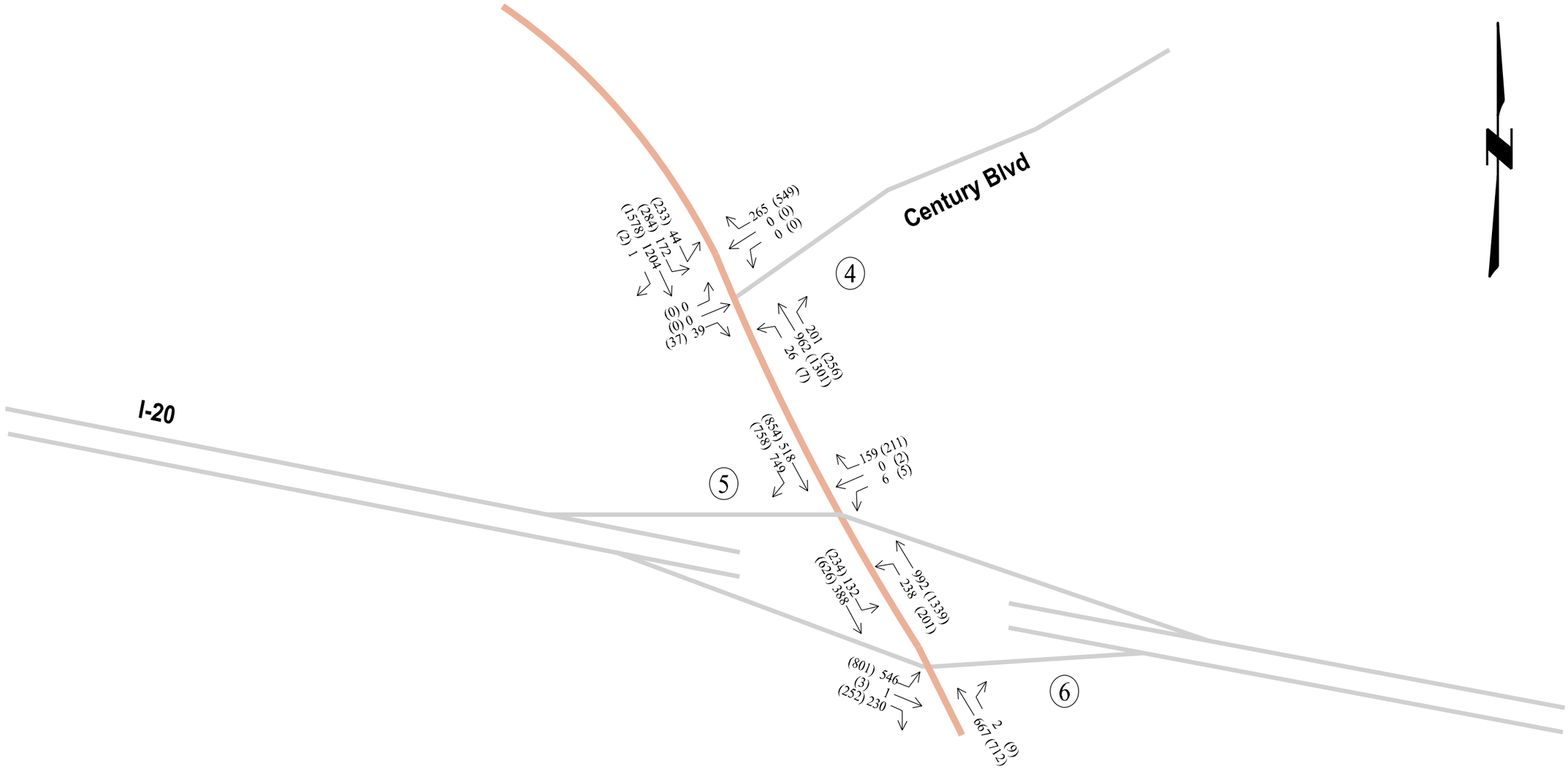
Detailed information on the percentage of entering and exiting movements for each development during the AM and PM peak hours is included in **Appendix D**. **Figure 23** through **Figure 27** show the traffic volumes for 2040 Build Scenario 1 conditions.



Black River Road Corridor Study

2040 Scenario 1 Turning Movement Volumes - Sheet 1

AECOM | July 2017 Camden, SC | Figure 23

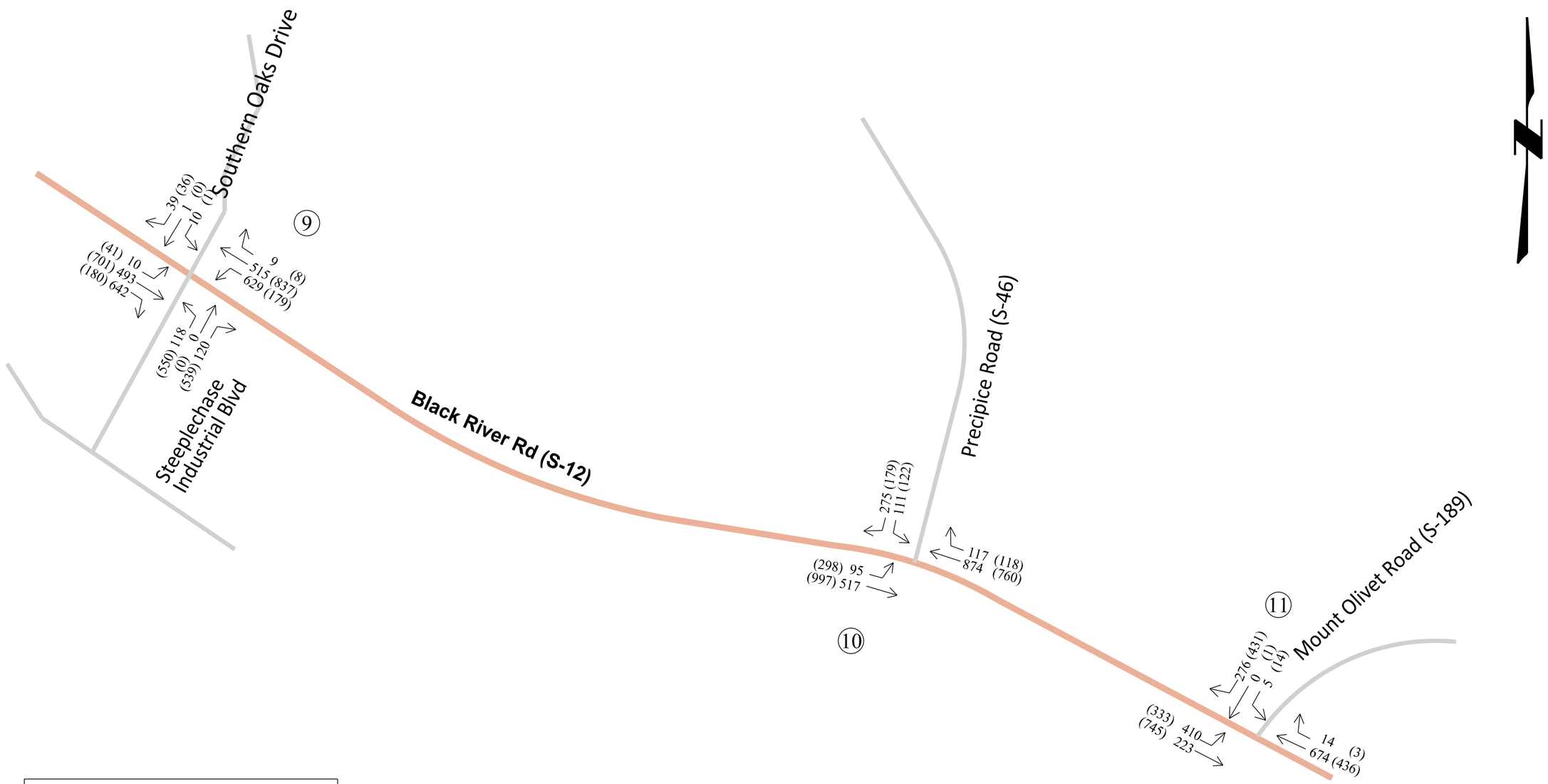


LEGEND	
xx	AM Peak Hour
(xx)	PM Peak Hour
←	Volume Movement
(##)	Intersection number

Black River Road Corridor Study

2040 Scenario 1 Turning Movement Volumes -Sheet 2

AECOM	July 2017 Camden, SC	Figure 24

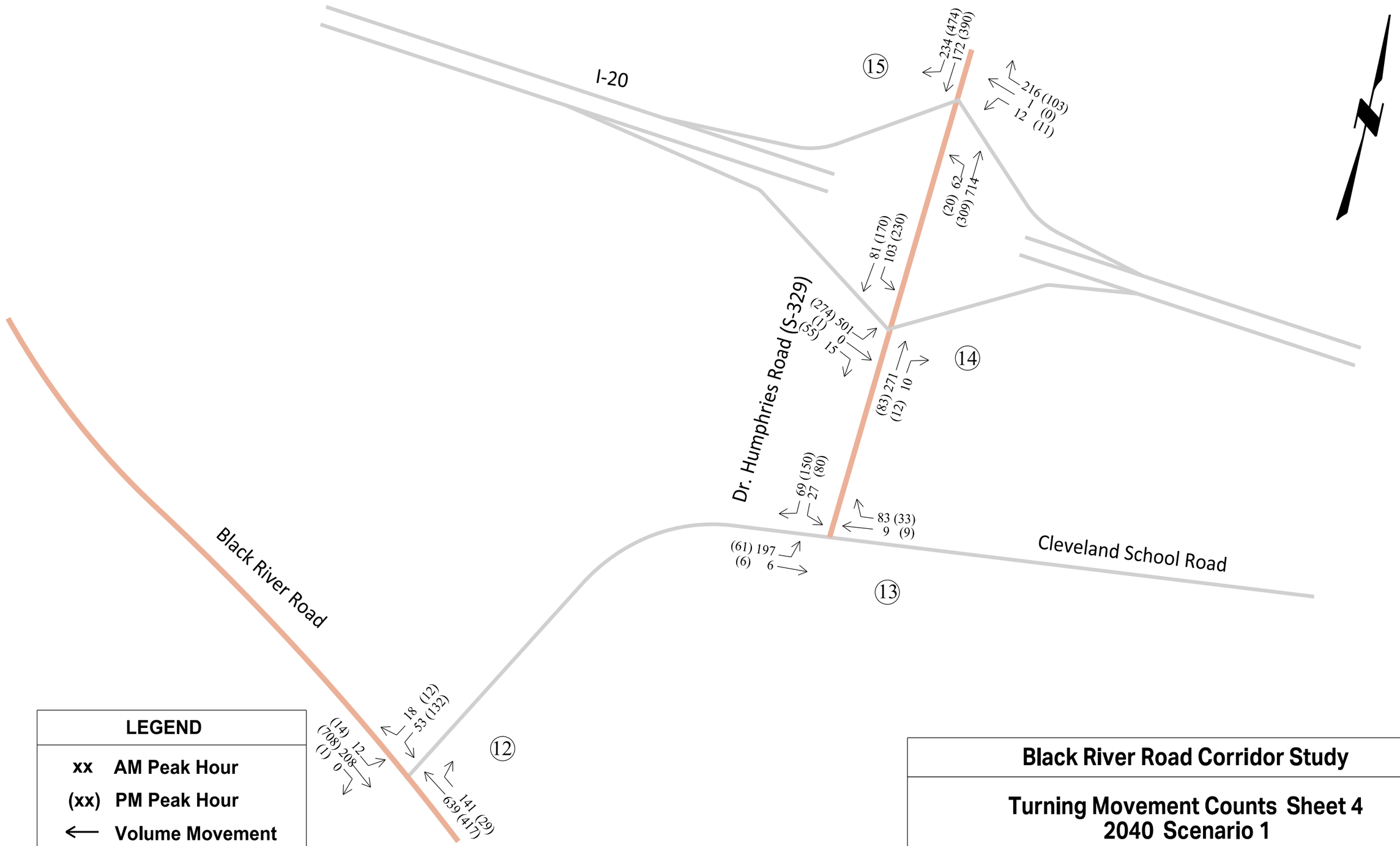


LEGEND	
xx	AM Peak Hour
(xx)	PM Peak Hour
←	Volume Movement
(##)	Intersection number

Black River Road Corridor Study

2040 Scenario 1Turning Movement Volumes - Sheet 3

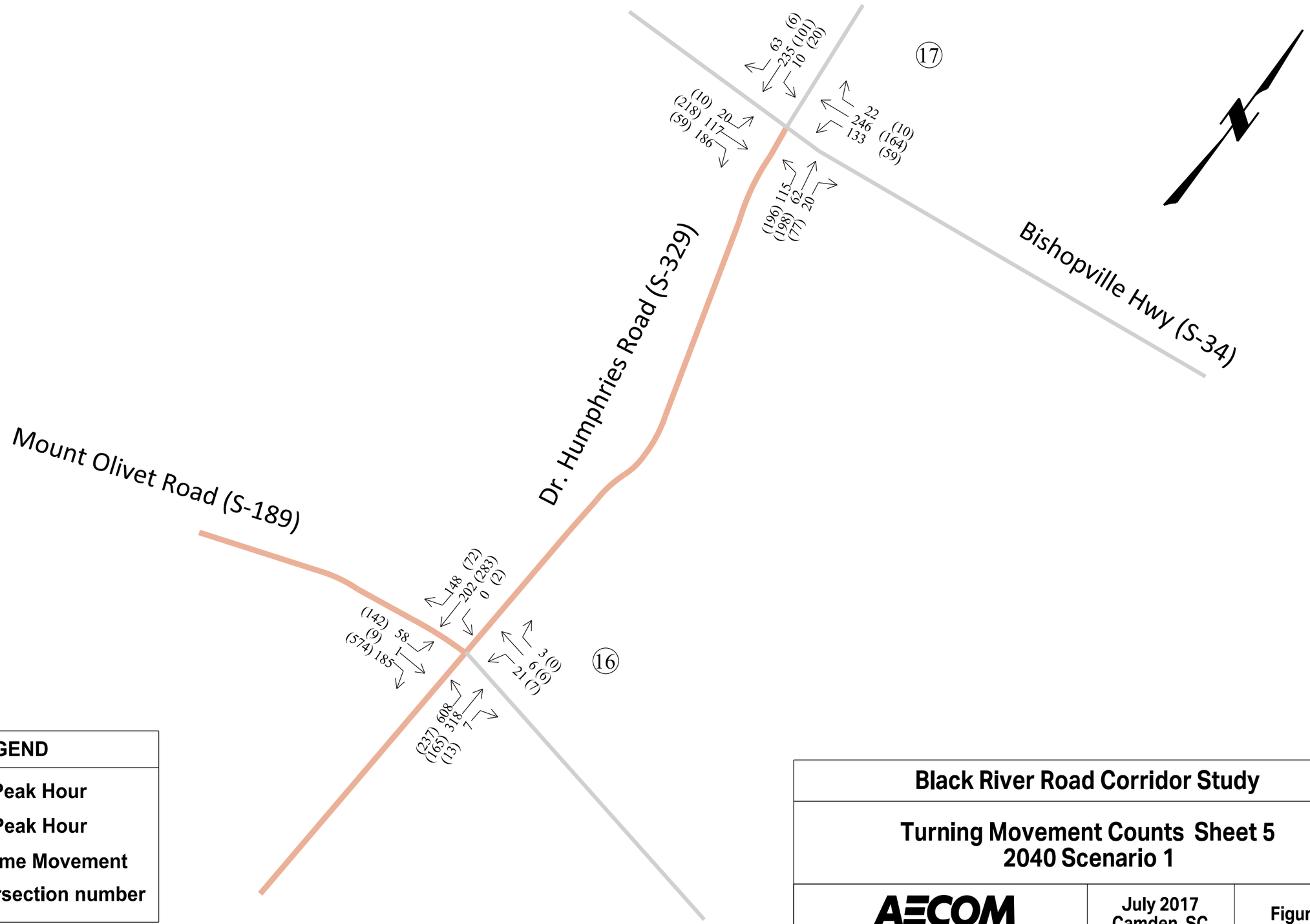
AECOM	July 2017 Camden, SC	Figure 25



Black River Road Corridor Study

Turning Movement Counts Sheet 4
2040 Scenario 1

AECOM | July 2017 Camden, SC | Figure 26



LEGEND	
xx	AM Peak Hour
(xx)	PM Peak Hour
←	Volume Movement
(##)	Intersection number

Black River Road Corridor Study

Turning Movement Counts Sheet 5
2040 Scenario 1

AECOM | July 2017 Camden, SC | Figure 27

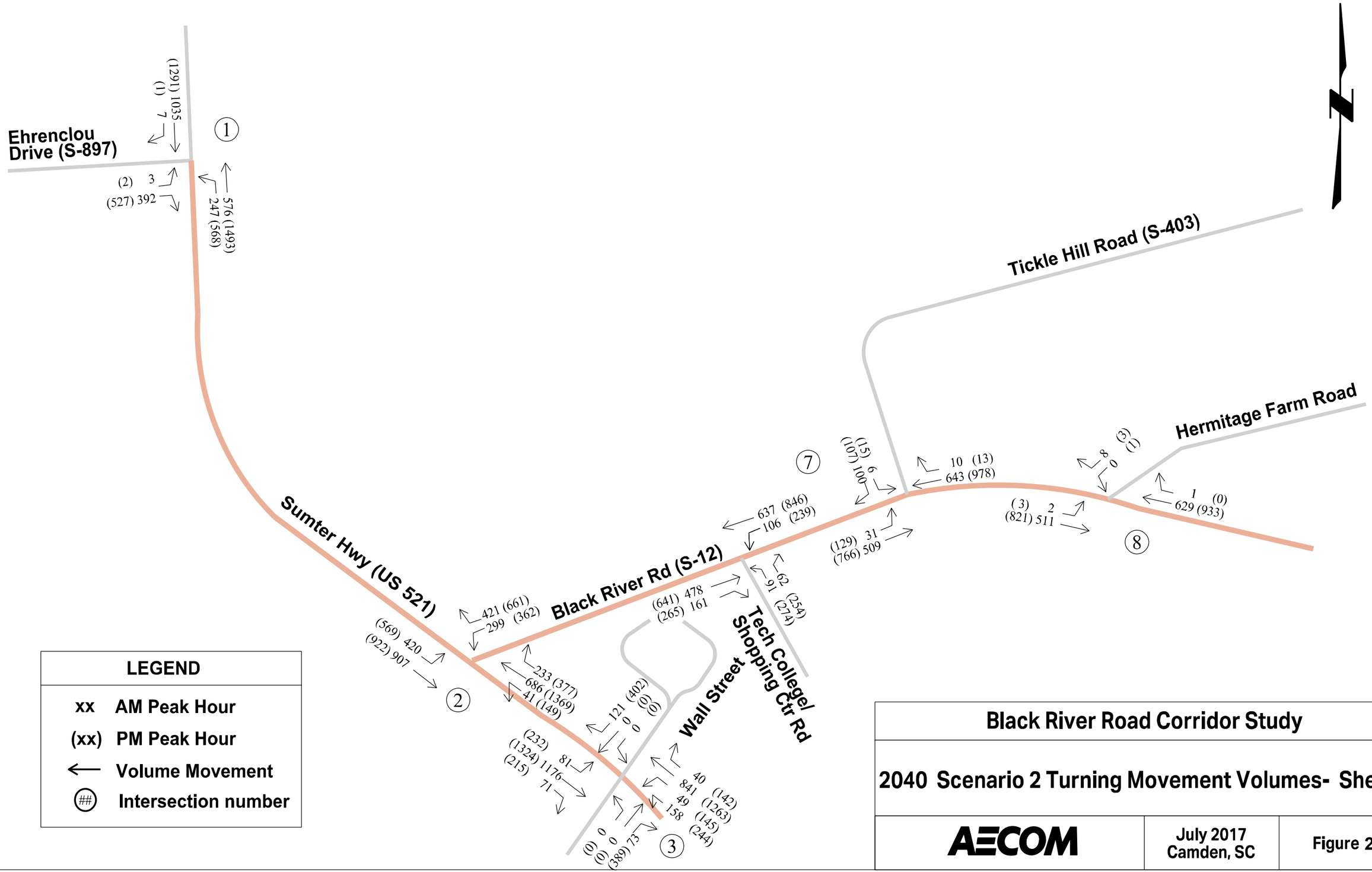
A summary of the traffic splits at the entry points for 2040 Build Scenario 2 is shown in **Table 13**. In this scenario, traffic to and from the industrial sites is expected to primarily utilize the I-20 interchange at Dr. Humphries Road. Only the industrial sites were adjusted from 2040 Build Scenario 1.

Table 13. Development Distribution for 2040 Build Scenario 2

Land Use	Road	Northbound	Southbound	Eastbound	Westbound
Shopping Center 139K SF	US 521	60%	40%	—	—
Shopping Center 741K SF	US 521/S-12	36%	24%	20%	20%
Apartments 50 units	S-12	—	—	10%	90%
Tech College 900 students	S-12	—	—	30%	70%
Manufacture 78K SF	S-12	—	—	90%	10%
Manufacture 77K SF	S-12	—	—	90%	10%
Manufacture 75K SF	S-12	—	—	90%	10%
Manufacture 285K SF	S-12	—	—	90%	10%
Industrial Park 293 acres	S-12	—	—	90%	10%
Single Family 100 units	S-46/Herm	33%	33%	—	34%
Single Family 125 units	S-12	—	—	40%	60%
Single Family 411 units	S-189	—	—	40%	60%
Industrial Park 166 acres	S-189	—	—	90%	10%
Industrial Park 206 acres	S-329/S-189	12%	50%	30%	8%

Detailed information on the percentage of entering and exiting movements for each development during the AM and PM peak hours is included in **Appendix E**. **Figure 28** through **Figure 32** show the traffic volumes for 2040 Build Scenario 2 conditions.

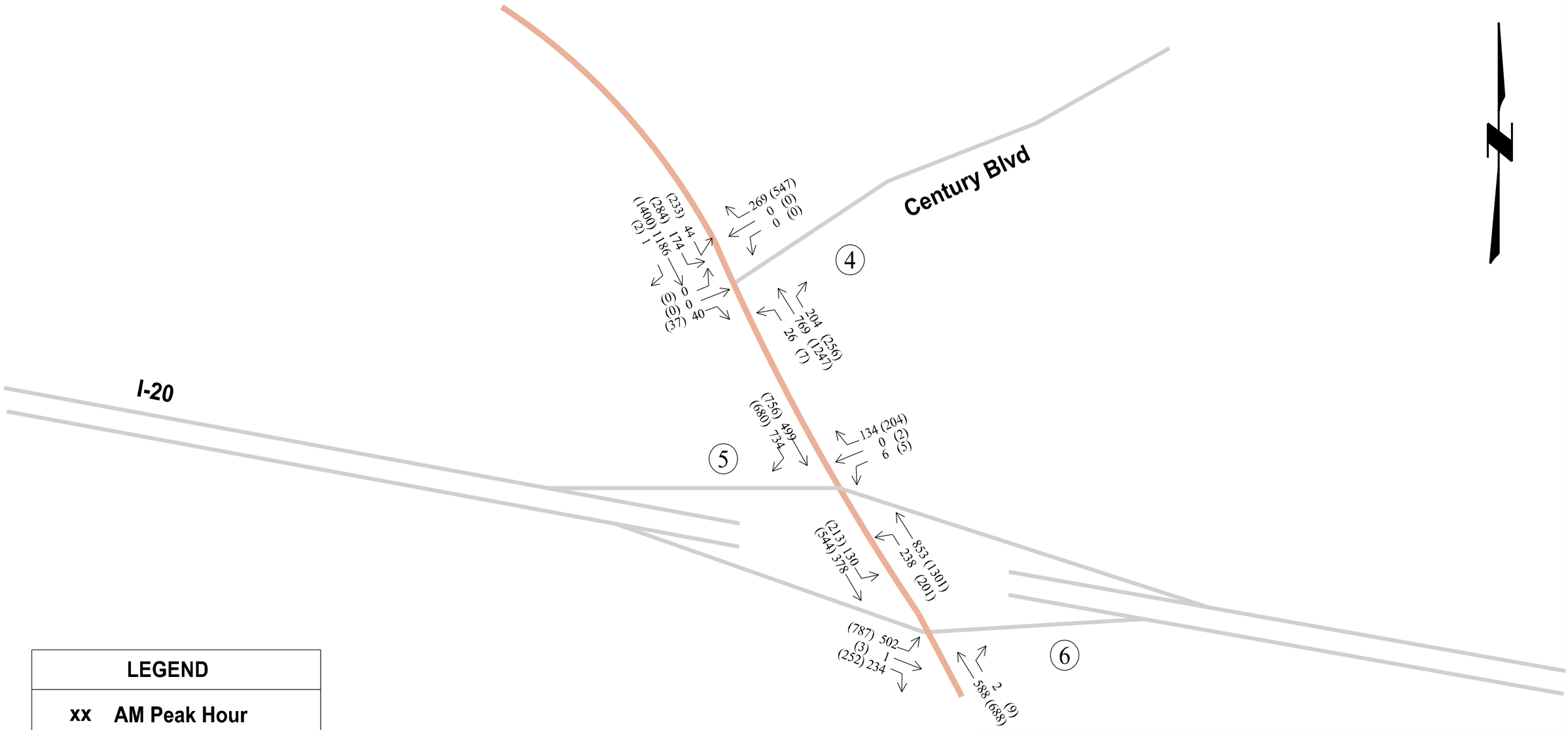
The traffic volumes shown on **Figure 23** through **Figure 32** are based on the assumption that properties identified in **Table 10** will be fully developed by 2040. This level of growth has not occurred in the past and is therefore not supported by historical data or the Statewide Travel Demand Model. However, the intention of this report is to anticipate the potential growth and the roadway needs should this growth occur.



Black River Road Corridor Study

2040 Scenario 2 Turning Movement Volumes- Sheet 1

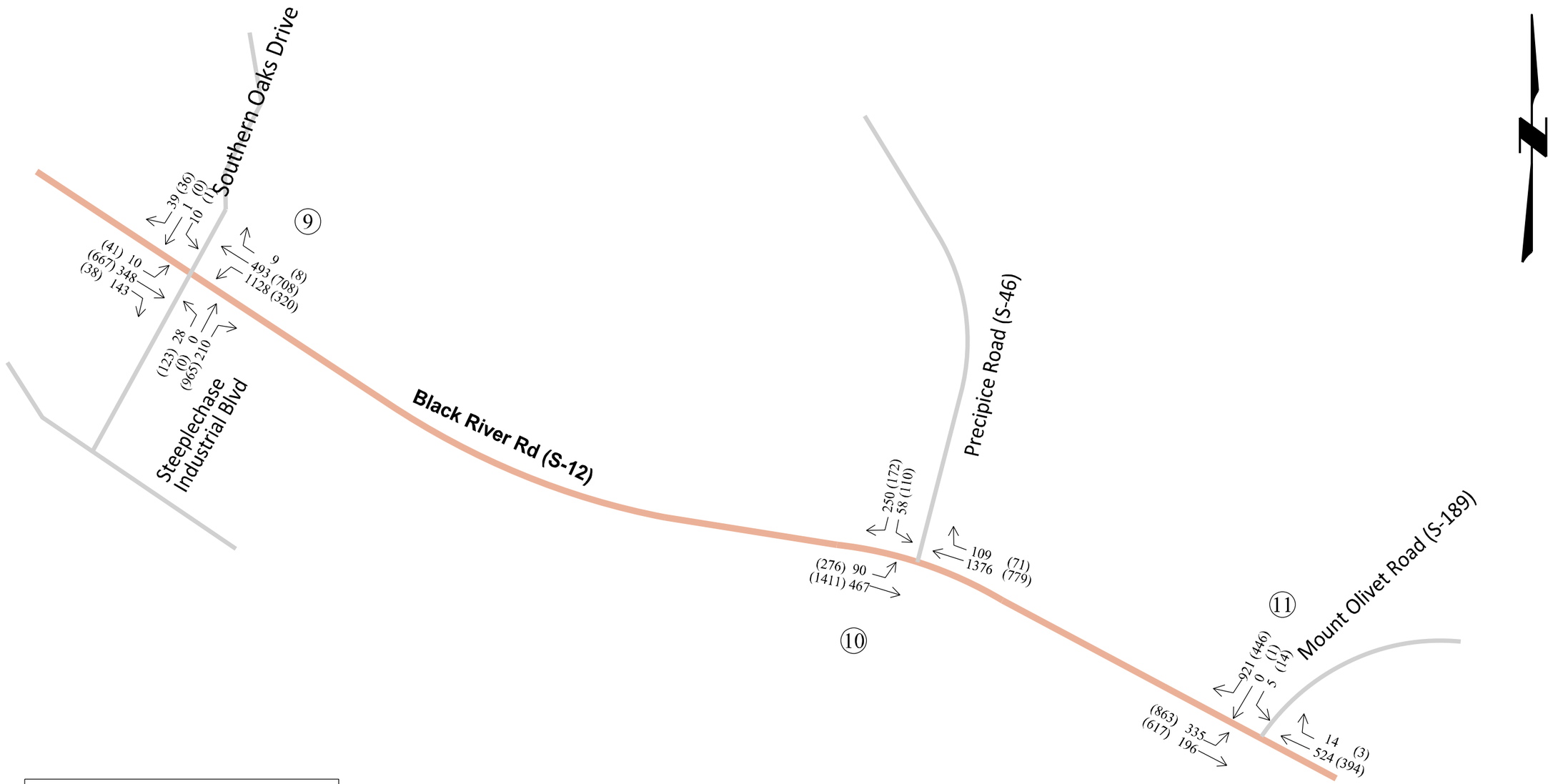
AECOM | July 2017 Camden, SC | Figure 28



Black River Road Corridor Study

2040 Scenario 2 Turning Movement Volumes- Sheet 2

AECOM | July 2017 Camden, SC | Figure 29

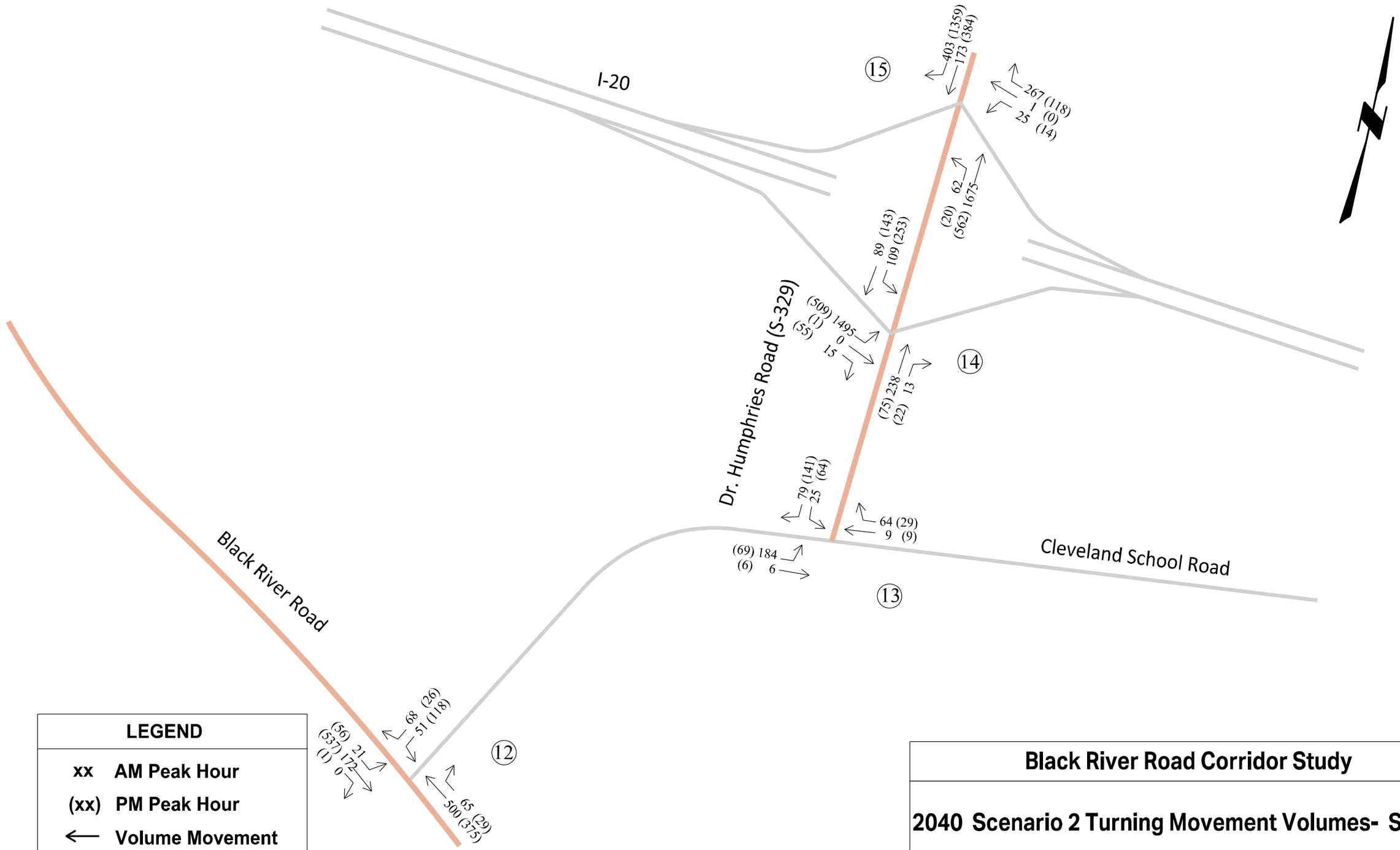


LEGEND	
xx	AM Peak Hour
(xx)	PM Peak Hour
←	Volume Movement
(##)	Intersection number

Black River Road Corridor Study

2040 Scenario 2 Turning Movement Volumes- Sheet 3

AECOM	July 2017 Camden, SC	Figure 30



Black River Road Corridor Study

2040 Scenario 2 Turning Movement Volumes- Sheet 4

AECOM	July 2017 Camden, SC	Figure 31

LEGEND	
xx	AM Peak Hour
(xx)	PM Peak Hour
←	Volume Movement
(##)	Intersection number

Black River Road Corridor Study

2040 Scenario 2 Turning Movement Volumes- Sheet 5

AECOM	July 2017 Camden, SC	Figure 32

6. Capacity Analysis

The traffic carrying ability of an uninterrupted flow roadway is described by levels of service that range from Level of Service (LOS) A to LOS F. LOS A represents unrestricted maneuverability and operating speeds. LOS B represents reduced maneuverability and operating speeds. LOS C represents restricted maneuverability and operating speeds closer to the speed limit. LOS D represents severely restricted maneuverability and unstable, low operating speeds. LOS E represents operating conditions at or near the capacity level. LOS F represents breakdown conditions characterized by stop and go travel. A visual representation of each LOS is shown in **Figure 33**.

Source: FDOT Quality Level of Service Manual

Figure 33. Uninterrupted Flow Level of Service

The *Highway Capacity Manual* (HCM) 2010 defines LOS for free flow multilane highways by free flow speed (FFS) in miles per hour and density in passenger cars per mile per lane. **Table 14** presents the LOS thresholds for uninterrupted flow on multilane highway segments.

Table 14. Level of Service Thresholds for Free Flow Multilane Highways

LOS	FFS (miles/hour)	Density (passenger care/mile/lane)
A	All	> 0-11
B	All	> 11-18
C	All	> 18-26
D	All	> 26-35
E	45	> 35-45
F	45	> 45

HCM 2010 defines LOS for free flow two lane highways by class and percent time spent following (PTSF) another vehicle. For purposes of this study, all of the two lane roads were assumed to be Class II where travel speed is not a significant issue for drivers. **Table 15** presents the LOS thresholds for uninterrupted flow on two lane highway segments.

Table 15. Level of Service Thresholds for Free Flow Two Lane Highways

LOS	Class II PTSF
A	≤ 40%
B	> 40-55%
C	> 55-70%
D	> 70-85%
E	> 85%

HCM 2010 also defines LOS at an unsignalized intersection by average control delay per vehicle, which includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors affect the controlled delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue. HCM 2010 explains that drivers perceive that a signalized intersection is designed to carry higher traffic volumes and therefore expect to experience greater delays at signalized intersections. Unsignalized intersections are assigned an LOS for each minor movement. Typically, LOS D is considered the minimum acceptable level of service at an intersection. **Table 16** presents LOS thresholds for unsignalized intersections.

Table 16. Level of Service Thresholds for Unsignalized Intersections

LOS	Average Control Delay (seconds/vehicle)
A	≤ 10.0
B	> 10.0 and ≤ 15.0
C	> 15.0 and ≤ 25.0
D	> 25.0 and ≤ 35.0
E	> 35.0 and ≤ 50.0
F	> 50.0

LOS for a signalized intersection is defined in terms of average control delay per vehicle, which is composed of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. A single LOS describes a signalized intersection. **Table 17** presents LOS thresholds for signalized intersections.

The LOS was estimated for uninterrupted flow highways, stop sign controlled intersections, and future signalized intersections using HCM 2010 software and Synchro 9.1 (build 912, Rev 4) software. The analyses were conducted in accordance with the latest SCDOT Signal Design guidelines in regards to the Synchro inputs. Four scenarios were analyzed: 2017 Existing, 2040 No-Build, 2040 Build Scenario 1, and 2040 Build Scenario 2 traffic projections for the AM and PM peak hours.

Table 17. Level of Service Thresholds for Signalized Intersections

LOS	Average Control Delay (seconds/vehicle)
A	≤ 10.0
B	> 10.0 and ≤ 20.0
C	> 20.0 and ≤ 35.0
D	> 35.0 and ≤ 55.0
E	> 55.0 and ≤ 80.0
F	> 80.0

To determine the necessary roadway improvements required for future development, LOS D or better was the target value. According to HCM 2010, an acceptable LOS is D or better with LOS A having the shortest delays and LOS F having the longest delays. Turn lane storage recommendations will accommodate the needs of 95th percentile queuing. Sim Traffic was used to address the 95th percentile queuing.

6.1 2017 Existing Level of Service

The 2017 Existing uninterrupted traffic flow and intersection conditions during the AM and PM peak hours were analyzed. The study location identification numbers are shown in **Figure 7** for the 24-hour counts and intersection turning movement counts. The 2017 Existing free flow LOS and density in passenger cars per mile per lane for multilane roadways and in percentage of time spent following is shown in **Table 18** and **Table 19** and in **Appendix F**.

Table 18. 2017 Existing Free Flow Level of Service for Multilane Highway

ID#	Location	LOS AM	LOS PM	Density AM (pc/mi/ln)	Density PM (pc/mi/ln)
1	Sumter Highway (US 521)	A/A	A/A	6.8/7.4	5.5/6.3
2	Sumter Highway (US 521)	A/B	A/A	7.4/12.8	9.3/8.3
3	Sumter Highway (US 521)	A/B	B/A	9.8/11.7	11.1/10.2

Table 19. 2017 Existing Free Flow Level of Service for Two Lane Highways

ID#	Location	LOS AM	LOS PM	PTSF AM	PTSF PM
4	Black River Road (S-12)	B	C	42.2%	60.9%
5	Black River Road (S-12)	B	C	42.0%	62.8%
6	Black River Road (S-12)	A	C	31.5%	61.0%
7	Mt. Olivet Road (S-189)	A	A	24.4%	36.2%
8	Dr. Humphries Road (S-329)	B	A	50.1%	22.8%
9	Dr. Humphries Road (S-329)	A	B	34.8%	47.3%
10	Dr. Humphries Road (S-329)	A	A	28.1%	34.9%

The traffic volumes from the turning movement counts collected in May 2017 shown in **Figure 8** through **Figure 12** were utilized to calculate the intersection levels of service and control delay summarized in **Table 20**. Detailed LOS data are included in **Appendix G**. All intersections operate using stop sign control in the 2017 Existing condition.

Table 20. 2017 Existing Intersection Level of Service

ID#	Intersection	Control	Level of Service		Delay	
			AM	PM	AM (seconds/ vehicle)	PM (seconds/ vehicle)
1	Sumter Highway and Ehrenclou Drive	2-way Stop	C	C	18.0	15.1
2	Sumter Highway and Black River Road	2-way Stop	C	D	22.2	30.6
3	Sumter Highway and Wall Street	2-way Stop	B	B	14.0	12.8
4	Sumter Highway and Century Boulevard	2-way Stop	B/F	B/D	12.5/52.4	12.7/27.3
5	Sumter Highway and I-20 westbound ramps	2-way Stop	B	B	10.9	11.8
6	Sumter Highway and I-20 eastbound ramps	2-way Stop	B	B	10.5	12.4
7	Black River Road and Tickle Hill Road	2-way Stop	B	C	11.0	15.5
8	Black River Road and Hermitage Farm Road	2-way Stop	B	B	10.2	13.7
9	Black River Road and Steeplechase Industrial Boulevard	2-way Stop	B/B	C/B	10.1/10.2	17.6/11.4
10	Black River Road and Precipice Road	2-way Stop	B	B	11.1	13.9
11	Black River Road and Mount Olivet Road	2-way Stop	A	A	9.9	9.7
12	Black River Road and Cleveland School Road	2-way Stop	B	B	11.4	11.6
13	Cleveland School Road and Dr. Humphries Road	2-way Stop	A	A	8.8	8.7
14	Dr. Humphries Road and I-20 eastbound ramps	2-way Stop	A	A	6.1	6.3
15	Dr. Humphries Road and I-20 westbound ramps	2-way Stop	A	A	8.7	8.0
16	Dr. Humphries Road and Mount Olivet Road	4-way Stop	A	A	8.3	7.9
17	Dr. Humphries Road and Bishopville Highway	2-way Stop	D/C	C/C	33.5/15.1	16.0/16.8

6.2 2040 No-Build Level of Service

The 2017 Existing traffic volumes with a linear growth factor of 0.6 percent per year were used to calculate the 2040 No-Build LOS. The volumes shown in **Figure 18** through **Figure 22** were utilized to calculate the intersection LOS and control delay summarized in **Table 21**. Detailed analysis is included in **Appendix H**.

Table 21. 2040 No-Build Intersection Level of Service

ID#	Intersection	Control	LOS		Delay	
			AM	PM	AM (seconds/ vehicle)	PM (seconds/ vehicle)
1	Sumter Highway and Ehrenclou Drive	2-way Stop	C	C	16.9	16.8
2	Sumter Highway and Black River Road	2-way Stop	D	D	29.5	34.3
3	Sumter Highway and Wall Street	2-way Stop	B	B	13.6	13.8
4	Sumter Highway and Century Boulevard	2-way Stop	B/F	B/E	12.2/74.2	14.2/44.6
5	Sumter Highway and I-20 westbound ramps	2-way Stop	B	B	11.3	12.7
6	Sumter Highway and I-20 eastbound ramps	2-way Stop	F	F	*	132.8
7	Black River Road and Tickle Hill Road	2-way Stop	B	B	11.4	14.3
8	Black River Road and Hermitage Farm Road	2-way Stop	B	B	10.3	12.5
9	Black River Road and Steeplechase Industrial Boulevard	2-way Stop	B/B	C/B	10.4/10.5	15.0/10.4
10	Black River Road and Precipice Road	2-way Stop	B	B	11.0	12.8
11	Black River Road and Mount Olivet Road	2-way Stop	A	A	9.8	9.5
12	Black River Road and Cleveland School Road	2-way Stop	B	B	10.9	11.4
13	Cleveland School Road and Dr. Humphries Road	2-way Stop	A	A	8.7	8.8
14	Dr. Humphries Road and I-20 eastbound ramps	2-way Stop	A	A	6.1	7.9
15	Dr. Humphries Road and I-20 westbound ramps	2-way Stop	A	A	8.6	8.0
16	Dr. Humphries Road and Mount Olivet Road	4-way Stop	A	A	8.2	7.8
17	Dr. Humphries Road and Bishopville Highway	2-way Stop	C/B	B/C	22.2/14.0	14.4/15.3

**Delay exceeds 300 seconds*

6.3 2040 Build Scenario 1 Level of Service

In 2040 Build Scenario 1, the undeveloped properties along the Black River Road corridor would be fully developed and utilize the most convenient I-20 interchange. These future traffic volumes were used to calculate the 2040 Build Scenario 1 LOS and included background growth in the 2040 No-Build condition plus full build-out of the identified properties along the Black River Road corridor (**Table 22**). Vehicles entering and exiting the sites were assumed to utilize the existing travel patterns once on the roadway system. These volumes are shown in **Figure 23** through **Figure 27**. Detailed information on the traffic volumes and the LOS calculations are included in **Appendix I**.

Table 22. 2040 Build Scenario 1 Level of Service

ID#	Intersection	Control	Level of Service		Delay	
			AM	PM	AM (seconds/ vehicle)	PM (seconds/ vehicle)
1	Sumter Highway and Ehrenclou Drive	Signal	C	D	25.9	40.4
2	Sumter Highway and Black River Road	Signal	C	D	23.7	45.4
3	Sumter Highway and Wall Street	Signal	A	B	7.6	17.5
4	Sumter Highway and Century Boulevard	Signal	A	B	4.4	19.7
5	Sumter Highway and I-20 westbound ramps	2-way stop	C	E	20.2	41.1
6	Sumter Highway and I-20 eastbound ramps	Signal	C	C	20.3	23.9
7	Black River Road and Tickle Hill Road	2-way stop	C	F	23.3	191.7
8	Black River Road and Hermitage Farm Road	2-way stop	B	C	11.2	22.9
9	Black River Road and Steeplechase Industrial Boulevard	Signal	C	D	28.2	48.3
10	Black River Road and Precipice Road	Signal	C	C	30.3	22.6
11	Black River Road and Mount Olivet Road	2-way stop	E	E	38.3	37.8
12	Black River Road and Cleveland School Road	2-way stop	C	F	23.6	87.5
13	Cleveland School Road and Dr. Humphries Road	2-way stop	B	B	10.6	10.3
14	Dr. Humphries Road and I-20 eastbound ramps	2-way stop	A	A	5.3	5.8
15	Dr. Humphries Road and I-20 westbound ramps	2-way stop	D	B	27.1	10.6
16	Dr. Humphries Road and Mount Olivet Road	Signal	C	C	21.0	22.6
17	Dr. Humphries Road and Bishopville Highway	4-way stop	D	D	33.3	28.7
29	Black River Road and Tech Road	Signal	A	B	8.8	19.1

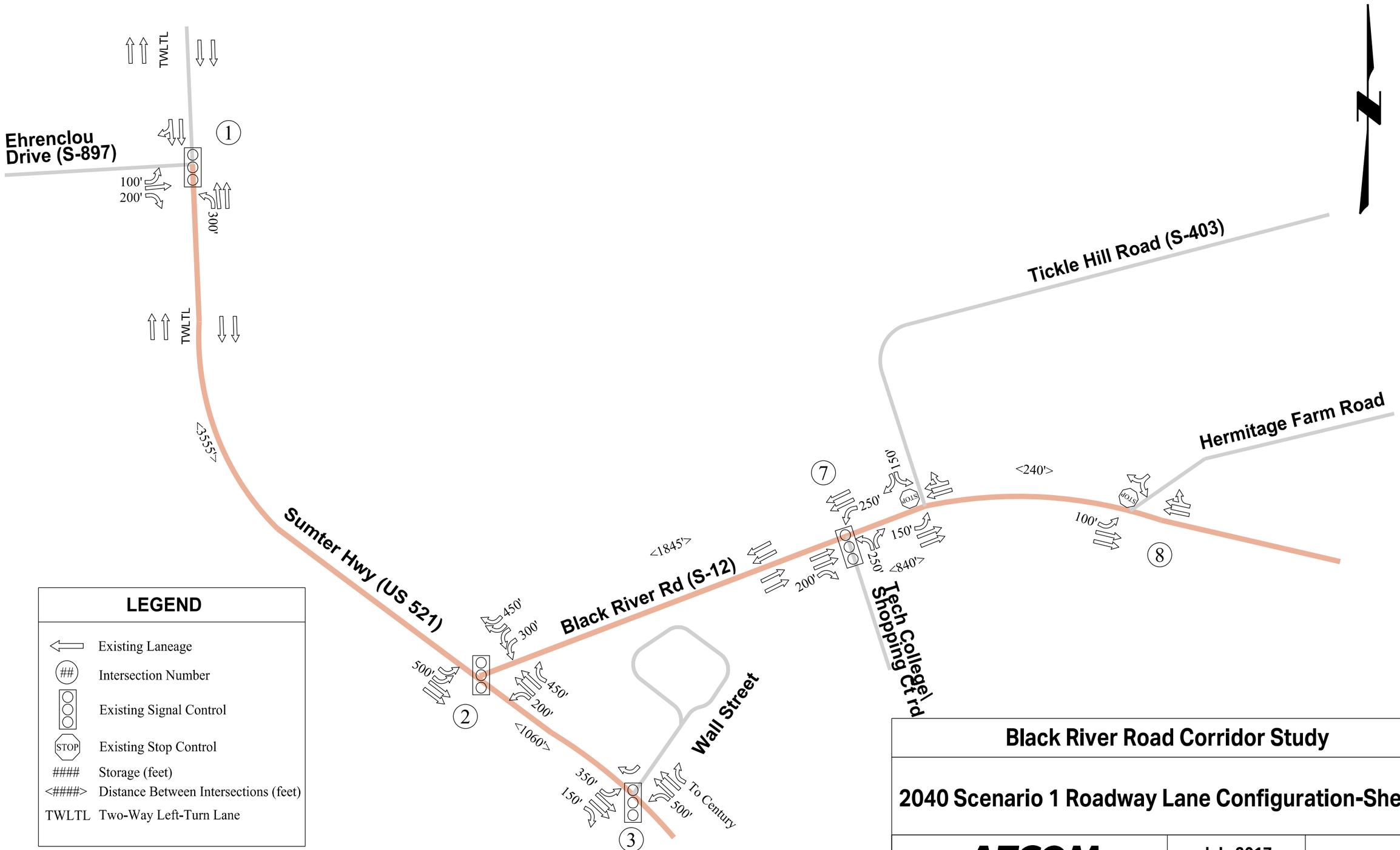
The LOS values shown in **Table 22** for 2040 Build Scenario 1 assume the following intersection and roadway improvements. The roadway improvements for 2040 Build Scenario 1 are shown in **Figure 34** through **Figure 38**.

- Black River Road
  - 4 lane section from US 521 to Southern Oaks Drive/Steeplechase Industrial Boulevard
- #1 US 521 (Sumter Highway) and Ehrenclou Road
  - Traffic signal when warranted
  - Dedicated northbound left-turn lane on US 521 with 300 feet of storage
  - Eastbound left turn lane on Ehrenclou Road with 100 feet of storage

  - Eastbound dual right turns lane on Ehrenclou Road with 200 feet of storage
- #2 US 521 (Sumter Highway) and Black River Road
  - Traffic signal when warranted
  - Northbound U-turn lane on US 521 with 200 feet of storage
  - Southbound dual left-turn lanes on US 521 with 500 feet of storage
  - Westbound dual left-turn lanes with 300 feet storage and right-turn lanes with 450 feet of storage
- #3 US 521 (Sumter Highway) and Wall Street
  - Traffic signal when warranted
  - Access control right turns only from side streets
  - Northbound right-turn lane on US 521 that extends to Century Boulevard (auxiliary lane)
  - Northbound left-turn lane on US 521 with 500 feet of storage
  - Southbound left-turn lane on US 521 with 150 feet of storage
  - Southbound right-turn lane on US 521 with 150 feet of storage
- #4 US 521 (Sumter Highway) and Century Boulevard
  - Traffic signal when warranted
  - Access control right turns only from side streets
  - Extend southbound left turn lane on US 521 to 500 feet of storage
  - Northbound left turn lane on US 521 with 150 feet of storage
  - Southbound right-turn lane on US 521 that extends to Wall Street (auxiliary lane)
- #5 US 521 (Sumter Highway) and I-20 westbound ramps
  - Extend southbound right turn lane on US 521 to 200 feet and add lane on entrance ramp
  - Remove westbound right-turn radius and bring to intersection
- #6 US 521 (Sumter Highway) and I-20 eastbound ramps
  - Traffic signal when warranted
  - Eastbound dual left-turn lanes on I-20 eastbound off-ramp with 400 feet of storage
- #7 Black River Road and Tickle Hill Road
  - Southbound left-turn lane on Tickle Hill Road with 150 feet of storage
  - Eastbound left-turn lane on Black River Road with 150 feet of storage
- #8 Black River Road and Hermitage Farm Road
  - Eastbound left-turn lane on Black River Road with 100 feet of storage
- #9 Black River Road and Steeplechase Industrial Boulevard
  - Traffic signal when warranted

  - Northbound dual left-turn lane on Steeplechase Industrial Boulevard with 300 feet of storage
  - Northbound channelized right-turn lane on Steeplechase Industrial Boulevard
  - Eastbound left-turn lane on Black River Road with 150 feet of storage
  - Westbound left-turn lane on Black River Road with 250 feet of storage
  - Eastbound right-turn lane on Black River Road with 300 feet of storage
- #10 Black River Road and Precipice Road
  - Traffic signal when warranted
  - Southbound left-turn lane on Precipice Road with 250 feet of storage
  - Eastbound left-turn lane on Black River Road with 150 feet of storage
  - Westbound right-turn lane on Black River Road with 150 feet of storage
- #11 Black River Road and Mount Olivet Road
  - Southbound left-turn lane on Mount Olivet Road with 100 feet of storage
  - Eastbound left-turn lane on Black River Road with 250 feet of storage
- #16 Dr. Humphries Road and Mount Olivet Road
  - Traffic signal when warranted
  - Northbound left-turn lane on Dr. Humphries Road with 300 feet of storage
  - Southbound left-turn lane on Dr. Humphries Road with 150 feet of storage
  - Eastbound right-turn lane on Mount Olivet Road with 150 feet of storage
  - Westbound left-turn lane on Mount Olivet Road with 150 feet of storage
- #17 SC 34 and Dr. Humphries Road
  - Four-way stop or single lane roundabout
- #29 Black River Road and New Tech/Shopping Center Road
  - Traffic signal when warranted
  - Northbound left-turn on New Tech/ Shopping Center Road with 250 feet of storage
  - Westbound left-turn lane on Black River Road with 250 feet of storage
  - Eastbound right-turn lane on Black River road with 200 feet of storage

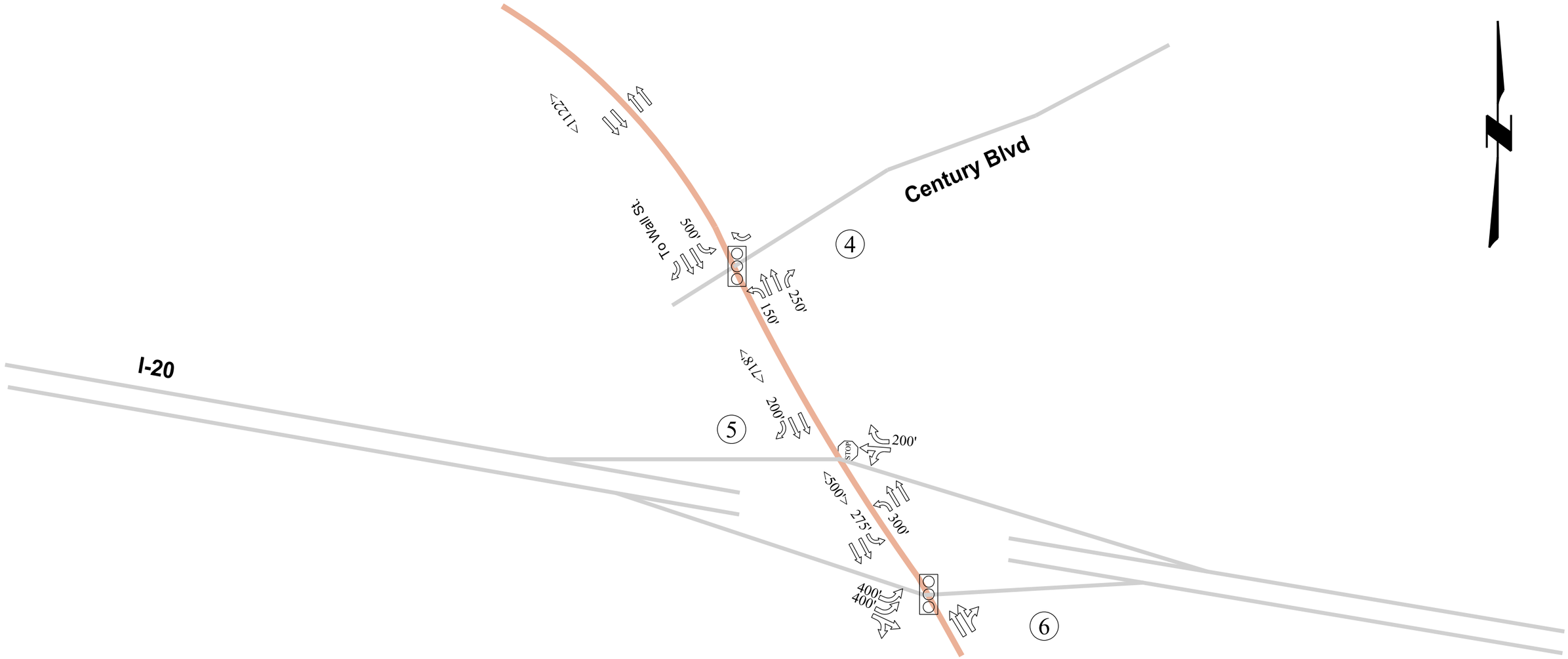
The widened sections of Black River Road correspond to ID# 4 and #5 in **Table 18** for free flow LOS on a two lane highway. These are also shown on **Figure 7**. Without widening, the free flow LOS will drop from C to F for ID# 4 and from C to E for ID# 5 in the PM peak hour.



Black River Road Corridor Study

2040 Scenario 1 Roadway Lane Configuration-Sheet 1

AECOM | July 2017 Camden, SC | Figure 34



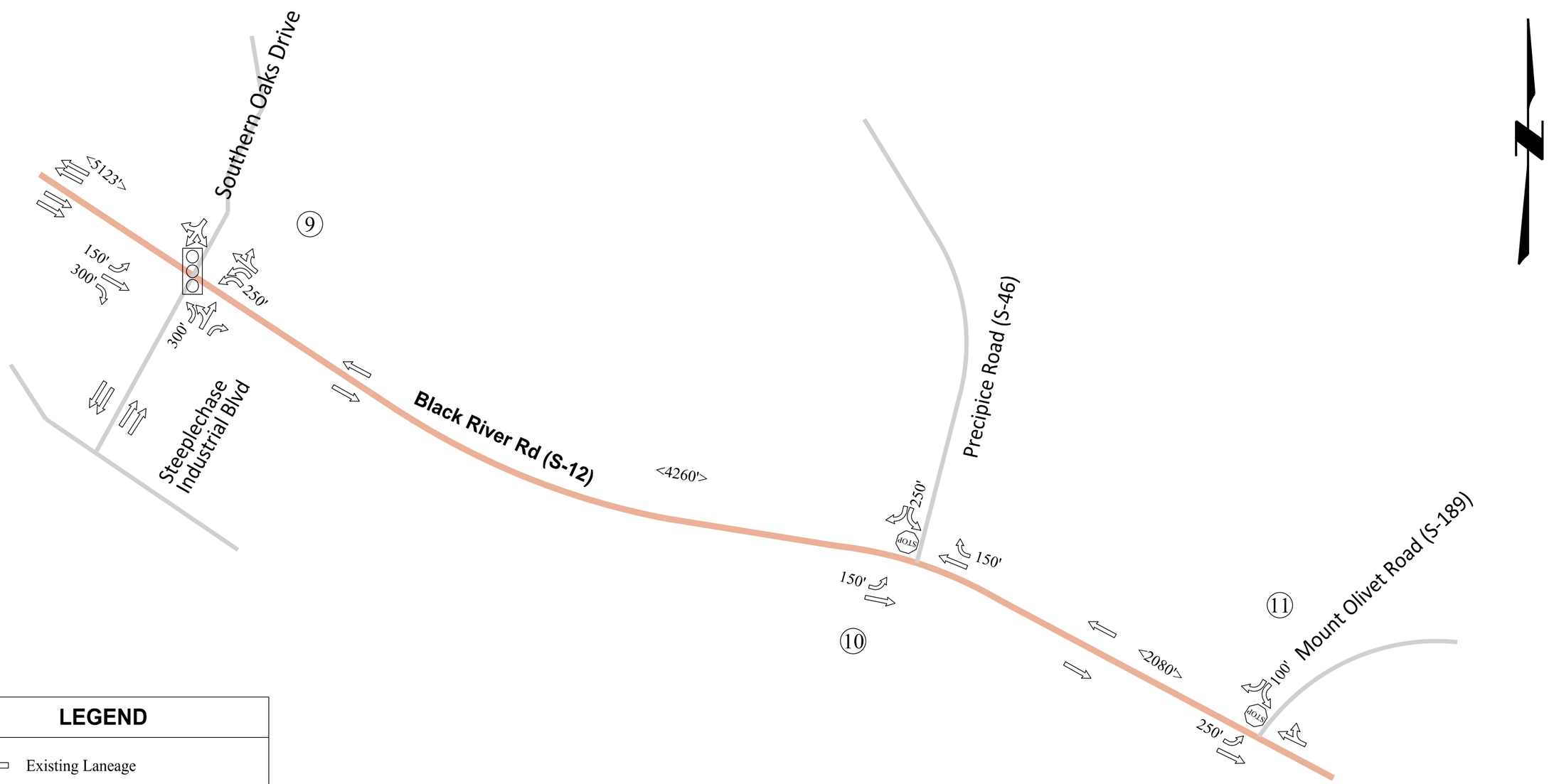
LEGEND

- Existing Laneage
- ## Intersection Number
- Existing Signal Control
- STOP Existing Stop Control
- #### Storage (feet)
- <####> Distance Between Intersections (feet)
- TWLTL Two-Way Left-Turn Lane

Black River Road Corridor Study

2040 Scenario 1 Roadway Lane Configuration-Sheet 2

AECOM	July 2017 Camden, SC	Figure 35



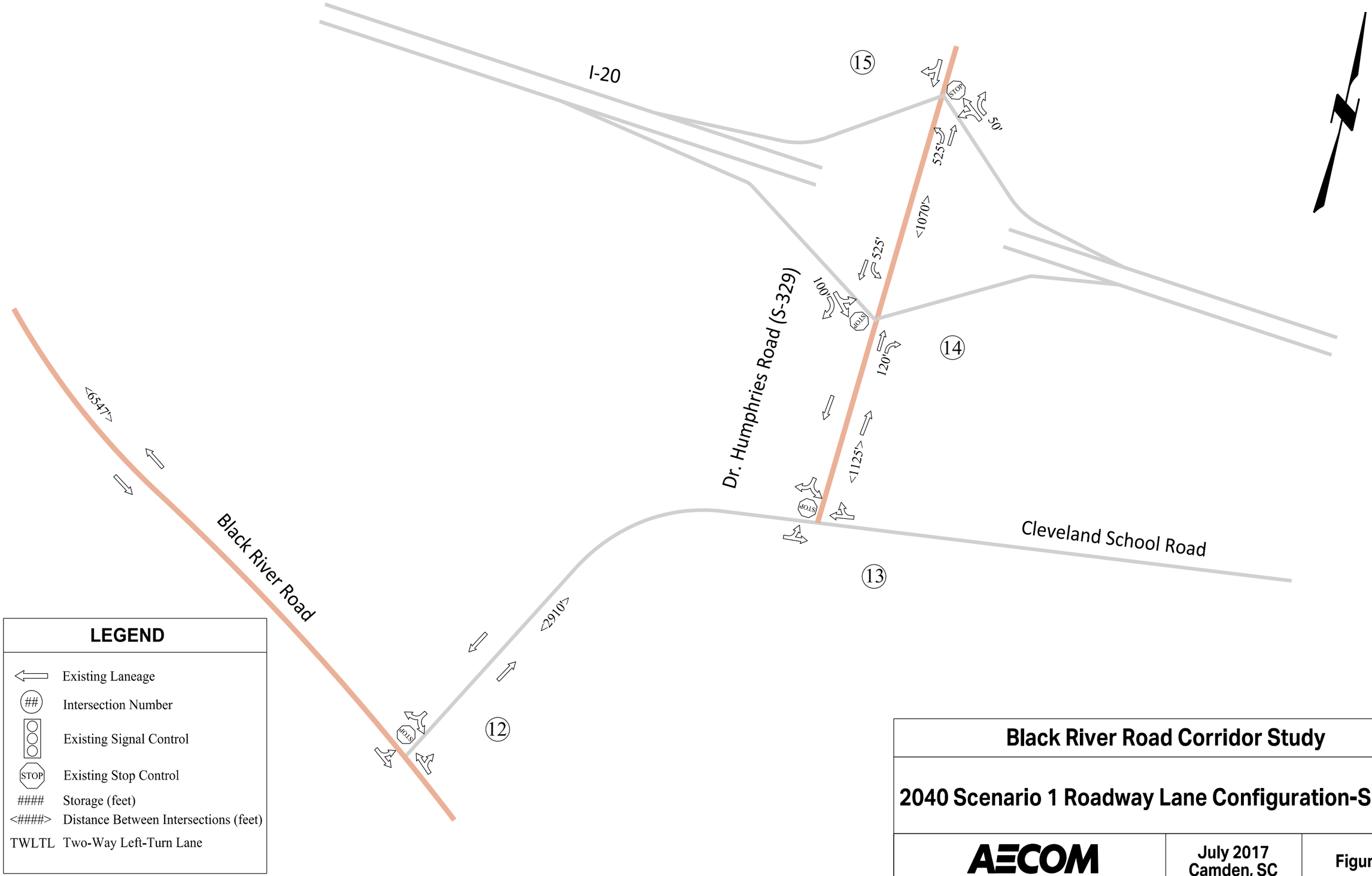
LEGEND

⇦	Existing Laneage
##	Intersection Number
	Existing Signal Control
STOP	Existing Stop Control
####	Storage (feet)
<####>	Distance Between Intersections (feet)
TWLTL	Two-Way Left-Turn Lane

Black River Road Corridor Study

2040 Scenario 1 Roadway Lane Configuration-Sheet 3

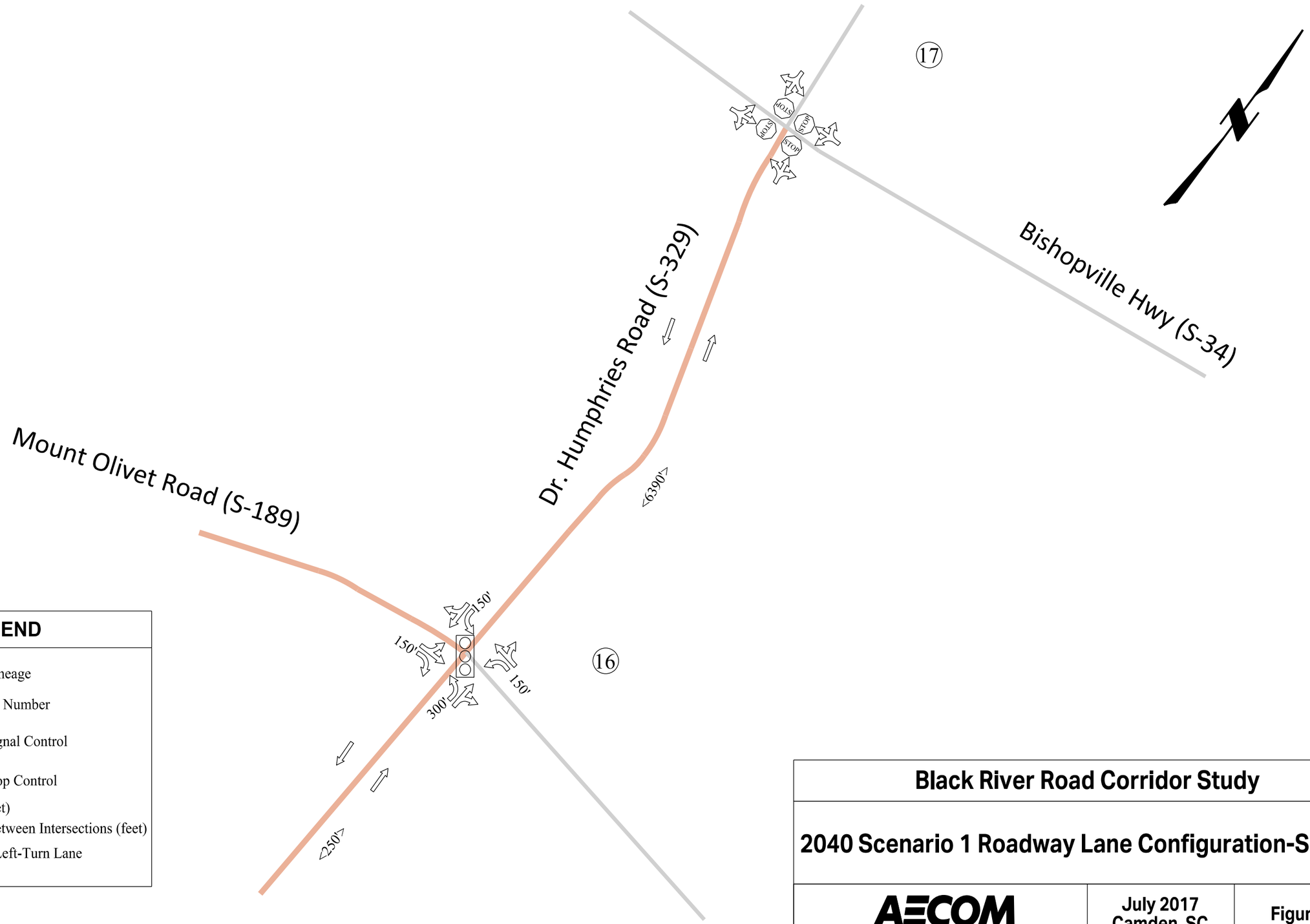
AECOM	July 2017 Camden, SC	Figure 36



Black River Road Corridor Study

2040 Scenario 1 Roadway Lane Configuration-Sheet 4

AECOM	July 2017 Camden, SC	Figure 37



LEGEND

⇦	Existing Laneage
(##)	Intersection Number
	Existing Signal Control
STOP	Existing Stop Control
####	Storage (feet)
<####>	Distance Between Intersections (feet)
TWLTL	Two-Way Left-Turn Lane

Black River Road Corridor Study

2040 Scenario 1 Roadway Lane Configuration-Sheet 5

AECOM	July 2017 Camden, SC	Figure 38

6.4 2040 Build Scenario 2 Level of Service

In 2040 Build Scenario 2, the undeveloped properties along the Black River Road corridor would be fully developed and the industrial properties would utilize the I-20 interchange with Dr. Humphries Road more heavily. The 2040 Build Scenario 2 volumes include background growth in the 2040 No-Build condition plus full build-out of the identified properties along the Black River Road corridor, with industrial properties primarily utilizing the Dr. Humphries Road interchange (**Table 23**). These volumes are shown on **Figure 28** through **Figure 32**. Detailed information on the traffic volumes and the LOS calculations are included in **Appendix J**.

Table 23. 2040 Build Scenario 2 Level of Service

ID#	Intersection	Control	Level of Service		Delay	
			AM	PM	AM (seconds/ vehicle)	PM (seconds/ vehicle)
1	Sumter Highway and Ehrenclou Drive	Signal	C	C	22.4	29.6
2	Sumter Highway and Black River Road	Signal	B	C	16.6	30.0
3	Sumter Highway and Wall Street	Signal	A	B	6.5	15.0
4	Sumter Highway and Century Boulevard	Signal	A	C	6.3	21.6
5	Sumter Highway and I-20 westbound ramps	2-way stop	C	E	17.0	36.6
6	Sumter Highway and I-20 eastbound ramps	Signal	A	B	8.4	18.3
7	Black River Road and Tickle Hill Road	2-way stop	C	E	17.4	47.7
8	Black River Road and Hermitage Farm Road	2-way stop	B	D	13.4	28.1
9	Black River Road and Steeplechase Industrial Boulevard	Signal	C	B	21.0	18.4
10	Black River Road and Precipice Road	Signal	B	B	16.7	10.4
11	Black River Road and Mount Olivet Road	Signal	B	C	10.8	27.6
12	Black River Road and Cleveland School Road	2-way stop	C	F	17.9	51.6
13	Cleveland School Road and Dr. Humphries Road	2-way stop	B	B	10.2	10.1
14	Dr. Humphries Road and I-20 eastbound ramps	Signal	C	A	22.8	9.7
15	Dr. Humphries Road and I-20 westbound ramps	2-way stop	F	B	123.2	10.8
16	Dr. Humphries Road and Mount Olivet Road	Signal	D	F	35.3	121.0
17	Dr. Humphries Road and Bishopville Highway	4-way stop	C	C	15.4	15.4
29	Black River Road and Tech Road	Signal	A	C	9.3	22.4

The LOS values shown on **Table 23** for 2040 Build Scenario 2 required improvements different to those included in 2040 Build Scenario 1. The roadway improvements for 2040 Build Scenario

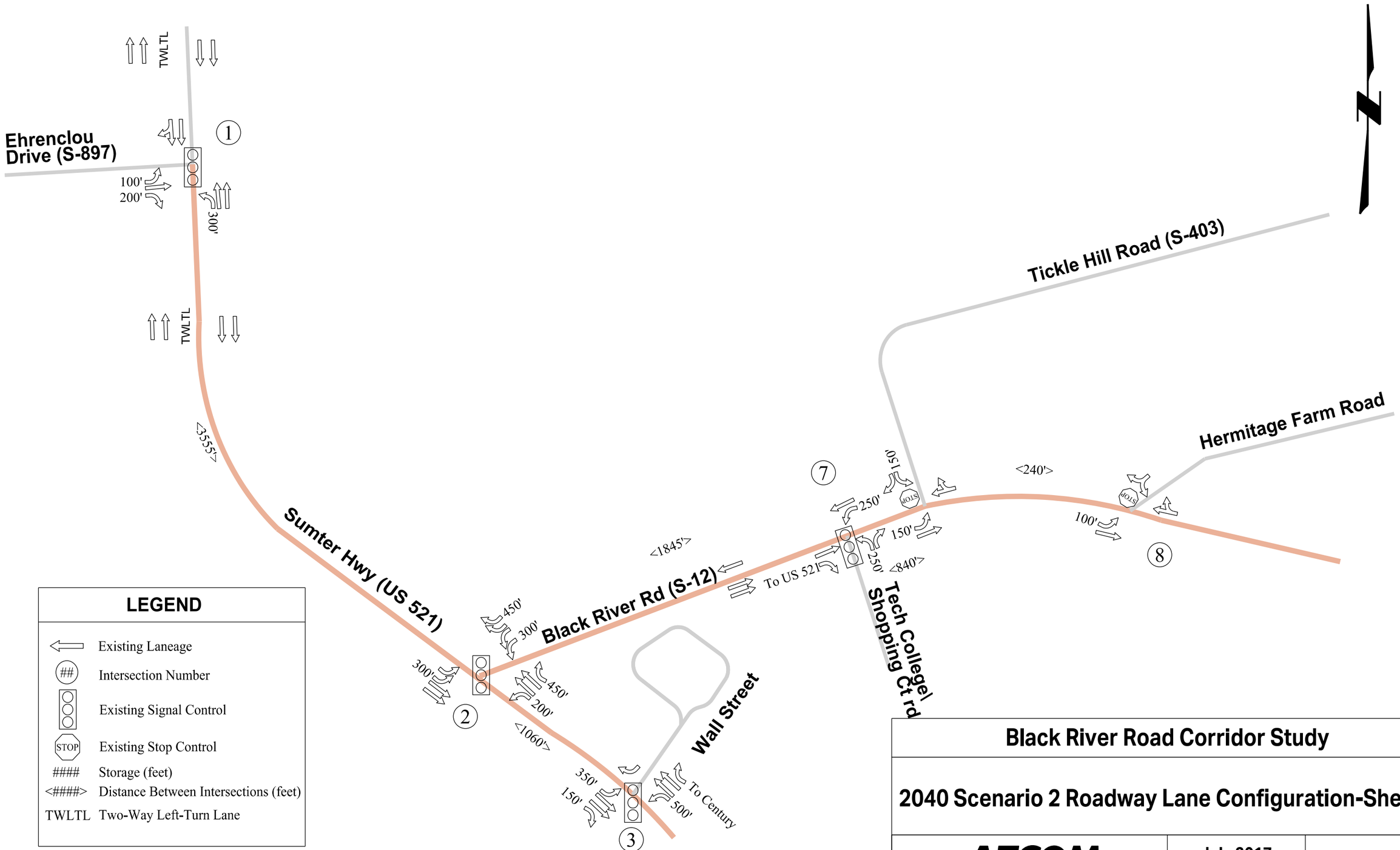
2 are shown in **Figure 39** through **Figure 43**. These additional improvements assume the following intersection and roadway improvements:

- Black River Road
  - Four-lane section from US 521 to Tickle Hill Road and from Steeplechase Industrial Boulevard to Mount Olivet Road
- Mount Olivet Road
  - Two westbound lanes from Dr. Humphries Road to new Governor's Hill Industrial Park to receive the dual northbound left-turn lanes
- Dr. Humphries Road
  - Four-lane section from I-20 to Mount Olivet Road
  - One southbound auxiliary lane between Mount Olivet Road and I-20 westbound on-ramp.
  - Two northbound lanes across I-20 are needed along Dr. Humphries Road, but only one southbound lane. As a result, the widening may not require a new bridge over I-20.
- #1 US 521 and Ehrenclou Road
  - Traffic signal when warranted
  - Dedicated northbound left-turn lane on US 521 with 300 feet of storage
  - Eastbound left-turn lane on Ehrenclou Road with 100 feet of storage
  - Eastbound dual right-turn lanes on Ehrenclou Road with 200 feet of storage
- #2 US 521 and Black River Road
  - Traffic signal when warranted
  - Northbound U-turn lane on US 521 with 200 feet of storage
  - Southbound dual left-turn lanes on US 521 with 300 feet of storage
  - Westbound dual left-turn lanes with 300 feet of storage
  - Westbound dual right-turn lanes with 450 feet of storage
- #3 US 521 and Wall Street
  - Traffic signal when warranted
  - Access control right turns only from side streets
  - Northbound right-turn lane on US 521 that extends to Century Boulevard (auxiliary lane)
  - Northbound left-turn lane on US 521 with 500 feet of storage
  - Southbound left-turn lane on US 521 with 350 feet of storage
  - Southbound right-turn lane on US 521 with 150 feet of storage
- #4 US 521 and Century Boulevard
  - Traffic signal when warranted
  - Access control right turns only from side streets
  - Extend southbound left-turn lane on US 521 to 500 feet of storage

  - Northbound left-turn lane on US 521 with 150 feet of storage
  - Southbound right-turn lane on US 521 that extends to Wall Street (auxiliary lane)
- #5 US 521 and I-20 westbound ramps
  - Extend southbound right-turn lane on US 521 to 200 feet and add lane on entrance ramp
  - Remove westbound right-turn radius and bring to intersection
- #6 US 521 and I-20 eastbound ramps
  - Traffic signal when warranted
  - Eastbound left-turn lane on I-20 eastbound off-ramp with 400 feet of storage
- #7 Black River Road and Tickle Hill Road
  - Southbound left-turn lane on Tickle Hill Road with 150 feet of storage
  - Eastbound left-turn lane on Black River Road with 150 feet of storage
- #8 Black River Road and Hermitage Farm Road
  - Eastbound left-turn lane on Black River Road with 100 feet of storage
- #9 Black River Road and Steeplechase Industrial Boulevard
  - Traffic signal when warranted
  - Four-lane Steeplechase Industrial Boulevard
  - Northbound left-turn lane on Steeplechase Industrial Boulevard
  - Northbound through/right lane with channelized right-turn lane on Steeplechase Industrial Boulevard
  - Eastbound left-turn lane on Black River Road with 150 feet of storage
  - Westbound dual left-turn lanes on Black River Road with 250 feet of storage
  - Eastbound right-turn lane on Black River Road with 300 feet of storage
- #10 Black River Road and Precipice Road
  - Traffic signal when warranted
  - Southbound left-turn lane on Precipice Road with 150 feet of storage
  - Eastbound left-turn lane on Black River Road with 150 feet of storage
  - Westbound right-turn lane on Black River Road with 150 feet of storage
- #11 Black River Road and Mount Olivet Road
  - Southbound left-turn lane on Mount Olivet Road with 150 feet of storage
  - Eastbound left turn drop lane on Black River Road
- #14 Dr. Humphries Road and I-20 eastbound ramps
  - Traffic signal when warranted
  - Southbound left-turn lane on Dr. Humphries Road with 200 feet of storage
  - Eastbound dual left-turn lanes on I-20 eastbound off-ramp with 400 feet of storage

- #15 Dr. Humphries Road and I-20 westbound ramps
  - Northbound left-turn lane on Dr. Humphries Road with 200 feet of storage
  - Southbound right-turn lane (auxiliary) extending back to Mount Olivet Road
- #16 Dr. Humphries Road and Mount Olivet Road
  - Traffic signal when warranted
  - Northbound dual left-turn lanes on Dr. Humphries Road with 300 feet of storage
  - Southbound left-turn lane on Dr. Humphries Road with 150 feet of storage
  - Eastbound dual right-turn lane on Mount Olivet Road with 1,000 feet of storage
  - Westbound left-turn lane on Mount Olivet Road with 150 feet of storage
- #17 SC 34 and Dr. Humphries Road
  - Four-way stop or single lane roundabout
- #29 Black River Road and New Tech/Shopping Center Road
  - Traffic signal when warranted
  - Northbound left-turn on New Tech/Shopping Center Road with 250 feet of storage
  - Westbound left-turn lane on Black River Road with 250 feet of storage
  - Eastbound right-turn drop lane on Black River Road

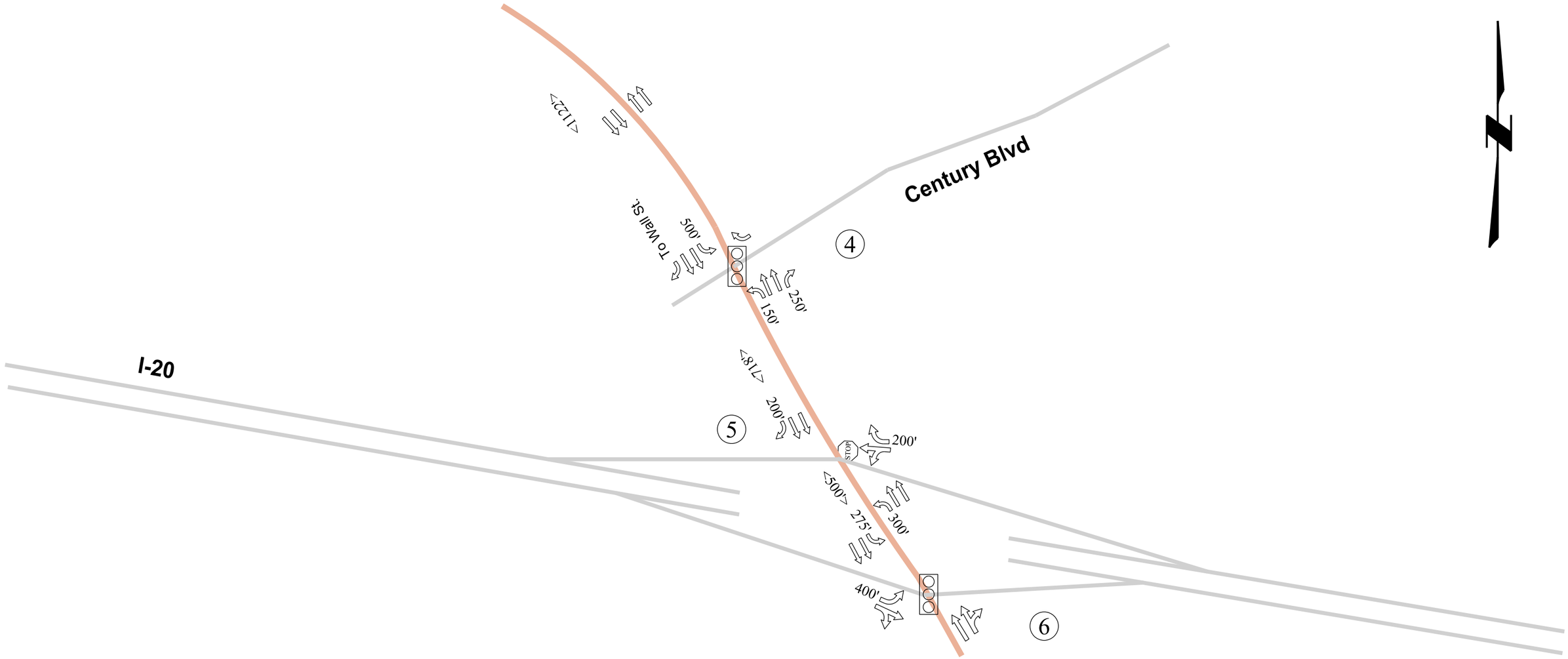
The widened sections of Black River Road, Mount Olivet Road, and Dr. Humphries Road correspond with ID# 4, 6, 7, and 9 in **Table 10** for free flow LOS on a two lane highway. These are also shown in **Figure 7**. Without widening, the free flow LOS will drop from C to E for ID# 4, C to E for ID# 6, A to E for ID# 7, and B to D for ID# 9 in the PM peak hour.



Black River Road Corridor Study

2040 Scenario 2 Roadway Lane Configuration-Sheet 1

AECOM | July 2017 Camden, SC | Figure 39



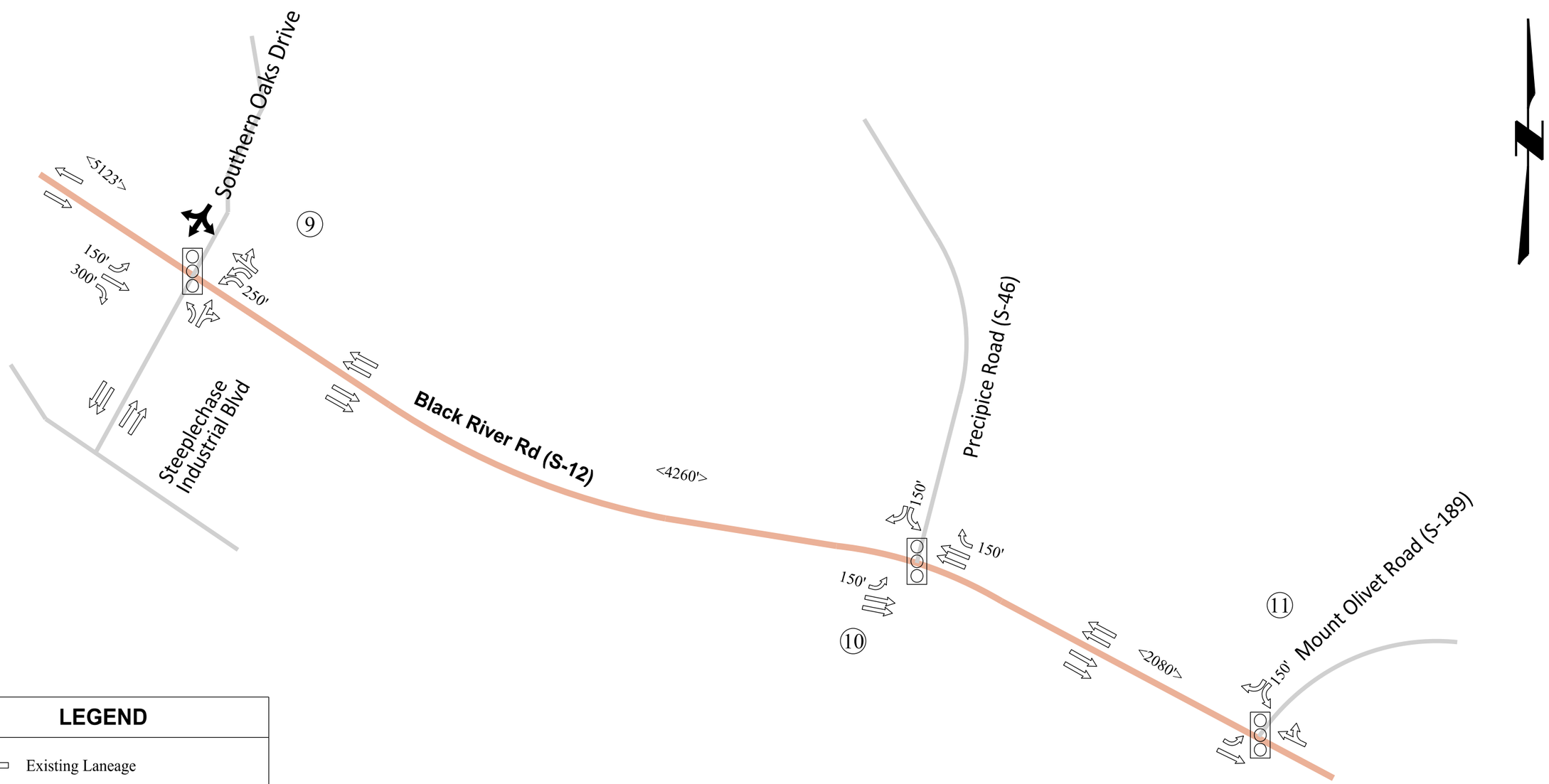
LEGEND

- Existing Laneage
- ## Intersection Number
- Existing Signal Control
- STOP Existing Stop Control
- #### Storage (feet)
- <####> Distance Between Intersections (feet)
- TWLTL Two-Way Left-Turn Lane

Black River Road Corridor Study

2040 Scenario 2 Roadway Lane Configuration-Sheet 2

AECOM	July 2017 Camden, SC	Figure 40



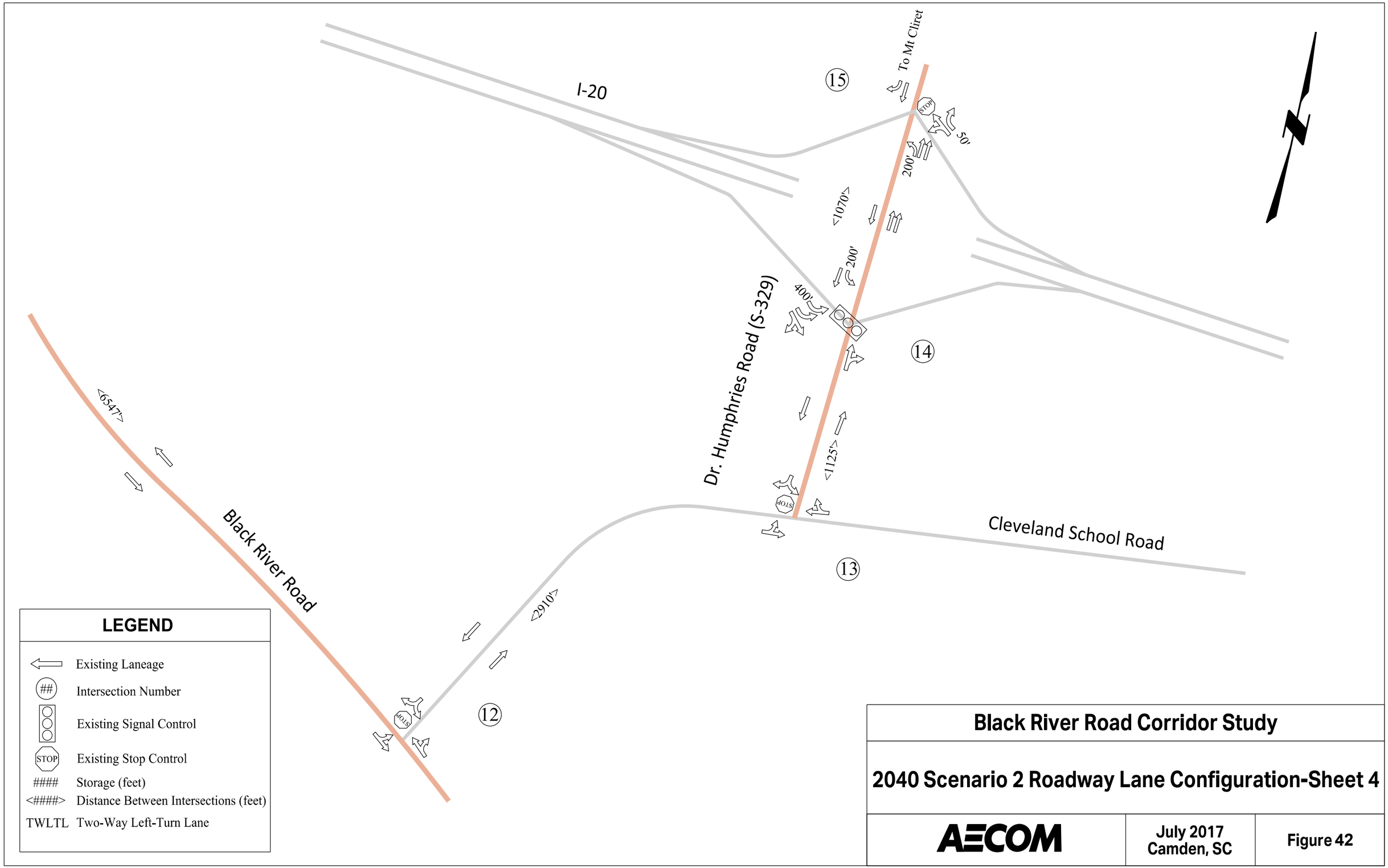
LEGEND

⇦	Existing Laneage
(##)	Intersection Number
	Existing Signal Control
STOP	Existing Stop Control
####	Storage (feet)
<####>	Distance Between Intersections (feet)
TWLTL	Two-Way Left-Turn Lane

Black River Road Corridor Study

2040 Scenario 2 Roadway Lane Configuration-Sheet 3

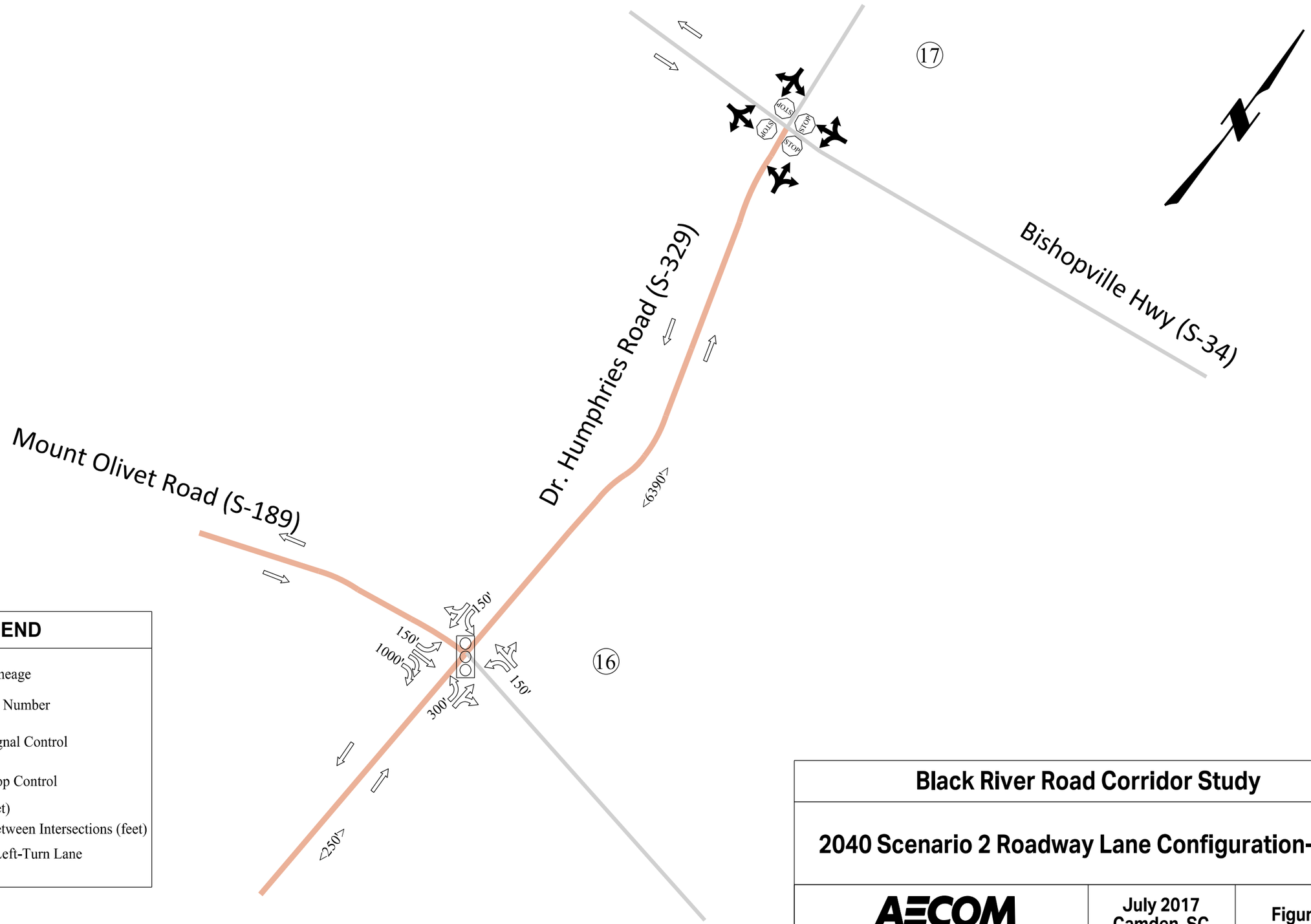
AECOM	July 2017 Camden, SC	Figure 41



Black River Road Corridor Study

2040 Scenario 2 Roadway Lane Configuration-Sheet 4

AECOM	July 2017 Camden, SC	Figure 42



LEGEND

⇦	Existing Laneage
##	Intersection Number
	Existing Signal Control
STOP	Existing Stop Control
####	Storage (feet)
<####>	Distance Between Intersections (feet)
TWLTL	Two-Way Left-Turn Lane

Black River Road Corridor Study

2040 Scenario 2 Roadway Lane Configuration-Sheet

AECOM | July 2017 Camden, SC | Figure 43

6.5 Proposed Black River Road Interchange

The Black River Road overpass at I-20 is located 2.3 miles east of the US 521 interchange and 1.3 miles west of the Dr. Humphries Road interchange. This does not satisfy AASHTO Green Book recommendations for a minimum spacing of 2 miles in rural locations. In addition, any interchange design must consider acceleration, deceleration, and weaving between ramps, which may increase the spacing requirements. All new access points into the interstate system must comply with Federal Highway Administration (FHWA) policy and guidelines. An Interchange Justification Report (IJR) is required and it must satisfy the following requirements for approval:

- The need cannot be adequately addressed by existing interchanges.
- The need cannot be adequately addressed using transportation system management such as ramp metering, mass transit, or other alternate improvements.
- The proposed interchange does not have an adverse impact on the existing interstate or local street system.
- The proposed access connects to a public road.
- The proposed access is consistent with local and regional transportation plans.
- Where the potential for multiple future interchanges exists, the study must include a comprehensive network study.
- Where the proposed interchange is due to a substantial change in current or planned land use, the report must describe commitments for collection and dispersion of traffic from the development.
- The proposal must be included as an alternative in the environmental evaluation.

At the present, there are no plans for a new interchange at Black River Road. Based on the above information, it may be difficult to justify to FHWA the need for a new interchange. Traffic demands and improvements needed to maintain an acceptable level of service on the roadway system for the purposes of this corridor study are addressed without a new interchange.

7. Public/Stakeholder Involvement

To gauge public opinion on the efforts of this corridor study, a three-pronged approach was utilized:

- Stakeholder meetings with various business owners, elected officials, and landowners
- A project website for the corridor study
- A public information meeting

As soon as the project team was engaged, efforts were made to "brand" the corridor study. The Kershaw County Planning and Zoning Departments engage in several different types of planning studies and the public could easily get confused over which study they are being asked to comment on. To reduce the potential for confusion, three different versions of a project logo were created and ultimately Kershaw County chose the logo shown to the right as the project logo.

Once the project logo was established, a project website was developed and linked to Kershaw County's website. Citizens were able to view maps of the study area, find the status of the corridor study, see the date of the next meeting, and leave comments for the project team.

Working with Kershaw County staff, the project team prepared a list of affected stakeholders for the corridor study. Over 40 different stakeholders were invited to attend three separate stakeholder meetings held throughout the day on July 19, 2017. Some of the organizations represented at the stakeholder meetings are shown in **Table 24**.

Table 24. Stakeholder Meeting Attendees

City of Camden	Kershaw County	Santee Lynches COG
Central Carolina Tech College	Kershaw County Schools	SCDOT
SC House of Representatives	Storage One	JP Smith Builders
City of Camden Police	Elected Officials	Speaks Oil

During the three stakeholder meetings, members of the project team gave an overview of the corridor study and gathered feedback on important issues related to the study area. Some business owners talked about the need to maintain access to their businesses. The City of Camden Police Chief noted the dangerous intersection at US 521 and Century Boulevard. Elected officials spoke of development plans in the area that they were aware of and constituent concerns. SCDOT officials from both the Camden Maintenance office and the Columbia Headquarters office were in attendance. A meeting summary from the three stakeholder meetings can be found in **Appendix K**. After learning more about the study area and specific changes that are occurring and likely to occur in the area, the project team was ready to begin analyzing what candidate traffic improvements would mean for the study area.

During the late summer and early fall of 2017, project team members ran the traffic models with input gained from the stakeholders and began formulating recommendations. On October 26, 2017 the project team hosted a public information meeting at the Kershaw County Economic Development Offices. Twenty-seven citizens and members of the community attended the public information meeting and learned more about the corridor study and the recommendations brought forward by the project team. Members of the project team were stationed at boards around the room and enjoyed one on one conversations with property owners, residents, and business owners. In general, the recommendations were received positively by the public with several citizens agreeing that the recommendations made sense and needed to be implemented quickly.

July 19, 2017 Stakeholder Meeting

October 26, 2017 Public Info Meeting

During the public meeting, attendees were given the opportunity to provide written comments. One written comment was received during the public meeting. That comment stated that he agreed with all the proposals made.

After the public meeting, two written comments were received through the project website. Some of the issues raised in those written comments included:

- Support for solutions without signals
- Improve sight distances at all intersections
- Improve wayfinding and visibility of businesses
- Support connections for bicycle and pedestrians as this is a quality of life issue

The sign-in sheet along with all comments received during the public and stakeholder involvement process can be found in **Appendix L**.

8. Conclusions and Recommendations

In general, the study area functions well under existing conditions with the exception of US 521 between I-20 and Wall Street. The crash rate in this segment is higher than expected for a typical divided highway with the most common type of crashes being rear end collisions. The intersection of US 521 and Century Boulevard has the highest injury crash rate caused by the high number of angle crashes. Controlling traffic flow and reducing the crash rate is possible by using access management techniques. Channelizing the medians to prevent left turns from the minor street can be an effective measure to reach these goals. Right turns can still be made, which are generally easier for most drivers and result in fewer crashes. Provisions for longer left turn lanes, bulb-outs for U-turns, and signalization may be necessary to achieve good results.

8.1 Near-Term Recommendations

Implementation of access control measures on US 521 limiting left turn movements from Century Boulevard and Wall Street is recommended. This is expected to reduce the existing crash rate and to maintain roadway capacity prior to and along with future development. Access management modifications are expected to address 2017 Existing and 2040 No-Build conditions and are necessary in 2040 Build Scenario 1 and Scenario 2 conditions. These changes are expected to increase left turn movements at median openings and will require new and longer left turn lanes and future signalization. A detailed review of traffic conditions at the time of construction is recommended to determine whether signalization is warranted. The near-term recommendations for the corridor are shown in **Table 25**.

Table 25. Near-Term Recommendations

Location	Traffic Control	Left Turn Lane	Right Turn Lane	Median Opening
US 521 and Black River Road	Future signal	Northbound 200 feet	Northbound existing	Full access
300 feet south of Black River Road	—	—	—	Close
490 feet south of Black River Road	—	Northbound 150 feet	—	Northbound left turns from US 521 only
US 521 and Entrance Road to Apartment Complex	Future signal for left and U-turns	Northbound 350 feet Southbound 350 feet	Northbound to extend to Century Boulevard	Northbound and southbound left turns from US 521 only
US 521 and Century Boulevard	Future signal for left and U-turns	Northbound 150 feet Southbound 350 feet	Southbound to extend to Wall Street	Northbound and southbound left turns from US 521 only
US 521 and I-20 westbound	No change	Northbound existing	Reduce radius	Full access
US 521 and I-20 eastbound	Future signal	SB existing	—	Full access

Another near-term recommendation is to construct northbound and westbound left turn lanes and an eastbound right turn lane for the new Technical College/Shopping Center roadway. This can be signalized when warranted and will provide an alternate route into and out of CCTC and other commercial properties located on the northeast quadrant of I-20 and US 521.

As traffic volumes increase, queues on Century Boulevard will negatively impact use of the frontage road located to the east of US 521. Better internal circulation within the developing area on the northeast quadrant of I-20 and US 521 is strongly encouraged.

8.2 Long-Term Recommendations for 2040 Build Scenario 1

Full build-out of the identified properties will have a significant impact on the character of the Black River Road corridor. To address the increase in traffic, Black River Road may need to be widened to four lanes with turn lanes from US 521 to Southern Oaks Drive/Steeplechase Industrial Boulevard. The intersection of US 521 and Black River Road is expected to require dual left turn lanes for southbound and westbound traffic and dual right turn lanes for westbound traffic. Left turn lanes are also needed on Black River Road at the intersections with Precipice Road and Mount Olivet Road. Potential future traffic signals are identified at ten locations:

- US 521 and Ehrenclou Drive
- US 521 and Black River Road
- US 521 and Wall Street
- US 521 and Century Boulevard
- US 521 and I-20 eastbound ramps
- Black River Road and Technical College/Shopping Center Road
- Black River Road and Southern Oaks Drive/Steeplechase Industrial Boulevard
- Black River Road and Precipice Road
- Dr. Humphries Road and I-20 eastbound ramps
- Dr. Humphries Road and Mount Olivet Road

In order to provide an acceptable level of service, each intersection will require some roadway improvements. Many of these improvements could be implemented in phases as the area develops.

8.3 Long-Term Recommendations for 2040 Build Scenario 2

In 2040 Build Scenario 2 conditions, the industrial parks are fully developed and primarily expected to use the Dr. Humphries Road interchange. The modifications to US 521 described in 2040 Build Scenario 1 are still needed. Widening along Black River Road includes four lanes between US 521 to Tickle Hill Road and Southern Oaks Drive/Steeplechase Industrial Boulevard to Mount Olivet Road. Additional modifications are needed at the Dr. Humphries Road interchange through the intersection of Dr. Humphries Road and Mount Olivet Road. In addition the potential signalized intersections identified in 2040 Build Scenario 1, the intersection of Black River Road and Mount Olivet Road and the intersection of Dr. Humphries Road and I-20 eastbound exit ramp may require signalization. To provide an acceptable level of service, each intersection will require some roadway improvements. Many of these improvements could be implemented in phases as the area develops.

8.4 Sequencing of Improvements

Regardless of whether 2040 Build Scenario 1 or Scenario 2 is more accurate to the actual future growth patterns, roadway improvements can be applied incrementally to address congestion or safety concerns. A likely sequencing of roadway improvements to the corridor is as follows:

1. Build new Technical College/Shopping Center Drive driveway with left turn and right-turn lanes to/from Black River Road. Signalize intersection when warranted.
2. Install a traffic signal at the intersection of US 521 at Black River Road.
3. Implement access management strategies along US 521 using a superstreet design by providing left turns into Wall Street and into Century Boulevard but only right turns out of the side streets.
4. Change the free flow right turn from the I-20 westbound exit ramp at US 521 to stop control and with a smaller turning radius.
5. Install a traffic signal at the intersection of US 521 at I-20 eastbound exit ramp when warranted.
6. Widen Black River Road.
7. Widen US 521 to provide auxiliary lanes between Wall Street and Century Boulevard. Add U-turn traffic signals when warranted.
8. Widen Dr. Humphries Road from I-20 to Mount Olivet Road. Provide additional lanes on the I-20 eastbound ramp at Dr. Humphries Road.
9. Widen Mount Olivet Road and consider realignment of Black River Road and Mount Olivet Road.

8.5 Other Options

Other options can be considered throughout the corridor depending upon development and future needs. Some options to consider are:

- A modified roundabout at the intersection of Black River Road and Technical College/Shopping Center Road can manage the traffic flow in 2040 Build Scenario 2 conditions while simultaneously providing a landmark. This could potentially encourage truck traffic to use the Dr. Humphries Road interchange and lower speeds near the college entrance.
- A four-way stop or simple roundabout will function at the intersection of SC 34 and Dr. Humphries Road.
- Realign the intersection of Black River Road and Mount Olivet Road making the east-west movement the primary route. A long eastbound to northbound left turn lane will not be needed and it may encourage more use of the Dr. Humphries Road interchange with I-20.
- Signalization at the intersection of US 521 and Century Boulevard. This can function at an acceptable level of service but will have impacts to other nearby intersections. A signal at this location will preclude any future signalization of US 521 and the I-20 westbound exit ramp due to the close spacing. Also, queues on Century Boulevard will block the frontage road. To prevent any back-ups into US 521 from entering traffic, a concrete median is recommended to allow only right turns into and out of the frontage road.
- Consider adding a median along Century Blvd at Wall Street to restrict left turns onto Wall. The short distance from US 521 to Wall Street will create conflicts.

8.6 Bicycle and Pedestrian Considerations

8.6.1 Existing Bicycle and Pedestrian Conditions

There are no existing bicycle or pedestrian facilities along the roadway segments that are part of this study. In addition, there were no signs of worn paths along any of the roadway segments under study. However, within the project study area, “share the road” signage was found along both US 521 and Black River Road.

8.6.2 Existing Plans, Vision, and Goals for the Study Area

In the *Kershaw County Bicycle, Pedestrian, and Greenways Plan*, the community noted a desire to improve connections between the neighborhoods along Black River Road and the park facilities in the Town of Camden. In addition, the plan identifies a greenway, known as the Black River Road Connector, which would provide a connection between Black River Road and the Town of Camden. The Black River Road Connector, according to the plan, is both a high-priority route and near-term project for a 1.5-mile multi-use trail between Black River Road and US 1 within the Progress Energy easement.

In the *Santee-Lynches 2040 LRTP*, Black River Road from US 521 to S-189 (Mount Olivet Road) is the second highest priority project to provide shoulders and to improve access for pedestrians.

8.6.3 Bicycle and Pedestrian Recommendations

Taking into account the information presented in Chapter 3, this area is projected to experience growth in both population and employment over the next 20 years. The new residential, commercial, and institutional development is expected to increase the demand and need for bicycle and pedestrian accommodations. Furthermore, the industrial growth will increase truck traffic, which raises safety issues for bicyclists that are sharing the roadway. Given these dynamics, bicycle and pedestrian facilities are recommended for the project study area and are described in **Table 26**.

Table 26. Recommended Bicycle and Pedestrian Facilities

Location	Proposed Improvement	Description
US 521, from I-20 to S-897	Wide Paved Shoulder	Increase the paved portion of the existing shoulder to 4 feet
Black River Road, from US 521 to S-189	Multi-use Path	Provide a 10’ paved trail that is parallel to the roadway and separated from the roadway a minimum of 5 feet
Black River Road, from S-189 to S-91	Wide Paved Shoulder	Increase paved portion of the existing shoulder to 4 feet
S-189	Wide Paved Shoulder	Increase paved portion of the existing shoulder to 4 feet
Dr. Humphries Road	Wide Paved Shoulder	Increase paved portion of the existing shoulder to 4 feet

8.7 Costs of Recommended Improvements

Kershaw County, like all governmental entities, is fiscally constrained in its ability to make needed infrastructure improvements. The list of needs goes beyond available funding sources. In order to better prioritize the recommended improvements, the project team developed planning level cost estimates for each of the recommended improvements found in Section 8.4.

In South Carolina, most cost estimates are prepared using the proprietary Bid Express software. Every project that is let by SCDOT utilizes the Bid Express software and is constantly updated based on most recent bid items. AECOM subscribes to the Bid Express software and has access to recent bid items. For the purposes of the Black River Road Corridor Study, AECOM's team developed cost estimates based only on bid items from South Carolina and only on bids from the past 12 months. **Table 27** describes the recommendations from Section 8.4 and provides cost information along with assumptions on how that cost was generated.

Table 27. Cost of Recommendations

Recommendation	Total Cost	Notes
1. Build new Technical College/Shopping Center Drive driveway with left turn and right-turn lanes to/from Black River Road. Signalize intersection when warranted.	$950,000	NOTE: This new entrance road will be built by others and is not included in this cost. This cost includes adding a right turn lane from Black River Road into Tech College and widening of Black River Road to accommodate a left turn lane from Black River Road to Tech College. Also includes 3 leg signalization with mast arms.
2. Install a traffic signal at the intersection of US 521 at Black River Road.	$160,000	Includes signalization of existing intersection.
3. Implement access management strategies along US 521 using a superstreet design by providing left turns into Wall Street and into Century Boulevard but only right turns out of the side streets.	$300,000	Includes installing R CUT intersections at Century and Wall.
4. Change the free flow right turn from the I-20 westbound exit ramp at US 521 to stop control and with a smaller turning radius.	$150,000	Includes reconfiguring westbound I-20 ramp at US 521 to eliminate the free flow northbound movement and bring traffic to a stop sign.
5. Install a traffic signal at the intersection of US 521 at I-20 eastbound exit ramp when warranted.	$160,000	Includes signalization of existing intersection.
6. Widen Black River Road.		
a. From US 521 to Hermitage Farm Road	$4,000,000	Assumes 0.7 miles widening from 2 lanes to 5 lanes with raised landscaped median, shoulders, no curb and gutter. Includes a multi -use path at $65 per linear foot.
b. From Steeplechase Industrial Drive to Mt. Olivet Road	$10,000,000	Assumes 2.1 miles widening from 2 lanes to 3 lanes with raised landscaped median, shoulders, no curb and gutter. Includes a multi-use path at $65 per linear foot.
7. Widen US 521 to provide auxiliary lanes between Wall Street and Century Boulevard. Add U-turn traffic signals when warranted.	$950,000	Includes 1100' of new auxiliary lanes on north and south side of US 521 and signals at Century and Wall.
8. Widen Dr. Humphries Road from I-20 to Mount Olivet Road. Provide additional lanes on the I-20 eastbound ramp at Dr. Humphries Road.	$1,200,000	Includes widening Dr. Humphries to accommodate turn lanes, left turn lane onto Dr. Humphries and right turn lane. Also includes widening on Mt. Olivet to include left and right turn lanes onto Dr. Humphries.
9. Widen Mount Olivet Road and consider realignment of Black River Road and Mount Olivet Road.	$950,000	Includes intersection improvements at Black River and Mt. Olivet to make Black River to Mt. Olivet the thru movement. Does not widen Mt. Olivet. Black River heading northwest comes to a stop sign at intersection.
Total Cost of Recommended Improvements	$18,820,000	

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Appendix A 2017 Existing 24-Hour Traffic Counts

Prepared by National Data & Surveying Services

CLASSIFICATION

US 521/Sumter Hwy S/O I-20 interchange

Day: Tuesday
Date: 5/16/2017

City: Camden
Project #: SC17_9315_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	50	11	1	1	0	0	1	1	0	0	0	0	65
1:00	1	24	5	0	0	0	0	0	4	0	0	0	0	34
2:00	1	34	8	0	0	0	0	1	2	0	0	0	0	46
3:00	1	44	8	0	5	0	0	1	3	0	0	0	0	62
4:00	3	74	23	1	8	0	0	1	3	0	0	0	0	113
5:00	1	183	39	2	18	0	0	3	11	0	0	0	0	257
6:00	4	413	117	0	45	1	0	15	18	0	0	0	0	613
7:00	9	616	178	2	66	1	2	9	36	0	0	0	0	919
8:00	6	426	115	3	49	2	0	20	31	0	0	0	0	652
9:00	3	363	103	0	51	2	1	8	31	0	0	0	0	562
10:00	3	313	92	2	42	0	0	14	29	0	0	0	0	495
11:00	5	333	93	3	46	1	1	4	25	0	0	0	0	511
12:00 PM	6	386	109	0	45	2	1	22	19	0	0	0	0	590
13:00	6	373	110	0	50	1	0	12	28	0	0	0	0	580
14:00	8	394	113	1	43	1	1	10	39	0	0	0	0	610
15:00	6	461	116	2	48	1	0	12	29	0	0	0	0	675
16:00	6	479	123	0	51	0	0	19	29	0	0	0	0	707
17:00	8	591	162	8	72	2	0	16	43	0	0	0	0	902
18:00	4	373	103	0	44	0	0	7	29	0	0	0	0	560
19:00	9	290	78	0	31	0	0	8	25	0	0	0	0	441
20:00	2	198	56	0	18	1	1	4	13	0	0	0	0	293
21:00	2	172	39	1	20	0	0	1	11	0	0	0	0	246
22:00	0	108	21	0	8	0	0	0	6	0	0	0	0	143
23:00	0	69	12	0	6	0	0	2	4	0	0	0	0	93
Totals	94	6767	1834	26	767	15	7	190	469					10169
% of Totals	1%	67%	18%	0%	8%	0%	0%	2%	5%					100%

AM Volumes	37	2873	792	14	331	7	4	77	194	0	0	0	0	4329
% AM	0%	28%	8%	0%	3%	0%	0%	1%	2%					43%
AM Peak Hour	7:00	7:00	7:00	8:00	7:00	8:00	7:00	8:00	7:00					7:00
Volume	9	616	178	3	66	2	2	20	36					919
PM Volumes	57	3894	1042	12	436	8	3	113	275	0	0	0	0	5840
% PM	1%	38%	10%	0%	4%	0%	0%	1%	3%					57%
PM Peak Hour	19:00	17:00	17:00	17:00	17:00	12:00	12:00	12:00	17:00					17:00
Volume	9	591	162	8	72	2	1	22	43					902

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	1571	⟷	15%	1170	⟷	12%	1609	⟷	16%	5819	⟷	57%

Classification Definitions

1 Motorcycles	4 Buses	7 > =4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	5,067	5,102	0	0	10,169

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	11		11		0	0	22		12:00	91		73		0	0	164	
0:15	5		3		0	0	8		12:15	77		71		0	0	148	
0:30	8		14		0	0	22		12:30	73		59		0	0	132	
0:45	4	28	9	37	0	0	13	65	12:45	74	315	72	275	0	0	146	590
1:00	2		5		0	0	7		13:00	72		66		0	0	138	
1:15	5		10		0	0	15		13:15	78		70		0	0	148	
1:30	1		4		0	0	5		13:30	70		72		0	0	142	
1:45	3	11	4	23	0	0	7	34	13:45	83	303	69	277	0	0	152	580
2:00	7		7		0	0	14		14:00	72		100		0	0	172	
2:15	8		6		0	0	14		14:15	80		50		0	0	130	
2:30	5		3		0	0	8		14:30	78		80		0	0	158	
2:45	3	23	7	23	0	0	10	46	14:45	79	309	71	301	0	0	150	610
3:00	2		4		0	0	6		15:00	85		67		0	0	152	
3:15	10		4		0	0	14		15:15	78		75		0	0	153	
3:30	15		10		0	0	25		15:30	78		84		0	0	162	
3:45	10	37	7	25	0	0	17	62	15:45	101	342	107	333	0	0	208	675
4:00	11		10		0	0	21		16:00	81		94		0	0	175	
4:15	17		12		0	0	29		16:15	66		93		0	0	159	
4:30	17		10		0	0	27		16:30	94		105		0	0	199	
4:45	25	70	11	43	0	0	36	113	16:45	60	301	114	406	0	0	174	707
5:00	35		11		0	0	46		17:00	102		135		0	0	237	
5:15	37		31		0	0	68		17:15	99		115		0	0	214	
5:30	35		23		0	0	58		17:30	117		128		0	0	245	
5:45	51	158	34	99	0	0	85	257	17:45	99	417	107	485	0	0	206	902
6:00	65		50		0	0	115		18:00	75		69		0	0	144	
6:15	102		58		0	0	160		18:15	86		71		0	0	157	
6:30	103		63		0	0	166		18:30	62		63		0	0	125	
6:45	100	370	72	243	0	0	172	613	18:45	59	282	75	278	0	0	134	560
7:00	107		97		0	0	204		19:00	49		67		0	0	116	
7:15	87		152		0	0	239		19:15	37		78		0	0	115	
7:30	135		136		0	0	271		19:30	49		67		0	0	116	
7:45	115	444	90	475	0	0	205	919	19:45	50	185	44	256	0	0	94	441
8:00	93		93		0	0	186		20:00	38		43		0	0	81	
8:15	69		70		0	0	139		20:15	37		40		0	0	77	
8:30	85		87		0	0	172		20:30	30		38		0	0	68	
8:45	77	324	78	328	0	0	155	652	20:45	30	135	37	158	0	0	67	293
9:00	84		59		0	0	143		21:00	24		46		0	0	70	
9:15	75		63		0	0	138		21:15	30		38		0	0	68	
9:30	84		80		0	0	164		21:30	32		26		0	0	58	
9:45	41	284	76	278	0	0	117	562	21:45	30	116	20	130	0	0	50	246
10:00	48		51		0	0	99		22:00	16		25		0	0	41	
10:15	58		70		0	0	128		22:15	18		18		0	0	36	
10:30	55		52		0	0	107		22:30	18		20		0	0	38	
10:45	65	226	96	269	0	0	161	495	22:45	12	64	16	79	0	0	28	143
11:00	61		56		0	0	117		23:00	10		17		0	0	27	
11:15	73		55		0	0	128		23:15	14		20		0	0	34	
11:30	67		65		0	0	132		23:30	10		8		0	0	18	
11:45	79	280	55	231	0	0	134	511	23:45	9	43	5	50	0	0	14	93
TOTALS		2255		2074				4329	TOTALS		2812		3028				5840
SPLIT %		52.1%		47.9%				42.6%	SPLIT %		48.2%		51.8%				57.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	5,067	5,102	0	0	10,169

AM Peak Hour	7:00	7:00			7:00	PM Peak Hour	17:00	16:45			17:00
AM Pk Volume	444	475			919	PM Pk Volume	417	492			902
Pk Hr Factor	0.822	0.781			0.848	Pk Hr Factor	0.891	0.911			0.920
7 - 9 Volume	768	803	0	0	1571	4 - 6 Volume	718	891	0	0	1609
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	17:00	16:45			17:00
7 - 9 Pk Volume	444	475	0	0	919	4 - 6 Pk Volume	417	492	0	0	902
Pk Hr Factor	0.822	0.781	0.000	0.000	0.848	Pk Hr Factor	0.891	0.911	0.000	0.000	0.920

Prepared by National Data & Surveying Services

CLASSIFICATION

US 521/Sumter Hwy S/O I-20 interchange

Day: Wednesday
Date: 5/17/2017

City: Camden
Project #: SC17_9315_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	61	13	0	0	0	0	1	0	0	0	0	0	75
1:00	0	29	10	0	1	0	0	0	1	0	0	0	0	41
2:00	1	38	12	0	1	0	0	1	2	0	0	0	0	55
3:00	0	34	6	0	4	0	0	0	2	0	0	0	0	46
4:00	3	79	18	0	7	1	0	4	6	0	0	0	0	118
5:00	2	179	41	0	21	0	0	3	9	0	0	0	0	255
6:00	4	444	112	0	61	1	0	10	19	0	0	0	0	651
7:00	5	700	167	2	68	4	0	16	44	0	0	0	0	1006
8:00	5	474	130	2	63	4	0	17	31	0	0	0	0	726
9:00	7	390	114	2	49	3	0	18	24	0	0	0	0	607
10:00	7	321	79	2	34	2	0	15	18	0	0	0	0	478
11:00	4	355	96	2	41	4	0	7	24	0	0	0	0	533
12:00 PM	7	434	127	0	44	3	0	7	28	0	0	0	0	650
13:00	7	388	110	3	49	5	0	7	21	0	0	0	0	590
14:00	4	418	106	3	50	1	0	10	18	0	0	0	0	610
15:00	10	492	133	2	58	5	0	8	24	0	0	0	0	732
16:00	5	559	149	1	67	1	0	12	33	0	0	0	0	827
17:00	6	683	159	0	67	3	0	9	20	0	0	0	0	947
18:00	5	439	120	0	42	0	0	9	13	0	0	0	0	628
19:00	2	304	65	1	23	0	0	5	6	0	0	0	0	406
20:00	3	251	58	1	21	0	0	4	5	0	0	0	0	343
21:00	0	150	34	1	15	0	0	0	7	0	0	0	0	207
22:00	0	107	22	0	12	0	0	1	4	0	0	0	0	146
23:00	0	87	13	0	9	0	0	0	2	0	0	0	0	111
Totals	87	7416	1894	22	807	37		164	361					10788
% of Totals	1%	69%	18%	0%	7%	0%		2%	3%					100%

AM Volumes	38	3104	798	10	350	19	0	92	180	0	0	0	0	4591
% AM	0%	29%	7%	0%	3%	0%		1%	2%					43%
AM Peak Hour	9:00	7:00	7:00	7:00	7:00	7:00		9:00	7:00					7:00
Volume	7	700	167	2	68	4		18	44					1006
PM Volumes	49	4312	1096	12	457	18	0	72	181	0	0	0	0	6197
% PM	0%	40%	10%	0%	4%	0%		1%	2%					57%
PM Peak Hour	15:00	17:00	17:00	13:00	16:00	13:00		16:00	16:00					17:00
Volume	10	683	159	3	67	5		12	33					947

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	1732	⟷	16%	1240	⟷	11%	1774	⟷	16%	6042	⟷	56%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	5,380	5,408	0	0	10,788

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	7		14		0	0	21		12:00	82		73		0	0	155	
0:15	8		10		0	0	18		12:15	81		80		0	0	161	
0:30	5		12		0	0	17		12:30	98		67		0	0	165	
0:45	5	25	14	50	0	0	19	75	12:45	83	344	86	306	0	0	169	650
1:00	8		7		0	0	15		13:00	80		78		0	0	158	
1:15	4		8		0	0	12		13:15	71		70		0	0	141	
1:30	3		3		0	0	6		13:30	70		69		0	0	139	
1:45	1	16	7	25	0	0	8	41	13:45	78	299	74	291	0	0	152	590
2:00	3		5		0	0	8		14:00	86		73		0	0	159	
2:15	4		18		0	0	22		14:15	86		65		0	0	151	
2:30	7		5		0	0	12		14:30	80		60		0	0	140	
2:45	6	20	7	35	0	0	13	55	14:45	92	344	68	266	0	0	160	610
3:00	1		4		0	0	5		15:00	75		84		0	0	159	
3:15	6		3		0	0	9		15:15	89		87		0	0	176	
3:30	9		8		0	0	17		15:30	102		94		0	0	196	
3:45	12	28	3	18	0	0	15	46	15:45	76	342	125	390	0	0	201	732
4:00	9		10		0	0	19		16:00	81		105		0	0	186	
4:15	13		12		0	0	25		16:15	93		110		0	0	203	
4:30	21		22		0	0	43		16:30	94		137		0	0	231	
4:45	17	60	14	58	0	0	31	118	16:45	91	359	116	468	0	0	207	827
5:00	34		19		0	0	53		17:00	126		119		0	0	245	
5:15	34		21		0	0	55		17:15	103		126		0	0	229	
5:30	39		24		0	0	63		17:30	126		139		0	0	265	
5:45	44	151	40	104	0	0	84	255	17:45	99	454	109	493	0	0	208	947
6:00	91		38		0	0	129		18:00	95		82		0	0	177	
6:15	93		57		0	0	150		18:15	72		93		0	0	165	
6:30	126		61		0	0	187		18:30	86		81		0	0	167	
6:45	110	420	75	231	0	0	185	651	18:45	56	309	63	319	0	0	119	628
7:00	142		106		0	0	248		19:00	44		62		0	0	106	
7:15	116		157		0	0	273		19:15	45		75		0	0	120	
7:30	143		127		0	0	270		19:30	39		58		0	0	97	
7:45	104	505	111	501	0	0	215	1006	19:45	39	167	44	239	0	0	83	406
8:00	104		99		0	0	203		20:00	53		52		0	0	105	
8:15	94		80		0	0	174		20:15	40		40		0	0	80	
8:30	93		80		0	0	173		20:30	31		55		0	0	86	
8:45	81	372	95	354	0	0	176	726	20:45	42	166	30	177	0	0	72	343
9:00	65		76		0	0	141		21:00	25		31		0	0	56	
9:15	84		82		0	0	166		21:15	21		36		0	0	57	
9:30	88		82		0	0	170		21:30	22		18		0	0	40	
9:45	55	292	75	315	0	0	130	607	21:45	25	93	29	114	0	0	54	207
10:00	68		59		0	0	127		22:00	22		22		0	0	44	
10:15	66		61		0	0	127		22:15	14		19		0	0	33	
10:30	62		63		0	0	125		22:30	14		21		0	0	35	
10:45	46	242	53	236	0	0	99	478	22:45	14	64	20	82	0	0	34	146
11:00	66		79		0	0	145		23:00	16		13		0	0	29	
11:15	57		72		0	0	129		23:15	14		24		0	0	38	
11:30	71		58		0	0	129		23:30	8		18		0	0	26	
11:45	69	263	61	270	0	0	130	533	23:45	7	45	11	66	0	0	18	111
TOTALS		2394		2197				4591	TOTALS		2986		3211				6197
SPLIT %		52.1%		47.9%				42.6%	SPLIT %		48.2%		51.8%				57.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	5,380	5,408	0	0	10,788

AM Peak Hour	6:45	7:00			7:00	PM Peak Hour	17:00	16:45			17:00
AM Pk Volume	511	501			1006	PM Pk Volume	454	500			947
Pk Hr Factor	0.893	0.798			0.921	Pk Hr Factor	0.901	0.899			0.893
7 - 9 Volume	877	855	0	0	1732	4 - 6 Volume	813	961	0	0	1774
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	17:00	16:45			17:00
7 - 9 Pk Volume	505	501	0	0	1006	4 - 6 Pk Volume	454	500	0	0	947
Pk Hr Factor	0.883	0.798	0.000	0.000	0.921	Pk Hr Factor	0.901	0.899	0.000	0.000	0.893

Prepared by National Data & Surveying Services

CLASSIFICATION

US 521/Sumter Hwy S/O I-20 interchange

Day: Thursday
Date: 5/18/2017

City: Camden
Project #: SC17_9315_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	2	56	10	0	5	0	0	1	5	0	0	0	0	79
1:00	0	40	13	0	4	0	0	0	0	0	0	0	0	57
2:00	1	43	8	0	1	0	0	0	3	0	0	0	0	56
3:00	0	31	7	0	1	0	0	2	1	0	0	0	0	42
4:00	1	96	20	1	8	0	1	2	5	0	0	0	0	134
5:00	0	180	50	2	18	0	0	2	10	0	0	0	0	262
6:00	7	454	119	0	57	3	0	9	21	0	0	0	0	670
7:00	11	661	172	4	62	6	0	16	40	0	0	0	0	972
8:00	7	467	118	0	59	2	0	15	26	0	0	0	0	694
9:00	5	369	98	2	47	3	1	10	19	0	0	0	0	554
10:00	4	374	107	3	48	2	0	10	27	0	0	0	0	575
11:00	5	379	99	0	36	1	0	6	25	0	0	0	0	551
12:00 PM	5	430	119	3	52	2	0	11	31	0	0	0	0	653
13:00	5	382	113	3	54	0	0	10	20	0	0	0	0	587
14:00	6	395	107	4	47	2	0	9	28	0	0	0	0	598
15:00	4	474	112	1	53	1	0	12	22	0	0	0	0	679
16:00	5	540	125	3	49	5	0	8	29	0	0	0	0	764
17:00	8	631	152	2	59	0	0	6	26	0	0	0	0	884
18:00	4	432	91	0	44	0	0	9	16	0	0	0	0	596
19:00	1	283	59	0	28	0	0	2	6	0	0	0	0	379
20:00	1	206	40	1	16	0	0	0	3	0	0	0	0	267
21:00	0	167	35	1	13	0	0	1	5	0	0	0	0	222
22:00	2	129	23	0	11	1	0	1	8	0	0	0	0	175
23:00	0	61	11	0	3	0	0	1	3	0	0	0	0	79
Totals	84	7280	1808	30	775	28	2	143	379					10529
% of Totals	1%	69%	17%	0%	7%	0%	0%	1%	4%					100%

AM Volumes	43	3150	821	12	346	17	2	73	182	0	0	0	0	4646
% AM	0%	30%	8%	0%	3%	0%	0%	1%	2%					44%
AM Peak Hour	7:00	7:00	7:00	7:00	7:00	7:00	4:00	7:00	7:00					7:00
Volume	11	661	172	4	62	6	1	16	40					972
PM Volumes	41	4130	987	18	429	11	0	70	197	0	0	0	0	5883
% PM	0%	39%	9%	0%	4%	0%		1%	2%					56%
PM Peak Hour	17:00	17:00	17:00	14:00	17:00	16:00		15:00	12:00					17:00
Volume	8	631	152	4	59	5		12	31					884

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	1666	⟷	16%	1240	⟷	12%	1648	⟷	16%	5975	⟷	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	5,289	5,240	0	0	10,529

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	3		10		0	0	13		12:00	64		86		0	0	150	
0:15	9		8		0	0	17		12:15	89		84		0	0	173	
0:30	13		15		0	0	28		12:30	89		77		0	0	166	
0:45	8	33	13	46	0	0	21	79	12:45	92	334	72	319	0	0	164	653
1:00	10		6		0	0	16		13:00	79		66		0	0	145	
1:15	9		8		0	0	17		13:15	73		66		0	0	139	
1:30	5		8		0	0	13		13:30	74		80		0	0	154	
1:45	5	29	6	28	0	0	11	57	13:45	75	301	74	286	0	0	149	587
2:00	7		7		0	0	14		14:00	73		58		0	0	131	
2:15	3		11		0	0	14		14:15	78		72		0	0	150	
2:30	4		10		0	0	14		14:30	91		75		0	0	166	
2:45	5	19	9	37	0	0	14	56	14:45	77	319	74	279	0	0	151	598
3:00	2		3		0	0	5		15:00	77		91		0	0	168	
3:15	4		8		0	0	12		15:15	77		62		0	0	139	
3:30	4		5		0	0	9		15:30	103		88		0	0	191	
3:45	14	24	2	18	0	0	16	42	15:45	79	336	102	343	0	0	181	679
4:00	10		4		0	0	14		16:00	78		105		0	0	183	
4:15	18		13		0	0	31		16:15	89		107		0	0	196	
4:30	31		10		0	0	41		16:30	80		103		0	0	183	
4:45	32	91	16	43	0	0	48	134	16:45	78	325	124	439	0	0	202	764
5:00	23		24		0	0	47		17:00	113		134		0	0	247	
5:15	37		20		0	0	57		17:15	101		98		0	0	199	
5:30	54		23		0	0	77		17:30	113		112		0	0	225	
5:45	47	161	34	101	0	0	81	262	17:45	113	440	100	444	0	0	213	884
6:00	82		37		0	0	119		18:00	99		85		0	0	184	
6:15	92		69		0	0	161		18:15	84		76		0	0	160	
6:30	128		67		0	0	195		18:30	77		69		0	0	146	
6:45	116	418	79	252	0	0	195	670	18:45	45	305	61	291	0	0	106	596
7:00	106		103		0	0	209		19:00	40		57		0	0	97	
7:15	102		173		0	0	275		19:15	35		81		0	0	116	
7:30	161		114		0	0	275		19:30	34		42		0	0	76	
7:45	104	473	109	499	0	0	213	972	19:45	42	151	48	228	0	0	90	379
8:00	86		84		0	0	170		20:00	45		45		0	0	90	
8:15	90		86		0	0	176		20:15	35		29		0	0	64	
8:30	82		81		0	0	163		20:30	26		38		0	0	64	
8:45	103	361	82	333	0	0	185	694	20:45	24	130	25	137	0	0	49	267
9:00	73		62		0	0	135		21:00	22		40		0	0	62	
9:15	81		74		0	0	155		21:15	20		34		0	0	54	
9:30	67		74		0	0	141		21:30	30		27		0	0	57	
9:45	69	290	54	264	0	0	123	554	21:45	25	97	24	125	0	0	49	222
10:00	71		70		0	0	141		22:00	24		22		0	0	46	
10:15	64		79		0	0	143		22:15	14		31		0	0	45	
10:30	70		81		0	0	151		22:30	19		31		0	0	50	
10:45	80	285	60	290	0	0	140	575	22:45	15	72	19	103	0	0	34	175
11:00	67		55		0	0	122		23:00	12		11		0	0	23	
11:15	53		79		0	0	132		23:15	8		19		0	0	27	
11:30	78		82		0	0	160		23:30	5		11		0	0	16	
11:45	69	267	68	284	0	0	137	551	23:45	3	28	10	51	0	0	13	79
TOTALS		2451		2195				4646	TOTALS		2838		3045				5883
SPLIT %		52.8%		47.2%				44.1%	SPLIT %		48.2%		51.8%				55.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	5,289	5,240	0	0	10,529

AM Peak Hour	6:45	7:00			7:00	PM Peak Hour	17:00	16:15			17:00
AM Pk Volume	485	499			972	PM Pk Volume	440	468			884
Pk Hr Factor	0.753	0.721			0.884	Pk Hr Factor	0.973	0.873			0.895
7 - 9 Volume	834	832	0	0	1666	4 - 6 Volume	765	883	0	0	1648
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	17:00	16:15			17:00
7 - 9 Pk Volume	473	499	0	0	972	4 - 6 Pk Volume	440	468	0	0	884
Pk Hr Factor	0.734	0.721	0.000	0.000	0.884	Pk Hr Factor	0.973	0.873	0.000	0.000	0.895

Prepared by National Data & Surveying Services

CLASSIFICATION

US 521/Sumter Hwy Bet. I-20 Interchange & Century Blvd

Day: Tuesday
Date: 5/16/2017

City: Camden
Project #: SC17_9315_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	1	80	8	0	6	0	0	1	10	0	0	0	0	106
1:00	1	39	6	0	2	0	0	1	6	0	0	0	0	55
2:00	1	40	8	0	3	0	0	2	7	0	0	0	0	61
3:00	0	53	12	1	8	0	0	2	8	0	0	0	0	84
4:00	2	94	19	3	11	1	0	2	12	0	0	0	0	144
5:00	0	226	51	4	31	2	0	5	10	0	0	0	0	329
6:00	7	731	154	3	88	2	0	16	26	0	0	0	0	1027
7:00	3	1119	190	10	121	1	0	16	37	1	0	0	0	1498
8:00	5	782	183	7	111	3	0	19	45	0	0	0	0	1155
9:00	4	622	152	4	93	3	0	21	40	0	0	0	0	939
10:00	8	549	123	8	80	5	0	14	35	0	0	0	0	822
11:00	4	575	132	3	77	3	1	14	40	1	0	0	0	850
12:00 PM	3	604	149	4	82	2	0	12	38	0	0	0	0	894
13:00	4	620	161	9	99	3	0	17	44	1	0	0	0	958
14:00	6	651	148	4	92	4	0	15	50	0	0	0	0	970
15:00	7	814	174	8	100	4	0	6	45	0	0	0	0	1158
16:00	9	856	191	9	113	5	0	16	36	0	0	0	0	1235
17:00	9	985	215	11	134	4	0	12	66	0	0	0	0	1436
18:00	10	688	147	8	79	4	0	8	36	0	0	0	0	980
19:00	8	496	101	5	68	2	0	8	22	0	0	0	0	710
20:00	3	387	79	3	43	1	0	3	19	0	0	0	0	538
21:00	1	292	47	1	31	1	0	1	11	0	0	0	0	385
22:00	1	175	35	1	20	0	0	1	12	0	0	0	0	245
23:00	1	116	21	0	11	0	0	0	6	0	0	0	0	155
Totals	98	11594	2506	106	1503	50	1	212	661	3				16734
% of Totals	1%	69%	15%	1%	9%	0%	0%	1%	4%	0%				100%

AM Volumes	36	4910	1038	43	631	20	1	113	276	2	0	0	0	7070
% AM	0%	29%	6%	0%	4%	0%	0%	1%	2%	0%				42%
AM Peak Hour	10:00	7:00	7:00	7:00	7:00	10:00	11:00	9:00	8:00	7:00				7:00
Volume	8	1119	190	10	121	5	1	21	45	1				1498
PM Volumes	62	6684	1468	63	872	30	0	99	385	1	0	0	0	9664
% PM	0%	40%	9%	0%	5%	0%		1%	2%	0%				58%
PM Peak Hour	18:00	17:00	17:00	17:00	17:00	16:00		13:00	17:00	13:00				17:00
Volume	10	985	215	11	134	5		17	66	1				1436

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2653	⟷	16%	1852	⟷	11%	2671	⟷	16%	9558	⟷	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	8,132	8,602	0	0	16,734

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	15		14		0	0	29		12:00	126		117		0	0	243	
0:15	19		16		0	0	35		12:15	105		121		0	0	226	
0:30	12		14		0	0	26		12:30	104		110		0	0	214	
0:45	8	54	8	52	0	0	16	106	12:45	99	434	112	460	0	0	211	894
1:00	10		7		0	0	17		13:00	96		109		0	0	205	
1:15	9		11		0	0	20		13:15	128		107		0	0	235	
1:30	8		3		0	0	11		13:30	105		161		0	0	266	
1:45	4	31	3	24	0	0	7	55	13:45	131	460	121	498	0	0	252	958
2:00	6		10		0	0	16		14:00	110		123		0	0	233	
2:15	10		3		0	0	13		14:15	126		135		0	0	261	
2:30	15		3		0	0	18		14:30	124		138		0	0	262	
2:45	7	38	7	23	0	0	14	61	14:45	103	463	111	507	0	0	214	970
3:00	4		11		0	0	15		15:00	153		103		0	0	256	
3:15	9		7		0	0	16		15:15	136		151		0	0	287	
3:30	14		18		0	0	32		15:30	147		156		0	0	303	
3:45	6	33	15	51	0	0	21	84	15:45	144	580	168	578	0	0	312	1158
4:00	8		19		0	0	27		16:00	129		131		0	0	260	
4:15	6		37		0	0	43		16:15	144		184		0	0	328	
4:30	8		19		0	0	27		16:30	170		144		0	0	314	
4:45	14	36	33	108	0	0	47	144	16:45	177	620	156	615	0	0	333	1235
5:00	22		31		0	0	53		17:00	185		192		0	0	377	
5:15	32		53		0	0	85		17:15	190		164		0	0	354	
5:30	31		43		0	0	74		17:30	199		177		0	0	376	
5:45	43	128	74	201	0	0	117	329	17:45	200	774	129	662	0	0	329	1436
6:00	82		85		0	0	167		18:00	156		136		0	0	292	
6:15	118		129		0	0	247		18:15	187		93		0	0	280	
6:30	156		160		0	0	316		18:30	134		107		0	0	241	
6:45	139	495	158	532	0	0	297	1027	18:45	97	574	70	406	0	0	167	980
7:00	129		192		0	0	321		19:00	80		104		0	0	184	
7:15	139		291		0	0	430		19:15	84		115		0	0	199	
7:30	165		233		0	0	398		19:30	89		84		0	0	173	
7:45	161	594	188	904	0	0	349	1498	19:45	81	334	73	376	0	0	154	710
8:00	153		183		0	0	336		20:00	76		61		0	0	137	
8:15	128		156		0	0	284		20:15	80		57		0	0	137	
8:30	147		135		0	0	282		20:30	65		75		0	0	140	
8:45	127	555	126	600	0	0	253	1155	20:45	56	277	68	261	0	0	124	538
9:00	122		127		0	0	249		21:00	52		57		0	0	109	
9:15	99		122		0	0	221		21:15	49		40		0	0	89	
9:30	120		121		0	0	241		21:30	58		38		0	0	96	
9:45	102	443	126	496	0	0	228	939	21:45	54	213	37	172	0	0	91	385
10:00	94		111		0	0	205		22:00	38		41		0	0	79	
10:15	102		107		0	0	209		22:15	36		24		0	0	60	
10:30	80		121		0	0	201		22:30	35		32		0	0	67	
10:45	107	383	100	439	0	0	207	822	22:45	19	128	20	117	0	0	39	245
11:00	97		107		0	0	204		23:00	27		19		0	0	46	
11:15	77		106		0	0	183		23:15	16		21		0	0	37	
11:30	101		115		0	0	216		23:30	25		17		0	0	42	
11:45	125	400	122	450	0	0	247	850	23:45	17	85	13	70	0	0	30	155
TOTALS		3190		3880				7070	TOTALS		4942		4722				9664
SPLIT %		45.1%		54.9%				42.2%	SPLIT %		51.1%		48.9%				57.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	8,132	8,602	0	0	16,734

AM Peak Hour	7:15	7:00			7:15	PM Peak Hour	17:00	16:45			16:45
AM Pk Volume	618	904			1513	PM Pk Volume	774	689			1440
Pk Hr Factor	0.936	0.777			0.880	Pk Hr Factor	0.968	0.897			0.955
7 - 9 Volume	1149	1504	0	0	2653	4 - 6 Volume	1394	1277	0	0	2671
7 - 9 Peak Hour	7:15	7:00			7:15	4 - 6 Peak Hour	17:00	16:45			16:45
7 - 9 Pk Volume	618	904	0	0	1513	4 - 6 Pk Volume	774	689	0	0	1440
Pk Hr Factor	0.936	0.777	0.000	0.000	0.880	Pk Hr Factor	0.968	0.897	0.000	0.000	0.955

Prepared by National Data & Surveying Services

CLASSIFICATION

US 521/Sumter Hwy Bet. I-20 Interchange & Century Blvd

Day: Wednesday
Date: 5/17/2017

City: Camden
Project #: SC17_9315_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	2	78	9	0	6	0	0	1	7	0	0	0	0	103
1:00	0	50	10	0	5	0	0	1	16	0	0	0	0	82
2:00	2	38	3	1	5	0	0	1	8	0	0	0	0	58
3:00	0	55	3	1	4	0	0	1	8	0	0	0	0	72
4:00	1	75	15	2	8	1	0	5	6	0	0	0	0	113
5:00	1	232	41	1	37	0	0	6	15	0	0	0	0	333
6:00	4	684	129	2	86	8	0	9	18	0	0	0	0	940
7:00	6	1060	173	3	133	6	0	12	43	0	0	0	0	1436
8:00	9	751	141	7	108	6	0	18	31	0	0	0	0	1071
9:00	4	587	125	7	94	3	0	17	56	0	0	0	0	893
10:00	6	534	118	11	75	4	1	13	40	0	0	0	0	802
11:00	2	638	115	5	92	7	1	16	48	0	0	0	0	924
12:00 PM	9	676	139	5	97	3	1	16	39	0	0	0	0	985
13:00	9	626	122	4	106	8	1	17	41	0	0	0	0	934
14:00	5	690	146	2	97	9	2	7	41	0	0	0	0	999
15:00	4	741	159	10	110	3	0	8	32	0	0	0	0	1067
16:00	9	824	201	4	138	3	1	19	34	0	0	0	0	1233
17:00	4	1029	159	5	132	5	0	10	25	0	0	0	0	1369
18:00	5	759	164	5	100	3	0	11	23	0	0	0	0	1070
19:00	1	485	84	4	61	1	0	5	22	0	0	0	0	663
20:00	2	391	63	0	47	0	0	7	14	0	0	0	0	524
21:00	0	273	46	1	29	0	0	1	18	0	0	0	0	368
22:00	1	186	36	0	26	1	0	3	12	0	0	0	0	265
23:00	0	92	14	0	17	0	0	0	8	0	0	0	0	131
Totals	86	11554	2215	80	1613	71	7	204	605					16435
% of Totals	1%	70%	13%	0%	10%	0%	0%	1%	4%					100%

AM Volumes	37	4782	882	40	653	35	2	100	296	0	0	0	0	6827
% AM	0%	29%	5%	0%	4%	0%	0%	1%	2%					42%
AM Peak Hour	8:00	7:00	7:00	10:00	7:00	6:00	10:00	8:00	9:00					7:00
Volume	9	1060	173	11	133	8	1	18	56					1436
PM Volumes	49	6772	1333	40	960	36	5	104	309	0	0	0	0	9608
% PM	0%	41%	8%	0%	6%	0%	0%	1%	2%					58%
PM Peak Hour	12:00	17:00	16:00	15:00	16:00	14:00	14:00	16:00	13:00					17:00
Volume	9	1029	201	10	138	9	2	19	41					1369

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2507	⟷	15%	1919	⟷	12%	2602	⟷	16%	9407	⟷	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	7,936	8,499	0	0	16,435

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	20		12		0	0	32		12:00	125		153		0	0	278	
0:15	20		8		0	0	28		12:15	109		109		0	0	218	
0:30	13		8		0	0	21		12:30	95		137		0	0	232	
0:45	9	62	13	41	0	0	22	103	12:45	121	450	136	535	0	0	257	985
1:00	14		13		0	0	27		13:00	117		116		0	0	233	
1:15	13		9		0	0	22		13:15	123		108		0	0	231	
1:30	5		10		0	0	15		13:30	129		105		0	0	234	
1:45	7	39	11	43	0	0	18	82	13:45	107	476	129	458	0	0	236	934
2:00	5		7		0	0	12		14:00	118		123		0	0	241	
2:15	4		12		0	0	16		14:15	115		114		0	0	229	
2:30	7		9		0	0	16		14:30	142		125		0	0	267	
2:45	9	25	5	33	0	0	14	58	14:45	134	509	128	490	0	0	262	999
3:00	7		12		0	0	19		15:00	127		127		0	0	254	
3:15	6		8		0	0	14		15:15	122		137		0	0	259	
3:30	4		17		0	0	21		15:30	128		156		0	0	284	
3:45	8	25	10	47	0	0	18	72	15:45	124	501	146	566	0	0	270	1067
4:00	8		16		0	0	24		16:00	132		148		0	0	280	
4:15	6		16		0	0	22		16:15	155		145		0	0	300	
4:30	14		19		0	0	33		16:30	158		159		0	0	317	
4:45	15	43	19	70	0	0	34	113	16:45	185	630	151	603	0	0	336	1233
5:00	22		36		0	0	58		17:00	209		176		0	0	385	
5:15	22		46		0	0	68		17:15	164		152		0	0	316	
5:30	33		58		0	0	91		17:30	191		170		0	0	361	
5:45	43	120	73	213	0	0	116	333	17:45	174	738	133	631	0	0	307	1369
6:00	84		89		0	0	173		18:00	183		116		0	0	299	
6:15	100		120		0	0	220		18:15	183		118		0	0	301	
6:30	160		131		0	0	291		18:30	160		114		0	0	274	
6:45	125	469	131	471	0	0	256	940	18:45	98	624	98	446	0	0	196	1070
7:00	117		207		0	0	324		19:00	80		107		0	0	187	
7:15	111		273		0	0	384		19:15	67		113		0	0	180	
7:30	155		223		0	0	378		19:30	71		79		0	0	150	
7:45	143	526	207	910	0	0	350	1436	19:45	73	291	73	372	0	0	146	663
8:00	143		155		0	0	298		20:00	68		86		0	0	154	
8:15	143		128		0	0	271		20:15	77		61		0	0	138	
8:30	127		126		0	0	253		20:30	63		64		0	0	127	
8:45	110	523	139	548	0	0	249	1071	20:45	61	269	44	255	0	0	105	524
9:00	103		114		0	0	217		21:00	62		52		0	0	114	
9:15	120		107		0	0	227		21:15	46		44		0	0	90	
9:30	121		124		0	0	245		21:30	52		37		0	0	89	
9:45	74	418	130	475	0	0	204	893	21:45	42	202	33	166	0	0	75	368
10:00	100		101		0	0	201		22:00	40		35		0	0	75	
10:15	82		122		0	0	204		22:15	33		33		0	0	66	
10:30	97		102		0	0	199		22:30	35		38		0	0	73	
10:45	102	381	96	421	0	0	198	802	22:45	27	135	24	130	0	0	51	265
11:00	99		131		0	0	230		23:00	24		19		0	0	43	
11:15	109		127		0	0	236		23:15	19		22		0	0	41	
11:30	93		127		0	0	220		23:30	20		10		0	0	30	
11:45	108	409	130	515	0	0	238	924	23:45	8	71	9	60	0	0	17	131
TOTALS		3040		3787				6827	TOTALS		4896		4712				9608
SPLIT %		44.5%		55.5%				41.5%	SPLIT %		51.0%		49.0%				58.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,936	8,499	0	0	16,435

AM Peak Hour	7:30	7:00			7:00	PM Peak Hour	16:45	16:45			16:45
AM Pk Volume	584	910			1436	PM Pk Volume	749	649			1398
Pk Hr Factor	0.942	0.833			0.935	Pk Hr Factor	0.896	0.922			0.908
7 - 9 Volume	1049	1458	0	0	2507	4 - 6 Volume	1368	1234	0	0	2602
7 - 9 Peak Hour	7:30	7:00			7:00	4 - 6 Peak Hour	16:45	16:45			16:45
7 - 9 Pk Volume	584	910	0	0	1436	4 - 6 Pk Volume	749	649	0	0	1398
Pk Hr Factor	0.942	0.833	0.000	0.000	0.935	Pk Hr Factor	0.896	0.922	0.000	0.000	0.908

Prepared by National Data & Surveying Services

CLASSIFICATION

US 521/Sumter Hwy Bet. I-20 Interchange & Century Blvd

Day: Thursday
Date: 5/18/2017

City: Camden
Project #: SC17_9315_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	1	81	13	0	9	1	0	2	7	0	0	0	0	114
1:00	0	56	11	0	5	0	0	3	6	0	0	0	0	81
2:00	2	43	4	0	3	0	0	2	6	0	0	0	0	60
3:00	0	50	6	1	3	1	0	2	9	0	0	0	0	72
4:00	2	66	21	1	15	1	0	2	9	0	0	0	0	117
5:00	1	233	54	4	39	6	0	4	15	2	0	0	0	358
6:00	2	653	155	2	86	0	1	10	32	1	0	0	0	942
7:00	5	1027	173	5	139	5	0	18	39	0	0	0	0	1411
8:00	6	731	174	3	121	4	0	19	45	0	0	0	0	1103
9:00	5	605	155	6	95	4	2	20	49	0	0	0	0	941
10:00	10	599	138	9	105	4	1	15	34	0	0	0	0	915
11:00	1	577	152	12	102	2	0	13	44	2	0	0	0	905
12:00 PM	7	627	162	5	114	7	1	13	42	0	0	0	0	978
13:00	7	620	155	7	92	7	1	17	39	0	0	0	0	945
14:00	6	681	158	1	95	9	1	19	49	0	0	0	0	1019
15:00	4	694	169	7	114	6	0	15	42	0	0	0	0	1051
16:00	3	805	174	4	110	3	0	14	36	0	0	0	0	1149
17:00	9	919	180	7	133	3	0	10	30	0	0	0	0	1291
18:00	9	673	147	4	91	1	0	7	18	0	0	0	0	950
19:00	3	447	89	6	55	2	0	9	12	0	0	0	0	623
20:00	0	339	64	3	38	0	1	0	16	0	0	0	0	461
21:00	0	244	46	1	30	0	0	1	15	0	0	0	0	337
22:00	0	174	30	1	14	0	0	2	6	0	0	0	0	227
23:00	0	114	22	0	8	1	0	1	11	0	0	0	0	157
Totals	83	11058	2452	89	1616	67	8	218	611	5				16207
% of Totals	1%	68%	15%	1%	10%	0%	0%	1%	4%	0%				100%

AM Volumes	35	4721	1056	43	722	28	4	110	295	5	0	0	0	7019
% AM	0%	29%	7%	0%	4%	0%	0%	1%	2%	0%				43%
AM Peak Hour	10:00	7:00	8:00	11:00	7:00	5:00	9:00	9:00	9:00	5:00				7:00
Volume	10	1027	174	12	139	6	2	20	49	2				1411
PM Volumes	48	6337	1396	46	894	39	4	108	316	0	0	0	0	9188
% PM	0%	39%	9%	0%	6%	0%	0%	1%	2%					57%
PM Peak Hour	17:00	17:00	17:00	13:00	17:00	14:00	12:00	14:00	14:00					17:00
Volume	9	919	180	7	133	9	1	19	49					1291

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2514	⟷	16%	1923	⟷	12%	2440	⟷	15%	9330	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	7,821	8,386	0	0	16,207

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	13		12		0	0	25		12:00	111		166		0	0	277	
0:15	23		9		0	0	32		12:15	142		131		0	0	273	
0:30	14		17		0	0	31		12:30	94		121		0	0	215	
0:45	15	65	11	49	0	0	26	114	12:45	120	467	93	511	0	0	213	978
1:00	13		8		0	0	21		13:00	112		122		0	0	234	
1:15	12		7		0	0	19		13:15	130		129		0	0	259	
1:30	11		14		0	0	25		13:30	105		107		0	0	212	
1:45	10	46	6	35	0	0	16	81	13:45	140	487	100	458	0	0	240	945
2:00	9		16		0	0	25		14:00	105		130		0	0	235	
2:15	3		5		0	0	8		14:15	122		115		0	0	237	
2:30	4		9		0	0	13		14:30	122		149		0	0	271	
2:45	6	22	8	38	0	0	14	60	14:45	143	492	133	527	0	0	276	1019
3:00	5		6		0	0	11		15:00	121		127		0	0	248	
3:15	3		17		0	0	20		15:15	134		126		0	0	260	
3:30	6		15		0	0	21		15:30	127		140		0	0	267	
3:45	8	22	12	50	0	0	20	72	15:45	130	512	146	539	0	0	276	1051
4:00	12		19		0	0	31		16:00	128		156		0	0	284	
4:15	6		13		0	0	19		16:15	147		140		0	0	287	
4:30	7		15		0	0	22		16:30	148		148		0	0	296	
4:45	24	49	21	68	0	0	45	117	16:45	141	564	141	585	0	0	282	1149
5:00	19		36		0	0	55		17:00	168		168		0	0	336	
5:15	25		43		0	0	68		17:15	149		142		0	0	291	
5:30	55		68		0	0	123		17:30	186		150		0	0	336	
5:45	52	151	60	207	0	0	112	358	17:45	167	670	161	621	0	0	328	1291
6:00	68		92		0	0	160		18:00	166		114		0	0	280	
6:15	107		112		0	0	219		18:15	175		95		0	0	270	
6:30	156		153		0	0	309		18:30	140		84		0	0	224	
6:45	131	462	123	480	0	0	254	942	18:45	79	560	97	390	0	0	176	950
7:00	101		213		0	0	314		19:00	77		86		0	0	163	
7:15	122		264		0	0	386		19:15	82		121		0	0	203	
7:30	137		236		0	0	373		19:30	70		66		0	0	136	
7:45	154	514	184	897	0	0	338	1411	19:45	64	293	57	330	0	0	121	623
8:00	134		181		0	0	315		20:00	53		62		0	0	115	
8:15	130		132		0	0	262		20:15	73		57		0	0	130	
8:30	123		131		0	0	254		20:30	58		53		0	0	111	
8:45	123	510	149	593	0	0	272	1103	20:45	51	235	54	226	0	0	105	461
9:00	112		128		0	0	240		21:00	51		45		0	0	96	
9:15	132		140		0	0	272		21:15	40		46		0	0	86	
9:30	96		115		0	0	211		21:30	40		40		0	0	80	
9:45	121	461	97	480	0	0	218	941	21:45	39	170	36	167	0	0	75	337
10:00	113		113		0	0	226		22:00	54		28		0	0	82	
10:15	106		107		0	0	213		22:15	35		22		0	0	57	
10:30	114		137		0	0	251		22:30	24		30		0	0	54	
10:45	112	445	113	470	0	0	225	915	22:45	19	132	15	95	0	0	34	227
11:00	114		106		0	0	220		23:00	17		22		0	0	39	
11:15	86		133		0	0	219		23:15	26		30		0	0	56	
11:30	122		112		0	0	234		23:30	21		10		0	0	31	
11:45	91	413	141	492	0	0	232	905	23:45	15	79	16	78	0	0	31	157
TOTALS		3160		3859				7019	TOTALS		4661		4527				9188
SPLIT %		45.0%		55.0%				43.3%	SPLIT %		50.7%		49.3%				56.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,821	8,386	0	0	16,207

AM Peak Hour	7:30	7:00			7:15	PM Peak Hour	17:30	17:00			17:00
AM Pk Volume	555	897			1412	PM Pk Volume	694	621			1291
Pk Hr Factor	0.901	0.849			0.915	Pk Hr Factor	0.933	0.924			0.961
7 - 9 Volume	1024	1490	0	0	2514	4 - 6 Volume	1234	1206	0	0	2440
7 - 9 Peak Hour	7:30	7:00			7:15	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	555	897	0	0	1412	4 - 6 Pk Volume	670	621	0	0	1291
Pk Hr Factor	0.901	0.849	0.000	0.000	0.915	Pk Hr Factor	0.901	0.924	0.000	0.000	0.961

Prepared by National Data & Surveying Services

CLASSIFICATION

US 521/Sumter Hwy Bet. Black River Corridor & Ehrenclou Dr

Day: Tuesday
Date: 5/16/2017

City: Camden
Project #: SC17_9315_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	76	14	0	3	0	0	0	8	0	0	0	0	101
1:00	0	40	8	0	1	0	0	1	6	0	0	0	0	56
2:00	0	48	7	0	1	0	0	2	7	0	0	0	0	65
3:00	0	67	11	1	2	0	0	0	11	0	0	0	0	92
4:00	0	82	10	1	4	0	0	3	10	0	0	0	0	110
5:00	0	252	50	2	18	2	0	7	18	0	0	0	0	349
6:00	2	742	146	6	71	3	0	14	37	0	0	0	0	1021
7:00	7	1120	244	8	83	5	0	18	39	0	0	0	0	1524
8:00	1	863	187	3	83	10	0	17	44	0	0	0	0	1208
9:00	1	767	180	7	63	4	0	15	54	0	0	0	0	1091
10:00	5	700	149	4	50	7	0	16	39	0	0	0	0	970
11:00	2	706	165	6	58	4	0	18	37	0	0	0	0	996
12:00 PM	5	791	186	3	60	4	0	14	45	0	0	0	0	1108
13:00	5	839	200	11	66	6	0	10	47	0	0	0	0	1184
14:00	4	860	175	1	69	4	0	16	57	0	0	0	0	1186
15:00	10	1004	232	7	78	8	0	13	52	0	0	0	0	1404
16:00	11	1077	219	5	79	10	1	14	53	0	0	0	0	1469
17:00	10	1283	263	6	90	7	0	11	44	0	0	0	0	1714
18:00	3	901	178	6	67	4	0	10	29	0	0	0	0	1198
19:00	2	673	130	3	42	3	0	10	24	0	0	0	0	887
20:00	3	525	95	1	29	1	0	7	23	0	0	0	0	684
21:00	1	380	67	1	22	0	0	1	17	0	0	0	0	489
22:00	0	220	43	1	16	0	0	1	16	0	0	0	0	297
23:00	0	131	19	0	5	0	0	0	7	0	0	0	0	162
Totals	72	14147	2978	83	1060	82	1	218	724					19365
% of Totals	0%	73%	15%	0%	5%	0%	0%	1%	4%					100%

AM Volumes	18	5463	1171	38	437	35	0	111	310	0	0	0	0	7583
% AM	0%	28%	6%	0%	2%	0%		1%	2%					39%
AM Peak Hour	7:00	7:00	7:00	7:00	7:00	8:00		7:00	9:00					7:00
Volume	7	1120	244	8	83	10		18	54					1524
PM Volumes	54	8684	1807	45	623	47	1	107	414	0	0	0	0	11782
% PM	0%	45%	9%	0%	3%	0%	0%	1%	2%					61%
PM Peak Hour	16:00	17:00	17:00	13:00	17:00	16:00	16:00	14:00	14:00					17:00
Volume	11	1283	263	11	90	10	1	16	57					1714

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2732	⟷	14%	2292	⟷	12%	3183	⟷	16%	11158	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
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9 5-Axle Single Trailers
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12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	9,603	9,762	0	0	19,365

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	14		11		0	0	25		12:00	156		139		0	0	295	
0:15	15		14		0	0	29		12:15	147		133		0	0	280	
0:30	18		15		0	0	33		12:30	142		130		0	0	272	
0:45	5	52	9	49	0	0	14	101	12:45	122	567	139	541	0	0	261	1108
1:00	7		9		0	0	16		13:00	127		148		0	0	275	
1:15	6		9		0	0	15		13:15	149		130		0	0	279	
1:30	10		7		0	0	17		13:30	145		194		0	0	339	
1:45	4	27	4	29	0	0	8	56	13:45	158	579	133	605	0	0	291	1184
2:00	10		9		0	0	19		14:00	145		146		0	0	291	
2:15	9		4		0	0	13		14:15	163		150		0	0	313	
2:30	12		1		0	0	13		14:30	151		143		0	0	294	
2:45	10	41	10	24	0	0	20	65	14:45	139	598	149	588	0	0	288	1186
3:00	7		11		0	0	18		15:00	178		146		0	0	324	
3:15	11		9		0	0	20		15:15	156		195		0	0	351	
3:30	15		17		0	0	32		15:30	169		214		0	0	383	
3:45	4	37	18	55	0	0	22	92	15:45	164	667	182	737	0	0	346	1404
4:00	4		8		0	0	12		16:00	154		180		0	0	334	
4:15	6		31		0	0	37		16:15	162		203		0	0	365	
4:30	11		15		0	0	26		16:30	185		201		0	0	386	
4:45	16	37	19	73	0	0	35	110	16:45	181	682	203	787	0	0	384	1469
5:00	27		28		0	0	55		17:00	213		229		0	0	442	
5:15	39		49		0	0	88		17:15	203		210		0	0	413	
5:30	39		51		0	0	90		17:30	254		196		0	0	450	
5:45	55	160	61	189	0	0	116	349	17:45	247	917	162	797	0	0	409	1714
6:00	81		74		0	0	155		18:00	189		184		0	0	373	
6:15	136		114		0	0	250		18:15	207		109		0	0	316	
6:30	161		144		0	0	305		18:30	169		139		0	0	308	
6:45	162	540	149	481	0	0	311	1021	18:45	97	662	104	536	0	0	201	1198
7:00	152		158		0	0	310		19:00	92		141		0	0	233	
7:15	173		272		0	0	445		19:15	85		165		0	0	250	
7:30	172		206		0	0	378		19:30	100		117		0	0	217	
7:45	215	712	176	812	0	0	391	1524	19:45	85	362	102	525	0	0	187	887
8:00	148		175		0	0	323		20:00	74		89		0	0	163	
8:15	137		128		0	0	265		20:15	83		84		0	0	167	
8:30	188		142		0	0	330		20:30	73		115		0	0	188	
8:45	170	643	120	565	0	0	290	1208	20:45	64	294	102	390	0	0	166	684
9:00	161		137		0	0	298		21:00	63		82		0	0	145	
9:15	133		120		0	0	253		21:15	65		63		0	0	128	
9:30	152		136		0	0	288		21:30	53		61		0	0	114	
9:45	118	564	134	527	0	0	252	1091	21:45	51	232	51	257	0	0	102	489
10:00	122		107		0	0	229		22:00	47		48		0	0	95	
10:15	137		113		0	0	250		22:15	43		36		0	0	79	
10:30	112		123		0	0	235		22:30	37		36		0	0	73	
10:45	144	515	112	455	0	0	256	970	22:45	22	149	28	148	0	0	50	297
11:00	110		126		0	0	236		23:00	19		29		0	0	48	
11:15	101		120		0	0	221		23:15	11		22		0	0	33	
11:30	125		134		0	0	259		23:30	29		18		0	0	47	
11:45	152	488	128	508	0	0	280	996	23:45	19	78	15	84	0	0	34	162
TOTALS		3816		3767				7583	TOTALS		5787		5995				11782
SPLIT %		50.3%		49.7%				39.2%	SPLIT %		49.1%		50.9%				60.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	9,603	9,762	0	0	19,365

AM Peak Hour	7:00	7:15			7:15	PM Peak Hour	17:00	16:30			17:00
AM Pk Volume	712	829			1537	PM Pk Volume	917	843			1714
Pk Hr Factor	0.828	0.762			0.863	Pk Hr Factor	0.903	0.920			0.952
7 - 9 Volume	1355	1377	0	0	2732	4 - 6 Volume	1599	1584	0	0	3183
7 - 9 Peak Hour	7:00	7:15			7:15	4 - 6 Peak Hour	17:00	16:30			17:00
7 - 9 Pk Volume	712	829	0	0	1537	4 - 6 Pk Volume	917	843	0	0	1714
Pk Hr Factor	0.828	0.762	0.000	0.000	0.863	Pk Hr Factor	0.903	0.920	0.000	0.000	0.952

Prepared by National Data & Surveying Services

CLASSIFICATION

US 521/Sumter Hwy Bet. Black River Corridor & Ehrenclou Dr

Day: Wednesday
Date: 5/17/2017

City: Camden
Project #: SC17_9315_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	86	15	0	3	0	0	2	4	0	0	0	0	110
1:00	0	61	9	0	1	0	0	2	12	0	0	0	0	85
2:00	0	40	6	0	2	0	0	2	6	0	0	0	0	56
3:00	0	63	10	1	1	0	0	1	7	0	0	0	0	83
4:00	0	90	14	1	4	1	0	3	4	0	0	0	0	117
5:00	1	246	45	0	23	0	0	7	17	0	0	0	0	339
6:00	0	738	154	3	65	9	0	12	35	0	0	0	0	1016
7:00	7	1220	215	5	78	7	0	15	51	0	0	0	0	1598
8:00	5	886	193	4	69	3	4	17	51	0	0	0	0	1232
9:00	3	763	179	7	66	3	2	19	58	0	0	0	0	1100
10:00	3	678	136	5	55	1	1	13	45	0	0	0	0	937
11:00	4	791	165	4	67	3	1	14	51	0	0	0	0	1100
12:00 PM	5	821	169	4	60	4	0	16	46	0	0	0	0	1125
13:00	5	783	171	6	73	6	0	14	43	0	0	0	0	1101
14:00	7	896	195	3	60	7	2	10	48	0	0	0	0	1228
15:00	11	1005	198	8	71	4	0	15	36	0	0	0	0	1348
16:00	12	1062	236	6	77	5	0	22	53	0	0	0	0	1473
17:00	13	1265	234	7	89	3	0	12	41	0	0	0	0	1664
18:00	7	963	199	7	70	1	0	13	28	0	0	0	0	1288
19:00	3	663	122	1	40	0	0	13	26	0	0	0	0	868
20:00	5	502	92	1	32	1	0	5	19	0	0	0	0	657
21:00	0	348	61	0	24	0	0	0	19	0	0	0	0	452
22:00	0	222	34	0	16	0	0	1	23	0	0	0	0	296
23:00	0	107	23	0	8	0	0	1	5	0	0	0	0	144
Totals	91	14299	2875	73	1054	58	10	229	728					19417
% of Totals	0%	74%	15%	0%	5%	0%	0%	1%	4%					100%

AM Volumes	23	5662	1141	30	434	27	8	107	341	0	0	0	0	7773
% AM	0%	29%	6%	0%	2%	0%	0%	1%	2%					40%
AM Peak Hour	7:00	7:00	7:00	9:00	7:00	6:00	8:00	9:00	9:00					7:00
Volume	7	1220	215	7	78	9	4	19	58					1598
PM Volumes	68	8637	1734	43	620	31	2	122	387	0	0	0	0	11644
% PM	0%	44%	9%	0%	3%	0%	0%	1%	2%					60%
PM Peak Hour	17:00	17:00	16:00	15:00	17:00	14:00	14:00	16:00	16:00					17:00
Volume	13	1265	236	8	89	7	2	22	53					1664

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2830	⟷	15%	2226	⟷	11%	3137	⟷	16%	11224	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	9,625	9,792	0	0	19,417

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	17		10		0	0	27		12:00	136		157		0	0	293	
0:15	23		10		0	0	33		12:15	130		131		0	0	261	
0:30	14		13		0	0	27		12:30	126		161		0	0	287	
0:45	8	62	15	48	0	0	23	110	12:45	139	531	145	594	0	0	284	1125
1:00	12		10		0	0	22		13:00	134		143		0	0	277	
1:15	15		13		0	0	28		13:15	146		134		0	0	280	
1:30	7		9		0	0	16		13:30	146		136		0	0	282	
1:45	10	44	9	41	0	0	19	85	13:45	135	561	127	540	0	0	262	1101
2:00	4		7		0	0	11		14:00	147		156		0	0	303	
2:15	3		9		0	0	12		14:15	155		143		0	0	298	
2:30	6		9		0	0	15		14:30	164		147		0	0	311	
2:45	11	24	7	32	0	0	18	56	14:45	161	627	155	601	0	0	316	1228
3:00	8		16		0	0	24		15:00	156		151		0	0	307	
3:15	4		9		0	0	13		15:15	175		194		0	0	369	
3:30	9		16		0	0	25		15:30	150		195		0	0	345	
3:45	9	30	12	53	0	0	21	83	15:45	151	632	176	716	0	0	327	1348
4:00	7		15		0	0	22		16:00	165		189		0	0	354	
4:15	8		14		0	0	22		16:15	174		176		0	0	350	
4:30	13		16		0	0	29		16:30	168		206		0	0	374	
4:45	24	52	20	65	0	0	44	117	16:45	219	726	176	747	0	0	395	1473
5:00	24		31		0	0	55		17:00	232		218		0	0	450	
5:15	38		43		0	0	81		17:15	201		212		0	0	413	
5:30	43		54		0	0	97		17:30	229		185		0	0	414	
5:45	49	154	57	185	0	0	106	339	17:45	201	863	186	801	0	0	387	1664
6:00	95		91		0	0	186		18:00	206		154		0	0	360	
6:15	115		101		0	0	216		18:15	208		163		0	0	371	
6:30	186		122		0	0	308		18:30	174		146		0	0	320	
6:45	161	557	145	459	0	0	306	1016	18:45	118	706	119	582	0	0	237	1288
7:00	158		194		0	0	352		19:00	103		141		0	0	244	
7:15	159		249		0	0	408		19:15	79		155		0	0	234	
7:30	208		204		0	0	412		19:30	91		122		0	0	213	
7:45	204	729	222	869	0	0	426	1598	19:45	78	351	99	517	0	0	177	868
8:00	169		150		0	0	319		20:00	67		114		0	0	181	
8:15	179		124		0	0	303		20:15	75		89		0	0	164	
8:30	156		133		0	0	289		20:30	75		95		0	0	170	
8:45	164	668	157	564	0	0	321	1232	20:45	69	286	73	371	0	0	142	657
9:00	142		121		0	0	263		21:00	64		65		0	0	129	
9:15	164		124		0	0	288		21:15	51		63		0	0	114	
9:30	161		121		0	0	282		21:30	59		51		0	0	110	
9:45	114	581	153	519	0	0	267	1100	21:45	45	219	54	233	0	0	99	452
10:00	119		111		0	0	230		22:00	41		46		0	0	87	
10:15	129		121		0	0	250		22:15	41		40		0	0	81	
10:30	106		117		0	0	223		22:30	27		34		0	0	61	
10:45	128	482	106	455	0	0	234	937	22:45	31	140	36	156	0	0	67	296
11:00	130		141		0	0	271		23:00	22		17		0	0	39	
11:15	134		139		0	0	273		23:15	18		27		0	0	45	
11:30	124		153		0	0	277		23:30	22		15		0	0	37	
11:45	137	525	142	575	0	0	279	1100	23:45	13	75	10	69	0	0	23	144
TOTALS		3908		3865				7773	TOTALS		5717		5927				11644
SPLIT %		50.3%		49.7%				40.0%	SPLIT %		49.1%		50.9%				60.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	9,625	9,792	0	0	19,417

AM Peak Hour	7:30	7:00			7:00	PM Peak Hour	16:45	16:30			16:45
AM Pk Volume	760	869			1598	PM Pk Volume	881	812			1672
Pk Hr Factor	0.913	0.872			0.938	Pk Hr Factor	0.949	0.931			0.929
7 - 9 Volume	1397	1433	0	0	2830	4 - 6 Volume	1589	1548	0	0	3137
7 - 9 Peak Hour	7:30	7:00			7:00	4 - 6 Peak Hour	16:45	16:30			16:45
7 - 9 Pk Volume	760	869	0	0	1598	4 - 6 Pk Volume	881	812	0	0	1672
Pk Hr Factor	0.913	0.872	0.000	0.000	0.938	Pk Hr Factor	0.949	0.931	0.000	0.000	0.929

Prepared by National Data & Surveying Services

CLASSIFICATION

US 521/Sumter Hwy Bet. Black River Corridor & Ehrenclou Dr

Day: Thursday
Date: 5/18/2017

City: Camden
Project #: SC17_9315_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	1	78	15	0	6	0	0	1	6	0	0	0	0	107
1:00	0	67	13	1	1	0	0	3	7	0	0	0	0	92
2:00	0	44	4	0	0	0	0	0	6	0	0	0	0	54
3:00	0	54	7	1	1	1	0	1	11	0	0	0	0	76
4:00	0	86	14	0	7	0	0	5	9	0	0	0	0	121
5:00	2	256	55	1	21	7	0	6	13	0	0	0	0	361
6:00	1	723	150	6	59	1	1	13	41	0	0	0	0	995
7:00	2	1168	219	3	75	5	2	18	43	0	0	0	0	1535
8:00	3	832	200	9	78	7	0	18	51	0	0	0	0	1198
9:00	3	776	170	10	63	4	1	24	46	0	0	0	0	1097
10:00	0	752	168	8	63	2	0	19	42	0	0	0	0	1054
11:00	4	774	171	3	66	3	0	13	46	0	0	0	0	1080
12:00 PM	4	779	196	8	74	6	1	11	46	0	0	0	0	1125
13:00	5	750	174	5	57	3	1	16	40	0	0	0	0	1051
14:00	8	847	178	8	77	7	0	18	53	0	0	0	0	1196
15:00	6	948	211	6	77	3	0	12	48	0	0	0	0	1311
16:00	7	1037	220	9	78	4	0	13	46	0	0	0	0	1414
17:00	6	1222	229	11	88	2	0	18	37	0	0	0	0	1613
18:00	3	910	198	10	71	1	0	12	34	0	0	0	0	1239
19:00	1	636	119	3	40	1	0	9	25	0	0	0	0	834
20:00	0	476	86	3	33	0	1	9	16	0	0	0	0	624
21:00	0	313	59	1	18	0	0	4	17	0	0	0	0	412
22:00	0	193	38	0	13	0	0	1	10	0	0	0	0	255
23:00	0	125	24	0	9	0	0	6	6	0	0	0	0	170
Totals	56	13846	2918	106	1075	57	7	250	699					19014
% of Totals	0%	73%	15%	1%	6%	0%	0%	1%	4%					100%

AM Volumes	16	5610	1186	42	440	30	4	121	321	0	0	0	0	7770
% AM	0%	30%	6%	0%	2%	0%	0%	1%	2%					41%
AM Peak Hour	11:00	7:00	7:00	9:00	8:00	5:00	7:00	9:00	8:00					7:00
Volume	4	1168	219	10	78	7	2	24	51					1535
PM Volumes	40	8236	1732	64	635	27	3	129	378	0	0	0	0	11244
% PM	0%	43%	9%	0%	3%	0%	0%	1%	2%					59%
PM Peak Hour	14:00	17:00	17:00	17:00	17:00	14:00	12:00	14:00	14:00					17:00
Volume	8	1222	229	11	88	7	1	18	53					1613

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2733	⟷	14%	2176	⟷	11%	3027	⟷	16%	11078	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	9,406	9,608	0	0	19,014

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	12		10		0	0	22		12:00	123		159		0	0	282	
0:15	18		10		0	0	28		12:15	160		143		0	0	303	
0:30	14		15		0	0	29		12:30	140		151		0	0	291	
0:45	17	61	11	46	0	0	28	107	12:45	114	537	135	588	0	0	249	1125
1:00	11		12		0	0	23		13:00	114		147		0	0	261	
1:15	12		12		0	0	24		13:15	113		152		0	0	265	
1:30	11		14		0	0	25		13:30	130		135		0	0	265	
1:45	11	45	9	47	0	0	20	92	13:45	145	502	115	549	0	0	260	1051
2:00	8		11		0	0	19		14:00	128		132		0	0	260	
2:15	4		9		0	0	13		14:15	144		149		0	0	293	
2:30	3		6		0	0	9		14:30	163		164		0	0	327	
2:45	7	22	6	32	0	0	13	54	14:45	170	605	146	591	0	0	316	1196
3:00	4		12		0	0	16		15:00	156		138		0	0	294	
3:15	3		20		0	0	23		15:15	160		176		0	0	336	
3:30	7		13		0	0	20		15:30	154		176		0	0	330	
3:45	7	21	10	55	0	0	17	76	15:45	153	623	198	688	0	0	351	1311
4:00	12		15		0	0	27		16:00	146		187		0	0	333	
4:15	8		10		0	0	18		16:15	160		177		0	0	337	
4:30	11		12		0	0	23		16:30	178		190		0	0	368	
4:45	32	63	21	58	0	0	53	121	16:45	183	667	193	747	0	0	376	1414
5:00	25		37		0	0	62		17:00	201		219		0	0	420	
5:15	34		33		0	0	67		17:15	182		197		0	0	379	
5:30	58		63		0	0	121		17:30	240		163		0	0	403	
5:45	59	176	52	185	0	0	111	361	17:45	230	853	181	760	0	0	411	1613
6:00	80		90		0	0	170		18:00	184		177		0	0	361	
6:15	131		104		0	0	235		18:15	203		137		0	0	340	
6:30	159		134		0	0	293		18:30	158		150		0	0	308	
6:45	165	535	132	460	0	0	297	995	18:45	106	651	124	588	0	0	230	1239
7:00	127		185		0	0	312		19:00	100		127		0	0	227	
7:15	162		246		0	0	408		19:15	102		176		0	0	278	
7:30	204		197		0	0	401		19:30	74		99		0	0	173	
7:45	217	710	197	825	0	0	414	1535	19:45	70	346	86	488	0	0	156	834
8:00	155		166		0	0	321		20:00	72		107		0	0	179	
8:15	172		136		0	0	308		20:15	70		82		0	0	152	
8:30	148		110		0	0	258		20:30	71		90		0	0	161	
8:45	162	637	149	561	0	0	311	1198	20:45	57	270	75	354	0	0	132	624
9:00	143		133		0	0	276		21:00	50		69		0	0	119	
9:15	166		140		0	0	306		21:15	43		59		0	0	102	
9:30	130		123		0	0	253		21:30	41		62		0	0	103	
9:45	150	589	112	508	0	0	262	1097	21:45	37	171	51	241	0	0	88	412
10:00	133		113		0	0	246		22:00	51		30		0	0	81	
10:15	141		128		0	0	269		22:15	33		32		0	0	65	
10:30	158		126		0	0	284		22:30	31		31		0	0	62	
10:45	138	570	117	484	0	0	255	1054	22:45	28	143	19	112	0	0	47	255
11:00	135		118		0	0	253		23:00	16		26		0	0	42	
11:15	125		152		0	0	277		23:15	24		36		0	0	60	
11:30	143		124		0	0	267		23:30	18		15		0	0	33	
11:45	132	535	151	545	0	0	283	1080	23:45	16	74	19	96	0	0	35	170
TOTALS		3964		3806				7770	TOTALS		5442		5802				11244
SPLIT %		51.0%		49.0%				40.9%	SPLIT %		48.4%		51.6%				59.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	9,406	9,608	0	0	19,014

AM Peak Hour	7:30	7:00			7:15	PM Peak Hour	17:30	16:30			17:00
AM Pk Volume	748	825			1544	PM Pk Volume	857	799			1613
Pk Hr Factor	0.862	0.838			0.932	Pk Hr Factor	0.893	0.912			0.960
7 - 9 Volume	1347	1386	0	0	2733	4 - 6 Volume	1520	1507	0	0	3027
7 - 9 Peak Hour	7:30	7:00			7:15	4 - 6 Peak Hour	17:00	16:30			17:00
7 - 9 Pk Volume	748	825	0	0	1544	4 - 6 Pk Volume	853	799	0	0	1613
Pk Hr Factor	0.862	0.838	0.000	0.000	0.932	Pk Hr Factor	0.889	0.912	0.000	0.000	0.960

Prepared by National Data & Surveying Services

CLASSIFICATION

Black River Rd/ S-12 E/O US 521

Day: Tuesday
Date: 5/16/2017

City: Camden
Project #: SC17_9315_004

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	1	27	3	0	0	0	0	0	0	0	0	0	0	31
1:00	1	12	3	0	1	0	0	0	0	0	0	0	0	17
2:00	0	15	2	0	1	0	0	0	0	0	0	0	0	18
3:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
4:00	2	32	9	0	5	0	0	0	1	0	0	0	0	49
5:00	1	98	23	0	15	0	0	0	0	0	0	0	0	137
6:00	3	279	45	4	35	1	0	1	2	0	0	0	0	370
7:00	1	395	65	3	65	0	3	0	4	0	0	0	0	536
8:00	0	240	70	1	57	5	0	0	6	1	0	0	0	380
9:00	1	223	65	1	54	1	2	0	7	1	0	0	0	355
10:00	2	205	55	2	42	8	0	0	2	2	0	0	0	318
11:00	3	211	52	1	41	0	2	0	2	0	0	0	0	312
12:00 PM	2	281	68	0	63	3	0	5	4	1	0	0	0	427
13:00	1	264	69	2	50	4	2	0	6	0	0	0	0	398
14:00	4	310	59	3	48	5	0	1	3	0	0	0	0	433
15:00	6	323	56	6	66	3	1	2	5	0	0	0	0	468
16:00	6	364	65	2	62	2	0	1	6	0	0	0	0	508
17:00	4	524	115	0	90	0	0	3	5	0	0	0	0	741
18:00	2	369	57	3	61	2	0	0	1	0	0	0	0	495
19:00	3	274	47	0	32	1	0	1	0	0	0	0	0	358
20:00	4	209	36	0	35	0	0	0	1	0	0	0	0	285
21:00	1	159	21	0	19	0	0	0	0	0	0	0	0	200
22:00	1	119	10	0	10	0	0	0	0	0	0	0	0	140
23:00	1	61	7	0	7	0	0	0	1	0	0	0	0	77
Totals	50	5010	1003	28	859	35	10	14	56	5				7070
% of Totals	1%	71%	14%	0%	12%	0%	0%	0%	1%	0%				100%

AM Volumes	15	1753	393	12	316	15	7	1	24	4	0	0	0	2540
% AM	0%	25%	6%	0%	4%	0%	0%	0%	0%	0%				36%
AM Peak Hour	6:00	7:00	8:00	6:00	7:00	10:00	7:00	6:00	9:00	10:00				7:00
Volume	3	395	70	4	65	8	3	1	7	2				536
PM Volumes	35	3257	610	16	543	20	3	13	32	1	0	0	0	4530
% PM	0%	46%	9%	0%	8%	0%	0%	0%	0%	0%				64%
PM Peak Hour	15:00	17:00	17:00	15:00	17:00	14:00	13:00	12:00	13:00	12:00				17:00
Volume	6	524	115	6	90	5	2	5	6	1				741

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	916	⟷	13%	825	⟷	12%	1249	⟷	18%	4080	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,500	3,570	7,070

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	4		3		7		12:00	0	0	57		68		125	
0:15	0	0	5		4		9		12:15	0	0	48		61		109	
0:30	0	0	4		6		10		12:30	0	0	52		56		108	
0:45	0	0	4	17	1	14	5	31	12:45	0	0	47	204	38	223	85	427
1:00	0	0	6		1		7		13:00	0	0	61		35		96	
1:15	0	0	2		3		5		13:15	0	0	50		45		95	
1:30	0	0	4		0		4		13:30	0	0	55		53		108	
1:45	0	0	1	13	0	4	1	17	13:45	0	0	45	211	54	187	99	398
2:00	0	0	2		4		6		14:00	0	0	48		65		113	
2:15	0	0	3		0		3		14:15	0	0	47		49		96	
2:30	0	0	1		2		3		14:30	0	0	47		68		115	
2:45	0	0	5	11	1	7	6	18	14:45	0	0	53	195	56	238	109	433
3:00	0	0	2		1		3		15:00	0	0	65		52		117	
3:15	0	0	3		1		4		15:15	0	0	78		44		122	
3:30	0	0	2		2		4		15:30	0	0	80		43		123	
3:45	0	0	3	10	3	7	6	17	15:45	0	0	60	283	46	185	106	468
4:00	0	0	5		5		10		16:00	0	0	70		51		121	
4:15	0	0	2		8		10		16:15	0	0	72		50		122	
4:30	0	0	2		5		7		16:30	0	0	73		55		128	
4:45	0	0	2	11	20	38	22	49	16:45	0	0	88	303	49	205	137	508
5:00	0	0	4		12		16		17:00	0	0	82		79		161	
5:15	0	0	10		20		30		17:15	0	0	106		75		181	
5:30	0	0	17		19		36		17:30	0	0	78		134		212	
5:45	0	0	17	48	38	89	55	137	17:45	0	0	84	350	103	391	187	741
6:00	0	0	20		35		55		18:00	0	0	95		67		162	
6:15	0	0	40		56		96		18:15	0	0	59		69		128	
6:30	0	0	33		62		95		18:30	0	0	58		60		118	
6:45	0	0	53	146	71	224	124	370	18:45	0	0	62	274	25	221	87	495
7:00	0	0	36		81		117		19:00	0	0	61		23		84	
7:15	0	0	31		105		136		19:15	0	0	79		26		105	
7:30	0	0	38		96		134		19:30	0	0	50		42		92	
7:45	0	0	51	156	98	380	149	536	19:45	0	0	51	241	26	117	77	358
8:00	0	0	50		68		118		20:00	0	0	51		24		75	
8:15	0	0	32		49		81		20:15	0	0	39		17		56	
8:30	0	0	32		63		95		20:30	0	0	64		22		86	
8:45	0	0	32	146	54	234	86	380	20:45	0	0	49	203	19	82	68	285
9:00	0	0	29		56		85		21:00	0	0	32		23		55	
9:15	0	0	29		55		84		21:15	0	0	29		19		48	
9:30	0	0	38		52		90		21:30	0	0	38		20		58	
9:45	0	0	44	140	52	215	96	355	21:45	0	0	28	127	11	73	39	200
10:00	0	0	37		48		85		22:00	0	0	28		18		46	
10:15	0	0	30		52		82		22:15	0	0	11		16		27	
10:30	0	0	23		44		67		22:30	0	0	25		20		45	
10:45	0	0	34	124	50	194	84	318	22:45	0	0	13	77	9	63	22	140
11:00	0	0	42		25		67		23:00	0	0	17		5		22	
11:15	0	0	41		45		86		23:15	0	0	14		5		19	
11:30	0	0	31		45		76		23:30	0	0	13		8		21	
11:45	0	0	46	160	37	152	83	312	23:45	0	0	6	50	9	27	15	77
TOTALS				982		1558		2540	TOTALS				2518		2012		4530
SPLIT %				38.7%		61.3%		35.9%	SPLIT %				55.6%		44.4%		64.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,500	3,570	7,070

AM Peak Hour			11:45	7:00	7:15	PM Peak Hour			17:15	17:00	17:15
AM Pk Volume			203	380	537	PM Pk Volume			363	391	742
Pk Hr Factor			0.890	0.905	0.901	Pk Hr Factor			0.856	0.729	0.875
7 - 9 Volume	0	0	302	614	916	4 - 6 Volume	0	0	653	596	1249
7 - 9 Peak Hour			7:30	7:00	7:15	4 - 6 Peak Hour			16:45	17:00	17:00
7 - 9 Pk Volume	0	0	171	380	537	4 - 6 Pk Volume	0	0	354	391	741
Pk Hr Factor	0.000	0.000	0.838	0.905	0.901	Pk Hr Factor	0.000	0.000	0.835	0.729	0.874

Prepared by National Data & Surveying Services

CLASSIFICATION

Black River Rd/ S-12 E/O US 521

Day: Wednesday
Date: 5/17/2017

City: Camden
Project #: SC17_9315_004

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	3	40	0	0	2	0	0	0	0	0	0	0	0	45
1:00	0	17	2	0	1	0	0	0	0	0	0	0	0	20
2:00	0	13	0	0	4	0	0	0	0	0	0	0	0	17
3:00	0	25	5	0	0	0	0	0	0	0	0	0	0	30
4:00	1	24	6	0	4	0	0	1	0	0	0	0	0	36
5:00	1	93	21	0	13	0	0	0	0	0	0	0	0	128
6:00	2	280	48	4	41	0	0	0	4	0	0	0	0	379
7:00	2	375	61	2	62	3	0	3	8	0	0	0	0	516
8:00	4	247	59	1	70	3	2	1	7	0	0	0	0	394
9:00	1	210	57	0	59	4	1	0	9	0	0	0	0	341
10:00	2	177	55	2	35	5	0	1	8	1	0	0	0	286
11:00	0	238	45	1	68	1	0	0	2	0	0	0	0	355
12:00 PM	2	291	64	0	36	2	0	0	5	0	0	0	0	400
13:00	3	215	53	0	45	3	0	1	3	3	0	0	0	326
14:00	4	286	56	1	57	0	0	1	6	1	0	0	0	412
15:00	5	311	79	5	57	0	0	5	7	0	0	0	0	469
16:00	6	334	75	2	74	2	0	4	4	0	0	0	0	501
17:00	0	496	81	0	77	0	0	1	5	0	0	0	0	660
18:00	0	397	65	0	64	0	0	1	3	0	0	0	0	530
19:00	2	283	46	0	50	0	0	2	2	0	0	0	0	385
20:00	0	213	34	0	41	0	0	0	0	0	0	0	0	288
21:00	1	165	25	0	18	0	0	0	0	0	0	0	0	209
22:00	0	120	19	0	13	0	0	1	0	0	0	0	0	153
23:00	0	46	7	0	6	0	0	0	0	0	0	0	0	59
Totals	39	4896	963	18	897	23	3	22	73	5				6939
% of Totals	1%	71%	14%	0%	13%	0%	0%	0%	1%	0%				100%

AM Volumes	16	1739	359	10	359	16	3	6	38	1	0	0	0	2547
% AM	0%	25%	5%	0%	5%	0%	0%	0%	1%	0%				37%
AM Peak Hour	8:00	7:00	7:00	6:00	8:00	10:00	8:00	7:00	9:00	10:00				7:00
Volume	4	375	61	4	70	5	2	3	9	1				516
PM Volumes	23	3157	604	8	538	7	0	16	35	4	0	0	0	4392
% PM	0%	45%	9%	0%	8%	0%		0%	1%	0%				63%
PM Peak Hour	16:00	17:00	17:00	15:00	17:00	13:00		15:00	15:00	13:00				17:00
Volume	6	496	81	5	77	3		5	7	3				660

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	910	⟷	13%	726	⟷	10%	1161	⟷	17%	4142	⟷	60%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,460	3,479	6,939

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	7		5		12		12:00	0	0	58		62		120	
0:15	0	0	6		2		8		12:15	0	0	55		44		99	
0:30	0	0	12		6		18		12:30	0	0	41		49		90	
0:45	0	0	6	31	1	14	7	45	12:45	0	0	47	201	44	199	91	400
1:00	0	0	2		3		5		13:00	0	0	53		28		81	
1:15	0	0	5		3		8		13:15	0	0	43		42		85	
1:30	0	0	3		3		6		13:30	0	0	48		35		83	
1:45	0	0	1	11	0	9	1	20	13:45	0	0	35	179	42	147	77	326
2:00	0	0	2		2		4		14:00	0	0	40		51		91	
2:15	0	0	2		2		4		14:15	0	0	60		42		102	
2:30	0	0	3		2		5		14:30	0	0	55		54		109	
2:45	0	0	2	9	2	8	4	17	14:45	0	0	59	214	51	198	110	412
3:00	0	0	9		1		10		15:00	0	0	53		52		105	
3:15	0	0	4		3		7		15:15	0	0	83		56		139	
3:30	0	0	2		4		6		15:30	0	0	66		48		114	
3:45	0	0	4	19	3	11	7	30	15:45	0	0	69	271	42	198	111	469
4:00	0	0	2		3		5		16:00	0	0	66		58		124	
4:15	0	0	4		6		10		16:15	0	0	68		50		118	
4:30	0	0	3		6		9		16:30	0	0	72		54		126	
4:45	0	0	3	12	9	24	12	36	16:45	0	0	68	274	65	227	133	501
5:00	0	0	5		12		17		17:00	0	0	75		65		140	
5:15	0	0	8		24		32		17:15	0	0	95		57		152	
5:30	0	0	14		25		39		17:30	0	0	94		123		217	
5:45	0	0	11	38	29	90	40	128	17:45	0	0	90	354	61	306	151	660
6:00	0	0	21		39		60		18:00	0	0	81		68		149	
6:15	0	0	29		59		88		18:15	0	0	91		70		161	
6:30	0	0	43		64		107		18:30	0	0	59		43		102	
6:45	0	0	58	151	66	228	124	379	18:45	0	0	71	302	47	228	118	530
7:00	0	0	35		84		119		19:00	0	0	56		44		100	
7:15	0	0	28		76		104		19:15	0	0	59		25		84	
7:30	0	0	44		109		153		19:30	0	0	75		45		120	
7:45	0	0	52	159	88	357	140	516	19:45	0	0	50	240	31	145	81	385
8:00	0	0	45		61		106		20:00	0	0	49		26		75	
8:15	0	0	29		58		87		20:15	0	0	56		20		76	
8:30	0	0	34		69		103		20:30	0	0	37		28		65	
8:45	0	0	41	149	57	245	98	394	20:45	0	0	47	189	25	99	72	288
9:00	0	0	32		52		84		21:00	0	0	39		26		65	
9:15	0	0	30		63		93		21:15	0	0	30		18		48	
9:30	0	0	37		55		92		21:30	0	0	30		21		51	
9:45	0	0	33	132	39	209	72	341	21:45	0	0	32	131	13	78	45	209
10:00	0	0	32		37		69		22:00	0	0	26		16		42	
10:15	0	0	20		51		71		22:15	0	0	18		17		35	
10:30	0	0	28		43		71		22:30	0	0	27		23		50	
10:45	0	0	35	115	40	171	75	286	22:45	0	0	15	86	11	67	26	153
11:00	0	0	36		60		96		23:00	0	0	11		10		21	
11:15	0	0	33		35		68		23:15	0	0	10		6		16	
11:30	0	0	52		54		106		23:30	0	0	11		4		15	
11:45	0	0	37	158	48	197	85	355	23:45	0	0	3	35	4	24	7	59
TOTALS				984		1563		2547	TOTALS				2476		1916		4392
SPLIT %				38.6%		61.4%		36.7%	SPLIT %				56.4%		43.6%		63.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,460	3,479	6,939

AM Peak Hour			11:30	7:00	7:00	PM Peak Hour			17:15	17:30	17:30
AM Pk Volume			202	357	516	PM Pk Volume			360	322	678
Pk Hr Factor			0.871	0.819	0.843	Pk Hr Factor			0.947	0.654	0.781
7 - 9 Volume	0	0	308	602	910	4 - 6 Volume	0	0	628	533	1161
7 - 9 Peak Hour			7:30	7:00	7:00	4 - 6 Peak Hour			17:00	16:45	17:00
7 - 9 Pk Volume	0	0	170	357	516	4 - 6 Pk Volume	0	0	354	310	660
Pk Hr Factor	0.000	0.000	0.817	0.819	0.843	Pk Hr Factor	0.000	0.000	0.932	0.630	0.760

Prepared by National Data & Surveying Services

CLASSIFICATION

Black River Rd/ S-12 E/O US 521

Day: Thursday
Date: 5/18/2017

City: Camden
Project #: SC17_9315_004

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	36	3	0	2	0	0	0	0	0	0	0	0	41
1:00	0	21	2	0	2	0	0	0	0	0	0	0	0	25
2:00	1	19	1	0	1	0	0	0	0	0	0	0	0	22
3:00	0	15	3	0	0	0	0	0	0	0	0	0	0	18
4:00	0	28	13	0	9	0	0	0	1	0	0	0	0	51
5:00	0	92	19	0	18	0	0	1	2	0	0	0	0	132
6:00	1	279	52	3	45	1	0	2	1	0	0	0	0	384
7:00	1	392	72	2	60	1	0	1	5	0	0	0	0	534
8:00	3	242	59	0	65	0	0	2	8	0	0	0	0	379
9:00	1	190	50	1	54	2	0	3	5	0	0	0	0	306
10:00	2	228	64	2	57	3	0	4	5	0	0	0	0	365
11:00	1	216	66	0	54	3	0	1	5	0	0	0	0	346
12:00 PM	5	321	79	4	50	0	0	1	3	0	0	0	0	463
13:00	6	245	58	1	55	4	0	3	3	0	0	0	0	375
14:00	13	296	68	2	49	2	0	1	7	2	0	0	0	440
15:00	4	300	78	5	62	2	0	0	4	1	0	0	0	456
16:00	3	338	59	3	71	2	0	1	4	0	0	0	0	481
17:00	3	477	93	0	77	0	0	1	1	0	0	0	0	652
18:00	1	389	47	0	59	0	0	3	0	0	0	0	0	499
19:00	2	265	40	0	56	0	0	1	0	0	0	0	0	364
20:00	0	224	36	0	29	0	0	0	0	0	0	0	0	289
21:00	0	141	21	1	16	0	0	0	1	0	0	0	0	180
22:00	0	104	16	0	9	0	0	0	0	0	0	0	0	129
23:00	0	60	7	0	5	0	0	0	0	0	0	0	0	72
Totals	47	4918	1006	24	905	20		25	55	3				7003
% of Totals	1%	70%	14%	0%	13%	0%		0%	1%	0%				100%

AM Volumes	10	1758	404	8	367	10	0	14	32	0	0	0	0	2603
% AM	0%	25%	6%	0%	5%	0%		0%	0%					37%
AM Peak Hour	8:00	7:00	7:00	6:00	8:00	10:00		10:00	8:00					7:00
Volume	3	392	72	3	65	3		4	8					534
PM Volumes	37	3160	602	16	538	10	0	11	23	3	0	0	0	4400
% PM	1%	45%	9%	0%	8%	0%		0%	0%	0%				63%
PM Peak Hour	14:00	17:00	17:00	15:00	17:00	13:00		13:00	14:00	14:00				17:00
Volume	13	477	93	5	77	4		3	7	2				652

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	913	⟷	13%	838	⟷	12%	1133	⟷	16%	4119	⟷	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,479	3,524	7,003

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	4		2		6		12:00	0	0	52		82		134	
0:15	0	0	9		6		15		12:15	0	0	72		48		120	
0:30	0	0	5		7		12		12:30	0	0	59		51		110	
0:45	0	0	6	24	2	17	8	41	12:45	0	0	52	235	47	228	99	463
1:00	0	0	6		1		7		13:00	0	0	43		40		83	
1:15	0	0	5		2		7		13:15	0	0	60		47		107	
1:30	0	0	3		2		5		13:30	0	0	40		48		88	
1:45	0	0	5	19	1	6	6	25	13:45	0	0	41	184	56	191	97	375
2:00	0	0	5		3		8		14:00	0	0	48		61		109	
2:15	0	0	2		2		4		14:15	0	0	60		50		110	
2:30	0	0	3		1		4		14:30	0	0	58		66		124	
2:45	0	0	2	12	4	10	6	22	14:45	0	0	42	208	55	232	97	440
3:00	0	0	0		1		1		15:00	0	0	50		59		109	
3:15	0	0	4		3		7		15:15	0	0	69		46		115	
3:30	0	0	2		2		4		15:30	0	0	54		55		109	
3:45	0	0	4	10	2	8	6	18	15:45	0	0	81	254	42	202	123	456
4:00	0	0	1		4		5		16:00	0	0	56		44		100	
4:15	0	0	4		7		11		16:15	0	0	53		42		95	
4:30	0	0	2		7		9		16:30	0	0	68		60		128	
4:45	0	0	11	18	15	33	26	51	16:45	0	0	88	265	70	216	158	481
5:00	0	0	5		14		19		17:00	0	0	90		53		143	
5:15	0	0	8		22		30		17:15	0	0	91		55		146	
5:30	0	0	19		27		46		17:30	0	0	71		144		215	
5:45	0	0	14	46	23	86	37	132	17:45	0	0	85	337	63	315	148	652
6:00	0	0	25		36		61		18:00	0	0	105		56		161	
6:15	0	0	28		52		80		18:15	0	0	72		52		124	
6:30	0	0	50		62		112		18:30	0	0	76		44		120	
6:45	0	0	65	168	66	216	131	384	18:45	0	0	51	304	43	195	94	499
7:00	0	0	27		83		110		19:00	0	0	51		35		86	
7:15	0	0	39		89		128		19:15	0	0	80		43		123	
7:30	0	0	29		112		141		19:30	0	0	66		22		88	
7:45	0	0	61	156	94	378	155	534	19:45	0	0	43	240	24	124	67	364
8:00	0	0	36		66		102		20:00	0	0	49		28		77	
8:15	0	0	36		66		102		20:15	0	0	44		22		66	
8:30	0	0	27		55		82		20:30	0	0	52		27		79	
8:45	0	0	30	129	63	250	93	379	20:45	0	0	44	189	23	100	67	289
9:00	0	0	29		40		69		21:00	0	0	44		12		56	
9:15	0	0	22		50		72		21:15	0	0	37		15		52	
9:30	0	0	28		46		74		21:30	0	0	26		12		38	
9:45	0	0	39	118	52	188	91	306	21:45	0	0	23	130	11	50	34	180
10:00	0	0	38		52		90		22:00	0	0	22		15		37	
10:15	0	0	47		46		93		22:15	0	0	20		12		32	
10:30	0	0	34		59		93		22:30	0	0	19		21		40	
10:45	0	0	40	159	49	206	89	365	22:45	0	0	10	71	10	58	20	129
11:00	0	0	36		38		74		23:00	0	0	11		8		19	
11:15	0	0	48		38		86		23:15	0	0	15		10		25	
11:30	0	0	33		54		87		23:30	0	0	10		6		16	
11:45	0	0	43	160	56	186	99	346	23:45	0	0	7	43	5	29	12	72
TOTALS				1019		1584		2603	TOTALS				2460		1940		4400
SPLIT %				39.1%		60.9%		37.2%	SPLIT %				55.9%		44.1%		62.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,479	3,524	7,003

AM Peak Hour			11:45	7:00	7:00	PM Peak Hour			17:15	16:45	17:15
AM Pk Volume			226	378	534	PM Pk Volume			352	322	670
Pk Hr Factor			0.785	0.844	0.861	Pk Hr Factor			0.838	0.559	0.779
7 - 9 Volume	0	0	285	628	913	4 - 6 Volume	0	0	602	531	1133
7 - 9 Peak Hour			7:15	7:00	7:00	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	165	378	534	4 - 6 Pk Volume	0	0	340	322	662
Pk Hr Factor	0.000	0.000	0.676	0.844	0.861	Pk Hr Factor	0.000	0.000	0.934	0.559	0.770

Prepared by National Data & Surveying Services

CLASSIFICATION

Black River Rd/ S-12 E/O Hermitage Farm Rd

Day: Tuesday
Date: 5/16/2017

City: Camden
Project #: SC17_9315_005

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	28	1	0	0	0	0	0	0	0	0	0	0	29
1:00	0	11	3	0	0	0	0	0	0	0	0	0	0	14
2:00	0	15	2	0	0	0	0	0	0	0	0	0	0	17
3:00	1	16	0	0	0	0	0	0	0	0	0	0	0	17
4:00	2	31	11	0	2	0	0	0	1	0	0	0	0	47
5:00	1	95	21	0	7	0	0	0	0	0	0	0	0	124
6:00	2	268	38	4	27	1	0	1	1	0	0	0	0	342
7:00	1	341	48	1	31	1	0	0	3	0	0	0	0	426
8:00	1	200	53	1	19	6	0	0	5	1	0	0	0	286
9:00	0	195	45	2	26	0	0	2	7	0	0	0	0	277
10:00	1	166	43	1	22	5	0	0	4	0	0	0	0	242
11:00	2	176	59	0	17	0	0	2	1	0	0	0	0	257
12:00 PM	2	252	64	0	25	3	0	4	4	1	0	0	0	355
13:00	1	232	60	2	25	4	0	0	6	0	0	0	0	330
14:00	5	278	48	1	30	4	0	1	4	0	0	0	0	371
15:00	5	277	59	3	30	3	0	5	4	0	0	0	0	386
16:00	6	309	58	2	33	2	0	3	6	0	0	0	0	419
17:00	3	491	104	0	43	0	0	2	5	0	0	0	0	648
18:00	2	337	53	1	26	2	0	1	1	0	0	0	0	423
19:00	2	243	46	0	15	1	0	0	0	0	0	0	0	307
20:00	4	193	40	0	14	1	0	0	0	0	0	0	0	252
21:00	1	145	22	0	6	0	0	0	0	0	0	0	0	174
22:00	0	116	13	0	3	0	0	0	0	0	0	0	0	132
23:00	0	61	4	0	3	0	0	0	1	0	0	0	0	69
Totals	42	4476	895	18	404	33		21	53	2				5944
% of Totals	1%	75%	15%	0%	7%	1%		0%	1%	0%				100%

AM Volumes	11	1542	324	9	151	13	0	5	22	1	0	0	0	2078
% AM	0%	26%	5%	0%	3%	0%		0%	0%	0%				35%
AM Peak Hour	4:00	7:00	11:00	6:00	7:00	8:00		9:00	9:00	8:00				7:00
Volume	2	341	59	4	31	6		2	7	1				426
PM Volumes	31	2934	571	9	253	20	0	16	31	1	0	0	0	3866
% PM	1%	49%	10%	0%	4%	0%		0%	1%	0%				65%
PM Peak Hour	16:00	17:00	17:00	15:00	17:00	13:00		15:00	13:00	12:00				17:00
Volume	6	491	104	3	43	4		5	6	1				648

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	712	⟷	12%	685	⟷	12%	1067	⟷	18%	3480	⟷	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,941	3,003	5,944

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	4		3		7		12:00	0	0	42		64		106	
0:15	0	0	5		3		8		12:15	0	0	45		47		92	
0:30	0	0	3		6		9		12:30	0	0	45		45		90	
0:45	0	0	4	16	1	13	5	29	12:45	0	0	41	173	26	182	67	355
1:00	0	0	4		1		5		13:00	0	0	52		31		83	
1:15	0	0	2		2		4		13:15	0	0	37		34		71	
1:30	0	0	4		0		4		13:30	0	0	47		43		90	
1:45	0	0	1	11	0	3	1	14	13:45	0	0	40	176	46	154	86	330
2:00	0	0	2		4		6		14:00	0	0	36		58		94	
2:15	0	0	3		0		3		14:15	0	0	42		49		91	
2:30	0	0	1		3		4		14:30	0	0	43		57		100	
2:45	0	0	4	10	0	7	4	17	14:45	0	0	44	165	42	206	86	371
3:00	0	0	2		1		3		15:00	0	0	58		48		106	
3:15	0	0	3		1		4		15:15	0	0	58		33		91	
3:30	0	0	2		2		4		15:30	0	0	61		36		97	
3:45	0	0	3	10	3	7	6	17	15:45	0	0	50	227	42	159	92	386
4:00	0	0	5		5		10		16:00	0	0	56		40		96	
4:15	0	0	2		7		9		16:15	0	0	55		37		92	
4:30	0	0	1		9		10		16:30	0	0	65		50		115	
4:45	0	0	3	11	15	36	18	47	16:45	0	0	75	251	41	168	116	419
5:00	0	0	3		14		17		17:00	0	0	75		61		136	
5:15	0	0	9		19		28		17:15	0	0	99		66		165	
5:30	0	0	15		16		31		17:30	0	0	58		130		188	
5:45	0	0	16	43	32	81	48	124	17:45	0	0	73	305	86	343	159	648
6:00	0	0	16		30		46		18:00	0	0	73		59		132	
6:15	0	0	35		54		89		18:15	0	0	55		63		118	
6:30	0	0	32		54		86		18:30	0	0	59		44		103	
6:45	0	0	52	135	69	207	121	342	18:45	0	0	50	237	20	186	70	423
7:00	0	0	28		67		95		19:00	0	0	45		19		64	
7:15	0	0	23		85		108		19:15	0	0	68		25		93	
7:30	0	0	33		80		113		19:30	0	0	43		35		78	
7:45	0	0	35	119	75	307	110	426	19:45	0	0	46	202	26	105	72	307
8:00	0	0	43		47		90		20:00	0	0	43		20		63	
8:15	0	0	25		38		63		20:15	0	0	36		15		51	
8:30	0	0	19		53		72		20:30	0	0	52		19		71	
8:45	0	0	20	107	41	179	61	286	20:45	0	0	47	178	20	74	67	252
9:00	0	0	26		44		70		21:00	0	0	29		16		45	
9:15	0	0	24		44		68		21:15	0	0	26		18		44	
9:30	0	0	28		36		64		21:30	0	0	35		17		52	
9:45	0	0	33	111	42	166	75	277	21:45	0	0	22	112	11	62	33	174
10:00	0	0	24		43		67		22:00	0	0	22		16		38	
10:15	0	0	23		36		59		22:15	0	0	17		15		32	
10:30	0	0	20		34		54		22:30	0	0	26		20		46	
10:45	0	0	23	90	39	152	62	242	22:45	0	0	12	77	4	55	16	132
11:00	0	0	37		22		59		23:00	0	0	12		4		16	
11:15	0	0	37		33		70		23:15	0	0	9		4		13	
11:30	0	0	24		38		62		23:30	0	0	12		9		21	
11:45	0	0	34	132	32	125	66	257	23:45	0	0	10	43	9	26	19	69
TOTALS				795		1283		2078	TOTALS				2146		1720		3866
SPLIT %				38.3%		61.7%		35.0%	SPLIT %				55.5%		44.5%		65.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,941	3,003	5,944

AM Peak Hour			11:45	7:00	6:45	PM Peak Hour			16:30	17:00	17:00
AM Pk Volume			166	307	437	PM Pk Volume			314	343	648
Pk Hr Factor			0.922	0.903	0.903	Pk Hr Factor			0.793	0.660	0.862
7 - 9 Volume	0	0	226	486	712	4 - 6 Volume	0	0	556	511	1067
7 - 9 Peak Hour			7:30	7:00	7:00	4 - 6 Peak Hour			16:30	17:00	17:00
7 - 9 Pk Volume	0	0	136	307	426	4 - 6 Pk Volume	0	0	314	343	648
Pk Hr Factor	0.000	0.000	0.791	0.903	0.942	Pk Hr Factor	0.000	0.000	0.793	0.660	0.862

Prepared by National Data & Surveying Services

CLASSIFICATION

Black River Rd/ S-12 E/O Hermitage Farm Rd

Day: Wednesday
Date: 5/17/2017

City: Camden
Project #: SC17_9315_005

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	1	35	2	0	0	0	0	0	0	0	0	0	0	38
1:00	1	15	2	0	0	0	0	0	0	0	0	0	0	18
2:00	0	10	4	0	0	0	0	0	0	0	0	0	0	14
3:00	0	30	2	0	0	0	0	0	0	0	0	0	0	32
4:00	1	21	8	0	1	0	0	0	0	0	0	0	0	31
5:00	1	84	16	0	9	0	0	0	0	0	0	0	0	110
6:00	2	281	42	4	21	0	0	1	3	0	0	0	0	354
7:00	1	328	46	0	33	4	0	2	7	0	0	0	0	421
8:00	3	227	52	1	33	2	1	2	7	0	0	0	0	328
9:00	1	195	46	0	30	5	1	1	10	0	0	0	0	289
10:00	1	163	48	1	23	6	0	1	6	0	0	0	0	249
11:00	0	232	50	1	27	1	0	1	3	0	0	0	0	315
12:00 PM	2	253	58	0	17	1	0	1	5	0	0	0	0	337
13:00	3	182	53	0	16	2	0	1	8	0	0	0	0	265
14:00	3	267	46	0	25	0	0	2	10	0	0	0	0	353
15:00	3	303	71	4	18	0	0	3	8	0	0	0	0	410
16:00	2	288	67	2	19	0	0	3	8	0	0	0	0	389
17:00	0	479	87	0	18	0	0	3	3	0	0	0	0	590
18:00	0	364	73	0	13	0	0	1	2	0	0	0	0	453
19:00	2	258	50	0	8	0	0	1	1	0	0	0	0	320
20:00	0	197	47	0	5	1	0	0	0	0	0	0	0	250
21:00	1	158	20	0	3	0	0	0	0	0	0	0	0	182
22:00	0	117	14	0	4	0	0	1	0	0	0	0	0	136
23:00	0	47	8	0	0	0	0	0	0	0	0	0	0	55
Totals	28	4534	912	13	323	22	2	24	81					5939
% of Totals	0%	76%	15%	0%	5%	0%	0%	0%	1%					100%

AM Volumes	12	1621	318	7	177	18	2	8	36	0	0	0	0	2199
% AM	0%	27%	5%	0%	3%	0%	0%	0%	1%					37%
AM Peak Hour	8:00	7:00	8:00	6:00	7:00	10:00	8:00	7:00	9:00					7:00
Volume	3	328	52	4	33	6	1	2	10					421
PM Volumes	16	2913	594	6	146	4	0	16	45	0	0	0	0	3740
% PM	0%	49%	10%	0%	2%	0%		0%	1%					63%
PM Peak Hour	13:00	17:00	17:00	15:00	14:00	13:00		15:00	14:00					17:00
Volume	3	479	87	4	25	2		3	10					590

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	749	⟷	13%	602	⟷	10%	979	⟷	16%	3609	⟷	61%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,970	2,969	5,939

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	7		3		10		12:00	0	0	47		53		100	
0:15	0	0	5		2		7		12:15	0	0	53		36		89	
0:30	0	0	10		5		15		12:30	0	0	34		44		78	
0:45	0	0	5	27	1	11	6	38	12:45	0	0	36	170	34	167	70	337
1:00	0	0	3		2		5		13:00	0	0	45		24		69	
1:15	0	0	3		4		7		13:15	0	0	34		34		68	
1:30	0	0	4		1		5		13:30	0	0	43		27		70	
1:45	0	0	1	11	0	7	1	18	13:45	0	0	27	149	31	116	58	265
2:00	0	0	2		2		4		14:00	0	0	39		52		91	
2:15	0	0	1		2		3		14:15	0	0	43		36		79	
2:30	0	0	2		2		4		14:30	0	0	47		48		95	
2:45	0	0	2	7	1	7	3	14	14:45	0	0	43	172	45	181	88	353
3:00	0	0	8		1		9		15:00	0	0	48		47		95	
3:15	0	0	4		4		8		15:15	0	0	68		44		112	
3:30	0	0	3		5		8		15:30	0	0	57		45		102	
3:45	0	0	4	19	3	13	7	32	15:45	0	0	61	234	40	176	101	410
4:00	0	0	2		2		4		16:00	0	0	54		41		95	
4:15	0	0	4		5		9		16:15	0	0	57		33		90	
4:30	0	0	3		7		10		16:30	0	0	58		43		101	
4:45	0	0	3	12	5	19	8	31	16:45	0	0	57	226	46	163	103	389
5:00	0	0	5		12		17		17:00	0	0	66		58		124	
5:15	0	0	6		20		26		17:15	0	0	86		52		138	
5:30	0	0	14		22		36		17:30	0	0	82		111		193	
5:45	0	0	10	35	21	75	31	110	17:45	0	0	74	308	61	282	135	590
6:00	0	0	18		36		54		18:00	0	0	72		57		129	
6:15	0	0	27		50		77		18:15	0	0	76		60		136	
6:30	0	0	39		62		101		18:30	0	0	49		38		87	
6:45	0	0	54	138	68	216	122	354	18:45	0	0	57	254	44	199	101	453
7:00	0	0	29		62		91		19:00	0	0	49		34		83	
7:15	0	0	23		62		85		19:15	0	0	53		18		71	
7:30	0	0	37		86		123		19:30	0	0	60		38		98	
7:45	0	0	48	137	74	284	122	421	19:45	0	0	42	204	26	116	68	320
8:00	0	0	33		49		82		20:00	0	0	47		23		70	
8:15	0	0	22		47		69		20:15	0	0	50		18		68	
8:30	0	0	28		59		87		20:30	0	0	37		21		58	
8:45	0	0	38	121	52	207	90	328	20:45	0	0	35	169	19	81	54	250
9:00	0	0	32		41		73		21:00	0	0	37		20		57	
9:15	0	0	26		53		79		21:15	0	0	28		15		43	
9:30	0	0	27		51		78		21:30	0	0	25		18		43	
9:45	0	0	27	112	32	177	59	289	21:45	0	0	30	120	9	62	39	182
10:00	0	0	30		36		66		22:00	0	0	27		16		43	
10:15	0	0	14		48		62		22:15	0	0	16		13		29	
10:30	0	0	22		37		59		22:30	0	0	25		20		45	
10:45	0	0	25	91	37	158	62	249	22:45	0	0	10	78	9	58	19	136
11:00	0	0	30		50		80		23:00	0	0	12		9		21	
11:15	0	0	30		35		65		23:15	0	0	10		3		13	
11:30	0	0	44		46		90		23:30	0	0	8		4		12	
11:45	0	0	38	142	42	173	80	315	23:45	0	0	4	34	5	21	9	55
TOTALS				852		1347		2199	TOTALS				2118		1622		3740
SPLIT %				38.7%		61.3%		37.0%	SPLIT %				56.6%		43.4%		63.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,970	2,969	5,939

AM Peak Hour			11:30	7:00	6:45	PM Peak Hour			17:15	17:30	17:15
AM Pk Volume			182	284	421	PM Pk Volume			314	289	595
Pk Hr Factor			0.858	0.826	0.856	Pk Hr Factor			0.913	0.651	0.771
7 - 9 Volume	0	0	258	491	749	4 - 6 Volume	0	0	534	445	979
7 - 9 Peak Hour			7:15	7:00	7:00	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	141	284	421	4 - 6 Pk Volume	0	0	308	282	590
Pk Hr Factor	0.000	0.000	0.734	0.826	0.856	Pk Hr Factor	0.000	0.000	0.895	0.635	0.764

Prepared by National Data & Surveying Services

CLASSIFICATION

Black River Rd/ S-12 E/O Hermitage Farm Rd

Day: Thursday
Date: 5/18/2017

City: Camden
Project #: SC17_9315_005

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	32	1	0	1	0	0	0	0	0	0	0	0	34
1:00	0	21	3	0	0	0	0	0	0	0	0	0	0	24
2:00	1	18	1	0	0	0	0	0	0	0	0	0	0	20
3:00	0	19	0	0	0	0	0	0	0	0	0	0	0	19
4:00	0	29	12	0	0	0	0	0	1	0	0	0	0	42
5:00	0	86	23	0	3	0	0	1	1	0	0	0	0	114
6:00	1	284	51	3	12	1	0	2	1	0	0	0	0	355
7:00	0	344	55	0	18	1	1	1	5	0	0	0	0	425
8:00	4	214	53	0	15	1	0	1	9	0	0	0	0	297
9:00	1	174	58	0	13	3	0	1	4	0	0	0	0	254
10:00	1	209	70	1	8	2	0	4	5	0	0	0	0	300
11:00	1	204	59	0	22	3	0	2	4	0	0	0	0	295
12:00 PM	2	296	66	2	25	0	0	3	3	0	0	0	0	397
13:00	3	219	48	1	27	0	1	2	5	0	0	0	0	306
14:00	11	258	57	0	26	0	2	2	10	0	0	0	0	366
15:00	2	278	66	2	33	1	0	2	6	0	0	0	0	390
16:00	4	303	63	2	37	2	0	0	4	0	0	0	0	415
17:00	2	458	86	1	50	0	0	1	1	0	0	0	0	599
18:00	1	348	65	0	24	0	0	2	1	0	0	0	0	441
19:00	4	255	35	0	31	0	0	1	0	0	0	0	0	326
20:00	0	213	34	0	13	0	0	0	0	0	0	0	0	260
21:00	0	130	22	0	7	0	0	0	1	0	0	0	0	160
22:00	0	88	12	0	6	0	0	0	0	0	0	0	0	106
23:00	0	58	7	0	1	0	0	0	0	0	0	0	0	66
Totals	38	4538	947	12	372	14	4	25	61					6011
% of Totals	1%	75%	16%	0%	6%	0%	0%	0%	1%					100%

AM Volumes	9	1634	386	4	92	11	1	12	30	0	0	0	0	2179
% AM	0%	27%	6%	0%	2%	0%	0%	0%	0%					36%
AM Peak Hour	8:00	7:00	10:00	6:00	11:00	9:00	7:00	10:00	8:00					7:00
Volume	4	344	70	3	22	3	1	4	9					425
PM Volumes	29	2904	561	8	280	3	3	13	31	0	0	0	0	3832
% PM	0%	48%	9%	0%	5%	0%	0%	0%	1%					64%
PM Peak Hour	14:00	17:00	17:00	12:00	17:00	16:00	14:00	12:00	14:00					17:00
Volume	11	458	86	2	50	2	2	3	10					599

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	722	⟷	12%	703	⟷	12%	1014	⟷	17%	3572	⟷	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,003	3,008	6,011

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	3		1		4		12:00	0	0	48		75		123	
0:15	0	0	8		5		13		12:15	0	0	63		40		103	
0:30	0	0	3		6		9		12:30	0	0	49		36		85	
0:45	0	0	6	20	2	14	8	34	12:45	0	0	46	206	40	191	86	397
1:00	0	0	6		1		7		13:00	0	0	31		31		62	
1:15	0	0	4		2		6		13:15	0	0	44		36		80	
1:30	0	0	2		2		4		13:30	0	0	33		41		74	
1:45	0	0	6	18	1	6	7	24	13:45	0	0	38	146	52	160	90	306
2:00	0	0	5		3		8		14:00	0	0	48		51		99	
2:15	0	0	1		2		3		14:15	0	0	51		43		94	
2:30	0	0	3		3		6		14:30	0	0	48		50		98	
2:45	0	0	1	10	2	10	3	20	14:45	0	0	34	181	41	185	75	366
3:00	0	0	2		1		3		15:00	0	0	42		46		88	
3:15	0	0	4		3		7		15:15	0	0	53		38		91	
3:30	0	0	2		2		4		15:30	0	0	53		46		99	
3:45	0	0	3	11	2	8	5	19	15:45	0	0	73	221	39	169	112	390
4:00	0	0	2		2		4		16:00	0	0	47		39		86	
4:15	0	0	3		6		9		16:15	0	0	45		36		81	
4:30	0	0	2		6		8		16:30	0	0	59		53		112	
4:45	0	0	9	16	12	26	21	42	16:45	0	0	77	228	59	187	136	415
5:00	0	0	5		12		17		17:00	0	0	81		53		134	
5:15	0	0	6		19		25		17:15	0	0	78		50		128	
5:30	0	0	19		21		40		17:30	0	0	66		140		206	
5:45	0	0	11	41	21	73	32	114	17:45	0	0	75	300	56	299	131	599
6:00	0	0	22		33		55		18:00	0	0	89		47		136	
6:15	0	0	24		46		70		18:15	0	0	68		46		114	
6:30	0	0	47		54		101		18:30	0	0	63		43		106	
6:45	0	0	65	158	64	197	129	355	18:45	0	0	46	266	39	175	85	441
7:00	0	0	24		63		87		19:00	0	0	43		28		71	
7:15	0	0	28		69		97		19:15	0	0	65		39		104	
7:30	0	0	26		91		117		19:30	0	0	63		25		88	
7:45	0	0	44	122	80	303	124	425	19:45	0	0	40	211	23	115	63	326
8:00	0	0	28		57		85		20:00	0	0	44		25		69	
8:15	0	0	28		48		76		20:15	0	0	38		20		58	
8:30	0	0	23		38		61		20:30	0	0	49		28		77	
8:45	0	0	25	104	50	193	75	297	20:45	0	0	38	169	18	91	56	260
9:00	0	0	23		35		58		21:00	0	0	42		12		54	
9:15	0	0	18		45		63		21:15	0	0	36		11		47	
9:30	0	0	24		37		61		21:30	0	0	24		5		29	
9:45	0	0	31	96	41	158	72	254	21:45	0	0	18	120	12	40	30	160
10:00	0	0	25		47		72		22:00	0	0	19		12		31	
10:15	0	0	41		35		76		22:15	0	0	16		11		27	
10:30	0	0	23		49		72		22:30	0	0	18		18		36	
10:45	0	0	34	123	46	177	80	300	22:45	0	0	5	58	7	48	12	106
11:00	0	0	30		30		60		23:00	0	0	11		7		18	
11:15	0	0	46		32		78		23:15	0	0	13		9		22	
11:30	0	0	28		42		70		23:30	0	0	8		6		14	
11:45	0	0	35	139	52	156	87	295	23:45	0	0	7	39	5	27	12	66
TOTALS				858		1321		2179	TOTALS				2145		1687		3832
SPLIT %				39.4%		60.6%		36.3%	SPLIT %				56.0%		44.0%		63.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,003	3,008	6,011

AM Peak Hour			11:45	7:00	6:45	PM Peak Hour			17:15	16:45	16:45
AM Pk Volume			195	303	430	PM Pk Volume			308	302	604
Pk Hr Factor			0.774	0.832	0.833	Pk Hr Factor			0.865	0.539	0.733
7 - 9 Volume	0	0	226	496	722	4 - 6 Volume	0	0	528	486	1014
7 - 9 Peak Hour			7:15	7:00	7:00	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	126	303	425	4 - 6 Pk Volume	0	0	302	302	604
Pk Hr Factor	0.000	0.000	0.716	0.832	0.857	Pk Hr Factor	0.000	0.000	0.932	0.539	0.733

Prepared by National Data & Surveying Services

CLASSIFICATION

Black River Rd/ S-12 W/O Mount Olivet Rd

Day: Tuesday
Date: 5/16/2017

City: Camden
Project #: SC17_9315_006

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	16	1	0	0	0	0	0	0	0	0	0	0	17
1:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
2:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
3:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
4:00	2	13	2	0	6	0	0	0	0	0	0	0	0	23
5:00	0	63	15	0	6	0	0	0	0	0	0	0	0	84
6:00	1	151	43	7	17	1	0	1	0	0	0	0	0	221
7:00	1	216	50	2	27	2	0	1	1	0	0	0	0	300
8:00	0	136	47	2	24	4	0	2	0	0	0	0	0	215
9:00	0	124	38	0	32	1	0	0	2	0	0	0	0	197
10:00	1	137	33	0	18	3	0	0	2	0	0	0	0	194
11:00	1	95	39	0	18	1	0	0	0	0	0	0	0	154
12:00 PM	1	120	31	0	18	3	0	5	1	0	0	0	0	179
13:00	0	133	44	0	23	3	0	1	2	0	0	0	0	206
14:00	3	170	41	2	27	2	0	0	1	0	0	0	0	246
15:00	1	180	42	5	32	3	0	3	2	0	0	0	0	268
16:00	7	206	26	2	32	2	0	0	2	0	0	0	0	277
17:00	1	284	56	0	38	0	0	0	0	0	0	0	0	379
18:00	1	219	34	0	37	0	0	3	0	0	0	0	0	294
19:00	2	166	33	0	19	0	0	0	0	0	0	0	0	220
20:00	2	130	26	0	18	1	0	0	0	0	0	0	0	177
21:00	0	109	14	0	8	0	0	0	0	0	0	0	0	131
22:00	0	76	4	0	4	0	0	0	0	0	0	0	0	84
23:00	1	39	8	0	2	0	0	0	0	0	0	0	0	50
Totals	25	2806	628	20	407	26		16	13					3941
% of Totals	1%	71%	16%	1%	10%	1%		0%	0%					100%

AM Volumes	6	974	269	11	149	12	0	4	5	0	0	0	0	1430
% AM	0%	25%	7%	0%	4%	0%		0%	0%					36%
AM Peak Hour	4:00	7:00	7:00	6:00	9:00	8:00		8:00	9:00					7:00
Volume	2	216	50	7	32	4		2	2					300
PM Volumes	19	1832	359	9	258	14	0	12	8	0	0	0	0	2511
% PM	0%	46%	9%	0%	7%	0%		0%	0%					64%
PM Peak Hour	16:00	17:00	17:00	15:00	17:00	12:00		12:00	13:00					17:00
Volume	7	284	56	5	38	3		5	2					379

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	515	⟷	13%	385	⟷	10%	656	⟷	17%	2385	⟷	61%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,979	1,962	3,941

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	3		3		6		12:00	0	0	25		27		52	
0:15	0	0	1		1		2		12:15	0	0	14		32		46	
0:30	0	0	4		1		5		12:30	0	0	21		16		37	
0:45	0	0	2	10	2	7	4	17	12:45	0	0	24	84	20	95	44	179
1:00	0	0	2		0		2		13:00	0	0	25		25		50	
1:15	0	0	1		1		2		13:15	0	0	26		20		46	
1:30	0	0	1		0		1		13:30	0	0	26		32		58	
1:45	0	0	0	4	2	3	2	7	13:45	0	0	21	98	31	108	52	206
2:00	0	0	3		0		3		14:00	0	0	30		25		55	
2:15	0	0	1		1		2		14:15	0	0	33		37		70	
2:30	0	0	2		2		4		14:30	0	0	33		27		60	
2:45	0	0	2	8	1	4	3	12	14:45	0	0	35	131	26	115	61	246
3:00	0	0	1		0		1		15:00	0	0	38		28		66	
3:15	0	0	0		0				15:15	0	0	44		29		73	
3:30	0	0	2		1		3		15:30	0	0	38		22		60	
3:45	0	0	0	3	2	3	2	6	15:45	0	0	44	164	25	104	69	268
4:00	0	0	1		2		3		16:00	0	0	44		23		67	
4:15	0	0	2		6		8		16:15	0	0	35		23		58	
4:30	0	0	1		2		3		16:30	0	0	48		35		83	
4:45	0	0	0	4	9	19	9	23	16:45	0	0	47	174	22	103	69	277
5:00	0	0	3		10		13		17:00	0	0	52		36		88	
5:15	0	0	1		16		17		17:15	0	0	42		37		79	
5:30	0	0	4		23		27		17:30	0	0	76		49		125	
5:45	0	0	3	11	24	73	27	84	17:45	0	0	54	224	33	155	87	379
6:00	0	0	7		18		25		18:00	0	0	42		39		81	
6:15	0	0	17		37		54		18:15	0	0	52		42		94	
6:30	0	0	14		66		80		18:30	0	0	43		26		69	
6:45	0	0	20	58	42	163	62	221	18:45	0	0	30	167	20	127	50	294
7:00	0	0	14		41		55		19:00	0	0	41		14		55	
7:15	0	0	32		49		81		19:15	0	0	44		17		61	
7:30	0	0	26		58		84		19:30	0	0	32		18		50	
7:45	0	0	22	94	58	206	80	300	19:45	0	0	33	150	21	70	54	220
8:00	0	0	20		24		44		20:00	0	0	33		18		51	
8:15	0	0	23		42		65		20:15	0	0	25		13		38	
8:30	0	0	19		40		59		20:30	0	0	22		18		40	
8:45	0	0	18	80	29	135	47	215	20:45	0	0	34	114	14	63	48	177
9:00	0	0	23		30		53		21:00	0	0	26		15		41	
9:15	0	0	17		32		49		21:15	0	0	14		14		28	
9:30	0	0	19		31		50		21:30	0	0	19		18		37	
9:45	0	0	21	80	24	117	45	197	21:45	0	0	13	72	12	59	25	131
10:00	0	0	21		35		56		22:00	0	0	12		8		20	
10:15	0	0	27		21		48		22:15	0	0	10		6		16	
10:30	0	0	15		29		44		22:30	0	0	24		8		32	
10:45	0	0	22	85	24	109	46	194	22:45	0	0	12	58	4	26	16	84
11:00	0	0	17		19		36		23:00	0	0	10		5		15	
11:15	0	0	26		16		42		23:15	0	0	12		4		16	
11:30	0	0	16		21		37		23:30	0	0	3		7		10	
11:45	0	0	21	80	18	74	39	154	23:45	0	0	1	26	8	24	9	50
TOTALS				517		913		1430	TOTALS				1462		1049		2511
SPLIT %				36.2%		63.8%		36.3%	SPLIT %				58.2%		41.8%		63.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,979	1,962	3,941

AM Peak Hour			7:15	7:00	7:00	PM Peak Hour			17:00	17:30	17:30
AM Pk Volume			100	206	300	PM Pk Volume			224	163	387
Pk Hr Factor			0.781	0.888	0.893	Pk Hr Factor			0.737	0.832	0.774
7 - 9 Volume	0	0	174	341	515	4 - 6 Volume	0	0	398	258	656
7 - 9 Peak Hour			7:15	7:00	7:00	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	100	206	300	4 - 6 Pk Volume	0	0	224	155	379
Pk Hr Factor	0.000	0.000	0.781	0.888	0.893	Pk Hr Factor	0.000	0.000	0.737	0.791	0.758

Prepared by National Data & Surveying Services

CLASSIFICATION

Black River Rd/ S-12 W/O Mount Olivet Rd

Day: Wednesday
Date: 5/17/2017

City: Camden
Project #: SC17_9315_006

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	20	1	0	1	0	0	0	0	0	0	0	0	22
1:00	1	10	0	0	0	0	0	0	0	0	0	0	0	11
2:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
3:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
4:00	1	18	1	0	6	1	0	0	0	0	0	0	0	27
5:00	0	64	11	0	5	0	0	0	0	0	0	0	0	80
6:00	1	157	38	7	21	1	0	2	1	0	0	0	0	228
7:00	0	200	38	1	24	1	0	4	1	0	0	0	0	269
8:00	0	141	39	1	31	1	0	5	0	0	0	0	0	218
9:00	0	135	27	0	34	1	0	4	0	0	0	0	0	201
10:00	0	110	40	1	21	1	0	2	0	0	0	0	0	175
11:00	0	126	25	0	29	0	0	0	1	0	0	0	0	181
12:00 PM	1	114	24	0	24	0	0	2	2	0	0	0	0	167
13:00	0	133	41	0	19	4	0	2	2	0	0	0	0	201
14:00	2	203	46	2	31	0	0	2	0	0	0	0	0	286
15:00	2	192	40	4	32	2	0	2	0	0	0	0	0	274
16:00	0	192	23	3	25	2	0	1	1	0	0	0	0	247
17:00	1	282	61	0	31	0	0	0	1	0	0	0	0	376
18:00	0	215	33	0	30	0	0	0	1	0	0	0	0	279
19:00	2	167	23	0	22	0	0	2	0	0	0	0	0	216
20:00	0	131	19	0	25	1	0	0	0	0	0	0	0	176
21:00	0	99	19	0	4	0	0	0	1	0	0	0	0	123
22:00	0	78	9	0	6	0	0	1	0	0	0	0	0	94
23:00	0	35	7	0	2	0	0	0	0	0	0	0	0	44
Totals	11	2839	566	19	423	15		29	11					3913
% of Totals	0%	73%	14%	0%	11%	0%		1%	0%					100%

AM Volumes	3	998	221	10	172	6	0	17	3	0	0	0	0	1430
% AM	0%	26%	6%	0%	4%	0%		0%	0%					37%
AM Peak Hour	1:00	7:00	10:00	6:00	9:00	4:00		8:00	6:00					7:00
Volume	1	200	40	7	34	1		5	1					269
PM Volumes	8	1841	345	9	251	9	0	12	8	0	0	0	0	2483
% PM	0%	47%	9%	0%	6%	0%		0%	0%					63%
PM Peak Hour	14:00	17:00	17:00	15:00	15:00	13:00		12:00	12:00					17:00
Volume	2	282	61	4	32	4		2	2					376

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	487	⟷	12%	368	⟷	9%	623	⟷	16%	2435	⟷	62%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,989	1,924	3,913

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	1		0		1		12:00	0	0	11		19		30	
0:15	0	0	6		2		8		12:15	0	0	21		20		41	
0:30	0	0	5		3		8		12:30	0	0	26		28		54	
0:45	0	0	5	17	0	5	5	22	12:45	0	0	17	75	25	92	42	167
1:00	0	0	2		1		3		13:00	0	0	22		22		44	
1:15	0	0	1		2		3		13:15	0	0	30		23		53	
1:30	0	0	1		1		2		13:30	0	0	41		24		65	
1:45	0	0	1	5	2	6	3	11	13:45	0	0	15	108	24	93	39	201
2:00	0	0	0		0				14:00	0	0	31		38		69	
2:15	0	0	0		3		3		14:15	0	0	32		32		64	
2:30	0	0	3		1		4		14:30	0	0	45		33		78	
2:45	0	0	2	5	1	5	3	10	14:45	0	0	34	142	41	144	75	286
3:00	0	0	1		0		1		15:00	0	0	35		21		56	
3:15	0	0	2		0		2		15:15	0	0	49		31		80	
3:30	0	0	0		1		1		15:30	0	0	59		25		84	
3:45	0	0	2	5	2	3	4	8	15:45	0	0	33	176	21	98	54	274
4:00	0	0	0		4		4		16:00	0	0	40		26		66	
4:15	0	0	0		5		5		16:15	0	0	39		22		61	
4:30	0	0	3		9		12		16:30	0	0	42		23		65	
4:45	0	0	0	3	6	24	6	27	16:45	0	0	31	152	24	95	55	247
5:00	0	0	5		9		14		17:00	0	0	52		31		83	
5:15	0	0	1		12		13		17:15	0	0	51		29		80	
5:30	0	0	3		29		32		17:30	0	0	83		33		116	
5:45	0	0	4	13	17	67	21	80	17:45	0	0	57	243	40	133	97	376
6:00	0	0	8		21		29		18:00	0	0	44		34		78	
6:15	0	0	17		44		61		18:15	0	0	43		40		83	
6:30	0	0	12		58		70		18:30	0	0	34		25		59	
6:45	0	0	15	52	53	176	68	228	18:45	0	0	45	166	14	113	59	279
7:00	0	0	15		40		55		19:00	0	0	42		12		54	
7:15	0	0	29		26		55		19:15	0	0	42		20		62	
7:30	0	0	25		53		78		19:30	0	0	36		16		52	
7:45	0	0	36	105	45	164	81	269	19:45	0	0	28	148	20	68	48	216
8:00	0	0	17		26		43		20:00	0	0	32		20		52	
8:15	0	0	18		43		61		20:15	0	0	33		20		53	
8:30	0	0	19		47		66		20:30	0	0	19		14		33	
8:45	0	0	20	74	28	144	48	218	20:45	0	0	24	108	14	68	38	176
9:00	0	0	17		40		57		21:00	0	0	26		13		39	
9:15	0	0	16		32		48		21:15	0	0	15		11		26	
9:30	0	0	17		34		51		21:30	0	0	17		10		27	
9:45	0	0	13	63	32	138	45	201	21:45	0	0	21	79	10	44	31	123
10:00	0	0	17		28		45		22:00	0	0	13		8		21	
10:15	0	0	11		25		36		22:15	0	0	11		13		24	
10:30	0	0	19		23		42		22:30	0	0	23		4		27	
10:45	0	0	22	69	30	106	52	175	22:45	0	0	16	63	6	31	22	94
11:00	0	0	25		32		57		23:00	0	0	10		7		17	
11:15	0	0	20		18		38		23:15	0	0	7		3		10	
11:30	0	0	26		21		47		23:30	0	0	6		4		10	
11:45	0	0	21	92	18	89	39	181	23:45	0	0	3	26	4	18	7	44
TOTALS				503		927		1430	TOTALS				1486		997		2483
SPLIT %				35.2%		64.8%		36.5%	SPLIT %				59.8%		40.2%		63.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,989	1,924	3,913

AM Peak Hour			7:15	6:15	7:00	PM Peak Hour			17:00	17:30	17:00
AM Pk Volume			107	195	269	PM Pk Volume			243	147	376
Pk Hr Factor			0.743	0.841	0.830	Pk Hr Factor			0.732	0.919	0.810
7 - 9 Volume	0	0	179	308	487	4 - 6 Volume	0	0	395	228	623
7 - 9 Peak Hour			7:15	7:30	7:00	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	107	167	269	4 - 6 Pk Volume	0	0	243	133	376
Pk Hr Factor	0.000	0.000	0.743	0.788	0.830	Pk Hr Factor	0.000	0.000	0.732	0.831	0.810

Prepared by National Data & Surveying Services

CLASSIFICATION

Black River Rd/ S-12 W/O Mount Olivet Rd

Day: Thursday
Date: 5/18/2017

City: Camden
Project #: SC17_9315_006

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	12	1	0	0	0	0	0	0	0	0	0	0	13
1:00	0	18	0	0	0	0	0	0	0	0	0	0	0	18
2:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
3:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
4:00	0	17	2	0	7	0	0	0	0	0	0	0	0	26
5:00	0	61	13	0	11	0	0	0	1	0	0	0	0	86
6:00	0	161	33	4	24	2	0	1	1	0	0	0	0	226
7:00	2	210	47	2	28	2	0	1	1	0	0	0	0	293
8:00	1	115	41	0	34	2	0	5	1	0	0	0	0	199
9:00	1	127	28	1	39	2	0	0	3	0	0	0	0	201
10:00	0	134	52	1	23	0	0	3	2	0	0	0	0	215
11:00	0	120	27	0	27	3	0	2	0	0	0	0	0	179
12:00 PM	1	135	34	0	23	1	0	2	4	0	0	0	0	200
13:00	4	147	31	0	30	1	0	0	3	0	0	0	0	216
14:00	3	193	45	2	29	1	0	0	0	0	0	0	0	273
15:00	3	187	53	4	38	0	0	1	0	0	0	0	0	286
16:00	3	219	41	2	42	2	0	0	0	0	0	0	0	309
17:00	3	273	46	1	38	0	0	0	0	0	0	0	0	361
18:00	1	231	25	0	34	0	0	1	0	0	0	0	0	292
19:00	0	155	16	0	22	0	0	2	0	0	0	0	0	195
20:00	0	135	22	0	12	0	0	0	0	0	0	0	0	169
21:00	0	95	13	0	7	0	0	0	1	0	0	0	0	116
22:00	0	64	8	0	0	0	0	0	1	0	0	0	0	73
23:00	0	46	5	0	3	0	0	0	1	0	0	0	0	55
Totals	22	2876	585	17	471	16		18	19					4024
% of Totals	1%	71%	15%	0%	12%	0%		0%	0%					100%

AM Volumes	4	996	246	8	193	11	0	12	9	0	0	0	0	1479
% AM	0%	25%	6%	0%	5%	0%		0%	0%					37%
AM Peak Hour	7:00	7:00	10:00	6:00	9:00	11:00		8:00	9:00					7:00
Volume	2	210	52	4	39	3		5	3					293
PM Volumes	18	1880	339	9	278	5	0	6	10	0	0	0	0	2545
% PM	0%	47%	8%	0%	7%	0%		0%	0%					63%
PM Peak Hour	13:00	17:00	15:00	15:00	16:00	16:00		12:00	12:00					17:00
Volume	4	273	53	4	42	2		2	4					361

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	492	⟷	12%	416	⟷	10%	670	⟷	17%	2446	⟷	61%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,029	1,995	4,024

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	1		0		1		12:00	0	0	33		27		60	
0:15	0	0	4		1		5		12:15	0	0	22		25		47	
0:30	0	0	3		3		6		12:30	0	0	25		24		49	
0:45	0	0	1	9	0	4	1	13	12:45	0	0	17	97	27	103	44	200
1:00	0	0	4		1		5		13:00	0	0	23		23		46	
1:15	0	0	4		1		5		13:15	0	0	24		20		44	
1:30	0	0	1		2		3		13:30	0	0	19		38		57	
1:45	0	0	4	13	1	5	5	18	13:45	0	0	24	90	45	126	69	216
2:00	0	0	2		2		4		14:00	0	0	27		37		64	
2:15	0	0	2		1		3		14:15	0	0	29		30		59	
2:30	0	0	2		2		4		14:30	0	0	48		29		77	
2:45	0	0	0	6	1	6	1	12	14:45	0	0	36	140	37	133	73	273
3:00	0	0	0		1		1		15:00	0	0	32		29		61	
3:15	0	0	2		3		5		15:15	0	0	46		29		75	
3:30	0	0	1		1		2		15:30	0	0	48		14		62	
3:45	0	0	1	4	2	7	3	11	15:45	0	0	55	181	33	105	88	286
4:00	0	0	2		3		5		16:00	0	0	34		30		64	
4:15	0	0	1		3		4		16:15	0	0	40		28		68	
4:30	0	0	2		6		8		16:30	0	0	47		42		89	
4:45	0	0	2	7	7	19	9	26	16:45	0	0	60	181	28	128	88	309
5:00	0	0	5		12		17		17:00	0	0	52		23		75	
5:15	0	0	2		16		18		17:15	0	0	46		42		88	
5:30	0	0	4		25		29		17:30	0	0	69		37		106	
5:45	0	0	4	15	18	71	22	86	17:45	0	0	60	227	32	134	92	361
6:00	0	0	14		27		41		18:00	0	0	53		27		80	
6:15	0	0	14		37		51		18:15	0	0	43		34		77	
6:30	0	0	18		49		67		18:30	0	0	40		26		66	
6:45	0	0	17	63	50	163	67	226	18:45	0	0	43	179	26	113	69	292
7:00	0	0	22		33		55		19:00	0	0	23		11		34	
7:15	0	0	28		45		73		19:15	0	0	48		21		69	
7:30	0	0	22		58		80		19:30	0	0	36		14		50	
7:45	0	0	32	104	53	189	85	293	19:45	0	0	24	131	18	64	42	195
8:00	0	0	24		37		61		20:00	0	0	34		20		54	
8:15	0	0	21		34		55		20:15	0	0	19		18		37	
8:30	0	0	13		28		41		20:30	0	0	32		14		46	
8:45	0	0	15	73	27	126	42	199	20:45	0	0	16	101	16	68	32	169
9:00	0	0	13		34		47		21:00	0	0	29		11		40	
9:15	0	0	21		34		55		21:15	0	0	18		10		28	
9:30	0	0	21		29		50		21:30	0	0	15		8		23	
9:45	0	0	20	75	29	126	49	201	21:45	0	0	15	77	10	39	25	116
10:00	0	0	19		28		47		22:00	0	0	11		8		19	
10:15	0	0	28		26		54		22:15	0	0	11		8		19	
10:30	0	0	29		36		65		22:30	0	0	19		6		25	
10:45	0	0	26	102	23	113	49	215	22:45	0	0	3	44	7	29	10	73
11:00	0	0	13		20		33		23:00	0	0	8		11		19	
11:15	0	0	26		24		50		23:15	0	0	9		5		14	
11:30	0	0	22		23		45		23:30	0	0	4		7		11	
11:45	0	0	23	84	28	95	51	179	23:45	0	0	5	26	6	29	11	55
TOTALS				555		924		1479	TOTALS				1474		1071		2545
SPLIT %				37.5%		62.5%		36.8%	SPLIT %				57.9%		42.1%		63.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,029	1,995	4,024

AM Peak Hour			7:15	7:15	7:15	PM Peak Hour			17:15	13:30	17:15
AM Pk Volume			106	193	299	PM Pk Volume			228	150	366
Pk Hr Factor			0.828	0.832	0.879	Pk Hr Factor			0.826	0.833	0.863
7 - 9 Volume	0	0	177	315	492	4 - 6 Volume	0	0	408	262	670
7 - 9 Peak Hour			7:15	7:15	7:15	4 - 6 Peak Hour			16:45	16:30	17:00
7 - 9 Pk Volume	0	0	106	193	299	4 - 6 Pk Volume	0	0	227	135	361
Pk Hr Factor	0.000	0.000	0.828	0.832	0.879	Pk Hr Factor	0.000	0.000	0.822	0.804	0.851

Prepared by National Data & Surveying Services

CLASSIFICATION

Mount Olivet Road/S-189 Bet. Black River Rd & Doc Humphries Rd

Day: Tuesday
Date: 5/16/2017

City: Camden
Project #: SC17_9315_007

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
5:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
6:00	0	33	11	0	0	1	0	0	0	0	0	0	0	45
7:00	0	19	7	0	2	1	0	0	0	0	0	0	0	29
8:00	0	23	3	0	0	1	0	0	0	0	0	0	0	27
9:00	0	6	4	0	1	0	0	0	0	0	0	0	0	11
10:00	0	8	4	0	0	0	0	0	0	0	0	0	0	12
11:00	0	6	8	0	0	0	0	0	0	0	0	0	0	14
12:00 PM	0	7	2	0	0	0	0	0	0	0	0	0	0	9
13:00	0	9	6	0	1	1	0	0	0	0	0	0	0	17
14:00	0	20	4	0	0	0	0	0	0	0	0	0	0	24
15:00	1	11	6	0	0	1	0	0	0	0	0	0	0	19
16:00	0	14	4	0	0	2	0	0	0	0	0	0	0	20
17:00	1	39	9	0	2	0	0	0	0	0	0	0	0	51
18:00	0	13	4	0	1	1	0	0	0	0	0	0	0	19
19:00	1	15	5	0	0	0	0	0	0	0	0	0	0	21
20:00	0	9	3	0	0	0	0	0	0	0	0	0	0	12
21:00	0	8	5	0	0	0	0	0	0	0	0	0	0	13
22:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Totals	4	257	88		7	8								364
% of Totals	1%	71%	24%		2%	2%								100%

AM Volumes	1	105	39	0	3	3	0	0	0	0	0	0	0	151
% AM	0%	29%	11%		1%	1%								41%
AM Peak Hour	4:00	6:00	6:00		7:00	6:00								6:00
Volume	1	33	11		2	1								45
PM Volumes	3	152	49	0	4	5	0	0	0	0	0	0	0	213
% PM	1%	42%	13%		1%	1%								59%
PM Peak Hour	15:00	17:00	17:00		17:00	16:00								17:00
Volume	1	39	9		2	2								51

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	56	⟷	15%	26	⟷	7%	71	⟷	20%	211	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	181	183	364

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	0		0				12:00	0	0	1		2		3	
0:15	0	0	0		0				12:15	0	0	0		0			
0:30	0	0	0		0				12:30	0	0	1		2		3	
0:45	0	0	0		0				12:45	0	0	0	2	3	7	3	9
1:00	0	0	0		0				13:00	0	0	1		3		4	
1:15	0	0	0		0				13:15	0	0	1		1		2	
1:30	0	0	0		0				13:30	0	0	2		3		5	
1:45	0	0	0		1	1	1	1	13:45	0	0	1	5	5	12	6	17
2:00	0	0	0		0				14:00	0	0	3		2		5	
2:15	0	0	0		0				14:15	0	0	3		2		5	
2:30	0	0	0		0				14:30	0	0	2		5		7	
2:45	0	0	0		0				14:45	0	0	5	13	2	11	7	24
3:00	0	0	0		0				15:00	0	0	5		1		6	
3:15	0	0	0		0				15:15	0	0	0		2		2	
3:30	0	0	0		1		1		15:30	0	0	4		1		5	
3:45	0	0	0		0	1		1	15:45	0	0	2	11	4	8	6	19
4:00	0	0	0		1		1		16:00	0	0	2		1		3	
4:15	0	0	0		0				16:15	0	0	2		1		3	
4:30	0	0	0		0				16:30	0	0	3		4		7	
4:45	0	0	0		1	2	1	2	16:45	0	0	3	10	4	10	7	20
5:00	0	0	2		0		2		17:00	0	0	4		2		6	
5:15	0	0	0		1		1		17:15	0	0	5		5		10	
5:30	0	0	2		1		3		17:30	0	0	19		7		26	
5:45	0	0	0	4	3	5	3	9	17:45	0	0	3	31	6	20	9	51
6:00	0	0	3		2		5		18:00	0	0	4		3		7	
6:15	0	0	4		7		11		18:15	0	0	7		0		7	
6:30	0	0	1		12		13		18:30	0	0	1		3		4	
6:45	0	0	6	14	10	31	16	45	18:45	0	0	1	13	0	6	1	19
7:00	0	0	5		4		9		19:00	0	0	3		3		6	
7:15	0	0	3		4		7		19:15	0	0	2		0		2	
7:30	0	0	6		3		9		19:30	0	0	4		3		7	
7:45	0	0	2	16	2	13	4	29	19:45	0	0	4	13	2	8	6	21
8:00	0	0	3		2		5		20:00	0	0	1		2		3	
8:15	0	0	2		2		4		20:15	0	0	0		2		2	
8:30	0	0	3		8		11		20:30	0	0	1		2		3	
8:45	0	0	4	12	3	15	7	27	20:45	0	0	4	6	0	6	4	12
9:00	0	0	2		2		4		21:00	0	0	2		1		3	
9:15	0	0	2		1		3		21:15	0	0	0		3		3	
9:30	0	0	1		1		2		21:30	0	0	0		3		3	
9:45	0	0	0	5	2	6	2	11	21:45	0	0	2	4	2	9	4	13
10:00	0	0	2		2		4		22:00	0	0	0		1		1	
10:15	0	0	5		0		5		22:15	0	0	0		0			
10:30	0	0	0		2		2		22:30	0	0	5		1		6	
10:45	0	0	1	8	0	4	1	12	22:45	0	0	0	5	0	2		7
11:00	0	0	2		1		3		23:00	0	0	0		0			
11:15	0	0	0		1		1		23:15	0	0	0		1		1	
11:30	0	0	4		1		5		23:30	0	0	0		0			
11:45	0	0	3	9	2	5	5	14	23:45	0	0	0		0	1		1
TOTALS				68		83		151	TOTALS				113		100		213
SPLIT %				45.0%		55.0%		41.5%	SPLIT %				53.1%		46.9%		58.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	181	183	364

AM Peak Hour			6:45	6:15	6:15	PM Peak Hour			17:30	17:15	17:15
AM Pk Volume			20	33	49	PM Pk Volume			33	21	52
Pk Hr Factor			0.833	0.688	0.766	Pk Hr Factor			0.434	0.750	0.500
7 - 9 Volume	0	0	28	28	56	4 - 6 Volume	0	0	41	30	71
7 - 9 Peak Hour			7:00	8:00	7:00	4 - 6 Peak Hour			16:45	17:00	17:00
7 - 9 Pk Volume	0	0	16	15	29	4 - 6 Pk Volume	0	0	31	20	51
Pk Hr Factor	0.000	0.000	0.667	0.469	0.806	Pk Hr Factor	0.000	0.000	0.408	0.714	0.490

Prepared by National Data & Surveying Services

CLASSIFICATION

Mount Olivet Road/S-189 Bet. Black River Rd & Doc Humphries Rd

Day: Wednesday
Date: 5/17/2017

City: Camden
Project #: SC17_9315_007

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	3
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	1	0	0	0	0	1	0	0	0	0	0	0	0	2
5:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
6:00	0	35	7	0	0	1	0	0	0	0	0	0	0	43
7:00	0	28	3	0	3	0	0	0	0	0	0	0	0	34
8:00	0	16	3	0	0	0	0	0	0	0	0	0	0	19
9:00	0	8	8	0	1	0	0	0	0	0	0	0	0	17
10:00	0	6	4	0	0	0	0	0	0	0	0	0	0	10
11:00	0	4	5	0	2	0	0	0	0	0	0	0	0	11
12:00 PM	0	11	5	0	0	0	0	0	0	0	0	0	0	16
13:00	0	16	4	0	1	2	0	0	0	0	0	0	0	23
14:00	0	21	6	0	2	0	0	0	0	0	0	0	0	29
15:00	0	16	5	0	0	2	0	0	0	0	0	0	0	23
16:00	0	15	4	0	1	3	0	0	0	0	0	0	0	23
17:00	0	32	7	0	1	1	0	0	0	0	0	0	0	41
18:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
19:00	0	14	5	0	1	0	0	0	0	0	0	0	0	20
20:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
21:00	0	7	5	0	0	0	0	0	0	0	0	0	0	12
22:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
23:00	0	2	1	0	1	0	0	0	0	0	0	0	0	4
Totals	1	282	77		13	10								383
% of Totals	0%	74%	20%		3%	3%								100%

AM Volumes	1	110	32	0	6	2	0	0	0	0	0	0	0	151
% AM	0%	29%	8%		2%	1%								39%
AM Peak Hour	4:00	6:00	9:00		7:00	4:00								6:00
Volume	1	35	8		3	1								43
PM Volumes	0	172	45	0	7	8	0	0	0	0	0	0	0	232
% PM		45%	12%		2%	2%								61%
PM Peak Hour		17:00	17:00		14:00	16:00								17:00
Volume		32	7		2	3								41

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	53	⟷	14%	39	⟷	10%	64	⟷	17%	227	⟷	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	194	189	383

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	0		0				12:00	0	0	0		0			
0:15	0	0	1		0		1		12:15	0	0	1		6		7	
0:30	0	0	1		0		1		12:30	0	0	0		3		3	
0:45	0	0	1	3	0		1	3	12:45	0	0	3	4	3	12	6	16
1:00	0	0	0		0				13:00	0	0	1		4		5	
1:15	0	0	0		0				13:15	0	0	3		2		5	
1:30	0	0	0		0				13:30	0	0	3		2		5	
1:45	0	0	0		0				13:45	0	0	4	11	4	12	8	23
2:00	0	0	1		0		1		14:00	0	0	2		2		4	
2:15	0	0	0		0				14:15	0	0	1		3		4	
2:30	0	0	0		0				14:30	0	0	6		5		11	
2:45	0	0	0	1	0			1	14:45	0	0	5	14	5	15	10	29
3:00	0	0	0		0				15:00	0	0	1		2		3	
3:15	0	0	0		0				15:15	0	0	4		4		8	
3:30	0	0	0		0				15:30	0	0	7		3		10	
3:45	0	0	0		0				15:45	0	0	1	13	1	10	2	23
4:00	0	0	0		0				16:00	0	0	3		0		3	
4:15	0	0	0		0				16:15	0	0	2		3		5	
4:30	0	0	0		0				16:30	0	0	8		3		11	
4:45	0	0	0		2	2	2	2	16:45	0	0	1	14	3	9	4	23
5:00	0	0	2		0		2		17:00	0	0	1		0		1	
5:15	0	0	0		0				17:15	0	0	3		3		6	
5:30	0	0	1		1		2		17:30	0	0	15		5		20	
5:45	0	0	2	5	5	6	7	11	17:45	0	0	6	25	8	16	14	41
6:00	0	0	1		3		4		18:00	0	0	3		4		7	
6:15	0	0	2		6		8		18:15	0	0	1		0		1	
6:30	0	0	5		10		15		18:30	0	0	4		1		5	
6:45	0	0	3	11	13	32	16	43	18:45	0	0	2	10	1	6	3	16
7:00	0	0	7		4		11		19:00	0	0	5		2		7	
7:15	0	0	7		4		11		19:15	0	0	2		2		4	
7:30	0	0	2		4		6		19:30	0	0	7		1		8	
7:45	0	0	5	21	1	13	6	34	19:45	0	0	1	15	0	5	1	20
8:00	0	0	2		2		4		20:00	0	0	4		1		5	
8:15	0	0	1		1		2		20:15	0	0	2		2		4	
8:30	0	0	2		4		6		20:30	0	0	1		1		2	
8:45	0	0	3	8	4	11	7	19	20:45	0	0	0	7	0	4		11
9:00	0	0	5		1		6		21:00	0	0	0		3		3	
9:15	0	0	0		0				21:15	0	0	1		1		2	
9:30	0	0	2		5		7		21:30	0	0	0		3		3	
9:45	0	0	1	8	3	9	4	17	21:45	0	0	2	3	2	9	4	12
10:00	0	0	0		1		1		22:00	0	0	4		0		4	
10:15	0	0	2		2		4		22:15	0	0	2		2		4	
10:30	0	0	1		0		1		22:30	0	0	6		0		6	
10:45	0	0	1	4	3	6	4	10	22:45	0	0	0	12	0	2		14
11:00	0	0	1		2		3		23:00	0	0	0		1		1	
11:15	0	0	0		2		2		23:15	0	0	0		0			
11:30	0	0	0		3		3		23:30	0	0	1		1		2	
11:45	0	0	2	3	1	8	3	11	23:45	0	0	1	2	0	2	1	4
TOTALS				64		87		151	TOTALS				130		102		232
SPLIT %				42.4%		57.6%		39.4%	SPLIT %				56.0%		44.0%		60.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	194	189	383

AM Peak Hour			6:30	6:15	6:30	PM Peak Hour			17:15	17:15	17:15
AM Pk Volume			22	33	53	PM Pk Volume			27	20	47
Pk Hr Factor			0.786	0.635	0.828	Pk Hr Factor			0.450	0.625	0.588
7 - 9 Volume	0	0	29	24	53	4 - 6 Volume	0	0	39	25	64
7 - 9 Peak Hour			7:00	7:00	7:00	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	21	13	34	4 - 6 Pk Volume	0	0	25	16	41
Pk Hr Factor	0.000	0.000	0.750	0.813	0.773	Pk Hr Factor	0.000	0.000	0.417	0.500	0.513

Prepared by National Data & Surveying Services

CLASSIFICATION

Mount Olivet Road/S-189 Bet. Black River Rd & Doc Humphries Rd

Day: Thursday
Date: 5/18/2017

City: Camden
Project #: SC17_9315_007

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	7	1	0	0	1	0	0	0	0	0	0	0	9
6:00	0	30	7	0	0	1	0	0	0	0	0	0	0	38
7:00	0	29	5	0	1	1	0	0	0	0	0	0	0	36
8:00	0	19	4	0	1	0	0	0	0	0	0	0	0	24
9:00	0	15	3	0	0	2	0	0	0	0	0	0	0	20
10:00	0	6	1	0	2	0	0	0	0	0	0	0	0	9
11:00	0	10	10	0	2	1	0	0	0	0	0	0	0	23
12:00 PM	0	5	6	0	0	1	0	0	0	0	0	0	0	12
13:00	0	17	4	0	1	2	0	0	0	0	0	0	0	24
14:00	0	19	9	0	1	1	0	0	0	0	0	0	0	30
15:00	1	17	8	0	0	2	0	0	0	0	0	0	0	28
16:00	0	19	12	0	1	1	0	0	0	0	0	0	0	33
17:00	1	26	13	0	2	0	0	0	0	0	0	0	0	42
18:00	0	19	4	0	0	0	0	0	0	0	0	0	0	23
19:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
20:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
21:00	0	1	3	0	0	0	0	0	0	0	0	0	0	4
22:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
Totals	2	275	94		11	13								395
% of Totals	1%	70%	24%		3%	3%								100%

AM Volumes	0	121	31	0	6	6	0	0	0	0	0	0	0	164
% AM		31%	8%		2%	2%								42%
AM Peak Hour		6:00	11:00		10:00	9:00								6:00
Volume		30	10		2	2								38
PM Volumes	2	154	63	0	5	7	0	0	0	0	0	0	0	231
% PM	1%	39%	16%		1%	2%								58%
PM Peak Hour	15:00	17:00	17:00		17:00	13:00								17:00
Volume	1	26	13		2	2								42

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	60	⟷	15%	36	⟷	9%	75	⟷	19%	224	⟷	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	195	200	395

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00	0	0	0		0				12:00	0	0	3		3		6	
0:15	0	0	0		0				12:15	0	0	0		3		3	
0:30	0	0	2		0		2		12:30	0	0	0		1		1	
0:45	0	0	0	2	0			2	12:45	0	0	1	4	1	8	2	12
1:00	0	0	1		0		1		13:00	0	0	1		2		3	
1:15	0	0	1		0		1		13:15	0	0	2		6		8	
1:30	0	0	0		0				13:30	0	0	2		6		8	
1:45	0	0	0	2	0			2	13:45	0	0	1	6	4	18	5	24
2:00	0	0	0		0				14:00	0	0	2		2		4	
2:15	0	0	0		0				14:15	0	0	2		1		3	
2:30	0	0	0		0				14:30	0	0	6		6		12	
2:45	0	0	0		0				14:45	0	0	5	15	6	15	11	30
3:00	0	0	0		0				15:00	0	0	3		3		6	
3:15	0	0	0		0				15:15	0	0	3		2		5	
3:30	0	0	0		0				15:30	0	0	7		1		8	
3:45	0	0	1	1	0		1	1	15:45	0	0	2	15	7	13	9	28
4:00	0	0	0		0				16:00	0	0	4		7		11	
4:15	0	0	0		0				16:15	0	0	3		1		4	
4:30	0	0	0		0				16:30	0	0	8		5		13	
4:45	0	0	0		0				16:45	0	0	2	17	3	16	5	33
5:00	0	0	1		0		1		17:00	0	0	2		2		4	
5:15	0	0	0		2		2		17:15	0	0	2		5		7	
5:30	0	0	0		1		1		17:30	0	0	16		7		23	
5:45	0	0	0	1	5	8	5	9	17:45	0	0	2	22	6	20	8	42
6:00	0	0	3		3		6		18:00	0	0	8		7		15	
6:15	0	0	6		7		13		18:15	0	0	3		2		5	
6:30	0	0	3		7		10		18:30	0	0	1		1		2	
6:45	0	0	0	12	9	26	9	38	18:45	0	0	1	13	0	10	1	23
7:00	0	0	8		3		11		19:00	0	0	1		0		1	
7:15	0	0	6		5		11		19:15	0	0	4		1		5	
7:30	0	0	1		4		5		19:30	0	0	4		0		4	
7:45	0	0	5	20	4	16	9	36	19:45	0	0	1	10	2	3	3	13
8:00	0	0	6		4		10		20:00	0	0	2		0		2	
8:15	0	0	3		2		5		20:15	0	0	2		4		6	
8:30	0	0	2		2		4		20:30	0	0	1		1		2	
8:45	0	0	3	14	2	10	5	24	20:45	0	0	0	5	1	6	1	11
9:00	0	0	2		1		3		21:00	0	0	1		0		1	
9:15	0	0	1		3		4		21:15	0	0	1		2		3	
9:30	0	0	5		4		9		21:30	0	0	0		0			
9:45	0	0	1	9	3	11	4	20	21:45	0	0	0	2	0	2		4
10:00	0	0	0		0				22:00	0	0	1		1		2	
10:15	0	0	1		2		3		22:15	0	0	0		0			
10:30	0	0	3		0		3		22:30	0	0	4		0		4	
10:45	0	0	1	5	2	4	3	9	22:45	0	0	0	5	0	1		6
11:00	0	0	2		2		4		23:00	0	0	0		1		1	
11:15	0	0	3		1		4		23:15	0	0	2		1		3	
11:30	0	0	3		3		6		23:30	0	0	1		0		1	
11:45	0	0	4	12	5	11	9	23	23:45	0	0	0	3	0	2		5
TOTALS				78		86		164	TOTALS				117		114		231
SPLIT %				47.6%		52.4%		41.5%	SPLIT %				50.6%		49.4%		58.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	195	200	395

AM Peak Hour			7:00	6:00	6:15	PM Peak Hour			17:30	17:15	17:15
AM Pk Volume			20	26	43	PM Pk Volume			29	25	53
Pk Hr Factor			0.625	0.722	0.827	Pk Hr Factor			0.453	0.893	0.576
7 - 9 Volume	0	0	34	26	60	4 - 6 Volume	0	0	39	36	75
7 - 9 Peak Hour			7:00	7:15	7:00	4 - 6 Peak Hour			16:45	17:00	17:00
7 - 9 Pk Volume	0	0	20	17	36	4 - 6 Pk Volume	0	0	22	20	42
Pk Hr Factor	0.000	0.000	0.625	0.850	0.818	Pk Hr Factor	0.000	0.000	0.344	0.714	0.457

Prepared by National Data & Surveying Services

CLASSIFICATION

Dr. Humphries Rd S/O I-20 Interchange

Day: Tuesday
Date: 5/16/2017

City: Camden
Project #: SC17_9315_008

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	7	2	0	1	0	0	0	0	0	0	0	0	10
1:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
2:00	0	3	0	0	0	0	0	0	1	0	0	0	0	4
3:00	0	6	1	0	0	0	0	0	1	0	0	0	0	8
4:00	0	10	1	0	2	0	0	0	0	0	0	0	0	13
5:00	0	29	4	0	2	0	0	0	0	0	0	0	0	35
6:00	1	73	11	0	14	0	0	0	0	0	0	0	0	99
7:00	0	97	11	0	19	0	0	0	0	0	0	0	0	127
8:00	0	31	7	0	7	0	0	1	1	0	0	0	0	47
9:00	0	19	6	0	6	0	0	3	0	0	0	0	0	34
10:00	0	14	2	0	7	0	0	0	2	0	0	0	0	25
11:00	0	18	4	0	8	0	0	1	2	0	0	0	0	33
12:00 PM	0	26	6	0	9	0	0	3	0	0	0	0	0	44
13:00	0	38	6	0	10	0	0	2	0	0	0	0	0	56
14:00	1	46	8	0	11	0	0	0	0	0	0	0	0	66
15:00	1	30	4	0	8	0	0	0	0	0	0	0	0	43
16:00	0	51	15	0	11	0	0	3	0	0	0	0	0	80
17:00	0	67	14	0	14	0	0	0	0	0	0	0	0	95
18:00	0	66	6	0	11	0	0	0	0	0	0	0	0	83
19:00	1	42	7	0	6	0	0	0	1	0	0	0	0	57
20:00	0	34	9	0	4	0	0	0	0	0	0	0	0	47
21:00	0	24	2	0	4	0	0	0	0	0	0	0	0	30
22:00	0	15	3	0	3	0	0	0	0	0	0	0	0	21
23:00	0	15	0	0	0	0	0	0	0	0	0	0	0	15
Totals	4	767	129		158			13	8					1079
% of Totals	0%	71%	12%		15%			1%	1%					100%

AM Volumes	1	313	49	0	67	0	0	5	7	0	0	0	0	442
% AM	0%	29%	5%		6%			0%	1%					41%
AM Peak Hour	6:00	7:00	6:00		7:00			9:00	10:00					7:00
Volume	1	97	11		19			3	2					127
PM Volumes	3	454	80	0	91	0	0	8	1	0	0	0	0	637
% PM	0%	42%	7%		8%			1%	0%					59%
PM Peak Hour	14:00	17:00	16:00		17:00			12:00	19:00					17:00
Volume	1	67	15		14			3	1					95

Directional Peak Periods All Classes	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume		%	Volume		%	Volume		%	Volume		%
	174	⟷	16%	100	⟷	9%	175	⟷	16%	630	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	535	544	0	0	1,079

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	0		2		0	0	2		12:00	8		2		0	0	10	
0:15	0		0		0	0			12:15	6		2		0	0	8	
0:30	1		3		0	0	4		12:30	2		9		0	0	11	
0:45	0	1	4	9	0	0	4	10	12:45	5	21	10	23	0	0	15	44
1:00	0		1		0	0	1		13:00	8		3		0	0	11	
1:15	2		1		0	0	3		13:15	6		10		0	0	16	
1:30	0		2		0	0	2		13:30	4		4		0	0	8	
1:45	1	3	0	4	0	0	1	7	13:45	13	31	8	25	0	0	21	56
2:00	1		1		0	0	2		14:00	8		9		0	0	17	
2:15	0		1		0	0	1		14:15	8		6		0	0	14	
2:30	0		0		0	0			14:30	9		14		0	0	23	
2:45	0	1	1	3	0	0	1	4	14:45	6	31	6	35	0	0	12	66
3:00	0		1		0	0	1		15:00	7		5		0	0	12	
3:15	3		0		0	0	3		15:15	7		5		0	0	12	
3:30	2		0		0	0	2		15:30	1		6		0	0	7	
3:45	0	5	2	3	0	0	2	8	15:45	4	19	8	24	0	0	12	43
4:00	1		0		0	0	1		16:00	4		8		0	0	12	
4:15	0		1		0	0	1		16:15	4		17		0	0	21	
4:30	5		0		0	0	5		16:30	5		20		0	0	25	
4:45	6	12	0	1	0	0	6	13	16:45	5	18	17	62	0	0	22	80
5:00	4		1		0	0	5		17:00	5		10		0	0	15	
5:15	3		2		0	0	5		17:15	4		23		0	0	27	
5:30	15		0		0	0	15		17:30	11		22		0	0	33	
5:45	8	30	2	5	0	0	10	35	17:45	7	27	13	68	0	0	20	95
6:00	13		7		0	0	20		18:00	9		19		0	0	28	
6:15	19		1		0	0	20		18:15	1		15		0	0	16	
6:30	24		1		0	0	25		18:30	11		11		0	0	22	
6:45	28	84	6	15	0	0	34	99	18:45	5	26	12	57	0	0	17	83
7:00	22		7		0	0	29		19:00	2		10		0	0	12	
7:15	36		18		0	0	54		19:15	4		7		0	0	11	
7:30	21		11		0	0	32		19:30	7		9		0	0	16	
7:45	9	88	3	39	0	0	12	127	19:45	6	19	12	38	0	0	18	57
8:00	4		5		0	0	9		20:00	3		11		0	0	14	
8:15	6		7		0	0	13		20:15	1		7		0	0	8	
8:30	9		4		0	0	13		20:30	4		8		0	0	12	
8:45	6	25	6	22	0	0	12	47	20:45	6	14	7	33	0	0	13	47
9:00	9		2		0	0	11		21:00	4		2		0	0	6	
9:15	4		4		0	0	8		21:15	7		5		0	0	12	
9:30	6		1		0	0	7		21:30	2		2		0	0	4	
9:45	7	26	1	8	0	0	8	34	21:45	4	17	4	13	0	0	8	30
10:00	5		3		0	0	8		22:00	2		2		0	0	4	
10:15	2		3		0	0	5		22:15	3		6		0	0	9	
10:30	1		5		0	0	6		22:30	1		3		0	0	4	
10:45	3	11	3	14	0	0	6	25	22:45	1	7	3	14	0	0	4	21
11:00	2		2		0	0	4		23:00	0		5		0	0	5	
11:15	2		7		0	0	9		23:15	1		2		0	0	3	
11:30	7		6		0	0	13		23:30	1		1		0	0	2	
11:45	3	14	4	19	0	0	7	33	23:45	3	5	2	10	0	0	5	15
TOTALS		300		142				442	TOTALS		235		402				637
SPLIT %		67.9%		32.1%				41.0%	SPLIT %		36.9%		63.1%				59.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	535	544	0	0	1,079

AM Peak Hour	6:30	6:45			6:45	PM Peak Hour	13:45	17:15			17:15
AM Pk Volume	110	42			149	PM Pk Volume	38	77			108
Pk Hr Factor	0.764	0.583			0.690	Pk Hr Factor	0.731	0.837			0.818
7 - 9 Volume	113	61	0	0	174	4 - 6 Volume	45	130	0	0	175
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	17:00	16:45			16:45
7 - 9 Pk Volume	88	39	0	0	127	4 - 6 Pk Volume	27	72	0	0	97
Pk Hr Factor	0.611	0.542	0.000	0.000	0.588	Pk Hr Factor	0.614	0.783	0.000	0.000	0.735

Prepared by National Data & Surveying Services

CLASSIFICATION

Dr. Humphries Rd S/O I-20 Interchange

Day: Wednesday
Date: 5/17/2017

City: Camden
Project #: SC17_9315_008

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	9	0	0	1	0	0	0	0	0	0	0	0	10
1:00	0	8	0	0	0	0	0	1	0	0	0	0	0	9
2:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
3:00	0	4	1	0	0	0	0	0	1	0	0	0	0	6
4:00	0	9	2	0	2	0	0	0	1	0	0	0	0	14
5:00	0	39	5	0	5	0	0	0	0	0	0	0	0	49
6:00	1	77	15	0	15	0	0	0	0	0	0	0	0	108
7:00	1	113	13	0	16	0	0	1	1	0	0	0	0	145
8:00	0	40	8	0	13	0	0	1	1	0	0	0	0	63
9:00	1	31	3	0	4	0	0	2	2	0	0	0	0	43
10:00	0	46	6	0	6	0	0	0	2	0	0	0	0	60
11:00	0	23	9	0	6	0	0	2	1	0	0	0	0	41
12:00 PM	0	28	14	0	12	0	0	1	1	0	0	0	0	56
13:00	0	38	6	0	6	0	0	0	2	0	0	0	0	52
14:00	0	48	12	0	8	0	0	0	0	0	0	0	0	68
15:00	0	50	3	0	3	0	0	2	0	0	0	0	0	58
16:00	0	72	9	0	14	0	0	1	2	0	0	0	0	98
17:00	0	58	13	0	8	0	0	1	1	0	0	0	0	81
18:00	0	73	10	0	7	0	0	0	1	0	0	0	0	91
19:00	0	38	6	0	2	0	0	0	2	0	0	0	0	48
20:00	0	33	7	0	7	0	0	0	0	0	0	0	0	47
21:00	0	27	2	0	4	0	0	0	0	0	0	0	0	33
22:00	0	12	5	0	6	0	0	0	0	0	0	0	0	23
23:00	0	12	1	0	2	0	0	0	0	0	0	0	0	15
Totals	3	894	150		147			12	18					1224
% of Totals	0%	73%	12%		12%			1%	1%					100%

AM Volumes	3	405	62	0	68	0	0	7	9	0	0	0	0	554
% AM	0%	33%	5%		6%			1%	1%					45%
AM Peak Hour	6:00	7:00	6:00		7:00			9:00	9:00					7:00
Volume	1	113	15		16			2	2					145
PM Volumes	0	489	88	0	79	0	0	5	9	0	0	0	0	670
% PM		40%	7%		6%			0%	1%					55%
PM Peak Hour		18:00	12:00		16:00			15:00	13:00					16:00
Volume		73	14		14			2	2					98

Directional Peak Periods All Classes	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume		%	Volume		%	Volume		%	Volume		%
	208	⟷	17%	108	⟷	9%	179	⟷	15%	729	⟷	60%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	622	602	0	0	1,224

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	0		4		0	0	4		12:00	12		4		0	0	16	
0:15	0		1		0	0	1		12:15	6		5		0	0	11	
0:30	3		1		0	0	4		12:30	11		7		0	0	18	
0:45	0	3	1	7	0	0	1	10	12:45	3	32	8	24	0	0	11	56
1:00	0		2		0	0	2		13:00	5		6		0	0	11	
1:15	2		2		0	0	4		13:15	7		10		0	0	17	
1:30	0		0		0	0			13:30	8		4		0	0	12	
1:45	1	3	2	6	0	0	3	9	13:45	6	26	6	26	0	0	12	52
2:00	0		0		0	0			14:00	7		5		0	0	12	
2:15	1		1		0	0	2		14:15	12		7		0	0	19	
2:30	1		1		0	0	2		14:30	10		13		0	0	23	
2:45	0	2	2	4	0	0	2	6	14:45	7	36	7	32	0	0	14	68
3:00	0		1		0	0	1		15:00	6		6		0	0	12	
3:15	1		1		0	0	2		15:15	15		7		0	0	22	
3:30	2		1		0	0	3		15:30	3		5		0	0	8	
3:45	0	3	0	3	0	0		6	15:45	5	29	11	29	0	0	16	58
4:00	1		0		0	0	1		16:00	7		14		0	0	21	
4:15	1		2		0	0	3		16:15	8		11		0	0	19	
4:30	7		0		0	0	7		16:30	12		16		0	0	28	
4:45	2	11	1	3	0	0	3	14	16:45	8	35	22	63	0	0	30	98
5:00	7		4		0	0	11		17:00	2		13		0	0	15	
5:15	7		1		0	0	8		17:15	4		11		0	0	15	
5:30	10		1		0	0	11		17:30	9		19		0	0	28	
5:45	16	40	3	9	0	0	19	49	17:45	4	19	19	62	0	0	23	81
6:00	10		1		0	0	11		18:00	9		19		0	0	28	
6:15	24		5		0	0	29		18:15	4		20		0	0	24	
6:30	18		7		0	0	25		18:30	5		16		0	0	21	
6:45	35	87	8	21	0	0	43	108	18:45	4	22	14	69	0	0	18	91
7:00	27		16		0	0	43		19:00	4		11		0	0	15	
7:15	33		12		0	0	45		19:15	4		8		0	0	12	
7:30	18		18		0	0	36		19:30	5		6		0	0	11	
7:45	12	90	9	55	0	0	21	145	19:45	6	19	4	29	0	0	10	48
8:00	15		3		0	0	18		20:00	4		8		0	0	12	
8:15	10		7		0	0	17		20:15	7		7		0	0	14	
8:30	9		7		0	0	16		20:30	3		6		0	0	9	
8:45	3	37	9	26	0	0	12	63	20:45	4	18	8	29	0	0	12	47
9:00	8		5		0	0	13		21:00	3		7		0	0	10	
9:15	7		2		0	0	9		21:15	3		8		0	0	11	
9:30	7		3		0	0	10		21:30	2		3		0	0	5	
9:45	6	28	5	15	0	0	11	43	21:45	3	11	4	22	0	0	7	33
10:00	7		4		0	0	11		22:00	3		2		0	0	5	
10:15	12		4		0	0	16		22:15	1		4		0	0	5	
10:30	9		8		0	0	17		22:30	4		4		0	0	8	
10:45	11	39	5	21	0	0	16	60	22:45	3	11	2	12	0	0	5	23
11:00	4		6		0	0	10		23:00	1		5		0	0	6	
11:15	5		4		0	0	9		23:15	2		4		0	0	6	
11:30	5		7		0	0	12		23:30	0		2		0	0	2	
11:45	4	18	6	23	0	0	10	41	23:45	0	3	1	12	0	0	1	15
TOTALS		361		193				554	TOTALS		261		409				670
SPLIT %		65.2%		34.8%				45.3%	SPLIT %		39.0%		61.0%				54.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	622	602	0	0	1,224

AM Peak Hour	6:30	7:00			6:45	PM Peak Hour	14:30	17:30			17:30
AM Pk Volume	113	55			167	PM Pk Volume	38	77			103
Pk Hr Factor	0.807	0.764			0.928	Pk Hr Factor	0.633	0.963			0.920
7 - 9 Volume	127	81	0	0	208	4 - 6 Volume	54	125	0	0	179
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	16:00	16:45			16:00
7 - 9 Pk Volume	90	55	0	0	145	4 - 6 Pk Volume	35	65	0	0	98
Pk Hr Factor	0.682	0.764	0.000	0.000	0.806	Pk Hr Factor	0.729	0.739	0.000	0.000	0.817

Prepared by National Data & Surveying Services

CLASSIFICATION

Dr. Humphries Rd S/O I-20 Interchange

Day: Thursday
Date: 5/18/2017

City: Camden
Project #: SC17_9315_008

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	6	0	0	1	0	0	0	0	0	0	0	0	7
1:00	0	9	0	0	1	0	0	0	0	0	0	0	0	10
2:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:00	0	5	1	0	0	0	0	0	1	0	0	0	0	7
4:00	0	10	1	0	1	0	0	0	0	0	0	0	0	12
5:00	0	33	6	0	4	0	0	0	0	0	0	0	0	43
6:00	0	69	9	0	11	0	0	0	0	0	0	0	0	89
7:00	0	120	14	1	19	1	0	0	2	0	0	0	0	157
8:00	0	35	12	0	10	0	0	0	0	0	0	0	0	57
9:00	1	27	5	0	6	0	0	0	1	0	0	0	0	40
10:00	0	51	9	0	8	2	0	1	2	0	0	0	0	73
11:00	0	26	7	0	2	0	0	0	1	0	0	0	0	36
12:00 PM	1	30	8	0	10	0	0	1	1	0	0	0	0	51
13:00	1	46	2	1	12	0	0	1	1	0	0	0	0	64
14:00	0	63	13	1	10	0	0	1	1	0	0	0	0	89
15:00	0	40	7	0	5	0	0	3	0	0	0	0	0	55
16:00	0	47	9	0	15	0	0	2	0	0	0	0	0	73
17:00	2	68	16	0	7	1	0	0	0	0	0	0	0	94
18:00	0	55	10	0	11	0	0	1	0	0	0	0	0	77
19:00	0	45	8	0	4	0	0	0	0	0	0	0	0	57
20:00	1	22	8	0	4	0	0	0	0	0	0	0	0	35
21:00	0	17	4	0	3	0	0	0	0	0	0	0	0	24
22:00	0	19	3	0	3	0	0	0	0	0	0	0	0	25
23:00	0	18	1	0	1	0	0	0	0	0	0	0	0	20
Totals	6	866	153	3	148	4		10	10					1200
% of Totals	1%	72%	13%	0%	12%	0%		1%	1%					100%

AM Volumes	1	396	64	1	63	3	0	1	7	0	0	0	0	536
% AM	0%	33%	5%	0%	5%	0%		0%	1%					45%
AM Peak Hour	9:00	7:00	7:00	7:00	7:00	10:00		10:00	7:00					7:00
Volume	1	120	14	1	19	2		1	2					157
PM Volumes	5	470	89	2	85	1	0	9	3	0	0	0	0	664
% PM	0%	39%	7%	0%	7%	0%		1%	0%					55%
PM Peak Hour	17:00	17:00	17:00	13:00	16:00	17:00		15:00	12:00					17:00
Volume	2	68	16	1	15	1		3	1					94

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	214	⟷	18%	115	⟷	10%	167	⟷	14%	704	⟷	59%

Classification Definitions

1 Motorcycles	4 Buses	7 > =4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	591	609	0	0	1,200

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	0		1		0	0	1		12:00	6		4		0	0	10	
0:15	1		1		0	0	2		12:15	5		5		0	0	10	
0:30	0		2		0	0	2		12:30	11		9		0	0	20	
0:45	1	2	1	5	0	0	2	7	12:45	9	31	2	20	0	0	11	51
1:00	0		0		0	0			13:00	11		14		0	0	25	
1:15	1		4		0	0	5		13:15	5		5		0	0	10	
1:30	0		1		0	0	1		13:30	5		9		0	0	14	
1:45	2	3	2	7	0	0	4	10	13:45	9	30	6	34	0	0	15	64
2:00	1		1		0	0	2		14:00	8		11		0	0	19	
2:15	0		0		0	0			14:15	15		8		0	0	23	
2:30	1		1		0	0	2		14:30	7		18		0	0	25	
2:45	0	2	1	3	0	0	1	5	14:45	7	37	15	52	0	0	22	89
3:00	0		0		0	0			15:00	8		4		0	0	12	
3:15	2		1		0	0	3		15:15	9		10		0	0	19	
3:30	2		1		0	0	3		15:30	5		7		0	0	12	
3:45	1	5	0	2	0	0	1	7	15:45	5	27	7	28	0	0	12	55
4:00	2		1		0	0	3		16:00	3		9		0	0	12	
4:15	0		0		0	0			16:15	4		7		0	0	11	
4:30	4		1		0	0	5		16:30	5		19		0	0	24	
4:45	4	10	0	2	0	0	4	12	16:45	8	20	18	53	0	0	26	73
5:00	3		0		0	0	3		17:00	5		16		0	0	21	
5:15	9		3		0	0	12		17:15	6		13		0	0	19	
5:30	13		0		0	0	13		17:30	11		19		0	0	30	
5:45	10	35	5	8	0	0	15	43	17:45	6	28	18	66	0	0	24	94
6:00	11		2		0	0	13		18:00	6		11		0	0	17	
6:15	18		1		0	0	19		18:15	4		20		0	0	24	
6:30	27		4		0	0	31		18:30	8		10		0	0	18	
6:45	23	79	3	10	0	0	26	89	18:45	7	25	11	52	0	0	18	77
7:00	27		10		0	0	37		19:00	7		6		0	0	13	
7:15	38		12		0	0	50		19:15	6		7		0	0	13	
7:30	22		20		0	0	42		19:30	4		13		0	0	17	
7:45	14	101	14	56	0	0	28	157	19:45	5	22	9	35	0	0	14	57
8:00	10		6		0	0	16		20:00	2		8		0	0	10	
8:15	12		9		0	0	21		20:15	1		8		0	0	9	
8:30	5		2		0	0	7		20:30	3		2		0	0	5	
8:45	7	34	6	23	0	0	13	57	20:45	6	12	5	23	0	0	11	35
9:00	3		4		0	0	7		21:00	2		7		0	0	9	
9:15	5		8		0	0	13		21:15	1		3		0	0	4	
9:30	4		6		0	0	10		21:30	1		3		0	0	4	
9:45	6	18	4	22	0	0	10	40	21:45	2	6	5	18	0	0	7	24
10:00	11		8		0	0	19		22:00	2		4		0	0	6	
10:15	7		10		0	0	17		22:15	2		4		0	0	6	
10:30	8		12		0	0	20		22:30	4		6		0	0	10	
10:45	6	32	11	41	0	0	17	73	22:45	2	10	1	15	0	0	3	25
11:00	5		6		0	0	11		23:00	2		4		0	0	6	
11:15	3		8		0	0	11		23:15	1		4		0	0	5	
11:30	4		2		0	0	6		23:30	1		3		0	0	4	
11:45	5	17	3	19	0	0	8	36	23:45	1	5	4	15	0	0	5	20
TOTALS		338		198				536	TOTALS		253		411				664
SPLIT %		63.1%		36.9%				44.7%	SPLIT %		38.1%		61.9%				55.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	591	609	0	0	1,200

AM Peak Hour	6:30	7:00			7:00	PM Peak Hour	13:45	17:30			16:45
AM Pk Volume	115	56			157	PM Pk Volume	39	68			96
Pk Hr Factor	0.757	0.700			0.785	Pk Hr Factor	0.650	0.850			0.800
7 - 9 Volume	135	79	0	0	214	4 - 6 Volume	48	119	0	0	167
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	16:45	16:30			16:45
7 - 9 Pk Volume	101	56	0	0	157	4 - 6 Pk Volume	30	66	0	0	96
Pk Hr Factor	0.664	0.700	0.000	0.000	0.785	Pk Hr Factor	0.682	0.868	0.000	0.000	0.800

Prepared by National Data & Surveying Services

CLASSIFICATION

Dr. Humphries Rd Bet. I-20 Interchange & Mount Olivet Rd

Day: Tuesday
Date: 5/16/2017

City: Camden
Project #: SC17_9315_009

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	6	0	0	0	0	0	0	2	0	0	0	0	8
1:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
2:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
3:00	0	9	1	0	2	0	0	0	0	0	0	0	0	12
4:00	0	20	1	0	1	0	0	0	1	0	0	0	0	23
5:00	1	53	13	0	11	1	0	0	1	0	0	0	0	80
6:00	0	124	32	0	15	1	0	0	5	0	0	0	0	177
7:00	0	197	34	0	22	2	0	2	2	0	0	0	0	259
8:00	1	74	16	0	18	0	0	1	6	0	0	0	0	116
9:00	0	56	11	2	10	0	2	2	2	0	0	0	0	85
10:00	0	37	14	0	7	0	0	1	2	0	0	0	0	61
11:00	0	57	15	0	10	3	0	2	5	0	0	0	0	92
12:00 PM	0	50	9	1	9	2	0	3	3	0	0	0	0	77
13:00	0	64	17	0	10	1	0	2	6	0	0	0	0	100
14:00	0	81	18	1	15	0	0	1	7	0	0	0	0	123
15:00	2	70	19	1	12	1	0	6	7	0	0	0	0	118
16:00	1	109	22	0	24	2	0	1	7	0	0	0	0	166
17:00	1	151	36	0	16	0	0	0	5	0	0	0	0	209
18:00	2	111	19	0	18	0	0	0	6	0	0	0	0	156
19:00	1	68	12	0	5	0	0	0	4	0	0	0	0	90
20:00	0	50	14	0	2	0	0	0	1	0	0	0	0	67
21:00	0	33	7	0	6	0	0	0	1	0	0	0	0	47
22:00	0	23	4	0	3	0	0	0	0	0	0	0	0	30
23:00	0	16	5	0	0	0	0	0	2	0	0	0	0	23
Totals	9	1470	320	5	217	13	2	21	75					2132
% of Totals	0%	69%	15%	0%	10%	1%	0%	1%	4%					100%

AM Volumes	2	644	138	2	97	7	2	8	26	0	0	0	0	926
% AM	0%	30%	6%	0%	5%	0%	0%	0%	1%					43%
AM Peak Hour	5:00	7:00	7:00	9:00	7:00	11:00	9:00	7:00	8:00					7:00
Volume	1	197	34	2	22	3	2	2	6					259
PM Volumes	7	826	182	3	120	6	0	13	49	0	0	0	0	1206
% PM	0%	39%	9%	0%	6%	0%		1%	2%					57%
PM Peak Hour	15:00	17:00	17:00	12:00	16:00	12:00		15:00	14:00					17:00
Volume	2	151	36	1	24	2		6	7					209

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	375	⟷	18%	177	⟷	8%	375	⟷	18%	1205	⟷	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	940	1,192	0	0	2,132

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	0		0		0	0			12:00	10		12		0	0	22	
0:15	0		1		0	0	1		12:15	9		10		0	0	19	
0:30	0		3		0	0	3		12:30	6		9		0	0	15	
0:45	3	3	1	5	0	0	4	8	12:45	8	33	13	44	0	0	21	77
1:00	2		1		0	0	3		13:00	8		10		0	0	18	
1:15	2		1		0	0	3		13:15	6		15		0	0	21	
1:30	0		0		0	0			13:30	14		12		0	0	26	
1:45	1	5	0	2	0	0	1	7	13:45	21	49	14	51	0	0	35	100
2:00	1		3		0	0	4		14:00	21		12		0	0	33	
2:15	0		0		0	0			14:15	11		15		0	0	26	
2:30	0		0		0	0			14:30	15		20		0	0	35	
2:45	2	3	0	3	0	0	2	6	14:45	12	59	17	64	0	0	29	123
3:00	2		1		0	0	3		15:00	14		15		0	0	29	
3:15	1		2		0	0	3		15:15	14		20		0	0	34	
3:30	2		1		0	0	3		15:30	13		14		0	0	27	
3:45	0	5	3	7	0	0	3	12	15:45	15	56	13	62	0	0	28	118
4:00	0		1		0	0	1		16:00	23		11		0	0	34	
4:15	1		3		0	0	4		16:15	13		21		0	0	34	
4:30	3		5		0	0	8		16:30	18		29		0	0	47	
4:45	5	9	5	14	0	0	10	23	16:45	24	78	27	88	0	0	51	166
5:00	2		10		0	0	12		17:00	24		22		0	0	46	
5:15	2		12		0	0	14		17:15	19		21		0	0	40	
5:30	7		20		0	0	27		17:30	43		35		0	0	78	
5:45	6	17	21	63	0	0	27	80	17:45	27	113	18	96	0	0	45	209
6:00	12		15		0	0	27		18:00	25		21		0	0	46	
6:15	20		29		0	0	49		18:15	15		21		0	0	36	
6:30	21		31		0	0	52		18:30	29		14		0	0	43	
6:45	22	75	27	102	0	0	49	177	18:45	16	85	15	71	0	0	31	156
7:00	18		57		0	0	75		19:00	5		14		0	0	19	
7:15	38		43		0	0	81		19:15	6		14		0	0	20	
7:30	16		45		0	0	61		19:30	18		13		0	0	31	
7:45	13	85	29	174	0	0	42	259	19:45	10	39	10	51	0	0	20	90
8:00	9		31		0	0	40		20:00	10		9		0	0	19	
8:15	10		13		0	0	23		20:15	5		14		0	0	19	
8:30	15		11		0	0	26		20:30	7		7		0	0	14	
8:45	10	44	17	72	0	0	27	116	20:45	8	30	7	37	0	0	15	67
9:00	5		14		0	0	19		21:00	5		5		0	0	10	
9:15	7		20		0	0	27		21:15	10		4		0	0	14	
9:30	5		12		0	0	17		21:30	15		0		0	0	15	
9:45	12	29	10	56	0	0	22	85	21:45	5	35	3	12	0	0	8	47
10:00	9		8		0	0	17		22:00	4		2		0	0	6	
10:15	6		10		0	0	16		22:15	7		3		0	0	10	
10:30	5		10		0	0	15		22:30	4		7		0	0	11	
10:45	6	26	7	35	0	0	13	61	22:45	1	16	2	14	0	0	3	30
11:00	9		11		0	0	20		23:00	3		1		0	0	4	
11:15	8		15		0	0	23		23:15	3		2		0	0	5	
11:30	8		20		0	0	28		23:30	1		2		0	0	3	
11:45	9	34	12	58	0	0	21	92	23:45	5	12	6	11	0	0	11	23
TOTALS		335		591				926	TOTALS		605		601				1206
SPLIT %		36.2%		63.8%				43.4%	SPLIT %		50.2%		49.8%				56.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	940	1,192	0	0	2,132

AM Peak Hour	6:30	7:00			6:45	PM Peak Hour	17:15	16:45			16:45
AM Pk Volume	99	174			266	PM Pk Volume	114	105			215
Pk Hr Factor	0.651	0.763			0.821	Pk Hr Factor	0.663	0.750			0.689
7 - 9 Volume	129	246	0	0	375	4 - 6 Volume	191	184	0	0	375
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	17:00	16:45			16:45
7 - 9 Pk Volume	85	174	0	0	259	4 - 6 Pk Volume	113	105	0	0	215
Pk Hr Factor	0.559	0.763	0.000	0.000	0.799	Pk Hr Factor	0.657	0.750	0.000	0.000	0.689

Prepared by National Data & Surveying Services

CLASSIFICATION

Dr. Humphries Rd Bet. I-20 Interchange & Mount Olivet Rd

Day: Wednesday
Date: 5/17/2017

City: Camden
Project #: SC17_9315_009

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	13	1	0	1	0	0	0	1	0	0	0	0	16
1:00	0	7	1	0	1	0	0	0	0	0	0	0	0	9
2:00	0	7	3	0	1	0	0	0	0	0	0	0	0	11
3:00	0	4	1	0	1	1	0	0	1	0	0	0	0	8
4:00	0	23	1	0	3	0	0	0	2	0	0	0	0	29
5:00	0	48	14	0	12	0	0	0	5	0	0	0	0	79
6:00	0	132	27	0	17	1	0	0	2	0	0	0	0	179
7:00	0	230	42	1	23	0	1	1	6	0	0	0	0	304
8:00	2	77	21	0	11	6	3	0	2	0	0	0	0	122
9:00	0	57	13	0	7	0	2	0	4	0	0	0	0	83
10:00	0	55	10	1	10	4	4	1	4	0	0	0	0	89
11:00	0	61	11	0	6	5	5	0	5	0	0	0	0	93
12:00 PM	0	52	21	1	12	4	1	0	3	0	0	0	0	94
13:00	0	64	14	1	7	6	6	0	6	0	0	0	0	104
14:00	0	89	18	2	14	2	2	2	5	0	0	0	0	134
15:00	0	81	14	0	19	7	6	2	4	0	0	0	0	133
16:00	0	103	23	1	19	6	1	4	8	0	0	0	0	165
17:00	0	144	26	0	19	1	0	1	3	0	0	0	0	194
18:00	1	105	18	0	7	1	0	1	4	0	0	0	0	137
19:00	0	64	9	0	7	0	0	0	5	0	0	0	0	85
20:00	1	42	10	1	6	0	0	1	2	0	0	0	0	63
21:00	0	39	9	0	3	0	0	1	0	0	0	0	0	52
22:00	1	21	7	0	3	0	0	0	1	0	0	0	0	33
23:00	0	20	4	0	2	0	0	0	2	0	0	0	0	28
Totals	5	1538	318	8	211	44	31	14	75					2244
% of Totals	0%	69%	14%	0%	9%	2%	1%	1%	3%					100%

AM Volumes	2	714	145	2	93	17	15	2	32	0	0	0	0	1022
% AM	0%	32%	6%	0%	4%	1%	1%	0%	1%					46%
AM Peak Hour	8:00	7:00	7:00	7:00	7:00	8:00	11:00	7:00	7:00					7:00
Volume	2	230	42	1	23	6	5	1	6					304
PM Volumes	3	824	173	6	118	27	16	12	43	0	0	0	0	1222
% PM	0%	37%	8%	0%	5%	1%	1%	1%	2%					54%
PM Peak Hour	18:00	17:00	17:00	14:00	15:00	15:00	13:00	16:00	16:00					17:00
Volume	1	144	26	2	19	7	6	4	8					194

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	426	⟷	19%	198	⟷	9%	359	⟷	16%	1261	⟷	56%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	998	1,246	0	0	2,244

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	4		0		0	0	4		12:00	13		12		0	0	25	
0:15	1		3		0	0	4		12:15	10		13		0	0	23	
0:30	3		1		0	0	4		12:30	10		10		0	0	20	
0:45	2	10	2	6	0	0	4	16	12:45	14	47	12	47	0	0	26	94
1:00	2		4		0	0	6		13:00	13		13		0	0	26	
1:15	0		1		0	0	1		13:15	11		21		0	0	32	
1:30	1		0		0	0	1		13:30	11		11		0	0	22	
1:45	0	3	1	6	0	0	1	9	13:45	8	43	16	61	0	0	24	104
2:00	2		1		0	0	3		14:00	15		13		0	0	28	
2:15	3		0		0	0	3		14:15	13		23		0	0	36	
2:30	2		1		0	0	3		14:30	11		22		0	0	33	
2:45	2	9	0	2	0	0	2	11	14:45	17	56	20	78	0	0	37	134
3:00	1		1		0	0	2		15:00	11		19		0	0	30	
3:15	0		1		0	0	1		15:15	17		18		0	0	35	
3:30	3		0		0	0	3		15:30	17		16		0	0	33	
3:45	0	4	2	4	0	0	2	8	15:45	15	60	20	73	0	0	35	133
4:00	3		3		0	0	6		16:00	15		17		0	0	32	
4:15	0		4		0	0	4		16:15	25		15		0	0	40	
4:30	3		7		0	0	10		16:30	25		25		0	0	50	
4:45	3	9	6	20	0	0	9	29	16:45	24	89	19	76	0	0	43	165
5:00	3		8		0	0	11		17:00	20		17		0	0	37	
5:15	7		11		0	0	18		17:15	30		12		0	0	42	
5:30	5		19		0	0	24		17:30	35		32		0	0	67	
5:45	11	26	15	53	0	0	26	79	17:45	24	109	24	85	0	0	48	194
6:00	11		22		0	0	33		18:00	32		18		0	0	50	
6:15	15		29		0	0	44		18:15	19		18		0	0	37	
6:30	17		27		0	0	44		18:30	11		12		0	0	23	
6:45	24	67	34	112	0	0	58	179	18:45	15	77	12	60	0	0	27	137
7:00	25		67		0	0	92		19:00	8		14		0	0	22	
7:15	40		51		0	0	91		19:15	12		14		0	0	26	
7:30	13		53		0	0	66		19:30	9		10		0	0	19	
7:45	12	90	43	214	0	0	55	304	19:45	9	38	9	47	0	0	18	85
8:00	10		20		0	0	30		20:00	7		12		0	0	19	
8:15	7		17		0	0	24		20:15	13		4		0	0	17	
8:30	16		21		0	0	37		20:30	9		6		0	0	15	
8:45	10	43	21	79	0	0	31	122	20:45	5	34	7	29	0	0	12	63
9:00	6		18		0	0	24		21:00	10		7		0	0	17	
9:15	7		11		0	0	18		21:15	4		5		0	0	9	
9:30	5		13		0	0	18		21:30	9		6		0	0	15	
9:45	10	28	13	55	0	0	23	83	21:45	5	28	6	24	0	0	11	52
10:00	8		9		0	0	17		22:00	8		4		0	0	12	
10:15	9		7		0	0	16		22:15	3		3		0	0	6	
10:30	11		14		0	0	25		22:30	4		6		0	0	10	
10:45	20	48	11	41	0	0	31	89	22:45	4	19	1	14	0	0	5	33
11:00	11		17		0	0	28		23:00	5		2		0	0	7	
11:15	12		14		0	0	26		23:15	5		2		0	0	7	
11:30	13		8		0	0	21		23:30	2		3		0	0	5	
11:45	10	46	8	47	0	0	18	93	23:45	3	15	6	13	0	0	9	28
TOTALS		383		639				1022	TOTALS		615		607				1222
SPLIT %		37.5%		62.5%				45.5%	SPLIT %		50.3%		49.7%				54.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	998	1,246	0	0	2,244

AM Peak Hour	6:30	7:00			6:45	PM Peak Hour	17:15	17:30			17:15
AM Pk Volume	106	214			307	PM Pk Volume	121	92			207
Pk Hr Factor	0.663	0.799			0.834	Pk Hr Factor	0.864	0.719			0.772
7 - 9 Volume	133	293	0	0	426	4 - 6 Volume	198	161	0	0	359
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	16:45	17:00			17:00
7 - 9 Pk Volume	90	214	0	0	304	4 - 6 Pk Volume	109	85	0	0	194
Pk Hr Factor	0.563	0.799	0.000	0.000	0.826	Pk Hr Factor	0.779	0.664	0.000	0.000	0.724

Prepared by National Data & Surveying Services

CLASSIFICATION

Dr. Humphries Rd Bet. I-20 Interchange & Mount Olivet Rd

Day: Thursday
Date: 5/18/2017

City: Camden
Project #: SC17_9315_009

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	9	4	0	0	0	0	0	0	0	0	0	0	13
1:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
2:00	0	4	4	0	0	0	0	0	0	0	0	0	0	8
3:00	1	7	1	0	0	0	0	1	1	0	0	0	0	11
4:00	0	20	2	0	1	0	0	0	0	0	0	0	0	23
5:00	0	45	15	0	12	1	0	0	5	0	0	0	0	78
6:00	0	120	37	0	15	2	0	1	4	0	0	0	0	179
7:00	1	210	35	2	26	5	6	5	3	0	0	0	0	293
8:00	0	85	18	3	8	8	2	2	4	0	0	0	0	130
9:00	4	62	15	0	15	4	5	0	7	0	0	0	0	112
10:00	0	51	10	0	14	8	2	1	7	0	0	0	0	93
11:00	2	54	18	1	7	2	1	1	3	0	0	0	0	89
12:00 PM	3	60	15	1	6	2	0	3	6	0	0	0	0	96
13:00	0	70	9	0	19	3	0	0	7	0	0	0	0	108
14:00	0	95	25	2	10	1	0	2	6	0	0	0	0	141
15:00	0	94	23	0	6	1	0	4	1	0	0	0	0	129
16:00	0	81	27	0	24	1	0	1	5	0	0	0	0	139
17:00	0	113	30	0	18	1	0	1	6	0	0	0	0	169
18:00	0	115	26	0	14	1	0	2	1	0	0	0	0	159
19:00	1	53	9	0	3	0	0	2	4	0	0	0	0	72
20:00	1	48	10	0	6	0	0	0	3	0	0	0	0	68
21:00	0	24	6	0	4	0	0	0	1	0	0	0	0	35
22:00	0	25	5	0	4	0	0	0	0	0	0	0	0	34
23:00	0	16	2	0	0	0	0	0	2	0	0	0	0	20
Totals	13	1470	346	9	212	40	16	26	76					2208
% of Totals	1%	67%	16%	0%	10%	2%	1%	1%	3%					100%

AM Volumes	8	676	159	6	98	30	16	11	34	0	0	0	0	1038
% AM	0%	31%	7%	0%	4%	1%	1%	0%	2%					47%
AM Peak Hour	9:00	7:00	6:00	8:00	7:00	8:00	7:00	7:00	9:00					7:00
Volume	4	210	37	3	26	8	6	5	7					293
PM Volumes	5	794	187	3	114	10	0	15	42	0	0	0	0	1170
% PM	0%	36%	8%	0%	5%	0%		1%	2%					53%
PM Peak Hour	12:00	18:00	17:00	14:00	16:00	13:00		15:00	13:00					17:00
Volume	3	115	30	2	24	3		4	7					169

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	423	⟷	19%	204	⟷	9%	308	⟷	14%	1273	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	983	1,225	0	0	2,208

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	0		1		0	0	1		12:00	15		13		0	0	28	
0:15	1		2		0	0	3		12:15	8		14		0	0	22	
0:30	4		4		0	0	8		12:30	8		16		0	0	24	
0:45	0	5	1	8	0	0	1	13	12:45	12	43	10	53	0	0	22	96
1:00	2		1		0	0	3		13:00	15		12		0	0	27	
1:15	1		2		0	0	3		13:15	18		10		0	0	28	
1:30	0		2		0	0	2		13:30	7		20		0	0	27	
1:45	1	4	0	5	0	0	1	9	13:45	15	55	11	53	0	0	26	108
2:00	2		0		0	0	2		14:00	10		15		0	0	25	
2:15	2		1		0	0	3		14:15	24		16		0	0	40	
2:30	2		0		0	0	2		14:30	19		25		0	0	44	
2:45	0	6	1	2	0	0	1	8	14:45	15	68	17	73	0	0	32	141
3:00	4		0		0	0	4		15:00	18		17		0	0	35	
3:15	0		1		0	0	1		15:15	12		11		0	0	23	
3:30	2		0		0	0	2		15:30	16		18		0	0	34	
3:45	1	7	3	4	0	0	4	11	15:45	24	70	13	59	0	0	37	129
4:00	2		2		0	0	4		16:00	11		11		0	0	22	
4:15	0		3		0	0	3		16:15	13		12		0	0	25	
4:30	2		7		0	0	9		16:30	24		24		0	0	48	
4:45	2	6	5	17	0	0	7	23	16:45	29	77	15	62	0	0	44	139
5:00	3		5		0	0	8		17:00	14		17		0	0	31	
5:15	6		17		0	0	23		17:15	16		18		0	0	34	
5:30	7		18		0	0	25		17:30	31		29		0	0	60	
5:45	9	25	13	53	0	0	22	78	17:45	16	77	28	92	0	0	44	169
6:00	12		17		0	0	29		18:00	30		25		0	0	55	
6:15	16		23		0	0	39		18:15	35		15		0	0	50	
6:30	22		33		0	0	55		18:30	11		15		0	0	26	
6:45	28	78	28	101	0	0	56	179	18:45	18	94	10	65	0	0	28	159
7:00	24		64		0	0	88		19:00	11		10		0	0	21	
7:15	41		51		0	0	92		19:15	9		5		0	0	14	
7:30	15		45		0	0	60		19:30	9		9		0	0	18	
7:45	15	95	38	198	0	0	53	293	19:45	14	43	5	29	0	0	19	72
8:00	13		34		0	0	47		20:00	7		12		0	0	19	
8:15	7		28		0	0	35		20:15	10		8		0	0	18	
8:30	7		18		0	0	25		20:30	13		4		0	0	17	
8:45	11	38	12	92	0	0	23	130	20:45	9	39	5	29	0	0	14	68
9:00	7		18		0	0	25		21:00	4		6		0	0	10	
9:15	9		20		0	0	29		21:15	6		5		0	0	11	
9:30	11		13		0	0	24		21:30	5		5		0	0	10	
9:45	19	46	15	66	0	0	34	112	21:45	1	16	3	19	0	0	4	35
10:00	9		14		0	0	23		22:00	6		3		0	0	9	
10:15	6		14		0	0	20		22:15	3		7		0	0	10	
10:30	8		17		0	0	25		22:30	3		7		0	0	10	
10:45	10	33	15	60	0	0	25	93	22:45	0	12	5	22	0	0	5	34
11:00	6		14		0	0	20		23:00	8		2		0	0	10	
11:15	10		12		0	0	22		23:15	2		2		0	0	4	
11:30	7		13		0	0	20		23:30	0		1		0	0	1	
11:45	11	34	16	55	0	0	27	89	23:45	2	12	3	8	0	0	5	20
TOTALS		377		661				1038	TOTALS		606		564				1170
SPLIT %		36.3%		63.7%				47.0%	SPLIT %		51.8%		48.2%				53.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	983	1,225	0	0	2,208

AM Peak Hour	6:30	7:00			6:45	PM Peak Hour	17:30	17:15			17:30
AM Pk Volume	115	198			296	PM Pk Volume	112	100			209
Pk Hr Factor	0.701	0.773			0.804	Pk Hr Factor	0.800	0.862			0.871
7 - 9 Volume	133	290	0	0	423	4 - 6 Volume	154	154	0	0	308
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	16:45	17:00			16:45
7 - 9 Pk Volume	95	198	0	0	293	4 - 6 Pk Volume	90	92	0	0	169
Pk Hr Factor	0.579	0.773	0.000	0.000	0.796	Pk Hr Factor	0.726	0.793	0.000	0.000	0.704

Prepared by National Data & Surveying Services

CLASSIFICATION

Dr. Humphries Rd Bet. Mount Olivet Rd & SC 34/Bishopville Hwy

Day: Tuesday
Date: 5/16/2017

City: Camden
Project #: SC17_9315_010

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	5	0	0	1	0	0	0	0	0	0	0	0	6
1:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
2:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
3:00	0	5	1	0	2	0	0	0	0	0	0	0	0	8
4:00	0	16	0	0	2	0	0	1	0	0	0	0	0	19
5:00	1	32	6	0	15	1	0	1	0	0	0	0	0	56
6:00	0	92	24	1	19	0	0	0	3	0	0	0	0	139
7:00	0	166	32	2	25	1	0	3	1	0	0	0	0	230
8:00	0	69	16	0	21	0	0	2	6	0	0	0	0	114
9:00	0	46	9	2	15	0	2	1	0	0	0	0	0	75
10:00	0	32	13	0	9	0	0	4	2	0	0	0	0	60
11:00	0	45	18	1	13	2	0	2	4	0	0	0	0	85
12:00 PM	0	43	9	1	10	0	0	5	3	0	0	0	0	71
13:00	0	53	18	0	14	0	0	3	3	0	0	0	0	91
14:00	0	79	15	2	14	0	0	3	5	0	0	0	0	118
15:00	5	70	14	2	17	0	0	6	2	0	0	0	0	116
16:00	0	85	21	0	24	0	0	1	7	0	0	0	0	138
17:00	1	118	25	0	32	0	0	1	2	0	0	0	0	179
18:00	0	85	21	0	26	0	0	3	3	0	0	0	0	138
19:00	0	43	10	0	14	0	0	1	2	0	0	0	0	70
20:00	0	33	16	0	9	0	0	3	1	0	0	0	0	62
21:00	0	26	11	1	8	0	0	0	1	0	0	0	0	47
22:00	0	13	5	0	4	0	0	0	0	0	0	0	0	22
23:00	0	16	3	0	1	0	0	1	1	0	0	0	0	22
Totals	7	1179	288	12	296	4	2	41	46					1875
% of Totals	0%	63%	15%	1%	16%	0%	0%	2%	2%					100%

AM Volumes	1	515	120	6	123	4	2	14	16	0	0	0	0	801
% AM	0%	27%	6%	0%	7%	0%	0%	1%	1%					43%
AM Peak Hour	5:00	7:00	7:00	7:00	7:00	11:00	9:00	10:00	8:00					7:00
Volume	1	166	32	2	25	2	2	4	6					230
PM Volumes	6	664	168	6	173	0	0	27	30	0	0	0	0	1074
% PM	0%	35%	9%	0%	9%			1%	2%					57%
PM Peak Hour	15:00	17:00	17:00	14:00	17:00			15:00	16:00					17:00
Volume	5	118	25	2	32			6	7					179

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	344	⟷	18%	162	⟷	9%	317	⟷	17%	1052	⟷	56%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	825	1,050	0	0	1,875

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	0		0		0	0			12:00	11		11		0	0	22	
0:15	0		1		0	0	1		12:15	7		10		0	0	17	
0:30	0		2		0	0	2		12:30	6		10		0	0	16	
0:45	2	2	1	4	0	0	3	6	12:45	5	29	11	42	0	0	16	71
1:00	1		1		0	0	2		13:00	9		13		0	0	22	
1:15	0		1		0	0	1		13:15	5		16		0	0	21	
1:30	0		0		0	0			13:30	10		12		0	0	22	
1:45	0	1	0	2	0	0		3	13:45	14	38	12	53	0	0	26	91
2:00	1		3		0	0	4		14:00	18		9		0	0	27	
2:15	0		0		0	0			14:15	13		14		0	0	27	
2:30	0		0		0	0			14:30	16		22		0	0	38	
2:45	2	3	0	3	0	0	2	6	14:45	10	57	16	61	0	0	26	118
3:00	2		0		0	0	2		15:00	20		14		0	0	34	
3:15	1		1		0	0	2		15:15	12		20		0	0	32	
3:30	0		1		0	0	1		15:30	13		14		0	0	27	
3:45	0	3	3	5	0	0	3	8	15:45	13	58	10	58	0	0	23	116
4:00	0		1		0	0	1		16:00	21		7		0	0	28	
4:15	1		2		0	0	3		16:15	12		17		0	0	29	
4:30	2		5		0	0	7		16:30	11		29		0	0	40	
4:45	4	7	4	12	0	0	8	19	16:45	18	62	23	76	0	0	41	138
5:00	2		7		0	0	9		17:00	21		24		0	0	45	
5:15	2		3		0	0	5		17:15	18		21		0	0	39	
5:30	5		13		0	0	18		17:30	38		19		0	0	57	
5:45	5	14	19	42	0	0	24	56	17:45	21	98	17	81	0	0	38	179
6:00	13		11		0	0	24		18:00	23		22		0	0	45	
6:15	13		23		0	0	36		18:15	16		11		0	0	27	
6:30	13		28		0	0	41		18:30	27		12		0	0	39	
6:45	16	55	22	84	0	0	38	139	18:45	14	80	13	58	0	0	27	138
7:00	19		45		0	0	64		19:00	5		11		0	0	16	
7:15	38		39		0	0	77		19:15	7		10		0	0	17	
7:30	12		43		0	0	55		19:30	12		8		0	0	20	
7:45	11	80	23	150	0	0	34	230	19:45	10	34	7	36	0	0	17	70
8:00	13		28		0	0	41		20:00	7		4		0	0	11	
8:15	11		12		0	0	23		20:15	5		16		0	0	21	
8:30	8		16		0	0	24		20:30	6		8		0	0	14	
8:45	11	43	15	71	0	0	26	114	20:45	9	27	7	35	0	0	16	62
9:00	7		12		0	0	19		21:00	5		4		0	0	9	
9:15	5		20		0	0	25		21:15	10		6		0	0	16	
9:30	3		9		0	0	12		21:30	9		1		0	0	10	
9:45	10	25	9	50	0	0	19	75	21:45	8	32	4	15	0	0	12	47
10:00	3		6		0	0	9		22:00	3		2		0	0	5	
10:15	7		10		0	0	17		22:15	3		2		0	0	5	
10:30	4		13		0	0	17		22:30	6		4		0	0	10	
10:45	8	22	9	38	0	0	17	60	22:45	1	13	1	9	0	0	2	22
11:00	6		10		0	0	16		23:00	3		1		0	0	4	
11:15	9		15		0	0	24		23:15	2		2		0	0	4	
11:30	9		19		0	0	28		23:30	1		2		0	0	3	
11:45	7	31	10	54	0	0	17	85	23:45	5	11	6	11	0	0	11	22
TOTALS		286		515				801	TOTALS		539		535				1074
SPLIT %		35.7%		64.3%				42.7%	SPLIT %		50.2%		49.8%				57.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	825	1,050	0	0	1,875

AM Peak Hour	6:30	7:00			6:45	PM Peak Hour	17:15	16:30			16:45
AM Pk Volume	86	150			234	PM Pk Volume	100	97			182
Pk Hr Factor	0.566	0.833			0.760	Pk Hr Factor	0.658	0.836			0.798
7 - 9 Volume	123	221	0	0	344	4 - 6 Volume	160	157	0	0	317
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	17:00	16:30			16:45
7 - 9 Pk Volume	80	150	0	0	230	4 - 6 Pk Volume	98	97	0	0	182
Pk Hr Factor	0.526	0.833	0.000	0.000	0.747	Pk Hr Factor	0.645	0.836	0.000	0.000	0.798

Prepared by National Data & Surveying Services

CLASSIFICATION

Dr. Humphries Rd Bet. Mount Olivet Rd & SC 34/Bishopville Hwy

Day: Wednesday
Date: 5/17/2017

City: Camden
Project #: SC17_9315_010

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	7	1	0	2	0	0	0	1	0	0	0	0	11
1:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
2:00	0	5	2	0	2	0	0	0	0	0	0	0	0	9
3:00	0	3	1	0	1	1	0	0	1	0	0	0	0	7
4:00	0	18	0	0	2	0	0	0	1	0	0	0	0	21
5:00	0	32	9	0	16	0	0	3	2	0	0	0	0	62
6:00	0	95	16	1	25	0	0	1	1	0	0	0	0	139
7:00	0	193	36	2	38	0	1	2	5	0	0	0	0	277
8:00	1	65	10	0	25	4	3	0	2	0	0	0	0	110
9:00	0	49	17	0	11	0	2	0	3	0	0	0	0	82
10:00	0	48	15	1	15	4	4	3	2	0	0	0	0	92
11:00	0	50	11	0	13	5	3	1	3	0	0	0	0	86
12:00 PM	0	38	25	1	23	3	0	1	2	0	0	0	0	93
13:00	0	57	21	1	17	2	1	2	5	0	0	0	0	106
14:00	0	90	23	5	18	2	0	0	6	0	0	0	0	144
15:00	1	73	18	3	23	5	0	3	4	0	0	0	0	130
16:00	1	91	27	5	24	3	0	4	5	0	0	0	0	160
17:00	0	101	30	1	16	1	0	1	6	0	0	0	0	156
18:00	1	95	17	0	7	2	0	1	3	0	0	0	0	126
19:00	0	57	10	0	4	0	0	2	2	0	0	0	0	75
20:00	1	36	9	1	6	0	0	3	1	0	0	0	0	57
21:00	0	30	11	0	6	0	0	0	0	0	0	0	0	47
22:00	1	19	5	0	4	0	0	0	1	0	0	0	0	30
23:00	0	17	4	0	2	0	0	0	2	0	0	0	0	25
Totals	6	1274	318	21	300	32	14	27	58					2050
% of Totals	0%	62%	16%	1%	15%	2%	1%	1%	3%					100%

AM Volumes	1	570	118	4	150	14	13	10	21	0	0	0	0	901
% AM	0%	28%	6%	0%	7%	1%	1%	0%	1%					44%
AM Peak Hour	8:00	7:00	7:00	7:00	7:00	11:00	10:00	5:00	7:00					7:00
Volume	1	193	36	2	38	5	4	3	5					277
PM Volumes	5	704	200	17	150	18	1	17	37	0	0	0	0	1149
% PM	0%	34%	10%	1%	7%	1%	0%	1%	2%					56%
PM Peak Hour	15:00	17:00	17:00	14:00	16:00	15:00	13:00	16:00	14:00					16:00
Volume	1	101	30	5	24	5	1	4	6					160

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	387	⟷	19%	199	⟷	10%	316	⟷	15%	1148	⟷	56%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	926	1,124	0	0	2,050

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	3		0		0	0	3		12:00	15		14		0	0	29	
0:15	1		1		0	0	2		12:15	6		12		0	0	18	
0:30	2		1		0	0	3		12:30	11		11		0	0	22	
0:45	2	8	1	3	0	0	3	11	12:45	14	46	10	47	0	0	24	93
1:00	1		2		0	0	3		13:00	11		13		0	0	24	
1:15	0		1		0	0	1		13:15	11		20		0	0	31	
1:30	0		1		0	0	1		13:30	12		13		0	0	25	
1:45	0	1	0	4	0	0		5	13:45	12	46	14	60	0	0	26	106
2:00	2		0		0	0	2		14:00	16		12		0	0	28	
2:15	3		0		0	0	3		14:15	16		22		0	0	38	
2:30	2		0		0	0	2		14:30	13		25		0	0	38	
2:45	2	9	0		0	0	2	9	14:45	22	67	18	77	0	0	40	144
3:00	1		0		0	0	1		15:00	10		21		0	0	31	
3:15	0		1		0	0	1		15:15	16		13		0	0	29	
3:30	3		0		0	0	3		15:30	20		17		0	0	37	
3:45	0	4	2	3	0	0	2	7	15:45	16	62	17	68	0	0	33	130
4:00	2		1		0	0	3		16:00	14		16		0	0	30	
4:15	0		2		0	0	2		16:15	19		14		0	0	33	
4:30	3		6		0	0	9		16:30	33		24		0	0	57	
4:45	2	7	5	14	0	0	7	21	16:45	24	90	16	70	0	0	40	160
5:00	3		8		0	0	11		17:00	15		13		0	0	28	
5:15	7		7		0	0	14		17:15	25		11		0	0	36	
5:30	4		14		0	0	18		17:30	32		20		0	0	52	
5:45	8	22	11	40	0	0	19	62	17:45	19	91	21	65	0	0	40	156
6:00	8		18		0	0	26		18:00	24		19		0	0	43	
6:15	13		25		0	0	38		18:15	15		17		0	0	32	
6:30	8		21		0	0	29		18:30	15		10		0	0	25	
6:45	15	44	31	95	0	0	46	139	18:45	15	69	11	57	0	0	26	126
7:00	23		56		0	0	79		19:00	9		11		0	0	20	
7:15	40		48		0	0	88		19:15	12		11		0	0	23	
7:30	15		49		0	0	64		19:30	9		8		0	0	17	
7:45	12	90	34	187	0	0	46	277	19:45	9	39	6	36	0	0	15	75
8:00	12		19		0	0	31		20:00	8		10		0	0	18	
8:15	5		14		0	0	19		20:15	7		4		0	0	11	
8:30	12		20		0	0	32		20:30	9		7		0	0	16	
8:45	10	39	18	71	0	0	28	110	20:45	6	30	6	27	0	0	12	57
9:00	6		14		0	0	20		21:00	9		8		0	0	17	
9:15	7		10		0	0	17		21:15	3		4		0	0	7	
9:30	5		14		0	0	19		21:30	6		5		0	0	11	
9:45	10	28	16	54	0	0	26	82	21:45	6	24	6	23	0	0	12	47
10:00	8		10		0	0	18		22:00	8		3		0	0	11	
10:15	8		12		0	0	20		22:15	5		3		0	0	8	
10:30	7		17		0	0	24		22:30	4		3		0	0	7	
10:45	20	43	10	49	0	0	30	92	22:45	4	21	0	9	0	0	4	30
11:00	7		16		0	0	23		23:00	5		3		0	0	8	
11:15	9		14		0	0	23		23:15	3		2		0	0	5	
11:30	6		13		0	0	19		23:30	2		3		0	0	5	
11:45	11	33	10	53	0	0	21	86	23:45	3	13	4	12	0	0	7	25
TOTALS		328		573				901	TOTALS		598		551				1149
SPLIT %		36.4%		63.6%				44.0%	SPLIT %		52.0%		48.0%				56.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	926	1,124	0	0	2,050

AM Peak Hour	6:45	7:00			6:45	PM Peak Hour	17:15	14:15			17:15
AM Pk Volume	93	187			277	PM Pk Volume	100	86			171
Pk Hr Factor	0.581	0.835			0.787	Pk Hr Factor	0.781	0.860			0.822
7 - 9 Volume	129	258	0	0	387	4 - 6 Volume	181	135	0	0	316
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	16:30	16:00			16:30
7 - 9 Pk Volume	90	187	0	0	277	4 - 6 Pk Volume	97	70	0	0	161
Pk Hr Factor	0.563	0.835	0.000	0.000	0.787	Pk Hr Factor	0.735	0.729	0.000	0.000	0.706

Prepared by National Data & Surveying Services

CLASSIFICATION

Dr. Humphries Rd Bet. Mount Olivet Rd & SC 34/Bishopville Hwy

Day: Thursday
Date: 5/18/2017

City: Camden
Project #: SC17_9315_010

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	0	3	3	0	0	0	0	0	0	0	0	0	0	6
1:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
2:00	0	4	4	0	0	1	0	0	0	0	0	0	0	9
3:00	0	6	1	0	0	0	0	0	2	0	0	0	0	9
4:00	0	17	2	0	1	0	0	0	0	0	0	0	0	20
5:00	0	29	9	0	14	0	0	2	3	0	0	0	0	57
6:00	1	88	28	1	15	1	0	2	3	0	0	0	0	139
7:00	1	176	37	3	26	5	5	4	2	0	0	0	0	259
8:00	1	76	14	3	15	3	2	3	3	0	0	0	0	120
9:00	1	50	15	0	15	3	2	1	5	0	0	0	0	92
10:00	0	42	14	0	11	6	3	4	4	0	0	0	0	84
11:00	3	47	13	0	11	2	1	3	2	0	0	0	0	82
12:00 PM	3	54	13	1	7	2	0	4	5	0	0	0	0	89
13:00	0	57	11	1	18	2	0	0	5	0	0	0	0	94
14:00	0	90	28	3	14	0	0	3	5	0	0	0	0	143
15:00	0	82	21	1	5	0	0	4	2	0	0	0	0	115
16:00	1	84	20	0	20	1	0	1	4	0	0	0	0	131
17:00	1	98	27	0	17	1	0	3	3	0	0	0	0	150
18:00	0	101	21	0	16	1	0	2	1	0	0	0	0	142
19:00	1	62	9	0	3	1	0	4	1	0	0	0	0	81
20:00	1	39	9	0	7	0	0	0	1	0	0	0	0	57
21:00	0	24	8	0	4	0	0	0	1	0	0	0	0	37
22:00	0	24	5	0	4	0	0	0	0	0	0	0	0	33
23:00	0	24	2	0	0	0	0	0	2	0	0	0	0	28
Totals	14	1285	315	13	223	29	13	40	54					1986
% of Totals	1%	65%	16%	1%	11%	1%	1%	2%	3%					100%

AM Volumes	7	546	141	7	108	21	13	19	24	0	0	0	0	886
% AM	0%	27%	7%	0%	5%	1%	1%	1%	1%					45%
AM Peak Hour	11:00	7:00	7:00	7:00	7:00	10:00	7:00	7:00	9:00					7:00
Volume	3	176	37	3	26	6	5	4	5					259
PM Volumes	7	739	174	6	115	8	0	21	30	0	0	0	0	1100
% PM	0%	37%	9%	0%	6%	0%		1%	2%					55%
PM Peak Hour	12:00	18:00	14:00	14:00	16:00	12:00		12:00	12:00					17:00
Volume	3	101	28	3	20	2		4	5					150

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	379	⟷	19%	183	⟷	9%	281	⟷	14%	1143	⟷	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	Total
	903	1,083	0	0	1,986

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	0		0		0	0			12:00	14		10		0	0	24	
0:15	0		1		0	0	1		12:15	6		15		0	0	21	
0:30	3		2		0	0	5		12:30	5		12		0	0	17	
0:45	0	3	0	3	0	0		6	12:45	12	37	15	52	0	0	27	89
1:00	2		1		0	0	3		13:00	13		11		0	0	24	
1:15	1		2		0	0	3		13:15	12		11		0	0	23	
1:30	0		2		0	0	2		13:30	6		20		0	0	26	
1:45	1	4	0	5	0	0	1	9	13:45	11	42	10	52	0	0	21	94
2:00	2		0		0	0	2		14:00	10		17		0	0	27	
2:15	2		1		0	0	3		14:15	21		14		0	0	35	
2:30	3		0		0	0	3		14:30	21		28		0	0	49	
2:45	0	7	1	2	0	0	1	9	14:45	17	69	15	74	0	0	32	143
3:00	3		0		0	0	3		15:00	21		14		0	0	35	
3:15	0		1		0	0	1		15:15	10		10		0	0	20	
3:30	2		0		0	0	2		15:30	16		13		0	0	29	
3:45	1	6	2	3	0	0	3	9	15:45	19	66	12	49	0	0	31	115
4:00	2		2		0	0	4		16:00	10		11		0	0	21	
4:15	0		1		0	0	1		16:15	15		12		0	0	27	
4:30	2		7		0	0	9		16:30	23		20		0	0	43	
4:45	2	6	4	14	0	0	6	20	16:45	25	73	15	58	0	0	40	131
5:00	3		7		0	0	10		17:00	15		21		0	0	36	
5:15	5		9		0	0	14		17:15	10		18		0	0	28	
5:30	7		13		0	0	20		17:30	24		15		0	0	39	
5:45	2	17	11	40	0	0	13	57	17:45	16	65	31	85	0	0	47	150
6:00	11		11		0	0	22		18:00	24		18		0	0	42	
6:15	14		19		0	0	33		18:15	34		15		0	0	49	
6:30	13		25		0	0	38		18:30	15		12		0	0	27	
6:45	24	62	22	77	0	0	46	139	18:45	12	85	12	57	0	0	24	142
7:00	21		60		0	0	81		19:00	15		9		0	0	24	
7:15	40		38		0	0	78		19:15	11		6		0	0	17	
7:30	16		39		0	0	55		19:30	9		5		0	0	14	
7:45	13	90	32	169	0	0	45	259	19:45	16	51	10	30	0	0	26	81
8:00	16		30		0	0	46		20:00	7		9		0	0	16	
8:15	6		24		0	0	30		20:15	8		6		0	0	14	
8:30	6		15		0	0	21		20:30	9		5		0	0	14	
8:45	12	40	11	80	0	0	23	120	20:45	9	33	4	24	0	0	13	57
9:00	4		17		0	0	21		21:00	2		9		0	0	11	
9:15	6		14		0	0	20		21:15	7		2		0	0	9	
9:30	13		10		0	0	23		21:30	5		6		0	0	11	
9:45	14	37	14	55	0	0	28	92	21:45	4	18	2	19	0	0	6	37
10:00	9		10		0	0	19		22:00	4		5		0	0	9	
10:15	6		14		0	0	20		22:15	3		5		0	0	8	
10:30	7		15		0	0	22		22:30	3		4		0	0	7	
10:45	8	30	15	54	0	0	23	84	22:45	6	16	3	17	0	0	9	33
11:00	10		10		0	0	20		23:00	7		3		0	0	10	
11:15	8		15		0	0	23		23:15	2		5		0	0	7	
11:30	7		14		0	0	21		23:30	3		3		0	0	6	
11:45	7	32	11	50	0	0	18	82	23:45	2	14	3	14	0	0	5	28
TOTALS		334		552				886	TOTALS		569		531				1100
SPLIT %		37.7%		62.3%				44.6%	SPLIT %		51.7%		48.3%				55.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	903	1,083	0	0	1,986

AM Peak Hour	6:45	7:00			6:45	PM Peak Hour	17:30	17:00			17:30
AM Pk Volume	101	169			260	PM Pk Volume	98	85			177
Pk Hr Factor	0.631	0.704			0.802	Pk Hr Factor	0.721	0.685			0.903
7 - 9 Volume	130	249	0	0	379	4 - 6 Volume	138	143	0	0	281
7 - 9 Peak Hour	7:00	7:00			7:00	4 - 6 Peak Hour	16:15	17:00			17:00
7 - 9 Pk Volume	90	169	0	0	259	4 - 6 Pk Volume	78	85	0	0	150
Pk Hr Factor	0.563	0.704	0.000	0.000	0.799	Pk Hr Factor	0.780	0.685	0.000	0.000	0.798

Appendix B 2017 Existing Turning Movement Counts

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-001
Location: Sumter Hwy _US 521 & Ehrenclou Dr _S-897
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Sumter Hwy _US 521 Southbound					Ehrenclou Dr _S-897 Westbound					Sumter Hwy _US 521 Northbound					Ehrenclou Dr _S-897 Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	0	110	0	0	110	0	0	0	0	0	0	78	86	0	164	27	0	0	0	27	301
6:45 AM	0	127	0	0	127	0	0	0	0	0	0	101	59	0	160	26	0	0	0	26	313
7:00 AM	0	111	0	0	111	0	0	0	0	0	0	104	52	0	156	46	0	0	0	46	313
7:15 AM	0	180	0	0	180	0	0	0	0	0	0	122	48	0	170	87	0	1	0	88	438
Total	0	528	0	0	528	0	0	0	0	0	0	405	245	0	650	186	0	1	0	187	1365
7:30 AM	2	162	0	0	164	0	0	0	0	0	0	123	57	0	180	47	0	0	0	47	391
7:45 AM	3	129	0	0	132	0	0	0	0	0	0	140	69	0	209	45	0	1	0	46	387
8:00 AM	1	133	0	0	134	0	0	0	0	0	0	117	41	0	158	45	0	1	0	46	338
8:15 AM	0	97	0	0	97	0	0	0	0	0	0	98	30	0	128	25	0	0	0	25	250
Total	6	521	0	0	527	0	0	0	0	0	0	478	197	0	675	162	0	2	0	164	1366
7:15AM - 8:15 AM	6	604	0		610							502	215		717	224		3		227	1554
PHF					0.847										0.858					0.645	
BREAK																					
4:30 PM	3	132	0	0	135	0	0	0	0	0	0	138	30	0	168	58	0	0	0	58	361
4:45 PM	0	146	0	0	146	0	0	0	0	0	0	147	45	0	192	65	0	0	0	65	403
5:00 PM	0	158	0	0	158	0	0	0	0	0	0	159	54	0	213	65	0	0	0	65	436
5:15 PM	0	141	0	0	141	0	0	0	0	0	0	161	42	0	203	76	0	1	0	77	421
Total	3	577	0	0	580	0	0	0	0	0	0	605	171	0	776	264	0	1	0	265	1621
5:30 PM	0	134	0	0	134	0	0	0	0	0	0	169	75	0	244	59	0	0	0	59	437
5:45 PM	1	112	0	0	113	0	0	0	0	0	0	167	93	0	260	55	0	1	0	56	429
6:00 PM	0	103	0	0	103	0	0	0	0	0	0	108	81	0	189	77	0	2	0	79	371
6:15 PM	1	74	0	0	75	0	0	0	0	0	0	126	78	0	204	37	0	0	0	37	316
Total	2	423	0	0	425	0	0	0	0	0	0	570	327	0	897	228	0	3	0	231	1553
5:00Pm - 6:00PM	1	545			546							656	264		920	255		2		257	1723
					0.864										0.885					0.834	
Grand Total	11	2049	0	0	2060	0	0	0	0	0	0	2058	940	0	2998	840	0	7	0	847	5905
Apprch %	0.5	99.5	0.0	0.0		0.0	0.0	0.0	0.0		0.0	68.6	31.4	0.0		99.2	0.0	0.8	0.0		
Total %	0.2	34.7	0.0	0.0	34.9	0.0	0.0	0.0	0.0	0.0	0.0	34.9	15.9	0.0	50.8	14.2	0.0	0.1	0.0	14.3	
Cars, PU, Vans	11	1992	0	0	2003	0	0	0	0	0	0	2017	926	0	2943	823	0	7	0	830	5776
% Cars, PU, Vans	100.0	97.2	0.0	0.0	97.2	0.0	0.0	0.0	0.0	0.0	0.0	98.0	98.5	0.0	98.2	98.0	0.0	100.0	0.0	98.0	97.8
Heavy Trucks	0	57	0		57	0	0	0		0	0	41	14		55	17	0	0		17	129
%Heavy Trucks	0.0	2.8	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.5	0.0	1.8	2.0	0.0	0.0	0.0	2.0	2.2

Project ID: 17-9314-001
Location: Sumter Hwy _US 521 & Ehrenclou Dr _S
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Sumter Hwy _US 521 Southbound				Ehrenclou Dr _S-897 Westbound				Sumter Hwy _US 521 Northbound				Ehrenclou Dr _S-897 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
7:15 AM	0	180	0	180	0	0	0	0	0	122	48	170	87	0	1	88	438
7:30 AM	2	162	0	164	0	0	0	0	0	123	57	180	47	0	0	47	391
7:45 AM	3	129	0	132	0	0	0	0	0	140	69	209	45	0	1	46	387
8:00 AM	1	133	0	134	0	0	0	0	0	117	41	158	45	0	1	46	338
Total Volume	6	604	0	610	0	0	0	0	0	502	215	717	224	0	3	227	1554
% App. Total	1.0	99.0	0.0	100	0.0	0.0	0.0	0	0.0	70.0	30.0	100	98.7	0.0	1.3	100	
PHF				0.847				0.000				0.858				0.645	
Cars, PU, Vans	6	590	0	596	0	0	0	0	0	489	209	698	221	0	3	224	1518
% Cars, PU, Vans	100.0	97.7	0.0	97.7	0.0	0.0	0.0	0.0	0.0	97.4	97.2	97.4	98.7	0.0	100.0	98.7	97.7
Heavy Trucks	0	14	0	14	0	0	0	0	0	13	6	19	3	0	0	3	36
%Heavy Trucks	0.0	2.3	0.0	2.3	0.0	0.0	0.0	0.0	0.0	2.6	2.8	2.6	1.3	0.0	0.0	1.3	2.3

PM

	Sumter Hwy _US 521 Southbound				Ehrenclou Dr _S-897 Westbound				Sumter Hwy _US 521 Northbound				Ehrenclou Dr _S-897 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
5:00 PM	0	158	0	158	0	0	0	0	0	159	54	213	65	0	0	65	436
5:15 PM	0	141	0	141	0	0	0	0	0	161	42	203	76	0	1	77	421
5:30 PM	0	134	0	134	0	0	0	0	0	169	75	244	59	0	0	59	437
5:45 PM	1	112	0	113	0	0	0	0	0	167	93	260	55	0	1	56	429
Total Volume	1	545	0	546	0	0	0	0	0	656	264	920	255	0	2	257	1723
% App. Total	0.2	99.8	0.0	100	0.0	0.0	0.0	0	0.0	71.3	28.7	100	99.2	0.0	0.8	100	
PHF				0.864				0.000				0.885				0.834	
Cars, PU, Vans	1	531	0	532	0	0	0	0	0	651	261	912	251	0	2	253	1697
% Cars, PU, Vans	100.0	97.4	0.0	97.4	0.0	0.0	0.0	0.0	0.0	99.2	98.9	99.1	98.4	0.0	100.0	98.4	98.5
Heavy Trucks	0	14	0	14	0	0	0	0	0	5	3	8	4	0	0	4	26
%Heavy Trucks	0.0	2.6	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.8	1.1	0.9	1.6	0.0	0.0	1.6	1.5

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-002
Location: Sumter Hwy _US 521 & Black River Road _S-12
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Sumter Hwy _US 521 Southbound					Black River Road _S-12 Westbound					Sumter Hwy _US 521 Northbound					Black River Road _S-12 Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	0	119	19	0	138	34	0	25	0	59	16	138	0	0	154	0	0	0	0	0	351
6:45 AM	0	130	27	0	157	36	0	28	0	64	21	110	0	0	131	0	0	0	0	0	352
7:00 AM	0	151	12	0	163	41	0	36	0	77	21	120	0	0	141	0	0	0	0	0	381
7:15 AM	0	243	21	0	264	40	0	53	0	93	11	121	0	0	132	0	0	0	0	0	489
Total	0	643	79	0	722	151	0	142	0	293	69	489	0	0	558	0	0	0	0	0	1573
7:30 AM	0	190	23	0	213	53	0	35	0	88	10	131	0	0	141	0	0	0	0	0	442
7:45 AM	0	140	29	0	169	66	0	27	0	93	19	134	0	0	153	0	0	0	0	0	415
8:00 AM	0	149	32	0	181	38	0	26	0	64	14	117	0	0	131	0	0	0	0	0	376
8:15 AM	0	104	17	0	121	28	0	24	0	52	14	98	0	0	112	0	0	0	0	0	285
Total	0	583	101	0	684	185	0	112	0	297	57	480	0	0	537	0	0	0	0	0	1518
7:15AM - 8:15 AM		722	105		827	197		141		338	54	503			557						1722
PHF					0.783					0.909					0.91						
BREAK																					
4:30 PM	0	135	50	0	185	35	0	17	0	52	23	140	0	0	163	0	0	0	0	0	400
4:45 PM	0	146	62	0	208	32	0	15	0	47	21	157	0	0	178	0	0	0	0	0	433
5:00 PM	0	177	50	0	227	50	0	17	0	67	27	164	0	0	191	0	0	0	0	0	485
5:15 PM	0	147	67	0	214	40	0	18	0	58	29	147	0	0	176	0	0	0	0	0	448
Total	0	605	229	0	834	157	0	67	0	224	100	608	0	0	708	0	0	0	0	0	1766
5:30 PM	0	142	46	0	188	78	0	38	0	116	29	167	0	0	196	0	0	0	0	0	500
5:45 PM	0	123	50	0	173	76	0	17	0	93	28	171	0	0	199	0	0	0	0	0	465
6:00 PM	0	119	58	0	177	40	0	18	0	58	38	132	0	0	170	0	0	0	0	0	405
6:15 PM	0	75	32	0	107	53	0	12	1	65	21	156	0	0	177	0	0	0	0	0	349
Total	0	459	186	0	645	247	0	85	1	332	116	626	0	0	742	0	0	0	0	0	1719
5:00PM - 6:00PM		589	213		802	244		90	0	334	113	649			762						1898
PHF					0.883					0.78					0.957						
Grand Total	0	2290	595	0	2885	740	0	406	1	1146	342	2203	0	0	2545	0	0	0	0	0	6576
Apprch %	0.0	79.4	20.6	0.0		64.6	0.0	35.4	0.1		13.4	86.6	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	34.8	9.0	0.0	43.9	11.3	0.0	6.2	0.0	17.4	5.2	33.5	0.0	0.0	38.7	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	0	2225	585	0	2810	733	0	399	1	1132	337	2154	0	0	2491	0	0	0	0	0	6433
% Cars, PU, Vans	0.0	97.2	98.3	0.0	97.4	99.1	0.0	98.3	100.0	98.8	98.5	97.8	0.0	0.0	97.9	0.0	0.0	0.0	0.0	0.0	97.8
Heavy Trucks	0	65	10		75	7	0	7		14	5	49	0		54	0	0	0		0	143
%Heavy Trucks	0.0	2.8	1.7	0.0	2.6	0.9	0.0	1.7	0.0	1.2	1.5	2.2	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	2.2

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-002
Location: Sumter Hwy _US 521 & Black River Ro
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Sumter Hwy _US 521 Southbound				Black River Road _S-12 Westbound				Sumter Hwy _US 521 Northbound				Black River Road _S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	0	151	12	163	41	0	36	77	21	120	0	141	0	0	0	0	381
7:15 AM	0	243	21	264	40	0	53	93	11	121	0	132	0	0	0	0	489
7:30 AM	0	190	23	213	53	0	35	88	10	131	0	141	0	0	0	0	442
7:45 AM	0	140	29	169	66	0	27	93	19	134	0	153	0	0	0	0	415
Total Volume	0	724	85	809	200	0	151	351	61	506	0	567	0	0	0	0	1727
% App. Total	0.0	89.5	10.5	100	57.0	0.0	43.0	100	10.8	89.2	0.0	100	0.0	0.0	0.0	0	
PHF				0.766				0.944				0.926				0.000	
Cars, PU, Vans	0	711	82	793	199	0	149	348	60	487	0	547	0	0	0	0	1688
% Cars, PU, Vans	0.0	98.2	96.5	98.0	99.5	0.0	98.7	99.1	98.4	96.2	0.0	96.5	0.0	0.0	0.0	0.0	97.7
Heavy Trucks	0	13	3	16	1	0	2	3	1	19	0	20	0	0	0	0	39
%Heavy Trucks	0.0	1.8	3.5	2.0	0.5	0.0	1.3	0.9	1.6	3.8	0.0	3.5	0.0	0.0	0.0	0.0	2.3

PM

	Sumter Hwy _US 521 Southbound				Black River Road _S-12 Westbound				Sumter Hwy _US 521 Northbound				Black River Road _S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
5:00 PM	0	177	50	227	50	0	17	67	27	164	0	191	0	0	0	0	485
5:15 PM	0	147	67	214	40	0	18	58	29	147	0	176	0	0	0	0	448
5:30 PM	0	142	46	188	78	0	38	116	29	167	0	196	0	0	0	0	500
5:45 PM	0	123	50	173	76	0	17	93	28	171	0	199	0	0	0	0	465
Total Volume	0	589	213	802	244	0	90	334	113	649	0	762	0	0	0	0	1898
% App. Total	0.0	73.4	26.6	100	73.1	0.0	26.9	100	14.8	85.2	0.0	100	0.0	0.0	0.0	0	
PHF				0.883				0.720				0.957				0.000	
Cars, PU, Vans	0	571	210	781	243	0	88	331	113	642	0	755	0	0	0	0	1867
% Cars, PU, Vans	0.0	96.9	98.6	97.4	99.6	0.0	97.8	99.1	100.0	98.9	0.0	99.1	0.0	0.0	0.0	0.0	98.4
Heavy Trucks	0	18	3	21	1	0	2	3	0	7	0	7	0	0	0	0	31
%Heavy Trucks	0.0	3.1	1.4	2.6	0.4	0.0	2.2	0.9	0.0	1.1	0.0	0.9	0.0	0.0	0.0	0.0	1.6

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-003
Location: Sumter Hwy _US 521 & Wall St
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Sumter Hwy _US 521 Southbound					Wall St Westbound					Sumter Hwy _US 521 Northbound					Wall St Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	0	137	4	0	141	13	0	2	0	15	1	142	0	0	143	0	0	0	0	0	299
6:45 AM	0	159	1	0	160	9	0	1	0	10	0	117	0	0	117	0	0	0	0	0	287
7:00 AM	0	176	4	0	180	8	0	9	0	17	0	130	0	0	130	0	0	0	0	0	327
7:15 AM	0	283	8	0	291	7	0	6	0	13	0	121	0	0	121	0	0	0	0	0	425
Total	0	755	17	0	772	37	0	18	0	55	1	510	0	0	511	0	0	0	0	0	1338
7:30 AM	0	212	3	0	215	15	0	4	0	19	0	124	1	0	125	0	0	0	0	0	359
7:45 AM	0	163	4	0	167	9	0	3	0	12	1	148	0	0	149	0	0	0	0	0	328
8:00 AM	0	171	4	0	175	8	0	2	0	10	0	127	0	0	127	0	0	0	0	0	312
8:15 AM	0	125	1	0	126	8	0	2	0	10	1	107	1	0	109	0	0	0	0	0	245
Total	0	671	12	0	683	40	0	11	0	51	2	506	2	0	510	0	0	0	0	0	1244
':15AM - 8:15 AM	0	829	19		848	39		15		54	1	520	1		522						1424
PHF					0.728					0.711					0.876						
BREAK																					
4:30 PM	0	149	2	0	151	4	0	0	0	4	1	164	0	0	165	0	0	0	0	0	320
4:45 PM	0	161	1	0	162	7	0	2	0	9	5	159	0	0	164	0	0	0	0	0	335
5:00 PM	0	188	11	0	199	10	0	2	0	12	2	181	0	0	183	0	0	0	0	0	394
5:15 PM	0	153	7	0	160	4	0	1	0	5	2	167	0	0	169	0	0	0	0	0	334
Total	0	651	21	0	672	25	0	5	0	30	10	671	0	0	681	0	0	0	0	0	1383
5:30 PM	0	173	6	0	179	11	0	1	0	12	4	193	0	0	197	0	0	0	0	0	388
5:45 PM	0	143	6	0	149	8	0	1	0	9	1	191	1	0	193	0	0	0	0	0	351
6:00 PM	0	125	10	0	135	10	0	4	0	14	1	146	1	0	148	0	0	0	0	0	297
6:15 PM	0	83	5	0	88	10	0	0	0	10	2	175	0	0	177	0	0	0	0	0	275
Total	0	524	27	0	551	39	0	6	0	45	8	705	2	0	715	0	0	0	0	0	1311
Grand Total	0	2601	77	0	2678	141	0	40	0	181	21	2392	4	0	2417	0	0	0	0	0	5276
Apprch %	0.0	97.1	2.9	0.0		77.9	0.0	22.1	0.0		0.9	99.0	0.2	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	49.3	1.5	0.0	50.8	2.7	0.0	0.8	0.0	3.4	0.4	45.3	0.1	0.0	45.8	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	0	2530	76	0	2606	140	0	40	0	180	21	2339	4	0	2364	0	0	0	0	0	5150
% Cars, PU, Vans	0.0	97.3	98.7	0.0	97.3	99.3	0.0	100.0	0.0	99.4	100.0	97.8	100.0	0.0	97.8	0.0	0.0	0.0	0.0	0.0	97.6
Heavy Trucks	0	71	1		72	1	0	0		1	0	53	0		53	0	0	0		0	126
%Heavy Trucks	0.0	2.7	1.3	0.0	2.7	0.7	0.0	0.0	0.0	0.6	0.0	2.2	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.4

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-003
Location: Sumter Hwy _US 521 & Wall St
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Sumter Hwy _US 521 Southbound				Wall St Westbound				Sumter Hwy _US 521 Northbound				Wall St Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	0	176	4	180	8	0	9	17	0	130	0	130	0	0	0	0	327
7:15 AM	0	283	8	291	7	0	6	13	0	121	0	121	0	0	0	0	425
7:30 AM	0	212	3	215	15	0	4	19	0	124	1	125	0	0	0	0	359
7:45 AM	0	163	4	167	9	0	3	12	1	148	0	149	0	0	0	0	328
Total Volume	0	834	19	853	39	0	22	61	1	523	1	525	0	0	0	0	1439
% App. Total	0.0	97.8	2.2	100	63.9	0.0	36.1	100	0.2	99.6	0.2	100	0.0	0.0	0.0	0	
PHF				0.733				0.803				0.881				0.000	
Cars, PU, Vans	0	819	19	838	39	0	22	61	1	503	1	505	0	0	0	0	1404
% Cars, PU, Vans	0.0	98.2	100.0	98.2	100.0	0.0	100.0	100.0	100.0	96.2	100.0	96.2	0.0	0.0	0.0	0.0	97.6
Heavy Trucks	0	15	0	15	0	0	0	0	0	20	0	20	0	0	0	0	35
%Heavy Trucks	0.0	1.8	0.0	1.8	0.0	0.0	0.0	0.0	0.0	3.8	0.0	3.8	0.0	0.0	0.0	0.0	2.4

PM

	Sumter Hwy _US 521 Southbound				Wall St Westbound				Sumter Hwy _US 521 Northbound				Wall St Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
5:00 PM	0	188	11	199	10	0	2	12	2	181	0	183	0	0	0	0	394
5:15 PM	0	153	7	160	4	0	1	5	2	167	0	169	0	0	0	0	334
5:30 PM	0	173	6	179	11	0	1	12	4	193	0	197	0	0	0	0	388
5:45 PM	0	143	6	149	8	0	1	9	1	191	1	193	0	0	0	0	351
Total Volume	0	657	30	687	33	0	5	38	9	732	1	742	0	0	0	0	1467
% App. Total	0.0	95.6	4.4	100	86.8	0.0	13.2	100	1.2	98.7	0.1	100	0.0	0.0	0.0	0	
PHF				0.863				0.792				0.942				0.000	
Cars, PU, Vans	0	636	30	666	33	0	5	38	9	725	1	735	0	0	0	0	1439
% Cars, PU, Vans	0.0	96.8	100.0	96.9	100.0	0.0	100.0	100.0	100.0	99.0	100.0	99.1	0.0	0.0	0.0	0.0	98.1
Heavy Trucks	0	21	0	21	0	0	0	0	0	7	0	7	0	0	0	0	28
%Heavy Trucks	0.0	3.2	0.0	3.1	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.9	0.0	0.0	0.0	0.0	1.9

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-004
Location: Sumter Hwy _US 521 & Century
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Sumter Hwy _US 521 Southbound					Century Westbound					Sumter Hwy _US 521 Northbound					Century Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	0	128	17	0	145	20	1	25	0	46	28	123	6	0	157	6	0	2	0	8	356
6:45 AM	0	128	14	0	142	14	0	27	0	41	35	102	2	0	139	3	0	0	0	3	325
7:00 AM	0	163	15	0	178	24	0	23	0	47	25	101	4	0	130	8	0	0	0	8	363
7:15 AM	0	252	33	0	285	18	0	24	0	42	28	100	8	0	136	8	0	0	0	8	471
Total	0	671	79	0	750	76	1	99	0	176	116	426	20	0	562	25	0	2	0	27	1515
7:30 AM	0	200	28	0	228	15	0	34	0	49	51	112	5	0	168	8	0	0	0	8	453
7:45 AM	0	138	20	0	158	18	0	32	0	50	26	127	7	0	160	10	0	0	0	10	378
8:00 AM	0	152	19	0	171	14	1	26	0	41	39	112	3	0	154	9	0	0	0	9	375
8:15 AM	0	116	17	0	133	16	0	26	0	42	32	90	7	0	129	12	0	1	0	13	317
Total	0	606	84	0	690	63	1	118	0	182	148	441	22	0	611	39	0	1	0	40	1523
7:15 AM - 8:00AM	0	742	100		842	65	1	116		182	144	451	23		618	35		0		35	1677
BREAK																					
4:30 PM	0	120	27	0	147	12	0	16	0	28	21	148	4	0	173	4	3	1	0	8	356
4:45 PM	0	133	21	0	154	24	0	23	0	47	25	148	3	0	176	4	1	1	0	6	383
5:00 PM	0	162	13	0	175	20	0	21	0	41	27	160	0	0	187	6	0	0	0	6	409
5:15 PM	0	135	13	0	148	14	0	26	0	40	28	159	2	0	189	6	1	1	0	8	385
Total	0	550	74	0	624	70	0	86	0	156	101	615	9	0	725	20	5	3	0	28	1533
5:30 PM	0	145	27	0	172	15	0	22	0	37	22	177	2	0	201	8	0	1	0	9	419
5:45 PM	0	112	22	0	134	28	2	19	0	49	29	165	2	1	196	6	1	2	0	9	388
6:00 PM	0	101	24	0	125	18	2	22	0	42	28	123	5	0	156	4	0	2	0	6	329
6:15 PM	0	65	14	0	79	16	1	24	0	41	28	154	3	0	185	9	3	2	0	14	319
Total	0	423	87	0	510	77	5	87	0	169	107	619	12	1	738	27	4	7	0	38	1455
Grand Total	0	2250	324	0	2574	286	7	390	0	683	472	2101	63	1	2636	111	9	13	0	133	6026
Apprch %	0.0	87.4	12.6	0.0		41.9	1.0	57.1	0.0		17.9	79.7	2.4	0.0		83.5	6.8	9.8	0.0		
Total %	0.0	37.3	5.4	0.0	42.7	4.7	0.1	6.5	0.0	11.3	7.8	34.9	1.0	0.0	43.7	1.8	0.1	0.2	0.0	2.2	
Cars, PU, Vans	0	2180	321	0	2501	284	7	382	0	673	467	2050	63	1	2580	110	9	13	0	132	5886
% Cars, PU, Vans	0.0	96.9	99.1	0.0	97.2	99.3	100.0	97.9	0.0	98.5	98.9	97.6	100.0	100.0	97.9	99.1	100.0	100.0	0.0	99.2	97.7
Heavy Trucks	0	70	3		73	2	0	8		10	5	51	0		56	1	0	0		1	140
%Heavy Trucks	0.0	3.1	0.9	0.0	2.8	0.7	0.0	2.1	0.0	1.5	1.1	2.4	0.0	0.0	2.1	0.9	0.0	0.0	0.0	0.8	2.3

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-004
Location: Sumter Hwy _US 521 & Century
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Sumter Hwy _US 521 Southbound				Century Westbound				Sumter Hwy _US 521 Northbound				Century Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
7:15 AM	0	252	33	285	18	0	24	42	28	100	8	136	8	0	0	8	471
7:30 AM	0	200	28	228	15	0	34	49	51	112	5	168	8	0	0	8	453
7:45 AM	0	138	20	158	18	0	32	50	26	127	7	160	10	0	0	10	378
8:00 AM	0	152	19	171	14	1	26	41	39	112	3	154	9	0	0	9	375
Total Volume	0	742	100	842	65	1	116	182	144	451	23	618	35	0	0	35	1677
% App. Total	0.0	88.1	11.9	100	35.7	0.5	63.7	100	23.3	73.0	3.7	100	100.0	0.0	0.0	100	
PHF				0.739				0.910				0.920				0.875	
Cars, PU, Vans	0	725	100	825	64	1	115	180	142	433	23	598	35	0	0	35	1638
% Cars, PU, Vans	0.0	97.7	100.0	98.0	98.5	100.0	99.1	98.9	98.6	96.0	100.0	96.8	100.0	0.0	0.0	100.0	97.7
Heavy Trucks	0	17	0	17	1	0	1	2	2	18	0	20	0	0	0	0	39
%Heavy Trucks	0.0	2.3	0.0	2.0	1.5	0.0	0.9	1.1	1.4	4.0	0.0	3.2	0.0	0.0	0.0	0.0	2.3

PM

	Sumter Hwy _US 521 Southbound				Century Westbound				Sumter Hwy _US 521 Northbound				Century Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
5:00 PM	0	162	13	175	20	0	21	41	27	160	0	187	6	0	0	6	409
5:15 PM	0	135	13	148	14	0	26	40	28	159	2	189	6	1	1	8	385
5:30 PM	0	145	27	172	15	0	22	37	22	177	2	201	8	0	1	9	419
5:45 PM	0	112	22	134	28	2	19	49	29	165	2	196	6	1	2	9	388
Total Volume	0	554	75	629	77	2	88	167	106	661	6	773	26	2	4	32	1601
% App. Total	0.0	88.1	11.9	100	46.1	1.2	52.7	100	13.7	85.5	0.8	100	81.3	6.3	12.5	100	
PHF				0.899				0.852				0.961				0.889	
Cars, PU, Vans	0	534	75	609	77	2	87	166	106	654	6	766	26	2	4	32	1573
% Cars, PU, Vans	0.0	96.4	100.0	96.8	100.0	100.0	98.9	99.4	100.0	98.9	100.0	99.1	100.0	100.0	100.0	100.0	98.3
Heavy Trucks	0	20	0	20	0	0	1	1	0	7	0	7	0	0	0	0	28
%Heavy Trucks	0.0	3.6	0.0	3.2	0.0	0.0	1.1	0.6	0.0	1.1	0.0	0.9	0.0	0.0	0.0	0.0	1.7

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-005
Location: Sumter Hwy _US 521 & I-20 WB Ramps
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Sumter Hwy _US 521 Southbound					I-20 WB Ramps Westbound					Sumter Hwy _US 521 Northbound					I-20 WB Ramps Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	111	47	0	0	158	40	0	2	0	42	0	116	32	0	148	0	0	0	0	0	348
6:45 AM	104	55	0	0	159	32	0	0	0	32	0	107	48	0	155	0	0	0	0	0	346
7:00 AM	114	78	0	0	192	22	0	0	0	22	0	107	53	0	160	0	0	0	0	0	374
7:15 AM	163	124	0	0	287	18	0	1	0	19	0	122	44	0	166	0	0	0	0	0	472
Total	492	304	0	0	796	112	0	3	0	115	0	452	177	0	629	0	0	0	0	0	1540
7:30 AM	154	88	0	0	242	28	0	1	0	29	0	136	72	0	208	0	0	0	0	0	479
7:45 AM	111	64	0	0	175	28	0	2	0	30	0	134	53	0	187	0	0	0	0	0	392
8:00 AM	117	77	0	0	194	18	0	1	0	19	0	134	38	0	172	0	0	0	0	0	385
8:15 AM	96	56	1	0	153	16	0	0	0	16	0	111	36	0	147	0	0	0	0	0	316
Total	478	285	1	0	764	90	0	4	0	94	0	515	199	0	714	0	0	0	0	0	1572
7:15 AM -8:15 AM	545	353	0		898	92		5		97		526	207		733						
PHF					0.782					0.808					0.881						
BREAK																					
4:30 PM	76	71	0	0	147	24	0	2	0	26	0	153	32	0	185	0	0	0	0	0	358
4:45 PM	67	88	1	0	156	28	0	1	0	29	0	143	22	0	165	0	0	0	0	0	350
5:00 PM	86	98	0	0	184	26	0	0	0	26	0	164	43	0	207	0	0	0	0	0	417
5:15 PM	82	97	0	0	179	20	2	2	0	24	0	163	43	0	206	0	0	0	0	0	409
Total	311	354	1	0	666	98	2	5	0	105	0	623	140	0	763	0	0	0	0	0	1534
5:30 PM	80	89	0	0	169	34	0	1	0	35	0	172	52	0	224	0	0	0	0	0	428
5:45 PM	65	69	0	0	134	25	0	1	1	26	0	168	37	0	205	0	0	0	0	0	365
6:00 PM	65	67	0	0	132	28	0	0	0	28	0	128	31	0	159	0	0	0	0	0	319
6:15 PM	48	48	0	0	96	27	0	1	0	28	0	160	28	0	188	0	0	0	1	0	312
Total	258	273	0	0	531	114	0	3	1	117	0	628	148	0	776	0	0	0	1	0	1424
Grand Total	1539	1216	2	0	2757	414	2	15	1	431	0	2218	664	0	2882	0	0	0	1	0	6070
Apprch %	55.8	44.1	0.1	0.0		96.1	0.5	3.5	0.2		0.0	77.0	23.0	0.0		0.0	0.0	0.0	0.0		
Total %	25.4	20.0	0.0	0.0	45.4	6.8	0.0	0.2	0.0	7.1	0.0	36.5	10.9	0.0	47.5	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	1488	1189	2	0	2679	403	2	14	1	419	0	2172	635	0	2807	0	0	0	1	0	5905
% Cars, PU, Vans	96.7	97.8	100.0	0.0	97.2	97.3	100.0	93.3	100.0	97.2	0.0	97.9	95.6	0.0	97.4	0.0	0.0	0.0	100.0	0.0	97.3
Heavy Trucks	51	27	0		78	11	0	1		12	0	46	29		75	0	0	0		0	165
%Heavy Trucks	3.3	2.2	0.0	0.0	2.8	2.7	0.0	6.7	0.0	2.8	0.0	2.1	4.4	0.0	2.6	0.0	0.0	0.0	0.0	0.0	2.7

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-005
Location: Sumter Hwy _US 521 & I-20 WB Ramps
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Sumter Hwy _US 521 Southbound				I-20 WB Ramps Westbound				Sumter Hwy _US 521 Northbound				I-20 WB Ramps Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
7:15 AM	163	124	0	287	18	0	1	19	0	122	44	166	0	0	0	0	472
7:30 AM	154	88	0	242	28	0	1	29	0	136	72	208	0	0	0	0	479
7:45 AM	111	64	0	175	28	0	2	30	0	134	53	187	0	0	0	0	392
8:00 AM	117	77	0	194	18	0	1	19	0	134	38	172	0	0	0	0	385
Total Volume	545	353	0	898	92	0	5	97	0	526	207	733	0	0	0	0	1728
% App. Total	60.7	39.3	0.0	100	94.8	0.0	5.2	100	0.0	71.8	28.2	100	0.0	0.0	0.0	0	
PHF				0.782				0.808				0.881				0.000	
Cars, PU, Vans	533	347	0	880	87	0	5	92	0	511	190	701	0	0	0	0	1673
% Cars, PU, Vans	97.8	98.3	0.0	98.0	94.6	0.0	100.0	94.8	0.0	97.1	91.8	95.6	0.0	0.0	0.0	0.0	96.8
Heavy Trucks	12	6	0	18	5	0	0	5	0	15	17	32	0	0	0	0	55
%Heavy Trucks	2.2	1.7	0.0	2.0	5.4	0.0	0.0	5.2	0.0	2.9	8.2	4.4	0.0	0.0	0.0	0.0	3.2

PM

	Sumter Hwy _US 521 Southbound				I-20 WB Ramps Westbound				Sumter Hwy _US 521 Northbound				I-20 WB Ramps Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
5:00 PM	86	98	0	184	26	0	0	26	0	164	43	207	0	0	0	0	417
5:15 PM	82	97	0	179	20	2	2	24	0	163	43	206	0	0	0	0	409
5:30 PM	80	89	0	169	34	0	1	35	0	172	52	224	0	0	0	0	428
5:45 PM	65	69	0	134	25	0	1	26	0	168	37	205	0	0	0	0	365
Total Volume	313	353	0	666	105	2	4	111	0	667	175	842	0	0	0	0	1619
% App. Total	47.0	53.0	0.0	100	94.6	1.8	3.6	100	0.0	79.2	20.8	100	0.0	0.0	0.0	0	
PHF				0.905				0.793				0.940				0.000	
Cars, PU, Vans	297	348	0	645	101	2	4	107	0	663	166	829	0	0	0	0	1581
% Cars, PU, Vans	94.9	98.6	0.0	96.8	96.2	100.0	100.0	96.4	0.0	99.4	94.9	98.5	0.0	0.0	0.0	0.0	97.7
Heavy Trucks	16	5	0	21	4	0	0	4	0	4	9	13	0	0	0	0	38
%Heavy Trucks	5.1	1.4	0.0	3.2	3.8	0.0	0.0	3.6	0.0	0.6	5.1	1.5	0.0	0.0	0.0	0.0	2.3

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-006
Location: Sumter Hwy _US 521 & I-20 EB Ramps
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Sumter Hwy _US 521 Southbound					I-20 EB Ramps Westbound					Sumter Hwy _US 521 Northbound					I-20 EB Ramps Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	0	35	14	0	49	0	0	0	0	0	0	107	0	0	107	27	1	35	0	63	219
6:45 AM	0	44	11	0	55	0	0	0	0	0	0	99	0	0	99	32	2	58	0	92	246
7:00 AM	0	53	23	0	76	0	0	0	0	0	2	100	0	0	102	43	0	58	0	101	279
7:15 AM	0	93	33	0	126	0	0	0	0	0	0	92	0	0	92	63	0	75	0	138	356
Total	0	225	81	0	306	0	0	0	0	0	2	398	0	0	400	165	3	226	0	394	1100
7:30 AM	0	65	25	0	90	0	0	0	0	0	1	131	0	0	132	62	1	77	0	140	362
7:45 AM	0	45	20	0	65	0	0	0	0	0	1	117	0	0	118	52	0	69	0	121	304
8:00 AM	0	61	19	0	80	0	0	0	0	0	0	78	0	0	78	27	0	94	0	121	279
8:15 AM	0	41	14	1	55	0	0	0	0	0	1	77	0	0	78	29	0	68	1	97	230
Total	0	212	78	1	290	0	0	0	0	0	3	403	0	0	406	170	1	308	1	479	1175
7:15AM - 8:15AM	0	264	97	0	361						2	418			420	204	1	315	0	520	1301
PHF					0.716										0.795					0.928	
BREAK																					
4:30 PM	0	49	20	0	69	0	0	0	0	0	0	88	0	0	88	43	0	93	0	136	293
4:45 PM	0	71	21	0	92	0	0	0	0	0	0	67	0	0	67	49	0	99	0	148	307
5:00 PM	0	68	30	0	98	0	0	0	0	0	1	94	0	0	95	63	0	112	0	175	368
5:15 PM	0	66	32	0	98	0	0	0	0	0	2	100	0	0	102	49	0	108	0	157	357
Total	0	254	103	0	357	0	0	0	0	0	3	349	0	0	352	204	0	412	0	616	1325
5:30 PM	0	69	22	0	91	0	0	0	0	0	3	119	0	0	122	65	2	103	0	170	383
5:45 PM	0	54	17	0	71	0	0	0	0	0	2	86	0	0	88	47	1	117	0	165	324
6:00 PM	0	48	18	0	66	0	0	0	0	0	0	79	0	0	79	29	0	79	0	108	253
6:15 PM	0	30	21	0	51	0	0	0	0	0	0	92	0	0	92	35	0	98	0	133	276
Total	0	201	78	0	279	0	0	0	0	0	5	376	0	0	381	176	3	397	0	576	1236
Grand Total	0	892	340	1	1232	0	0	0	0	0	13	1526	0	0	1539	715	7	1343	1	2065	4836
Apprch %	0.0	72.4	27.6	0.1		0.0	0.0	0.0	0.0		0.8	99.2	0.0	0.0		34.6	0.3	65.0	0.0		
Total %	0.0	18.4	7.0	0.0	25.5	0.0	0.0	0.0	0.0	0.0	0.3	31.6	0.0	0.0	31.8	14.8	0.1	27.8	0.0	42.7	
Cars, PU, Vans	0	870	334	1	1204	0	0	0	0	0	12	1473	0	0	1485	684	7	1321	1	2012	4701
% Cars, PU, Vans	0.0	97.5	98.2	100.0	97.7	0.0	0.0	0.0	0.0	0.0	92.3	96.5	0.0	0.0	96.5	95.7	100.0	98.4	100.0	97.4	97.2
Heavy Trucks	0	22	6		28	0	0	0		0	1	53	0		54	31	0	22		53	135
%Heavy Trucks	0.0	2.5	1.8	0.0	2.3	0.0	0.0	0.0	0.0	0.0	7.7	3.5	0.0	0.0	3.5	4.3	0.0	1.6	0.0	2.6	2.8

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-006
Location: Sumter Hwy _US 521 & I-20 EB Ramps
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Sumter Hwy _US 521 Southbound				I-20 EB Ramps Westbound				Sumter Hwy _US 521 Northbound				I-20 EB Ramps Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
7:15 AM	0	93	33	126	0	0	0	0	0	92	0	92	63	0	75	138	356
7:30 AM	0	65	25	90	0	0	0	0	1	131	0	132	62	1	77	140	362
7:45 AM	0	45	20	65	0	0	0	0	1	117	0	118	52	0	69	121	304
8:00 AM	0	61	19	80	0	0	0	0	0	78	0	78	27	0	94	121	279
Total Volume	0	264	97	361	0	0	0	0	2	418	0	420	204	1	315	520	1301
% App. Total	0.0	73.1	26.9	100	0.0	0.0	0.0	0	0.5	99.5	0.0	100	39.2	0.2	60.6	100	
PHF				0.716				0.000				0.795				0.929	
Cars, PU, Vans	0	260	95	355	0	0	0	0	2	397	0	399	194	1	305	500	1254
% Cars, PU, Vans	0.0	98.5	97.9	98.3	0.0	0.0	0.0	0.0	100.0	95.0	0.0	95.0	95.1	100.0	96.8	96.2	96.4
Heavy Trucks	0	4	2	6	0	0	0	0	0	21	0	21	10	0	10	20	47
%Heavy Trucks	0.0	1.5	2.1	1.7	0.0	0.0	0.0	0.0	0.0	5.0	0.0	5.0	4.9	0.0	3.2	3.8	3.6

PM

	Sumter Hwy _US 521 Southbound				I-20 EB Ramps Westbound				Sumter Hwy _US 521 Northbound				I-20 EB Ramps Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
5:00 PM	0	68	30	98	0	0	0	0	1	94	0	95	63	0	112	175	368
5:15 PM	0	66	32	98	0	0	0	0	2	100	0	102	49	0	108	157	357
5:30 PM	0	69	22	91	0	0	0	0	3	119	0	122	65	2	103	170	383
5:45 PM	0	54	17	71	0	0	0	0	2	86	0	88	47	1	117	165	324
Total Volume	0	257	101	358	0	0	0	0	8	399	0	407	224	3	440	667	1432
% App. Total	0.0	71.8	28.2	100	0.0	0.0	0.0	0	2.0	98.0	0.0	100	33.6	0.4	66.0	100	
PHF				0.913				0.000				0.834				0.953	
Cars, PU, Vans	0	252	101	353	0	0	0	0	8	387	0	395	214	3	439	656	1404
% Cars, PU, Vans	0.0	98.1	100.0	98.6	0.0	0.0	0.0	0.0	100.0	97.0	0.0	97.1	95.5	100.0	99.8	98.4	98.0
Heavy Trucks	0	5	0	5	0	0	0	0	0	12	0	12	10	0	1	11	28
%Heavy Trucks	0.0	1.9	0.0	1.4	0.0	0.0	0.0	0.0	0.0	3.0	0.0	2.9	4.5	0.0	0.2	1.6	2.0

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-007
Location: Tickle Hill Road_S-403 & Black River Rd_S-12
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Tickle Hill Road_S-403 Southbound					Black River Rd_S-12 Westbound					Tickle Hill Road_S-403 Northbound					Black River Rd_S-12 Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	6	0	0	0	6	1	51	0	0	52	0	0	0	0	0	0	34	1	0	35	93
6:45 AM	11	0	0	1	11	2	67	0	0	69	0	0	0	0	0	0	52	1	1	53	133
7:00 AM	21	0	1	1	22	1	68	0	0	69	0	0	0	0	0	0	26	8	0	34	125
7:15 AM	19	0	0	0	19	4	81	0	0	85	0	0	0	0	0	0	30	3	0	33	137
Total	57	0	1	2	58	8	267	0	0	275	0	0	0	0	0	0	142	13	1	155	488
7:30 AM	20	0	1	0	21	2	72	0	0	74	0	0	0	0	0	0	32	3	0	35	130
7:45 AM	13	0	4	0	17	0	85	0	0	85	0	0	0	0	0	0	46	5	0	51	153
8:00 AM	14	0	0	0	14	3	45	0	0	48	0	0	0	0	0	0	40	4	0	44	106
8:15 AM	10	0	1	0	11	3	47	0	0	50	0	0	0	0	0	0	25	5	0	30	91
Total	57	0	6	0	63	8	249	0	0	257	0	0	0	0	0	0	143	17	0	160	480
7:15AM- 8:15AM	66		5		71	9	283			292							148	15		163	
PHF					0.845					0.859										0.799	
BREAK																					
4:30 PM	8	0	3	0	11	3	52	0	0	55	0	0	0	0	0	0	62	11	0	73	139
4:45 PM	9	0	3	0	12	4	39	0	0	43	0	0	0	0	0	0	76	15	0	91	146
5:00 PM	14	0	5	0	19	7	68	0	0	75	0	0	0	0	0	0	70	11	0	81	175
5:15 PM	6	0	3	0	9	2	64	0	0	66	0	0	0	0	0	0	90	17	0	107	182
Total	37	0	14	0	51	16	223	0	0	239	0	0	0	0	0	0	298	54	0	352	642
5:30 PM	8	0	3	0	11	2	135	0	0	137	0	0	0	0	0	0	61	18	0	79	227
5:45 PM	17	0	2	0	19	0	81	0	0	81	0	0	0	0	0	0	66	15	0	81	181
6:00 PM	5	0	0	0	5	0	58	0	0	58	0	0	0	0	0	0	80	18	0	98	161
6:15 PM	8	0	0	0	8	0	61	0	0	61	0	0	0	0	0	0	53	3	0	56	125
Total	38	0	5	0	43	2	335	0	0	337	0	0	0	0	0	0	260	54	0	314	694
Grand Total	189	0	26	2	215	34	1074	0	0	1108	0	0	0	0	0	0	843	138	1	981	2304
Apprch %	87.9	0.0	12.1	0.9		3.1	96.9	0.0	0.0		0.0	0.0	0.0	0.0		0.0	85.9	14.1	0.1		
Total %	8.2	0.0	1.1	0.1	9.3	1.5	46.6	0.0	0.0	48.1	0.0	0.0	0.0	0.0	0.0	0.0	36.6	6.0	0.0	42.6	
Cars, PU, Vans	187	0	26	2	213	34	1060	0	0	1094	0	0	0	0	0	0	829	138	1	967	2274
% Cars, PU, Vans	98.9	0.0	100.0	100.0	99.1	100.0	98.7	0.0	0.0	98.7	0.0	0.0	0.0	0.0	0.0	0.0	98.3	100.0	100.0	98.6	98.7
Heavy Trucks	2	0	0		2	0	14	0		14	0	0	0		0	0	14	0		14	30
%Heavy Trucks	1.1	0.0	0.0	0.0	0.9	0.0	1.3	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.4	1.3

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-007
Location: Tickle Hill Road_S-403 & Black River R
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Tickle Hill Road_S-403 Southbound				Black River Rd_S-12 Westbound				Tickle Hill Road_S-403 Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	21	0	1	22	1	68	0	69	0	0	0	0	0	26	8	34	125
7:15 AM	19	0	0	19	4	81	0	85	0	0	0	0	0	30	3	33	137
7:30 AM	20	0	1	21	2	72	0	74	0	0	0	0	0	32	3	35	130
7:45 AM	13	0	4	17	0	85	0	85	0	0	0	0	0	46	5	51	153
Total Volume	73	0	6	79	7	306	0	313	0	0	0	0	0	134	19	153	545
% App. Total	92.4	0.0	7.6	100	2.2	97.8	0.0	100	0.0	0.0	0.0	0	0.0	87.6	12.4	100	
PHF				0.898				0.921				0.000				0.750	
Cars, PU, Vans	72	0	6	78	7	303	0	310	0	0	0	0	0	130	19	149	537
% Cars, PU, Vans	98.6	0.0	100.0	98.7	100.0	99.0	0.0	99.0	0.0	0.0	0.0	0.0	0.0	97.0	100.0	97.4	98.5
Heavy Trucks	1	0	0	1	0	3	0	3	0	0	0	0	0	4	0	4	8
%Heavy Trucks	1.4	0.0	0.0	1.3	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	2.6	1.5

PM

	Tickle Hill Road_S-403 Southbound				Black River Rd_S-12 Westbound				Tickle Hill Road_S-403 Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
5:00 PM	14	0	5	19	7	68	0	75	0	0	0	0	0	70	11	81	175
5:15 PM	6	0	3	9	2	64	0	66	0	0	0	0	0	90	17	107	182
5:30 PM	8	0	3	11	2	135	0	137	0	0	0	0	0	61	18	79	227
5:45 PM	17	0	2	19	0	81	0	81	0	0	0	0	0	66	15	81	181
Total Volume	45	0	13	58	11	348	0	359	0	0	0	0	0	287	61	348	765
% App. Total	77.6	0.0	22.4	100	3.1	96.9	0.0	100	0.0	0.0	0.0	0	0.0	82.5	17.5	100	
PHF				0.763				0.655				0.000				0.813	
Cars, PU, Vans	44	0	13	57	11	345	0	356	0	0	0	0	0	284	61	345	758
% Cars, PU, Vans	97.8	0.0	100.0	98.3	100.0	99.1	0.0	99.2	0.0	0.0	0.0	0.0	0.0	99.0	100.0	99.1	99.1
Heavy Trucks	1	0	0	1	0	3	0	3	0	0	0	0	0	3	0	3	7
%Heavy Trucks	2.2	0.0	0.0	1.7	0.0	0.9	0.0	0.8	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.9	0.9

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-008
Location: Hermitage Farm Rd & Black River Rd_S-12
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Hermitage Farm Rd Southbound					Black River Rd_S-12 Westbound					Hermitage Farm Rd Northbound					Black River Rd_S-12 Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	0	0	0	0	0	0	53	0	0	53	0	0	0	0	0	0	32	0	0	32	85
6:45 AM	0	0	0	0	0	2	68	0	0	70	0	0	0	0	0	0	53	1	0	54	124
7:00 AM	3	0	0	0	3	0	67	0	0	67	0	0	0	0	0	0	27	0	0	27	97
7:15 AM	0	0	0	0	0	0	85	0	0	85	0	0	0	0	0	0	29	0	0	29	114
Total	3	0	0	0	3	2	273	0	0	275	0	0	0	0	0	0	141	1	0	142	420
7:30 AM	1	0	0	0	1	1	74	0	0	75	0	0	0	0	0	0	30	1	0	31	107
7:45 AM	1	0	0	0	1	0	82	0	0	82	0	0	0	0	0	0	41	0	0	41	124
8:00 AM	2	0	0	0	2	0	44	0	0	44	0	0	0	0	0	0	39	0	0	39	85
8:15 AM	0	0	0	0	0	0	44	0	0	44	0	0	0	0	0	0	23	0	0	23	67
Total	4	0	0	0	4	1	244	0	0	245	0	0	0	0	0	0	133	1	0	134	383
7:15AM -8:15AM	4	0			4	1	285			286							139	1		140	430
PHF					0.5					0.841										0.854	
BREAK																					
4:30 PM	0	0	0	0	0	0	53	0	0	53	0	0	0	0	0	0	61	1	0	62	115
4:45 PM	1	0	0	0	1	0	37	0	0	37	0	0	0	0	0	0	78	1	0	79	117
5:00 PM	2	0	1	0	3	0	63	0	0	63	0	0	0	0	0	0	74	1	0	75	141
5:15 PM	0	0	0	0	0	0	68	0	0	68	0	0	0	0	0	0	95	0	0	95	163
Total	3	0	1	0	4	0	221	0	0	221	0	0	0	0	0	0	308	3	0	311	536
5:30 PM	0	0	0	0	0	0	135	0	0	135	0	0	0	0	0	0	63	1	0	64	199
5:45 PM	0	0	0	0	0	0	81	0	0	81	0	0	0	0	0	0	67	0	0	67	148
6:00 PM	1	0	0	0	1	0	56	0	0	56	0	0	0	0	0	0	81	0	0	81	138
6:15 PM	0	0	0	0	0	0	62	0	0	62	0	0	0	0	0	0	52	1	0	53	115
Total	1	0	0	0	1	0	334	0	0	334	0	0	0	0	0	0	263	2	0	265	600
Grand Total	11	0	1	0	12	3	1072	0	0	1075	0	0	0	0	0	0	845	7	0	852	1939
Apprch %	91.7	0.0	8.3	0.0		0.3	99.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	99.2	0.8	0.0		
Total %	0.6	0.0	0.1	0.0	0.6	0.2	55.3	0.0	0.0	55.4	0.0	0.0	0.0	0.0	0.0	0.0	43.6	0.4	0.0	43.9	
Cars, PU, Vans	11	0	1	0	12	3	1058	0	0	1061	0	0	0	0	0	0	831	7	0	838	1911
% Cars, PU, Vans	100.0	0.0	100.0	0.0	100.0	100.0	98.7	0.0	0.0	98.7	0.0	0.0	0.0	0.0	0.0	0.0	98.3	100.0	0.0	98.4	98.6
Heavy Trucks	0	0	0		0	0	14	0		14	0	0	0		0	0	14	0		14	28
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.6	1.4

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-008
Location: Hermitage Farm Rd & Black River Rd_S
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Hermitage Farm Rd Southbound				Black River Rd_S-12 Westbound				Hermitage Farm Rd Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	3	0	0	3	0	67	0	67	0	0	0	0	0	27	0	27	97
7:15 AM	0	0	0	0	0	85	0	85	0	0	0	0	0	29	0	29	114
7:30 AM	1	0	0	1	1	74	0	75	0	0	0	0	0	30	1	31	107
7:45 AM	1	0	0	1	0	82	0	82	0	0	0	0	0	41	0	41	124
Total Volume	5	0	0	5	1	308	0	309	0	0	0	0	0	127	1	128	442
% App. Total	100.0	0.0	0.0	100	0.3	99.7	0.0	100	0.0	0.0	0.0	0	0.0	99.2	0.8	100	
PHF				0.417				0.909				0.000				0.780	
Cars, PU, Vans	5	0	0	5	1	305	0	306	0	0	0	0	0	123	1	124	435
% Cars, PU, Vans	100.0	0.0	0.0	100.0	100.0	99.0	0.0	99.0	0.0	0.0	0.0	0.0	0.0	96.9	100.0	96.9	98.4
Heavy Trucks	0	0	0	0	0	3	0	3	0	0	0	0	0	4	0	4	7
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	3.1	1.6

PM

	Hermitage Farm Rd Southbound				Black River Rd_S-12 Westbound				Hermitage Farm Rd Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
5:00 PM	2	0	1	3	0	63	0	63	0	0	0	0	0	74	1	75	141
5:15 PM	0	0	0	0	0	68	0	68	0	0	0	0	0	95	0	95	163
5:30 PM	0	0	0	0	0	135	0	135	0	0	0	0	0	63	1	64	199
5:45 PM	0	0	0	0	0	81	0	81	0	0	0	0	0	67	0	67	148
Total Volume	2	0	1	3	0	347	0	347	0	0	0	0	0	299	2	301	651
% App. Total	66.7	0.0	33.3	100	0.0	100.0	0.0	100	0.0	0.0	0.0	0	0.0	99.3	0.7	100	
PHF				0.250				0.643				0.000				0.792	
Cars, PU, Vans	2	0	1	3	0	344	0	344	0	0	0	0	0	296	2	298	645
% Cars, PU, Vans	100.0	0.0	100.0	100.0	0.0	99.1	0.0	99.1	0.0	0.0	0.0	0.0	0.0	99.0	100.0	99.0	99.1
Heavy Trucks	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.9	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.9

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-009
Location: Southern Oaks Dr _ Steeplechase Industrial Blvd & Black River Rd_S-12
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Southern Oaks Dr _ Steeplechase Industrial Blvd					Black River Rd_S-12					Southern Oaks Dr _ Steeplechase Industrial Blvd					Black River Rd_S-12					
	Southbound					Westbound					Northbound					Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	4	0	3	0	7	0	42	3	0	45	5	0	4	0	9	5	25	0	0	30	91
6:45 AM	12	0	4	0	16	2	40	4	0	46	0	0	2	0	2	11	44	0	0	55	119
7:00 AM	2	0	11	0	13	0	48	1	0	49	3	0	5	0	8	4	28	2	0	34	104
7:15 AM	10	0	3	0	13	5	53	1	0	59	1	0	0	0	1	1	32	1	0	34	107
Total	28	0	21	0	49	7	183	9	0	199	9	0	11	0	20	21	129	3	0	153	421
7:30 AM	9	0	5	0	14	1	54	2	0	57	0	0	2	0	2	4	25	2	0	31	104
7:45 AM	8	0	0	0	8	1	58	1	0	60	2	0	0	0	2	5	27	3	0	35	105
8:00 AM	8	1	1	0	10	1	25	0	0	26	3	0	2	0	5	6	24	3	0	33	74
8:15 AM	5	0	1	0	6	0	37	0	0	37	0	1	1	0	2	3	21	2	0	26	71
Total	30	1	7	0	38	3	174	3	0	180	5	1	5	0	11	18	97	10	0	125	354
7:15AM - 8:15AM	35	1	9		45	8	190	4		202	6	0	4		10	16	108	9		133	390
PHF					0.803					0.842					0.5					0.95	
BREAK																					
4:30 PM	5	0	0	0	5	1	34	0	0	35	1	0	14	0	15	1	46	4	0	51	106
4:45 PM	7	0	1	0	8	0	28	1	0	29	0	0	3	0	3	0	51	7	0	58	98
5:00 PM	6	0	1	0	7	3	42	0	0	45	3	0	5	0	8	2	44	13	0	59	119
5:15 PM	10	0	0	0	10	2	42	0	0	44	0	0	4	0	4	0	59	12	0	71	129
Total	28	0	2	0	30	6	146	1	0	153	4	0	26	0	30	3	200	36	0	239	452
5:30 PM	5	0	0	0	5	1	112	0	0	113	0	0	0	0	0	0	43	6	0	49	167
5:45 PM	11	0	0	0	11	1	52	2	0	55	1	0	5	0	6	1	53	5	0	59	131
6:00 PM	3	0	0	0	3	1	35	3	0	39	6	0	4	0	10	1	54	6	0	61	113
6:15 PM	7	0	2	0	9	1	44	2	1	47	1	0	3	0	4	1	38	5	0	44	104
Total	26	0	2	0	28	4	243	7	1	254	8	0	12	0	20	3	188	22	0	213	515
Grand Total	112	1	32	0	145	20	746	20	1	786	26	1	54	0	81	45	614	71	0	730	1742
Apprch %	77.2	0.7	22.1	0.0		2.5	94.9	2.5	0.1		32.1	1.2	66.7	0.0		6.2	84.1	9.7	0.0		
Total %	6.4	0.1	1.8	0.0	8.3	1.1	42.8	1.1	0.1	45.1	1.5	0.1	3.1	0.0	4.6	2.6	35.2	4.1	0.0	41.9	
Cars, PU, Vans	111	1	32	0	144	20	734	20	1	774	26	1	52	0	79	43	602	71	0	716	1713
% Cars, PU, Vans	99.1	100.0	100.0	0.0	99.3	100.0	98.4	100.0	100.0	98.5	100.0	100.0	96.3	0.0	97.5	95.6	98.0	100.0	0.0	98.1	98.3
Heavy Trucks	1	0	0		1	0	12	0		12	0	0	2		2	2	12	0		14	29
%Heavy Trucks	0.9	0.0	0.0	0.0	0.7	0.0	1.6	0.0	0.0	1.5	0.0	0.0	3.7	0.0	2.5	4.4	2.0	0.0	0.0	1.9	1.7

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-009
Location: Southern Oaks Dr _ Steeplechase Indu
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	hern Oaks Dr _ Steeplechase Industrial Southbound				Black River Rd_S-12 Westbound				ern Oaks Dr _ Steeplechase Industria Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 06:45 AM																	
6:45 AM	12	0	4	16	2	40	4	46	0	0	2	2	11	44	0	55	119
7:00 AM	2	0	11	13	0	48	1	49	3	0	5	8	4	28	2	34	104
7:15 AM	10	0	3	13	5	53	1	59	1	0	0	1	1	32	1	34	107
7:30 AM	9	0	5	14	1	54	2	57	0	0	2	2	4	25	2	31	104
Total Volume	33	0	23	56	8	195	8	211	4	0	9	13	20	129	5	154	434
% App. Total	58.9	0.0	41.1	100	3.8	92.4	3.8	100	30.8	0.0	69.2	100	13.0	83.8	3.2	100	
PHF				0.875				0.894				0.406				0.700	
Cars, PU, Vans	33	0	23	56	8	193	8	209	4	0	9	13	20	126	5	151	429
% Cars, PU, Vans	100.0	0.0	100.0	100.0	100.0	99.0	100.0	99.1	100.0	0.0	100.0	100.0	100.0	97.7	100.0	98.1	98.8
Heavy Trucks	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	2.3	0.0	1.9	1.2

PM

	hern Oaks Dr _ Steeplechase Industrial Southbound				Black River Rd_S-12 Westbound				ern Oaks Dr _ Steeplechase Industria Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
5:00 PM	6	0	1	7	3	42	0	45	3	0	5	8	2	44	13	59	119
5:15 PM	10	0	0	10	2	42	0	44	0	0	4	4	0	59	12	71	129
5:30 PM	5	0	0	5	1	112	0	113	0	0	0	0	0	43	6	49	167
5:45 PM	11	0	0	11	1	52	2	55	1	0	5	6	1	53	5	59	131
Total Volume	32	0	1	33	7	248	2	257	4	0	14	18	3	199	36	238	546
% App. Total	97.0	0.0	3.0	100	2.7	96.5	0.8	100	22.2	0.0	77.8	100	1.3	83.6	15.1	100	
PHF				0.750				0.569				0.563				0.838	
Cars, PU, Vans	32	0	1	33	7	246	2	255	4	0	13	17	2	197	36	235	540
% Cars, PU, Vans	100.0	0.0	100.0	100.0	100.0	99.2	100.0	99.2	100.0	0.0	92.9	94.4	66.7	99.0	100.0	98.7	98.9
Heavy Trucks	0	0	0	0	0	2	0	2	0	0	1	1	1	2	0	3	6
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.8	0.0	0.0	7.1	5.6	33.3	1.0	0.0	1.3	1.1

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-010
Location: Precipice Rd_S-46 & Black River Rd_S-12
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Precipice Rd_S-46 Southbound					Black River Rd_S-12 Westbound					Precipice Rd_S-46 Northbound					Black River Rd_S-12 Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	16	0	3	0	19	11	57	0	0	68	0	0	0	0	0	0	11	8	0	19	106
6:45 AM	19	0	5	0	24	10	38	0	0	48	0	0	0	0	0	0	16	11	0	27	99
7:00 AM	10	0	4	0	14	11	33	0	0	44	0	0	0	0	0	0	12	26	0	38	96
7:15 AM	22	0	11	0	33	16	32	0	0	48	0	0	0	0	0	0	22	16	0	38	119
Total	67	0	23	0	90	48	160	0	0	208	0	0	0	0	0	0	61	61	0	122	420
7:30 AM	14	0	9	0	23	13	46	0	0	59	0	0	0	0	0	0	19	9	0	28	110
7:45 AM	15	0	8	0	23	13	46	0	0	59	0	0	0	0	0	0	18	3	0	21	103
8:00 AM	5	0	6	0	11	10	15	0	0	25	0	0	0	0	0	0	18	8	0	26	62
8:15 AM	2	0	4	0	6	8	35	0	0	43	0	0	0	0	0	0	19	3	0	22	71
Total	36	0	27	0	63	44	142	0	0	186	0	0	0	0	0	0	74	23	0	97	346
7:15AM - 8:15AM	56		34		90	52	139			191							77	36		113	394
PHF					0.681					0.809										0.743	
BREAK																					
4:30 PM	5	0	15	0	20	4	31	0	0	35	0	0	0	0	0	0	37	5	0	42	97
4:45 PM	6	0	10	0	16	6	22	0	0	28	0	0	0	0	0	0	33	13	0	46	90
5:00 PM	14	0	15	0	29	8	22	0	0	30	0	0	0	0	0	0	41	8	0	49	108
5:15 PM	18	0	8	0	26	11	29	0	0	40	0	0	0	0	0	0	35	9	0	44	110
Total	43	0	48	0	91	29	104	0	0	133	0	0	0	0	0	0	146	35	0	181	405
5:30 PM	6	0	12	0	18	9	51	0	0	60	0	0	0	0	0	0	65	32	0	97	175
5:45 PM	12	0	15	0	27	5	27	0	0	32	0	0	0	0	0	0	46	11	0	57	116
6:00 PM	7	0	11	0	18	12	28	0	0	40	0	0	0	0	0	0	33	16	0	49	107
6:15 PM	9	0	12	0	21	9	32	0	0	41	0	0	0	0	0	0	34	9	0	43	105
Total	34	0	50	0	84	35	138	0	0	173	0	0	0	0	0	0	178	68	0	246	503
Grand Total	180	0	148	0	328	156	544	0	0	700	0	0	0	0	0	0	459	187	0	646	1674
Apprch %	54.9	0.0	45.1	0.0		22.3	77.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	71.1	28.9	0.0		
Total %	10.8	0.0	8.8	0.0	19.6	9.3	32.5	0.0	0.0	41.8	0.0	0.0	0.0	0.0	0.0	0.0	27.4	11.2	0.0	38.6	
Cars, PU, Vans	180	0	148	0	328	155	540	0	0	695	0	0	0	0	0	0	453	187	0	640	1663
% Cars, PU, Vans	100.0	0.0	100.0	0.0	100.0	99.4	99.3	0.0	0.0	99.3	0.0	0.0	0.0	0.0	0.0	0.0	98.7	100.0	0.0	99.1	99.3
Heavy Trucks	0	0	0		0	1	4	0		5	0	0	0		0	0	6	0		6	11
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.6	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.9	0.7

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-010
Location: Precipice Rd_S-46 & Black River Rd_S-
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Precipice Rd_S-46 Southbound				Black River Rd_S-12 Westbound				Precipice Rd_S-46 Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	10	0	4	14	11	33	0	44	0	0	0	0	0	12	26	38	96
7:15 AM	22	0	11	33	16	32	0	48	0	0	0	0	0	22	16	38	119
7:30 AM	14	0	9	23	13	46	0	59	0	0	0	0	0	19	9	28	110
7:45 AM	15	0	8	23	13	46	0	59	0	0	0	0	0	18	3	21	103
Total Volume	61	0	32	93	53	157	0	210	0	0	0	0	0	71	54	125	428
% App. Total	65.6	0.0	34.4	100	25.2	74.8	0.0	100	0.0	0.0	0.0	0	0.0	56.8	43.2	100	
PHF				0.705				0.890				0.000				0.822	
Cars, PU, Vans	61	0	32	93	53	155	0	208	0	0	0	0	0	68	54	122	423
% Cars, PU, Vans	100.0	0.0	100.0	100.0	100.0	98.7	0.0	99.0	0.0	0.0	0.0	0.0	0.0	95.8	100.0	97.6	98.8
Heavy Trucks	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	1.3	0.0	1.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	2.4	1.2

PM

	Precipice Rd_S-46 Southbound				Black River Rd_S-12 Westbound				Precipice Rd_S-46 Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
5:00 PM	14	0	15	29	8	22	0	30	0	0	0	0	0	41	8	49	108
5:15 PM	18	0	8	26	11	29	0	40	0	0	0	0	0	35	9	44	110
5:30 PM	6	0	12	18	9	51	0	60	0	0	0	0	0	65	32	97	175
5:45 PM	12	0	15	27	5	27	0	32	0	0	0	0	0	46	11	57	116
Total Volume	50	0	50	100	33	129	0	162	0	0	0	0	0	187	60	247	509
% App. Total	50.0	0.0	50.0	100	20.4	79.6	0.0	100	0.0	0.0	0.0	0	0.0	75.7	24.3	100	
PHF				0.862				0.675				0.000				0.637	
Cars, PU, Vans	50	0	50	100	33	129	0	162	0	0	0	0	0	187	60	247	509
% Cars, PU, Vans	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	100.0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Heavy Trucks	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	0.0	0.0	0.0	0.0

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-011
Location: Mount Olivet Rd_S-189 & Black River Rd_S-12
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Mount Olivet Rd_S-189 Southbound					Black River Rd_S-12 Westbound					Mount Olivet Rd_S-189 Northbound					Black River Rd_S-12 Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	11	0	0	0	11	0	57	0	0	57	0	0	0	0	0	0	14	1	0	15	83
6:45 AM	13	0	0	0	13	0	32	0	0	32	0	0	0	0	0	0	14	7	0	21	66
7:00 AM	3	0	0	0	3	2	41	0	0	43	0	0	0	0	0	0	11	3	0	14	60
7:15 AM	2	0	3	0	5	1	46	0	0	47	0	0	0	0	0	0	28	4	0	32	84
Total	29	0	3	0	32	3	176	0	0	179	0	0	0	0	0	0	67	15	0	82	293
7:30 AM	3	0	0	0	3	0	54	0	0	54	0	0	1	0	1	0	24	5	0	29	87
7:45 AM	3	0	0	0	3	0	55	0	0	55	0	0	0	0	0	0	20	2	0	22	80
8:00 AM	2	0	0	0	2	0	22	0	0	22	0	0	0	0	0	0	17	2	0	19	43
8:15 AM	4	0	0	1	4	1	37	0	0	38	0	0	0	0	0	0	24	2	1	26	68
Total	12	0	0	1	12	1	168	0	0	169	0	0	1	0	1	0	85	11	1	96	278
7:15AM-8:15AM	10			0	13	1	177			178			1		1		89	13	0	102	294
PHF					0.65					0.809					0.25					0.797	
BREAK																					
4:30 PM	3	0	1	0	4	0	29	0	0	29	0	0	0	0	0	1	45	4	0	50	83
4:45 PM	4	0	0	0	4	1	20	0	0	21	0	0	0	0	0	0	45	2	0	47	72
5:00 PM	2	0	0	0	2	0	30	0	0	30	0	0	0	0	0	0	49	5	0	54	86
5:15 PM	5	0	1	0	6	0	34	0	0	34	0	0	0	0	0	0	40	4	0	44	84
Total	14	0	2	0	16	1	113	0	0	114	0	0	0	0	0	1	179	15	0	195	325
5:30 PM	5	0	1	0	6	0	45	0	0	45	0	0	0	0	0	0	58	20	0	78	129
5:45 PM	7	1	0	0	8	0	22	0	0	22	0	0	0	0	0	0	47	4	0	51	81
6:00 PM	3	0	0	0	3	0	35	0	0	35	0	0	0	0	0	0	41	3	0	44	82
6:15 PM	0	0	0	0	0	1	41	0	0	42	0	0	1	0	1	0	44	6	0	50	93
Total	15	1	1	0	17	1	143	0	0	144	0	0	1	0	1	0	190	33	0	223	385
5:00PM-6:00PM	19	1	2		22	0	131			131			0		0	0	194	33		227	380
PHF					0.687					0.727					0.25					0.727	
Grand Total	70	1	6	1	77	6	600	0	0	606	0	0	2	0	2	1	521	74	1	596	1281
Apprch %	90.9	1.3	7.8	1.3		1.0	99.0	0.0	0.0		0.0	0.0	100.0	0.0		0.2	87.4	12.4	0.2		
Total %	5.5	0.1	0.5	0.1	6.0	0.5	46.8	0.0	0.0	47.3	0.0	0.0	0.2	0.0	0.2	0.1	40.7	5.8	0.1	46.5	
Cars, PU, Vans	69	1	6	1	76	6	596	0	0	602	0	0	2	0	2	1	517	72	1	590	1270
% Cars, PU, Vans	98.6	100.0	100.0	100.0	98.7	100.0	99.3	0.0	0.0	99.3	0.0	0.0	100.0	0.0	100.0	100.0	99.2	97.3	100.0	99.0	99.1
Heavy Trucks	1	0	0		1	0	4	0		4	0	0	0		0	0	4	2		6	11
%Heavy Trucks	1.4	0.0	0.0	0.0	1.3	0.0	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.7	0.0	1.0	0.9

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-011
Location: Mount Olivet Rd_S-189 & Black River R
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Mount Olivet Rd_S-189 Southbound				Black River Rd_S-12 Westbound				Mount Olivet Rd_S-189 Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	3	0	0	3	2	41	0	43	0	0	0	0	0	11	3	14	60
7:15 AM	2	0	3	5	1	46	0	47	0	0	0	0	0	28	4	32	84
7:30 AM	3	0	0	3	0	54	0	54	0	0	1	1	0	24	5	29	87
7:45 AM	3	0	0	3	0	55	0	55	0	0	0	0	0	20	2	22	80
Total Volume	11	0	3	14	3	196	0	199	0	0	1	1	0	83	14	97	311
% App. Total	78.6	0.0	21.4	100	1.5	98.5	0.0	100	0.0	0.0	100.0	100	0.0	85.6	14.4	100	
PHF				0.700				0.905				0.250				0.758	
Cars, PU, Vans	10	0	3	13	3	195	0	198	0	0	1	1	0	80	14	94	306
% Cars, PU, Vans	90.9	0.0	100.0	92.9	100.0	99.5	0.0	99.5	0.0	0.0	100.0	100.0	0.0	96.4	100.0	96.9	98.4
Heavy Trucks	1	0	0	1	0	1	0	1	0	0	0	0	0	3	0	3	5
%Heavy Trucks	9.1	0.0	0.0	7.1	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	3.6	0.0	3.1	1.6

PM

	Mount Olivet Rd_S-189 Southbound				Black River Rd_S-12 Westbound				Mount Olivet Rd_S-189 Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
5:30 PM	5	0	1	6	0	45	0	45	0	0	0	0	0	58	20	78	129
5:45 PM	7	1	0	8	0	22	0	22	0	0	0	0	0	47	4	51	81
6:00 PM	3	0	0	3	0	35	0	35	0	0	0	0	0	41	3	44	82
6:15 PM	0	0	0	0	1	41	0	42	0	0	1	1	0	44	6	50	93
Total Volume	15	1	1	17	1	143	0	144	0	0	1	1	0	190	33	223	385
% App. Total	88.2	5.9	5.9	100	0.7	99.3	0.0	100	0.0	0.0	100.0	100	0.0	85.2	14.8	100	
PHF				0.531				0.800				0.250				0.715	
Cars, PU, Vans	15	1	1	17	1	143	0	144	0	0	1	1	0	190	33	223	385
% Cars, PU, Vans	100.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	0.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Heavy Trucks	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	0.0	0.0	0.0	0.0

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-012
Location: Cleveland School Rd_S-91 & Black River Rd_S-12
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Cleveland School Rd_S-91 Southbound					Black River Rd_S-12 Westbound					Cleveland School Rd_S-91 Northbound					Black River Rd_S-12 Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	0	0	1	0	1	25	46	0	0	71	0	0	0	0	0	0	12	0	0	12	84
6:45 AM	1	0	5	0	6	31	28	0	0	59	0	0	0	0	0	0	15	0	0	15	80
7:00 AM	1	0	10	0	11	23	39	0	0	62	0	0	0	0	0	0	10	0	0	10	83
7:15 AM	2	0	17	0	19	32	41	0	0	73	0	0	0	0	0	0	21	3	0	24	116
Total	4	0	33	0	37	111	154	0	0	265	0	0	0	0	0	0	58	3	0	61	363
7:30 AM	0	0	12	0	12	13	45	0	0	58	0	0	0	0	0	0	26	3	0	29	99
7:45 AM	2	0	4	0	6	8	39	0	0	47	0	0	0	0	0	0	15	2	0	17	70
8:00 AM	1	0	4	0	5	4	21	0	0	25	0	0	0	0	0	0	15	1	0	16	46
8:15 AM	0	0	5	0	5	5	33	0	0	38	0	0	0	0	0	0	17	0	0	17	60
Total	3	0	25	0	28	30	138	0	0	168	0	0	0	0	0	0	73	6	0	79	275
7:15AM-8:15AM	5		37		42	57	146			203							77	9		86	331
PHF					0.552					0.695										0.741	
BREAK																					
4:30 PM	0	0	21	0	21	6	20	0	0	26	0	0	0	0	0	0	34	0	0	34	81
4:45 PM	1	0	16	0	17	5	20	0	0	25	0	0	0	0	0	0	43	1	0	44	86
5:00 PM	2	0	3	0	5	3	27	0	0	30	0	0	0	0	0	1	46	0	0	47	82
5:15 PM	4	0	22	0	26	6	31	0	0	37	0	0	0	0	0	0	26	1	0	27	90
Total	7	0	62	0	69	20	98	0	0	118	0	0	0	0	0	1	149	2	0	152	339
5:30 PM	1	0	20	0	21	7	39	0	0	46	0	0	0	0	0	0	51	2	0	53	120
5:45 PM	0	0	12	0	12	9	17	0	0	26	0	0	0	0	0	0	38	0	0	38	76
6:00 PM	3	0	18	0	21	7	31	0	0	38	0	0	0	0	0	0	35	1	0	36	95
6:15 PM	0	0	15	0	15	3	35	0	0	38	0	0	0	0	0	0	43	0	0	43	96
Total	4	0	65	0	69	26	122	0	0	148	0	0	0	0	0	0	167	3	0	170	387
5:00PM-6:00PM	7		57		64	25	114			139						1	161	3		165	368
PHF					0.615					0.755											
Grand Total	18	0	185	0	203	187	512	0	0	699	0	0	0	0	0	1	447	14	0	462	1364
Apprch %	8.9	0.0	91.1	0.0		26.8	73.2	0.0	0.0		0.0	0.0	0.0	0.0		0.2	96.8	3.0	0.0		
Total %	1.3	0.0	13.6	0.0	14.9	13.7	37.5	0.0	0.0	51.2	0.0	0.0	0.0	0.0	0.0	0.1	32.8	1.0	0.0	33.9	
Cars, PU, Vans	18	0	185	0	203	187	508	0	0	695	0	0	0	0	0	1	444	14	0	459	1357
% Cars, PU, Vans	100.0	0.0	100.0	0.0	100.0	100.0	99.2	0.0	0.0	99.4	0.0	0.0	0.0	0.0	0.0	100.0	99.3	100.0	0.0	99.4	99.5
Heavy Trucks	0	0	0		0	0	4	0		4	0	0	0		0	0	3	0		3	7
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.6	0.5

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-012
Location: Cleveland School Rd_S-91 & Black Riv
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Cleveland School Rd_S-91 Southbound				Black River Rd_S-12 Westbound				Cleveland School Rd_S-91 Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 06:45 AM																	
6:45 AM	1	0	5	6	31	28	0	59	0	0	0	0	0	15	0	15	80
7:00 AM	1	0	10	11	23	39	0	62	0	0	0	0	0	10	0	10	83
7:15 AM	2	0	17	19	32	41	0	73	0	0	0	0	0	21	3	24	116
7:30 AM	0	0	12	12	13	45	0	58	0	0	0	0	0	26	3	29	99
Total Volume	4	0	44	48	99	153	0	252	0	0	0	0	0	72	6	78	378
% App. Total	8.3	0.0	91.7	100	39.3	60.7	0.0	100	0.0	0.0	0.0	0	0.0	92.3	7.7	100	
PHF				0.632				0.863				0.000				0.672	
Cars, PU, Vans	4	0	44	48	99	152	0	251	0	0	0	0	0	71	6	77	376
% Cars, PU, Vans	100.0	0.0	100.0	100.0	100.0	99.3	0.0	99.6	0.0	0.0	0.0	0.0	0.0	98.6	100.0	98.7	99.5
Heavy Trucks	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.4	0.0	0.0	0.0	0.0	0.0	1.4	0.0	1.3	0.5

PM

	Cleveland School Rd_S-91 Southbound				Black River Rd_S-12 Westbound				Cleveland School Rd_S-91 Northbound				Black River Rd_S-12 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
5:30 PM	1	0	20	21	7	39	0	46	0	0	0	0	0	51	2	53	120
5:45 PM	0	0	12	12	9	17	0	26	0	0	0	0	0	38	0	38	76
6:00 PM	3	0	18	21	7	31	0	38	0	0	0	0	0	35	1	36	95
6:15 PM	0	0	15	15	3	35	0	38	0	0	0	0	0	43	0	43	96
Total Volume	4	0	65	69	26	122	0	148	0	0	0	0	0	167	3	170	387
% App. Total	5.8	0.0	94.2	100	17.6	82.4	0.0	100	0.0	0.0	0.0	0	0.0	98.2	1.8	100	
PHF				0.821				0.804				0.000				0.802	
Cars, PU, Vans	4	0	65	69	26	122	0	148	0	0	0	0	0	167	3	170	387
% Cars, PU, Vans	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	100.0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Heavy Trucks	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	0.0	0.0	0.0	0.0

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-013
Location: Dr. Humphries Rd_S-329 & Cleveland School Rd_S-91
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Dr. Humphries Rd_S-329 Southbound					Cleveland School Rd_S-91 Westbound					Dr. Humphries Rd_S-329 Northbound					Cleveland School Rd_S-91 Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	23	0	23	24
6:45 AM	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	3	31	0	34	40
7:00 AM	7	0	0	0	7	0	4	0	0	4	0	0	0	0	0	0	1	23	0	24	35
7:15 AM	16	0	2	0	18	2	4	0	0	6	0	0	0	0	0	0	1	34	0	35	59
Total	30	0	2	0	32	2	8	0	0	10	0	0	0	0	0	0	5	111	0	116	158
7:30 AM	10	0	1	0	11	2	0	0	0	2	0	0	0	0	0	0	0	16	0	16	29
7:45 AM	2	0	1	0	3	1	3	0	0	4	0	0	0	0	0	0	1	9	0	10	17
8:00 AM	5	0	1	0	6	1	1	0	0	2	0	0	0	0	0	0	3	3	0	6	14
8:15 AM	3	0	3	0	6	0	1	0	0	1	0	0	0	0	0	0	0	4	0	4	11
Total	20	0	6	0	26	4	5	0	0	9	0	0	0	0	0	0	4	32	0	36	71
6:45AM- 7:45AM	39		3		42	4	8			12							5	104		109	163
BREAK																					
4:30 PM	19	0	2	0	21	1	1	0	0	2	0	0	0	0	0	0	0	4	0	4	27
4:45 PM	15	0	2	0	17	0	3	0	0	3	0	0	0	0	0	0	2	5	0	7	27
5:00 PM	6	0	1	0	7	1	1	0	0	2	0	0	0	0	0	0	0	4	0	4	13
5:15 PM	21	0	2	0	23	0	2	0	0	2	0	0	0	0	0	0	2	5	0	7	32
Total	61	0	7	0	68	2	7	0	0	9	0	0	0	0	0	0	4	18	0	22	99
5:30 PM	20	0	2	0	22	2	1	0	0	3	0	0	0	0	0	0	2	8	0	10	35
5:45 PM	11	0	1	0	12	0	1	0	0	1	0	0	0	0	0	0	0	7	0	7	20
6:00 PM	18	0	1	0	19	0	4	0	0	4	0	0	0	0	0	0	1	9	0	10	33
6:15 PM	15	0	1	0	16	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	18
Total	64	0	5	0	69	2	6	0	0	8	0	0	0	0	0	0	4	25	0	29	106
Grand Total	175	0	20	0	195	10	26	0	0	36	0	0	0	0	0	0	17	186	0	203	434
Apprch %	89.7	0.0	10.3	0.0		27.8	72.2	0.0	0.0		0.0	0.0	0.0	0.0		0.0	8.4	91.6	0.0		
Total %	40.3	0.0	4.6	0.0	44.9	2.3	6.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	3.9	42.9	0.0	46.8	
Cars, PU, Vans	175	0	20	0	195	10	26	0	0	36	0	0	0	0	0	0	17	186	0	203	434
% Cars, PU, Vans	100.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	100.0
Heavy Trucks	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0
%Heavy Trucks	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-013
Location: Dr. Humphries Rd_S-329 & Cleveland S
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Dr. Humphries Rd_S-329 Southbound				Cleveland School Rd_S-91 Westbound				Dr. Humphries Rd_S-329 Northbound				Cleveland School Rd_S-91 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 06:45 AM																	
6:45 AM	6	0	0	6	0	0	0	0	0	0	0	0	0	3	31	34	40
7:00 AM	7	0	0	7	0	4	0	4	0	0	0	0	0	1	23	24	35
7:15 AM	16	0	2	18	2	4	0	6	0	0	0	0	0	1	34	35	59
7:30 AM	10	0	1	11	2	0	0	2	0	0	0	0	0	0	16	16	29
Total Volume	39	0	3	42	4	8	0	12	0	0	0	0	0	5	104	109	163
% App. Total	92.9	0.0	7.1	100	33.3	66.7	0.0	100	0.0	0.0	0.0	0	0.0	4.6	95.4	100	
PHF				0.583				0.500				0.000				0.779	
Cars, PU, Vans	39	0	3	42	4	8	0	12	0	0	0	0	0	5	104	109	163
% Cars, PU, Vans	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	100.0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Heavy Trucks	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	0.0	0.0	0.0	0.0

PM

	Dr. Humphries Rd_S-329 Southbound				Cleveland School Rd_S-91 Westbound				Dr. Humphries Rd_S-329 Northbound				Cleveland School Rd_S-91 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
5:15 PM	21	0	2	23	0	2	0	2	0	0	0	0	0	2	5	7	32
5:30 PM	20	0	2	22	2	1	0	3	0	0	0	0	0	2	8	10	35
5:45 PM	11	0	1	12	0	1	0	1	0	0	0	0	0	0	7	7	20
6:00 PM	18	0	1	19	0	4	0	4	0	0	0	0	0	1	9	10	33
Total Volume	70	0	6	76	2	8	0	10	0	0	0	0	0	5	29	34	120
% App. Total	92.1	0.0	7.9	100	20.0	80.0	0.0	100	0.0	0.0	0.0	0	0.0	14.7	85.3	100	
PHF				0.826				0.625				0.000				0.850	
Cars, PU, Vans	70	0	6	76	2	8	0	10	0	0	0	0	0	5	29	34	120
% Cars, PU, Vans	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	100.0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Heavy Trucks	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	0.0	0.0	0.0	0.0

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-015
Location: Dr. Humphries Rd_S-329 & I-20 WB Ramps
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Dr. Humphries Rd_S-329 Southbound					I-20 WB Ramps Westbound					Dr. Humphries Rd_S-329 Northbound					I-20 WB Ramps Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	26	3	0	0	29	13	0	0	0	13	0	8	20	0	28	0	0	0	0	0	70
6:45 AM	18	9	0	0	27	9	1	0	0	10	0	14	19	0	33	0	0	0	0	0	70
7:00 AM	47	13	0	0	60	1	0	0	0	1	0	18	10	0	28	0	0	0	0	0	89
7:15 AM	19	21	0	0	40	2	0	0	0	2	0	35	11	0	46	0	0	0	0	0	88
Total	110	46	0	0	156	25	1	0	0	26	0	75	60	0	135	0	0	0	0	0	317
7:30 AM	29	18	0	0	47	2	0	0	0	2	0	14	14	0	28	0	0	0	0	0	77
7:45 AM	21	5	0	0	26	2	0	1	0	3	0	12	9	0	21	0	0	0	0	0	50
8:00 AM	21	10	0	0	31	3	0	0	0	3	0	5	3	0	8	0	0	0	0	0	42
8:15 AM	9	5	0	0	14	2	0	1	0	3	0	8	3	0	11	0	0	0	0	0	28
Total	80	38	0	0	118	9	0	2	0	11	0	39	29	0	68	0	0	0	0	0	197
6:45AM-7:45AM	113	61			174	14	1	0		15		81	54		135						324
BREAK																					
4:30 PM	19	13	0	0	32	4	0	0	0	4	0	16	3	0	19	0	0	0	0	0	55
4:45 PM	15	10	0	0	25	4	1	1	0	6	0	20	2	0	22	0	0	0	0	0	53
5:00 PM	18	3	0	0	21	3	0	2	0	5	0	18	6	0	24	0	0	0	0	0	50
5:15 PM	13	7	0	0	20	2	0	1	0	3	0	19	3	0	22	0	0	0	0	0	45
Total	65	33	0	0	98	13	1	4	0	18	0	73	14	0	87	0	0	0	0	0	203
5:30 PM	15	21	0	0	36	8	0	1	0	9	0	34	4	0	38	0	0	0	0	0	83
5:45 PM	14	4	0	0	18	3	0	2	0	5	0	24	3	0	27	0	0	0	0	0	50
6:00 PM	16	6	0	0	22	4	0	2	0	6	0	20	7	0	27	0	0	0	0	0	55
6:15 PM	10	10	0	0	20	4	0	0	0	4	0	12	1	0	13	0	0	0	0	0	37
Total	55	41	0	0	96	19	0	5	0	24	0	90	15	0	105	0	0	0	0	0	225
Grand Total	310	158	0	0	468	66	2	11	0	79	0	277	118	0	395	0	0	0	0	0	942
Apprch %	66.2	33.8	0.0	0.0		83.5	2.5	13.9	0.0		0.0	70.1	29.9	0.0		0.0	0.0	0.0	0.0		
Total %	32.9	16.8	0.0	0.0	49.7	7.0	0.2	1.2	0.0	8.4	0.0	29.4	12.5	0.0	41.9	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	297	153	0	0	450	63	1	11	0	75	0	271	117	0	388	0	0	0	0	0	913
% Cars, PU, Vans	95.8	96.8	0.0	0.0	96.2	95.5	50.0	100.0	0.0	94.9	0.0	97.8	99.2	0.0	98.2	0.0	0.0	0.0	0.0	0.0	96.9
Heavy Trucks	13	5	0		18	3	1	0		4	0	6	1		7	0	0	0		0	29
%Heavy Trucks	4.2	3.2	0.0	0.0	3.8	4.5	50.0	0.0	0.0	5.1	0.0	2.2	0.8	0.0	1.8	0.0	0.0	0.0	0.0	0.0	3.1

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-015
Location: Dr. Humphries Rd_S-329 & I-20 WB Ra
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Dr. Humphries Rd_S-329 Southbound				I-20 WB Ramps Westbound				Dr. Humphries Rd_S-329 Northbound				I-20 WB Ramps Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 06:45 AM																	
6:45 AM	18	9	0	27	9	1	0	10	0	14	19	33	0	0	0	0	70
7:00 AM	47	13	0	60	1	0	0	1	0	18	10	28	0	0	0	0	89
7:15 AM	19	21	0	40	2	0	0	2	0	35	11	46	0	0	0	0	88
7:30 AM	29	18	0	47	2	0	0	2	0	14	14	28	0	0	0	0	77
Total Volume	113	61	0	174	14	1	0	15	0	81	54	135	0	0	0	0	324
% App. Total	64.9	35.1	0.0	100	93.3	6.7	0.0	100	0.0	60.0	40.0	100	0.0	0.0	0.0	0	
PHF				0.725				0.375				0.734				0.000	
Cars, PU, Vans	113	59	0	172	14	0	0	14	0	79	54	133	0	0	0	0	319
% Cars, PU, Vans	100.0	96.7	0.0	98.9	100.0	0.0	0.0	93.3	0.0	97.5	100.0	98.5	0.0	0.0	0.0	0.0	98.5
Heavy Trucks	0	2	0	2	0	1	0	1	0	2	0	2	0	0	0	0	5
%Heavy Trucks	0.0	3.3	0.0	1.1	0.0	100.0	0.0	6.7	0.0	2.5	0.0	1.5	0.0	0.0	0.0	0.0	1.5

PM

	Dr. Humphries Rd_S-329 Southbound				I-20 WB Ramps Westbound				Dr. Humphries Rd_S-329 Northbound				I-20 WB Ramps Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
5:15 PM	13	7	0	20	2	0	1	3	0	19	3	22	0	0	0	0	45
5:30 PM	15	21	0	36	8	0	1	9	0	34	4	38	0	0	0	0	83
5:45 PM	14	4	0	18	3	0	2	5	0	24	3	27	0	0	0	0	50
6:00 PM	16	6	0	22	4	0	2	6	0	20	7	27	0	0	0	0	55
Total Volume	58	38	0	96	17	0	6	23	0	97	17	114	0	0	0	0	233
% App. Total	60.4	39.6	0.0	100	73.9	0.0	26.1	100	0.0	85.1	14.9	100	0.0	0.0	0.0	0	
PHF				0.667				0.639				0.750				0.000	
Cars, PU, Vans	51	37	0	88	17	0	6	23	0	97	17	114	0	0	0	0	225
% Cars, PU, Vans	87.9	97.4	0.0	91.7	100.0	0.0	100.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	96.6
Heavy Trucks	7	1	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
%Heavy Trucks	12.1	2.6	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-014
Location: Dr. Humphries Rd_S-329 & I-20 EB Ramps
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Dr. Humphries Rd_S-329 Southbound					I-20 EB Ramps Westbound					Dr. Humphries Rd_S-329 Northbound					I-20 EB Ramps Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	0	0	3	0	3	0	0	0	0	0	1	23	0	0	24	1	0	6	0	7	34
6:45 AM	0	5	4	0	9	0	0	0	0	0	1	30	0	0	31	1	0	2	0	3	43
7:00 AM	0	4	9	0	13	0	0	0	0	0	0	23	0	0	23	3	0	7	0	10	46
7:15 AM	0	13	8	0	21	0	0	0	0	0	3	34	0	0	37	7	0	10	0	17	75
Total	0	22	24	0	46	0	0	0	0	0	5	110	0	0	115	12	0	25	0	37	198
7:30 AM	0	7	11	0	18	0	0	0	0	0	3	16	0	0	19	2	0	10	0	12	49
7:45 AM	0	3	5	0	8	0	0	0	0	0	0	10	0	0	10	1	0	13	0	14	32
8:00 AM	0	4	5	0	9	0	0	0	0	0	0	3	0	0	3	2	0	3	0	5	17
8:15 AM	0	2	4	0	6	0	0	0	0	0	0	6	0	0	6	3	0	6	0	9	21
Total	0	16	25	0	41	0	0	0	0	0	3	35	0	0	38	8	0	32	0	40	119
6:45AM-7:45AM	0	29	32		61						7	103			110	13		29		42	213
BREAK																					
4:30 PM	0	9	4	0	13	0	0	0	0	0	1	4	0	0	5	13	0	15	0	28	46
4:45 PM	0	5	5	0	10	0	0	0	0	0	1	4	0	0	5	10	0	18	0	28	43
5:00 PM	0	2	3	0	5	0	0	0	0	0	0	5	0	0	5	13	0	20	0	33	43
5:15 PM	0	6	2	0	8	0	0	0	0	0	0	5	0	0	5	12	0	19	0	31	44
Total	0	22	14	0	36	0	0	0	0	0	2	18	0	0	20	48	0	72	0	120	176
5:30 PM	0	7	15	0	22	0	0	0	0	0	1	9	0	0	10	14	1	26	0	41	73
5:45 PM	0	6	1	0	7	0	0	0	0	0	0	7	0	0	7	7	0	20	0	27	41
6:00 PM	0	4	3	0	7	0	0	0	0	0	0	9	0	0	9	15	0	21	0	36	52
6:15 PM	0	6	4	0	10	0	0	0	0	0	0	1	0	0	1	8	0	9	0	17	28
Total	0	23	23	0	46	0	0	0	0	0	1	26	0	0	27	44	1	76	0	121	194
Grand Total	0	83	86	0	169	0	0	0	0	0	11	189	0	0	200	112	1	205	0	318	687
Apprch %	0.0	49.1	50.9	0.0		0.0	0.0	0.0	0.0		5.5	94.5	0.0	0.0		35.2	0.3	64.5	0.0		
Total %	0.0	12.1	12.5	0.0	24.6	0.0	0.0	0.0	0.0	0.0	1.6	27.5	0.0	0.0	29.1	16.3	0.1	29.8	0.0	46.3	
Cars, PU, Vans	0	83	81	0	164	0	0	0	0	0	11	189	0	0	200	112	1	198	0	311	675
% Cars, PU, Vans	0.0	100.0	94.2	0.0	97.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	96.6	0.0	97.8	98.3
Heavy Trucks	0	0	5		5	0	0	0		0	0	0	0		0	0	0	7		7	12
%Heavy Trucks	0.0	0.0	5.8	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	2.2	1.7

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-014
Location: Dr. Humphries Rd_S-329 & I-20 EB Ran
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Dr. Humphries Rd_S-329 Southbound				I-20 EB Ramps Westbound				Dr. Humphries Rd_S-329 Northbound				I-20 EB Ramps Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 06:45 AM																	
6:45 AM	0	5	4	9	0	0	0	0	1	30	0	31	1	0	2	3	43
7:00 AM	0	4	9	13	0	0	0	0	0	23	0	23	3	0	7	10	46
7:15 AM	0	13	8	21	0	0	0	0	3	34	0	37	7	0	10	17	75
7:30 AM	0	7	11	18	0	0	0	0	3	16	0	19	2	0	10	12	49
Total Volume	0	29	32	61	0	0	0	0	7	103	0	110	13	0	29	42	213
% App. Total	0.0	47.5	52.5	100	0.0	0.0	0.0	0	6.4	93.6	0.0	100	31.0	0.0	69.0	100	
PHF				0.726				0.000				0.743				0.618	
Cars, PU, Vans	0	29	30	59	0	0	0	0	7	103	0	110	13	0	27	40	209
% Cars, PU, Vans	0.0	100.0	93.8	96.7	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	100.0	0.0	93.1	95.2	98.1
Heavy Trucks	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2	2	4
%Heavy Trucks	0.0	0.0	6.3	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	4.8	1.9

PM

	Dr. Humphries Rd_S-329 Southbound				I-20 EB Ramps Westbound				Dr. Humphries Rd_S-329 Northbound				I-20 EB Ramps Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
5:15 PM	0	6	2	8	0	0	0	0	0	5	0	5	12	0	19	31	44
5:30 PM	0	7	15	22	0	0	0	0	1	9	0	10	14	1	26	41	73
5:45 PM	0	6	1	7	0	0	0	0	0	7	0	7	7	0	20	27	41
6:00 PM	0	4	3	7	0	0	0	0	0	9	0	9	15	0	21	36	52
Total Volume	0	23	21	44	0	0	0	0	1	30	0	31	48	1	86	135	210
% App. Total	0.0	52.3	47.7	100	0.0	0.0	0.0	0	3.2	96.8	0.0	100	35.6	0.7	63.7	100	
PHF				0.500				0.000				0.775				0.823	
Cars, PU, Vans	0	23	20	43	0	0	0	0	1	30	0	31	48	1	86	135	209
% Cars, PU, Vans	0.0	100.0	95.2	97.7	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	100.0	99.5
Heavy Trucks	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
%Heavy Trucks	0.0	0.0	4.8	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-016
Location: Dr. Humphries Rd_S-329 & Mount Olivet Rd_S-189
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Dr. Humphries Rd_S-329 Southbound					Mount Olivet Rd_S-189 Westbound					Dr. Humphries Rd_S-329 Northbound					Mount Olivet Rd_S-189 Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	1	21	1	0	23	0	0	5	0	5	0	12	10	0	22	1	0	1	0	2	52
6:45 AM	1	25	0	0	26	2	1	2	0	5	0	13	10	0	23	2	0	2	0	4	58
7:00 AM	0	37	0	0	37	1	3	9	0	13	0	16	0	0	16	5	0	1	0	6	72
7:15 AM	4	43	0	0	47	0	0	3	0	3	3	38	1	0	42	2	0	2	0	4	96
Total	6	126	1	0	133	3	4	19	0	26	3	79	21	0	103	10	0	6	0	16	278
7:30 AM	1	41	0	0	42	0	1	4	0	5	3	12	1	0	16	2	1	1	0	4	67
7:45 AM	0	25	0	0	25	0	0	4	0	4	0	11	1	0	12	2	2	0	1	4	45
8:00 AM	2	23	0	0	25	1	1	2	0	4	0	9	0	0	9	0	1	2	0	3	41
8:15 AM	1	17	0	0	18	2	0	1	0	3	0	10	1	0	11	1	1	0	0	2	34
Total	4	106	0	0	110	3	2	11	0	16	3	42	3	0	48	5	5	3	1	13	187
6:45AM -7:45AM	6	146	0		152	3	5	18	0	26	6	79	12	0	97	11	1	6	0	18	293
BREAK																					
4:30 PM	1	27	1	0	29	0	1	4	0	5	3	11	2	0	16	1	0	0	0	1	51
4:45 PM	0	25	0	0	25	0	0	3	0	3	5	18	3	0	26	1	2	0	0	3	57
5:00 PM	1	20	1	0	22	1	0	0	0	1	1	17	2	0	20	2	2	0	0	4	47
5:15 PM	2	20	0	0	22	0	1	0	0	1	2	18	2	0	22	2	1	3	0	6	51
Total	4	92	2	0	98	1	2	7	0	10	11	64	9	0	84	6	5	3	0	14	206
5:30 PM	1	19	0	0	20	0	2	1	0	3	4	36	3	0	43	15	0	3	0	18	84
5:45 PM	3	15	1	0	19	0	1	3	0	4	3	21	3	0	27	0	3	0	0	3	53
6:00 PM	1	18	1	0	20	0	1	2	0	3	2	23	1	0	26	1	4	0	0	5	54
6:15 PM	0	12	0	0	12	0	0	5	0	5	1	15	0	0	16	3	2	1	0	6	39
Total	5	64	2	0	71	0	4	11	0	15	10	95	7	0	112	19	9	4	0	32	230
Grand Total	19	388	5	0	412	7	12	48	0	67	27	280	40	0	347	40	19	16	1	75	901
Apprch %	4.6	94.2	1.2	0.0		10.4	17.9	71.6	0.0		7.8	80.7	11.5	0.0		53.3	25.3	21.3	1.3		
Total %	2.1	43.1	0.6	0.0	45.7	0.8	1.3	5.3	0.0	7.4	3.0	31.1	4.4	0.0	38.5	4.4	2.1	1.8	0.1	8.3	
Cars, PU, Vans	19	372	5	0	396	7	12	48	0	67	26	273	39	0	338	38	19	16	1	73	874
% Cars, PU, Vans	100.0	95.9	100.0	0.0	96.1	100.0	100.0	100.0	0.0	100.0	96.3	97.5	97.5	0.0	97.4	95.0	100.0	100.0	100.0	97.3	97.0
Heavy Trucks	0	16	0		16	0	0	0		0	1	7	1		9	2	0	0		2	27
%Heavy Trucks	0.0	4.1	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	3.7	2.5	2.5	0.0	2.6	5.0	0.0	0.0	0.0	2.7	3.0

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-016
Location: Dr. Humphries Rd_S-329 & Mount Olive
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Dr. Humphries Rd_S-329 Southbound				Mount Olivet Rd_S-189 Westbound				Dr. Humphries Rd_S-329 Northbound				Mount Olivet Rd_S-189 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 06:45 AM																	
6:45 AM	1	25	0	26	2	1	2	5	0	13	10	23	2	0	2	4	58
7:00 AM	0	37	0	37	1	3	9	13	0	16	0	16	5	0	1	6	72
7:15 AM	4	43	0	47	0	0	3	3	3	38	1	42	2	0	2	4	96
7:30 AM	1	41	0	42	0	1	4	5	3	12	1	16	2	1	1	4	67
Total Volume	6	146	0	152	3	5	18	26	6	79	12	97	11	1	6	18	293
% App. Total	3.9	96.1	0.0	100	11.5	19.2	69.2	100	6.2	81.4	12.4	100	61.1	5.6	33.3	100	
PHF				0.809				0.500				0.577				0.750	
Cars, PU, Vans	6	145	0	151	3	5	18	26	6	76	12	94	10	1	6	17	288
% Cars, PU, Vans	100.0	99.3	0.0	99.3	100.0	100.0	100.0	100.0	100.0	96.2	100.0	96.9	90.9	100.0	100.0	94.4	98.3
Heavy Trucks	0	1	0	1	0	0	0	0	0	3	0	3	1	0	0	1	5
%Heavy Trucks	0.0	0.7	0.0	0.7	0.0	0.0	0.0	0.0	0.0	3.8	0.0	3.1	9.1	0.0	0.0	5.6	1.7

PM

	Dr. Humphries Rd_S-329 Southbound				Mount Olivet Rd_S-189 Westbound				Dr. Humphries Rd_S-329 Northbound				Mount Olivet Rd_S-189 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
5:15 PM	2	20	0	22	0	1	0	1	2	18	2	22	2	1	3	6	51
5:30 PM	1	19	0	20	0	2	1	3	4	36	3	43	15	0	3	18	84
5:45 PM	3	15	1	19	0	1	3	4	3	21	3	27	0	3	0	3	53
6:00 PM	1	18	1	20	0	1	2	3	2	23	1	26	1	4	0	5	54
Total Volume	7	72	2	81	0	5	6	11	11	98	9	118	18	8	6	32	242
% App. Total	8.6	88.9	2.5	100	0.0	45.5	54.5	100	9.3	83.1	7.6	100	56.3	25.0	18.8	100	
PHF				0.920				0.688				0.686				0.444	
Cars, PU, Vans	7	64	2	73	0	5	6	11	11	98	9	118	18	8	6	32	234
% Cars, PU, Vans	100.0	88.9	100.0	90.1	0.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	96.7
Heavy Trucks	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
%Heavy Trucks	0.0	11.1	0.0	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3

Prepared by National Data Surveying Services

1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-017
Location: Dr. Humphries Rd_S-329 & Bishopville Hwy_SC 34
City: Camden

Day: Tuesday
Date: 5/16/2017

Peak Start Times	
AM	6:30 AM
MD	12:00 AM
PM	4:30 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Dr. Humphries Rd_S-329 Southbound					Bishopville Hwy_SC 34 Westbound					Dr. Humphries Rd_S-329 Northbound					Bishopville Hwy_SC 34 Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:30 AM	4	9	2	0	15	1	36	13	0	50	5	3	6	0	14	4	10	1	0	15	94
6:45 AM	6	9	2	0	17	3	37	12	0	52	4	0	17	0	21	1	5	0	0	6	96
7:00 AM	18	9	5	0	32	8	53	14	0	75	2	1	16	0	19	27	29	5	0	61	187
7:15 AM	27	3	2	0	32	4	75	14	0	93	5	4	34	0	43	25	32	10	0	67	235
Total	55	30	11	0	96	16	201	53	0	270	16	8	73	0	97	57	76	16	0	149	612
7:30 AM	4	9	0	0	13	4	45	10	0	59	2	3	8	0	13	17	24	2	0	43	128
7:45 AM	2	10	2	0	14	4	47	11	0	62	4	6	1	0	11	4	17	1	0	22	109
8:00 AM	2	9	2	0	13	2	28	9	0	39	3	1	8	0	12	9	16	2	0	27	91
8:15 AM	2	1	2	0	5	1	27	5	0	33	2	4	6	0	12	3	13	1	0	17	67
Total	10	29	6	0	45	11	147	35	0	193	11	14	23	0	48	33	70	6	0	109	395
6:45AM-7:45AM	55	30	9		94	19	210	50	0	279	13	8	75	0	96	70	90	17	0	177	646
BREAK																					
4:30 PM	2	9	2	0	13	2	18	11	0	31	8	4	4	0	16	12	52	3	0	67	127
4:45 PM	2	5	4	0	11	0	31	8	0	39	11	3	4	0	18	7	48	2	0	57	125
5:00 PM	1	2	2	0	5	4	26	14	0	44	13	4	2	0	19	14	40	6	0	60	128
5:15 PM	1	5	3	0	9	2	29	8	0	39	11	6	3	0	20	5	44	3	0	52	120
Total	6	21	11	0	38	8	104	41	0	153	43	17	13	0	73	38	184	14	0	236	500
5:30 PM	3	7	7	0	17	1	32	6	0	39	14	21	6	0	41	8	42	3	0	53	150
5:45 PM	0	6	1	0	7	2	41	10	0	53	10	9	4	0	23	6	36	2	0	44	127
6:00 PM	1	2	6	0	9	4	28	12	0	44	9	8	6	0	23	11	60	1	0	72	148
6:15 PM	3	1	5	0	9	4	22	4	0	30	6	4	5	0	15	6	34	3	0	43	97
Total	7	16	19	0	42	11	123	32	0	166	39	42	21	0	102	31	172	9	0	212	522
Grand Total	78	96	47	0	221	46	575	161	0	782	109	81	130	0	320	159	502	45	0	706	2029
Apprch %	35.3	43.4	21.3	0.0		5.9	73.5	20.6	0.0		34.1	25.3	40.6	0.0		22.5	71.1	6.4	0.0		
Total %	3.8	4.7	2.3	0.0	10.9	2.3	28.3	7.9	0.0	38.5	5.4	4.0	6.4	0.0	15.8	7.8	24.7	2.2	0.0	34.8	
Cars, PU, Vans	78	94	47	0	219	46	573	160	0	779	106	81	126	0	313	146	498	45	0	689	2000
% Cars, PU, Vans	100.0	97.9	100.0	0.0	99.1	100.0	99.7	99.4	0.0	99.6	97.2	100.0	96.9	0.0	97.8	91.8	99.2	100.0	0.0	97.6	98.6
Heavy Trucks	0	2	0		2	0	2	1		3	3	0	4		7	13	4	0		17	29
%Heavy Trucks	0.0	2.1	0.0	0.0	0.9	0.0	0.3	0.6	0.0	0.4	2.8	0.0	3.1	0.0	2.2	8.2	0.8	0.0	0.0	2.4	1.4

Prepared by National Data Surveying Services
1520 Forest Brook Trail, Cumming, GA | phone: 678.679.3023

Project ID: 17-9314-017
Location: Dr. Humphries Rd_S-329 & Bishopville
City: Camden

PEAK HOURS

Day: Tuesday
Date: 5/16/2017

AM

	Dr. Humphries Rd_S-329 Southbound				Bishopville Hwy_SC 34 Westbound				Dr. Humphries Rd_S-329 Northbound				Bishopville Hwy_SC 34 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:30 AM to 08:30 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	18	9	5	32	8	53	14	75	2	1	16	19	27	29	5	61	187
7:15 AM	27	3	2	32	4	75	14	93	5	4	34	43	25	32	10	67	235
7:30 AM	4	9	0	13	4	45	10	59	2	3	8	13	17	24	2	43	128
7:45 AM	2	10	2	14	4	47	11	62	4	6	1	11	4	17	1	22	109
Total Volume	51	31	9	91	20	220	49	289	13	14	59	86	73	102	18	193	659
% App. Total	56.0	34.1	9.9	100	6.9	76.1	17.0	100	15.1	16.3	68.6	100	37.8	52.8	9.3	100	
PHF				0.711				0.777				0.500				0.720	
Cars, PU, Vans	51	30	9	90	20	219	48	287	11	14	58	83	73	100	18	191	651
% Cars, PU, Vans	100.0	96.8	100.0	98.9	100.0	99.5	98.0	99.3	84.6	100.0	98.3	96.5	100.0	98.0	100.0	99.0	98.8
Heavy Trucks	0	1	0	1	0	1	1	2	2	0	1	3	0	2	0	2	8
%Heavy Trucks	0.0	3.2	0.0	1.1	0.0	0.5	2.0	0.7	15.4	0.0	1.7	3.5	0.0	2.0	0.0	1.0	1.2

PM

	Dr. Humphries Rd_S-329 Southbound				Bishopville Hwy_SC 34 Westbound				Dr. Humphries Rd_S-329 Northbound				Bishopville Hwy_SC 34 Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:30 PM to 06:30 PM																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
5:15 PM	1	5	3	9	2	29	8	39	11	6	3	20	5	44	3	52	120
5:30 PM	3	7	7	17	1	32	6	39	14	21	6	41	8	42	3	53	150
5:45 PM	0	6	1	7	2	41	10	53	10	9	4	23	6	36	2	44	127
6:00 PM	1	2	6	9	4	28	12	44	9	8	6	23	11	60	1	72	148
Total Volume	5	20	17	42	9	130	36	175	44	44	19	107	30	182	9	221	545
% App. Total	11.9	47.6	40.5	100	5.1	74.3	20.6	100	41.1	41.1	17.8	100	13.6	82.4	4.1	100	
PHF				0.618				0.825				0.652				0.767	
Cars, PU, Vans	5	20	17	42	9	130	36	175	44	44	19	107	24	180	9	213	537
% Cars, PU, Vans	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	80.0	98.9	100.0	96.4	98.5
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	6	2	0	8	8
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	1.1	0.0	3.6	1.5

Appendix C Crash Data

Crash Summary

US 521 (SUMTER HWY) from MPT 7.050 to MPT 8.350 (EHRENCLOU DR)

KERSHAW County

01/01/2014 - 12/31/2016 (3.0 years)

Length = 1.300 miles

AADT = 13,732

Functional Class = Urban -- Principal Arterial - Other

Crashes by Injury Class

Fatality Crashes	0
Injury Crashes	18
PDO Crashes	36
Total Crashes	**54**

Crashes by Manner Of Collision

Rear End	7
Angle	36
Sideswipe	3
Head On	1
Run Off Road	4
Other	3
Total Crashes	**54**

Special Contributing Factors

Animal	2
Bicycle	0
Pedestrian	0

US 521 (SUMTER HWY) from MPT 7.050 to MPT 8.350 (EHRENCLOU DR)

KERSHAW County

01/01/2014 - 12/31/2016 (3.0 years)

Length = 1.300 miles AADT = 13,732

Functional Class = Urban -- Principal Arterial - Other

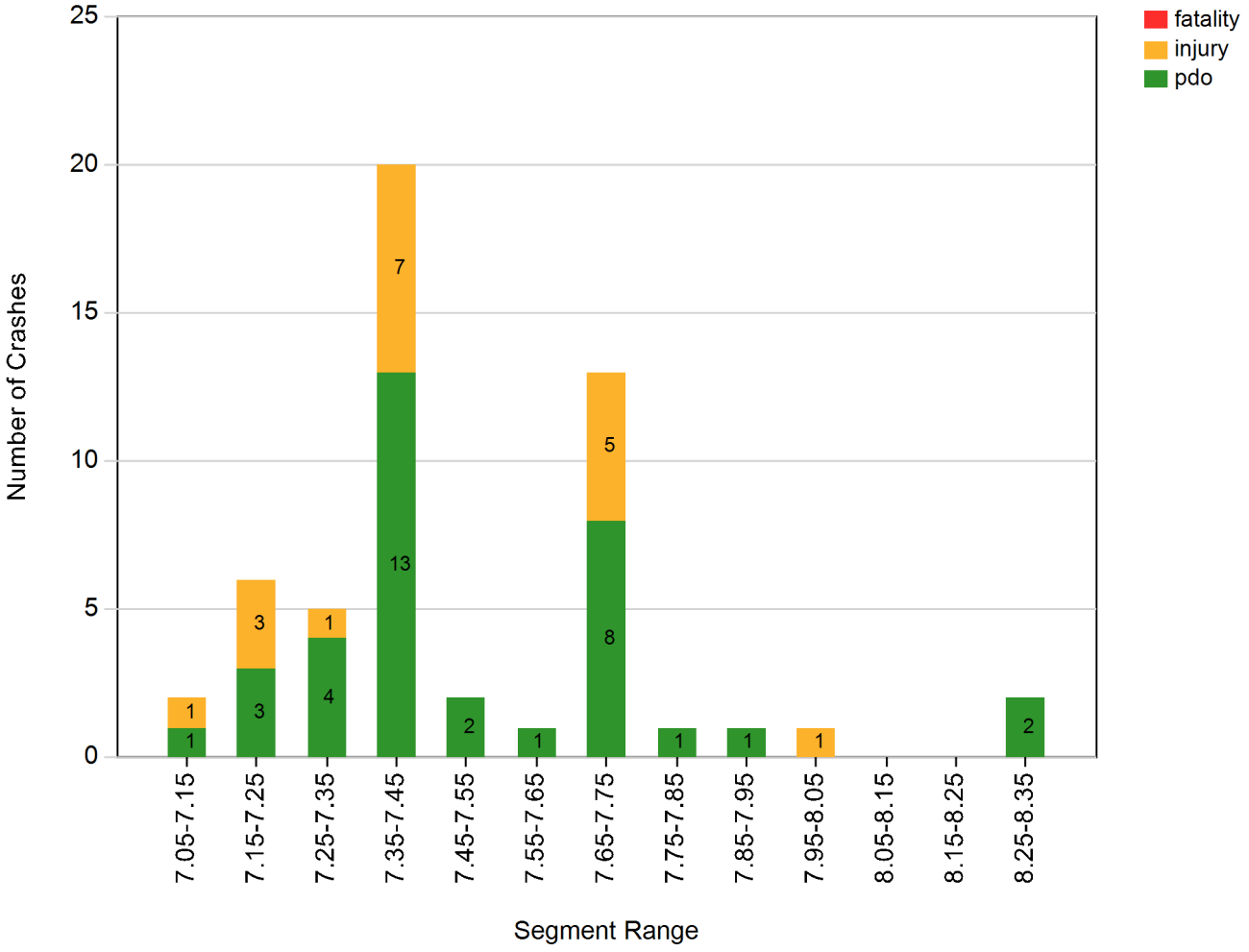
US 521 (SUMTER HWY) from MPT 7.050 to MPT 8.350 (EHRENCLOU DR)

KERSHAW County

01/01/2014 - 12/31/2016 (3.0 years)

Length = 1.300 miles AADT = 13,732

Functional Class = Urban -- Principal Arterial - Other



Section Crashes

MPT 7.050 to 7.150 (Stack #1)

Total Crashes: 2 Light: 2 Dark: 0 Dry: 2 Wet: 0 Fatalities: 0 Injuries: 1 PDO: 1

1	14525829	7.069	INJ2	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
2	16022045	7.100	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE

MPT 7.150 to 7.250 (Stack #2)

Total Crashes: 6 Light: 5 Dark: 1 Dry: 5 Wet: 1 Fatalities: 0 Injuries: 3 PDO: 3

1	15515873	7.154	INJ1	DARK	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
2	15572826	7.157	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
3	16545536	7.157	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
4	16533776	7.158	INJ1	DAY	WET	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
5	16643909	7.160	INJ1	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
6	15616419	7.170	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	SIDESWIPE SAME DIR

MPT 7.250 to 7.350 (Stack #3)

Total Crashes: 5 Light: 5 Dark: 0 Dry: 5 Wet: 0 Fatalities: 0 Injuries: 1 PDO: 4

1	14601048	7.266	INJ0	DAY	DRY	MOTOR VEHICLE (STOPPED)	REAR END
2	15506706	7.271	INJ1	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
3	16007490	7.272	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
4	14035302	7.273	INJ0	DAWN	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
5	15648020	7.313	INJ0	DAY	DRY	MOTOR VEHICLE (STOPPED)	REAR END

MPT 7.350 to 7.450 (Stack #4)

Total Crashes: 20 Light: 18 Dark: 2 Dry: 17 Wet: 3 Fatalities: 0 Injuries: 7 PDO: 13

1	15001690	7.361	INJ0	DAY	WET	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
2	16031144	7.369	INJ0	DARK	DRY	MOTOR VEHICLE (STOPPED)	BACKED INTO
3	15018724	7.370	INJ0	DAY	DRY	MOTOR VEHICLE (STOPPED)	REAR END
4	16028191	7.371	INJ0	DUSK	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
5	15001692	7.373	INJ0	DAY	WET	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
6	15004379	7.373	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
7	16014414	7.373	INJ2	DAWN	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
8	16014436	7.374	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
9	16018003	7.374	INJ2	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
10	16010689	7.375	INJ0	DAY	WET	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
11	16002078	7.376	INJ1	DUSK	DRY	MOTOR VEHICLE (IN TRANSPORT)	HEAD ON
12	14013889	7.377	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
13	15029234	7.377	INJ1	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE

Section Crashes

14	16002044	7.377	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
15	16017991	7.377	INJ1	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
16	16031156	7.378	INJ1	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
17	16022603	7.379	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
18	16026050	7.382	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
19	16007475	7.409	INJ1	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	SIDESWIPE SAME DIR
20	14002493	7.444	INJ0	DARK	DRY	MOTOR VEHICLE (STOPPED)	ANGLE

MPT 7.450 to 7.550 (Stack #5)

Total Crashes: 2 Light: 1 Dark: 1 Dry: 2 Wet: 0 Fatalities: 0 Injuries: 0 PDO: 2

1	14005797	7.474	INJ0	DARK	DRY	ANIMAL (DEER ONLY)	NO COLLISION W/MV
2	16014424	7.520	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE

MPT 7.550 to 7.650 (Stack #6)

Total Crashes: 1 Light: 0 Dark: 1 Dry: 1 Wet: 0 Fatalities: 0 Injuries: 0 PDO: 1

1	15004334	7.647	INJ0	DARK	DRY	MOTOR VEHICLE (IN TRANSPORT)	REAR END

MPT 7.650 to 7.750 (Stack #7)

Total Crashes: 13 Light: 7 Dark: 6 Dry: 12 Wet: 1 Fatalities: 0 Injuries: 5 PDO: 8

1	16618607	7.653	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	REAR END
2	14042991	7.666	INJ2	DARK	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
3	15013077	7.666	INJ0	DAY	DRY	MOTOR VEHICLE (STOPPED)	REAR END
4	16031137	7.666	INJ0	DARK	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
5	14047495	7.667	INJ3	DARK	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
6	14035313	7.670	INJ0	DAY	DRY	MOTOR VEHICLE (STOPPED)	SIDESWIPE SAME DIR
7	14043012	7.670	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
8	15008596	7.670	INJ0	DARK	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
9	15033296	7.670	INJ0	DARK	WET	MOTOR VEHICLE (IN TRANSPORT)	REAR END
10	16020250	7.670	INJ2	DUSK	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
11	16010691	7.674	INJ2	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
12	16002069	7.676	INJ0	DARK	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
13	15036044	7.736	INJ1	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE

MPT 7.750 to 7.850 (Stack #8)

Total Crashes: 1 Light: 0 Dark: 1 Dry: 1 Wet: 0 Fatalities: 0 Injuries: 0 PDO: 1

1	15033312	7.813	INJ0	DARK	DRY	OVERTURN/ROLLOVER	NO COLLISION W/MV

Section Crashes

MPT 7.850 to 7.950 (Stack #9)

Total Crashes: 1 Light: 0 Dark: 1 Dry: 0 Wet: 1 Fatalities: 0 Injuries: 0 PDO: 1

1	15038906	7.919	INJ0	DARK	WET	TREE	NO COLLISION W/MV

MPT 7.950 to 8.050 (Stack #10)

Total Crashes: 1 Light: 0 Dark: 1 Dry: 1 Wet: 0 Fatalities: 0 Injuries: 1 PDO: 0

1	15036054	8.040	INJ1	DARK	DRY	ANIMAL (DEER ONLY)	NO COLLISION W/MV

MPT 8.250 to 8.350 (Stack #13)

Total Crashes: 2 Light: 1 Dark: 1 Dry: 1 Wet: 1 Fatalities: 0 Injuries: 0 PDO: 2

1	14035306	8.340	INJ0	DAY	DRY	HIGHWAY TRAFFIC SIGN POST	NO COLLISION W/MV
2	14047471	8.350	INJ0	DARK	WET	TREE	NO COLLISION W/MV

Crash Summary

S- 12 (BLACK RIVER RD) from MPT 0.000 (SUMTER HWY) to MPT 4.150 (CHARLOTTE THOMPSON SCHOOL)

KERSHAW County

01/01/2014 - 12/31/2016 (3.0 years)

Length = 4.150 miles

AADT = 4,727

Functional Class = Rural -- Major Collector

Crashes by Injury Class

Fatality Crashes	0
Injury Crashes	7
PDO Crashes	25
Total Crashes	**32**

Crashes by Manner Of Collision

Rear End	12
Angle	5
Sideswipe	1
Head On	0
Run Off Road	11
Other	3
Total Crashes	**32**

Special Contributing Factors

Animal	3
Bicycle	0
Pedestrian	0

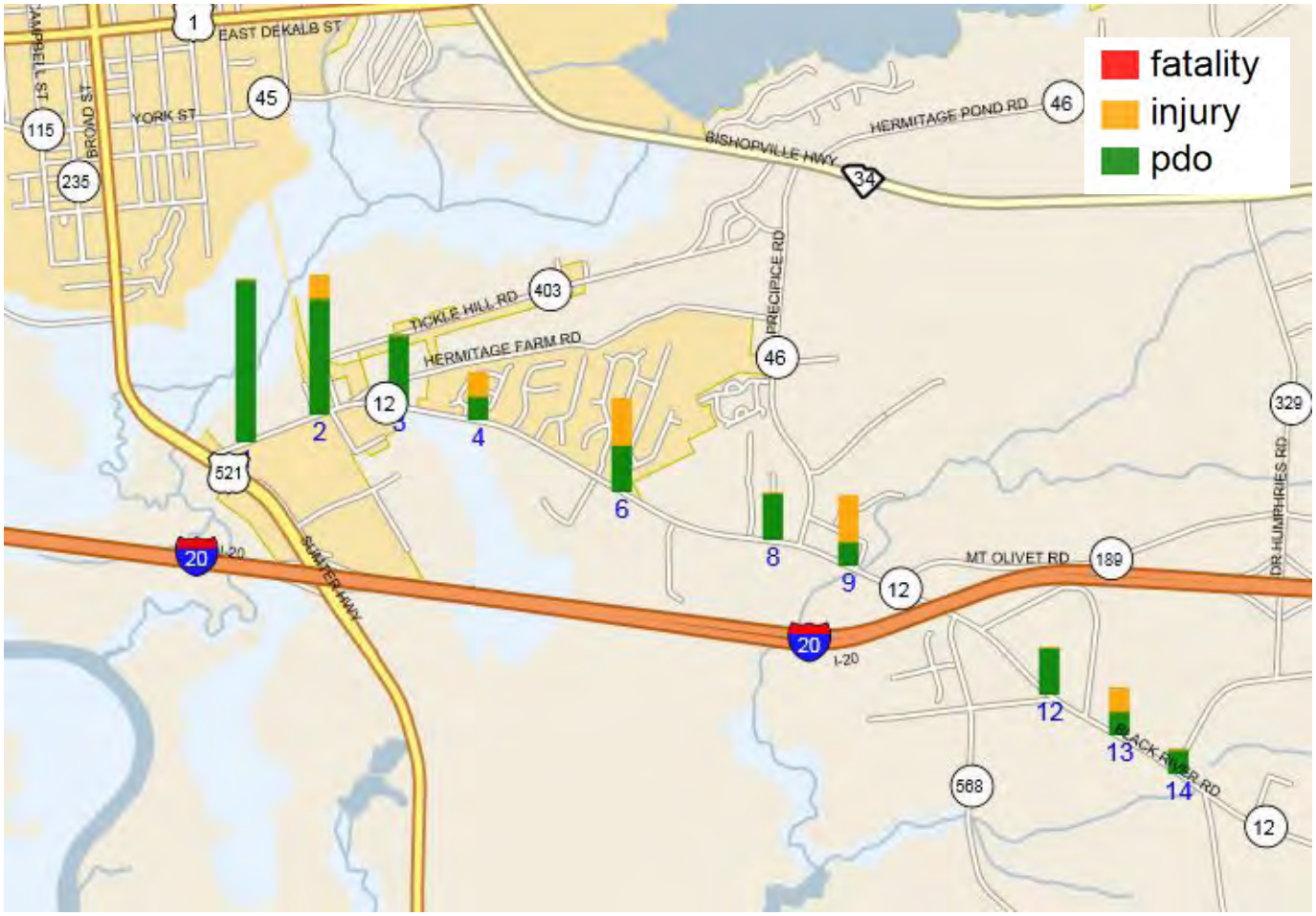
S- 12 (BLACK RIVER RD) from MPT 0.000 (SUMTER HWY) to MPT 4.150 (CHARLOTTE THOMPSON SCHOO

KERSHAW County

01/01/2014 - 12/31/2016 (3.0 years)

Length = 4.150 miles AADT = 4,727

Functional Class = Rural -- Major Collector



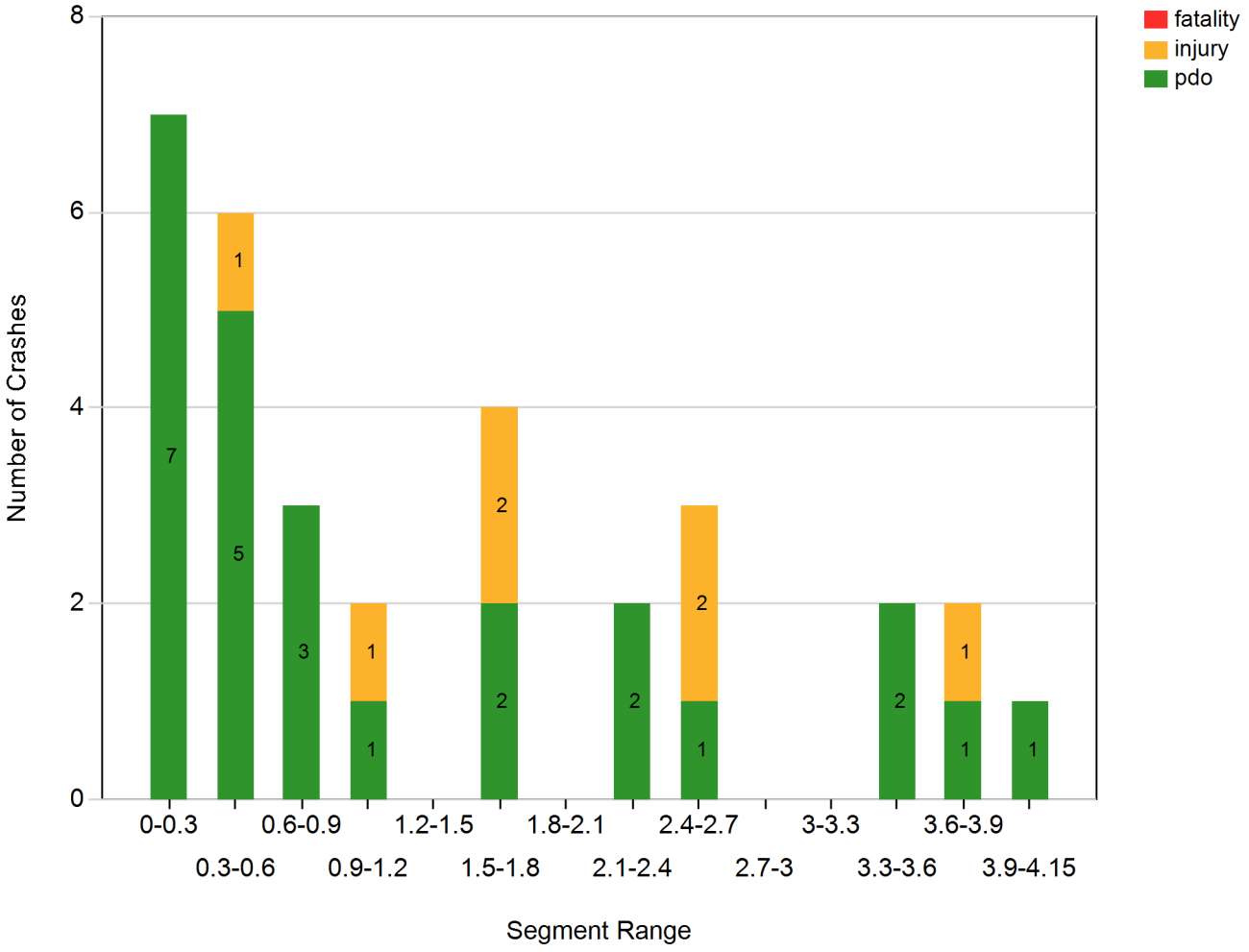
S- 12 (BLACK RIVER RD) from MPT 0.000 (SUMTER HWY) to MPT 4.150 (CHARLOTTE THOMPSON SCHOO

KERSHAW County

01/01/2014 - 12/31/2016 (3.0 years)

Length = 4.150 miles AADT = 4,727

Functional Class = Rural -- Major Collector



Section Crashes

MPT 0.000 to 0.300 (Stack #1)

Total Crashes: 7 Light: 7 Dark: 0 Dry: 7 Wet: 0 Fatalities: 0 Injuries: 0 PDO: 7

1	16005391	0.005	INJ0	DAY	DRY	MOTOR VEHICLE (STOPPED)	REAR END
2	14047487	0.011	INJ0	DAY	DRY	MOTOR VEHICLE (STOPPED)	REAR END
3	14031442	0.012	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	REAR END
4	16026080	0.017	INJ0	DAY	DRY	MOTOR VEHICLE (STOPPED)	REAR END
5	16028173	0.029	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
6	16005396	0.040	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	REAR END
7	16017996	0.043	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE

MPT 0.300 to 0.600 (Stack #2)

Total Crashes: 6 Light: 5 Dark: 1 Dry: 4 Wet: 2 Fatalities: 0 Injuries: 1 PDO: 5

1	16015255	0.490	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
2	15029256	0.516	INJ1	DAY	DRY	MOTOR VEHICLE (STOPPED)	REAR END
3	14043005	0.518	INJ0	DARK	DRY	ANIMAL (DEER ONLY)	NO COLLISION W/MV
4	16031155	0.519	INJ0	DAY	WET	MOTOR VEHICLE (STOPPED)	REAR END
5	15008588	0.520	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	REAR END
6	14544929	0.564	INJ0	DAY	WET	MOTOR VEHICLE (IN TRANSPORT)	REAR END

MPT 0.600 to 0.900 (Stack #3)

Total Crashes: 3 Light: 1 Dark: 2 Dry: 2 Wet: 1 Fatalities: 0 Injuries: 0 PDO: 3

1	16010814	0.672	INJ0	DAY	DRY	ANIMAL (DEER ONLY)	NO COLLISION W/MV
2	15654022	0.697	INJ0	DARK	WET	DITCH	NO COLLISION W/MV
3	14002469	0.825	INJ0	DARK	DRY	ANIMAL (DEER ONLY)	NO COLLISION W/MV

MPT 0.900 to 1.200 (Stack #4)

Total Crashes: 2 Light: 2 Dark: 0 Dry: 2 Wet: 0 Fatalities: 0 Injuries: 1 PDO: 1

1	14042993	0.993	INJ1	DAY	DRY	MOTOR VEHICLE (STOPPED)	REAR END
2	16028155	1.126	INJ0	DAY	DRY	CULVERT	NO COLLISION W/MV

MPT 1.500 to 1.800 (Stack #6)

Total Crashes: 4 Light: 3 Dark: 1 Dry: 2 Wet: 2 Fatalities: 0 Injuries: 2 PDO: 2

1	16031134	1.513	INJ2	DAY	DRY	CURB	NO COLLISION W/MV
2	16501482	1.540	INJ0	DARK	WET	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
3	16018027	1.547	INJ1	DAY	WET	DITCH	NO COLLISION W/MV
4	15644644	1.798	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	REAR END

Section Crashes

MPT 2.100 to 2.400 (Stack #8)

Total Crashes: 2 Light: 1 Dark: 1 Dry: 1 Wet: 1 Fatalities: 0 Injuries: 0 PDO: 2

1	16598081	2.198	INJ0	DARK	DRY	DITCH	NO COLLISION W/MV
2	16645314	2.336	INJ0	DAY	WET	MOTOR VEHICLE (IN TRANSPORT)	REAR END

MPT 2.400 to 2.700 (Stack #9)

Total Crashes: 3 Light: 1 Dark: 2 Dry: 3 Wet: 0 Fatalities: 0 Injuries: 2 PDO: 1

1	15501578	2.658	INJ1	DAY	DRY	EMBANKMENT	NO COLLISION W/MV
2	14566602	2.663	INJ0	DARK	DRY	OTHER (POST, POLE, SUPPORT, ETC)	NO COLLISION W/MV
3	16632350	2.691	INJ1	DARK	DRY	DITCH	NO COLLISION W/MV

MPT 3.300 to 3.600 (Stack #12)

Total Crashes: 2 Light: 1 Dark: 1 Dry: 1 Wet: 1 Fatalities: 0 Injuries: 0 PDO: 2

1	16609805	3.454	INJ0	DAY	DRY	MOTOR VEHICLE (IN TRANSPORT)	ANGLE
2	15650213	3.587	INJ0	DARK	WET	MOTOR VEHICLE (IN TRANSPORT)	SIDESWIPE OPP DIR

MPT 3.600 to 3.900 (Stack #13)

Total Crashes: 2 Light: 2 Dark: 0 Dry: 2 Wet: 0 Fatalities: 0 Injuries: 1 PDO: 1

1	15522718	3.711	INJ3	DAY	DRY	TREE	NO COLLISION W/MV
2	15569195	3.855	INJ0	DAY	DRY	DITCH	NO COLLISION W/MV

MPT 3.900 to 4.150 (Stack #14)

Total Crashes: 1 Light: 1 Dark: 0 Dry: 1 Wet: 0 Fatalities: 0 Injuries: 0 PDO: 1

1	15532774	4.030	INJ0	DAY	DRY	DITCH	NO COLLISION W/MV

Crash Summary

S- 329 (DR HUMPHRIES RD) from MPT 0.000 (CLEVELAND SCHOOL RD) to MPT 1.820 (RIDGEWAY RD)

KERSHAW County

01/01/2014 - 12/31/2016 (3.0 years)

Length = 1.820 miles

AADT = 1,501

Functional Class = Rural -- Local

Crashes by Injury Class

Fatality Crashes	0
Injury Crashes	1
PDO Crashes	3
Total Crashes	**4**

Crashes by Manner Of Collision

Rear End	2
Angle	0
Sideswipe	1
Head On	0
Run Off Road	1
Other	0
Total Crashes	**4**

Special Contributing Factors

Animal	0
Bicycle	0
Pedestrian	0

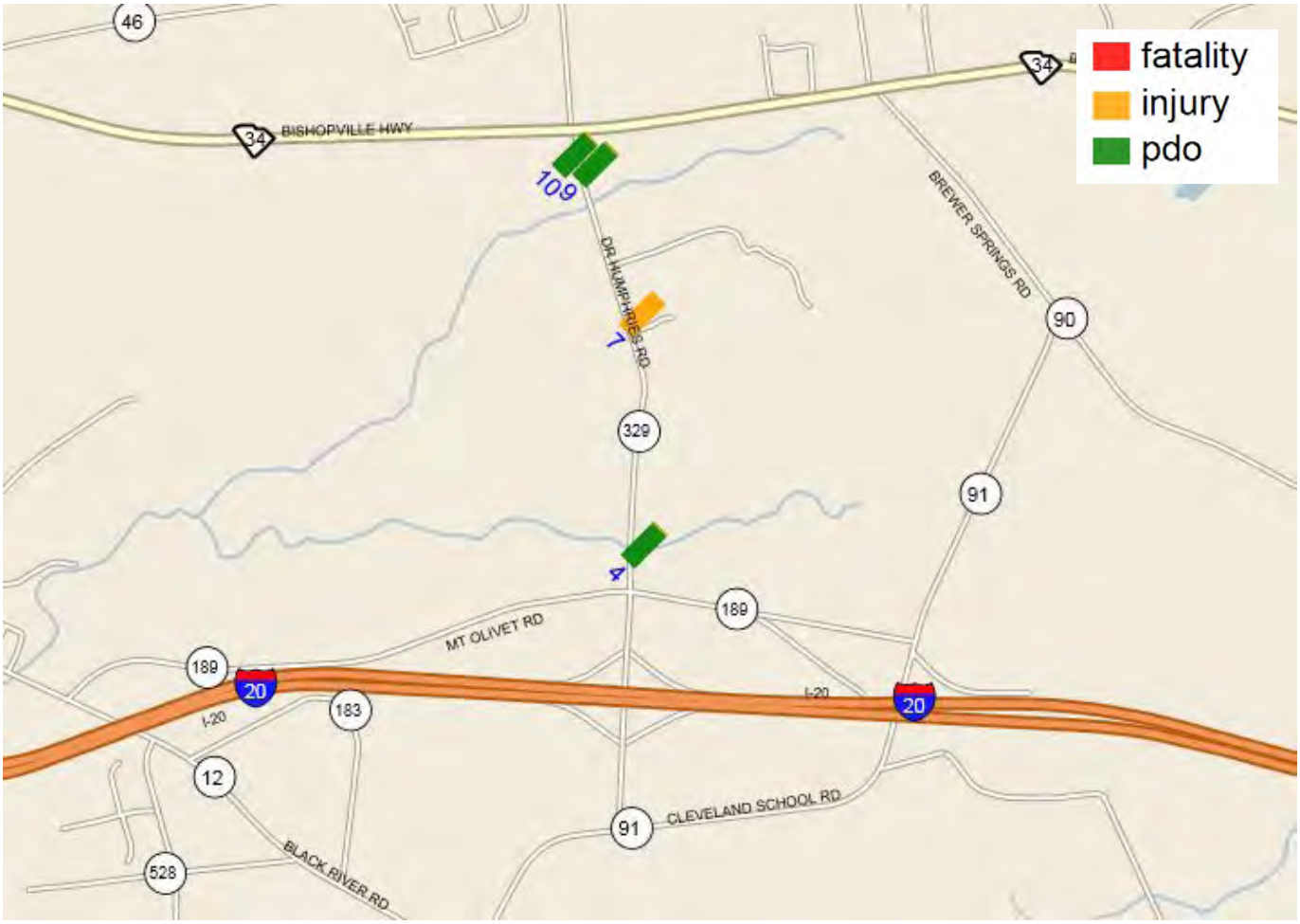
S- 329 (DR HUMPHRIES RD) from MPT 0.000 (CLEVELAND SCHOOL RD) to MPT 1.820 (RIDGEWAY RD)

KERSHAW County

01/01/2014 - 12/31/2016 (3.0 years)

Length = 1.820 miles AADT = 1,501

Functional Class = Rural -- Local



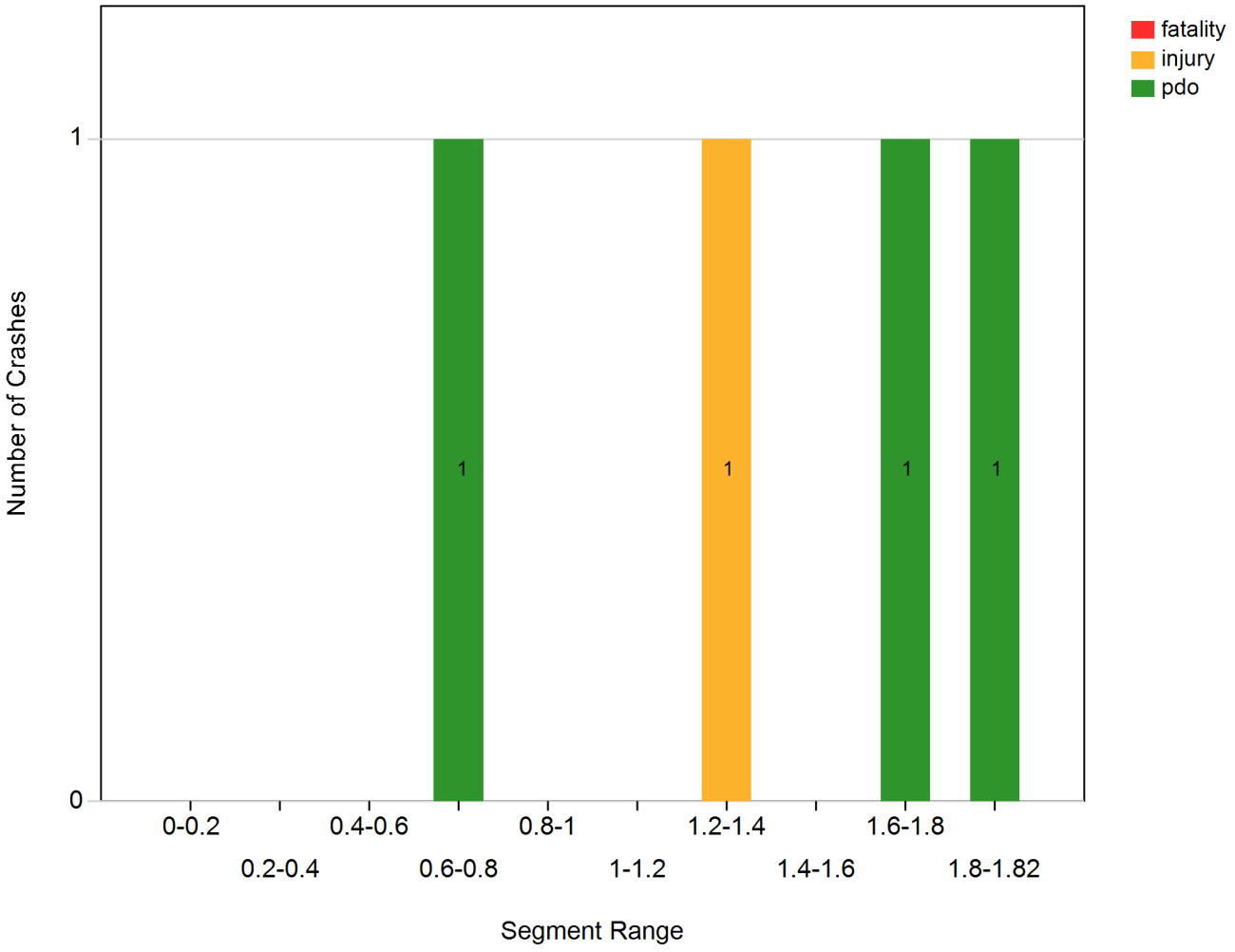
S- 329 (DR HUMPHRIES RD) from MPT 0.000 (CLEVELAND SCHOOL RD) to MPT 1.820 (RIDGEWAY RD)

KERSHAW County

01/01/2014 - 12/31/2016 (3.0 years)

Length = 1.820 miles AADT = 1,501

Functional Class = Rural -- Local



Section Crashes

MPT 0.600 to 0.800 (Stack #4)

Total Crashes: 1 Light: 1 Dark: 0 Dry: 0 Wet: 1 Fatalities: 0 Injuries: 0 PDO: 1

1	16556030	0.680	INJ0	DAY	WET	MOTOR VEHICLE (STOPPED)	REAR END

MPT 1.200 to 1.400 (Stack #7)

Total Crashes: 1 Light: 1 Dark: 0 Dry: 1 Wet: 0 Fatalities: 0 Injuries: 1 PDO: 0

1	16615856	1.204	INJ1	DAY	DRY	TREE	NO COLLISION W/MV

MPT 1.600 to 1.800 (Stack #9)

Total Crashes: 1 Light: 1 Dark: 0 Dry: 1 Wet: 0 Fatalities: 0 Injuries: 0 PDO: 1

1	15635885	1.796	INJ0	DAY	DRY	MOTOR VEHICLE (STOPPED)	SIDESWIPE OPP DIR

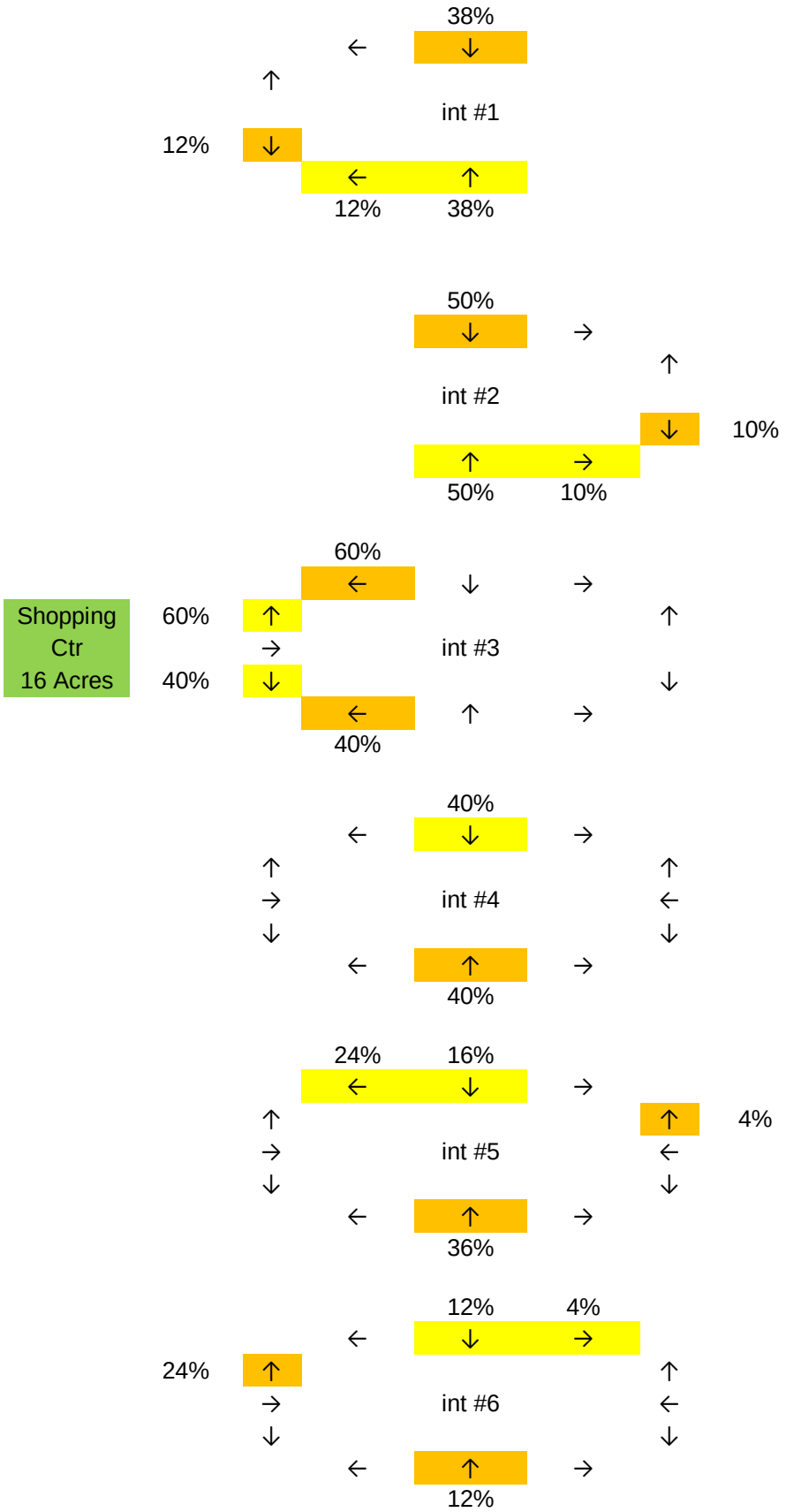
MPT 1.800 to 1.820 (Stack #10)

Total Crashes: 1 Light: 1 Dark: 0 Dry: 0 Wet: 1 Fatalities: 0 Injuries: 0 PDO: 1

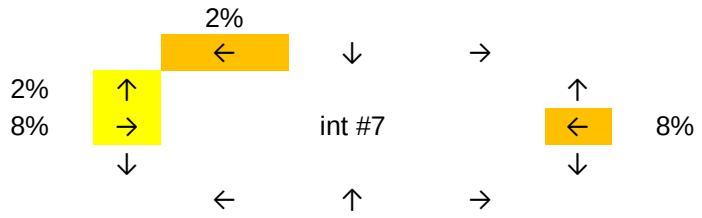
1	15626039	1.815	INJ0	DAY	WET	MOTOR VEHICLE (STOPPED)	REAR END

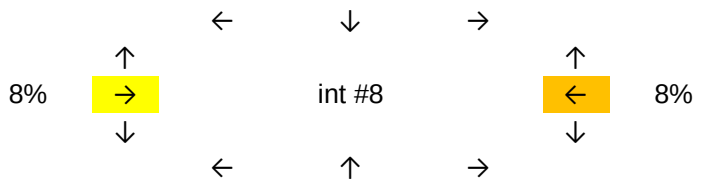
Appendix D 2040 Build Scenario 1 Trip Distributions

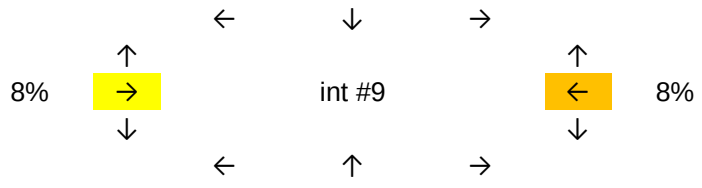
Shopping Center 139K SF on 16 acres

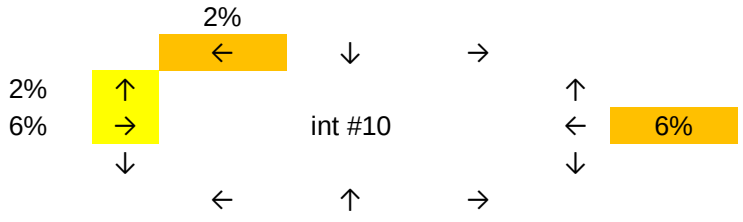


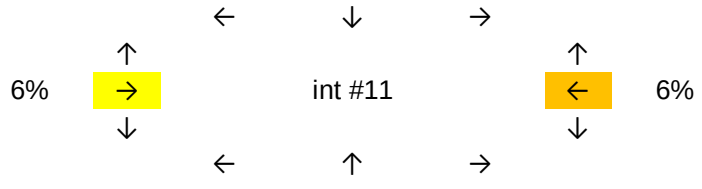
Shopping Center 139K SF on 16 acres

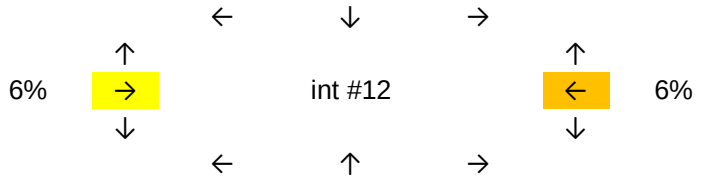




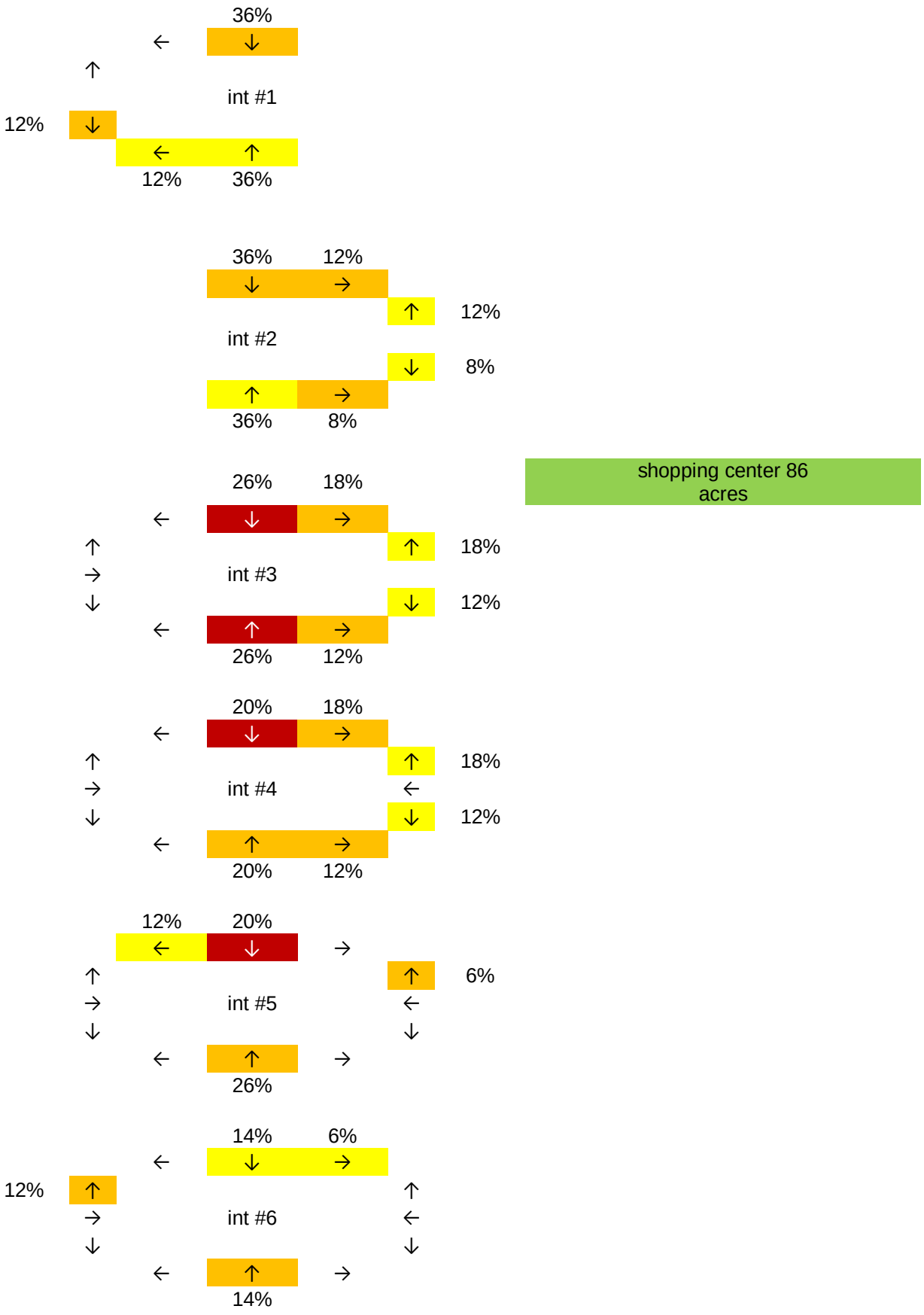




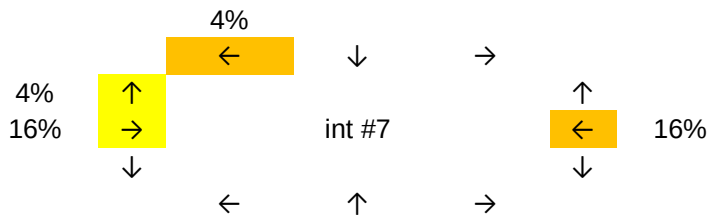


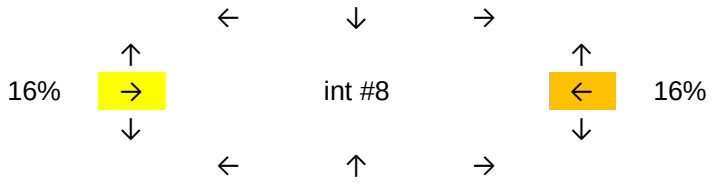


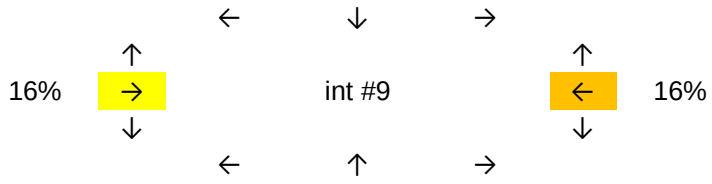
Shopping Center 741K SF on 86 acres

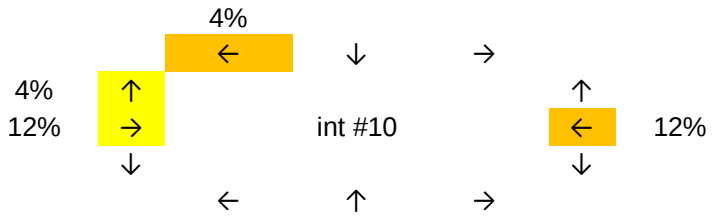


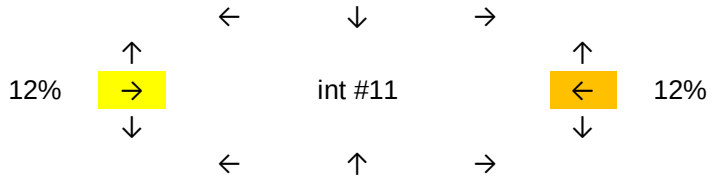
Shopping Center 741K SF on 86 acres

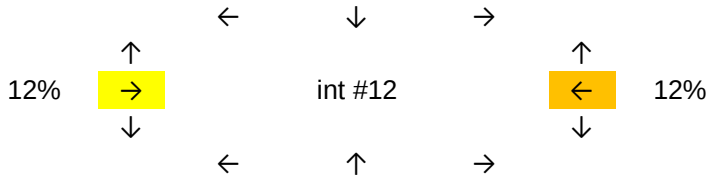




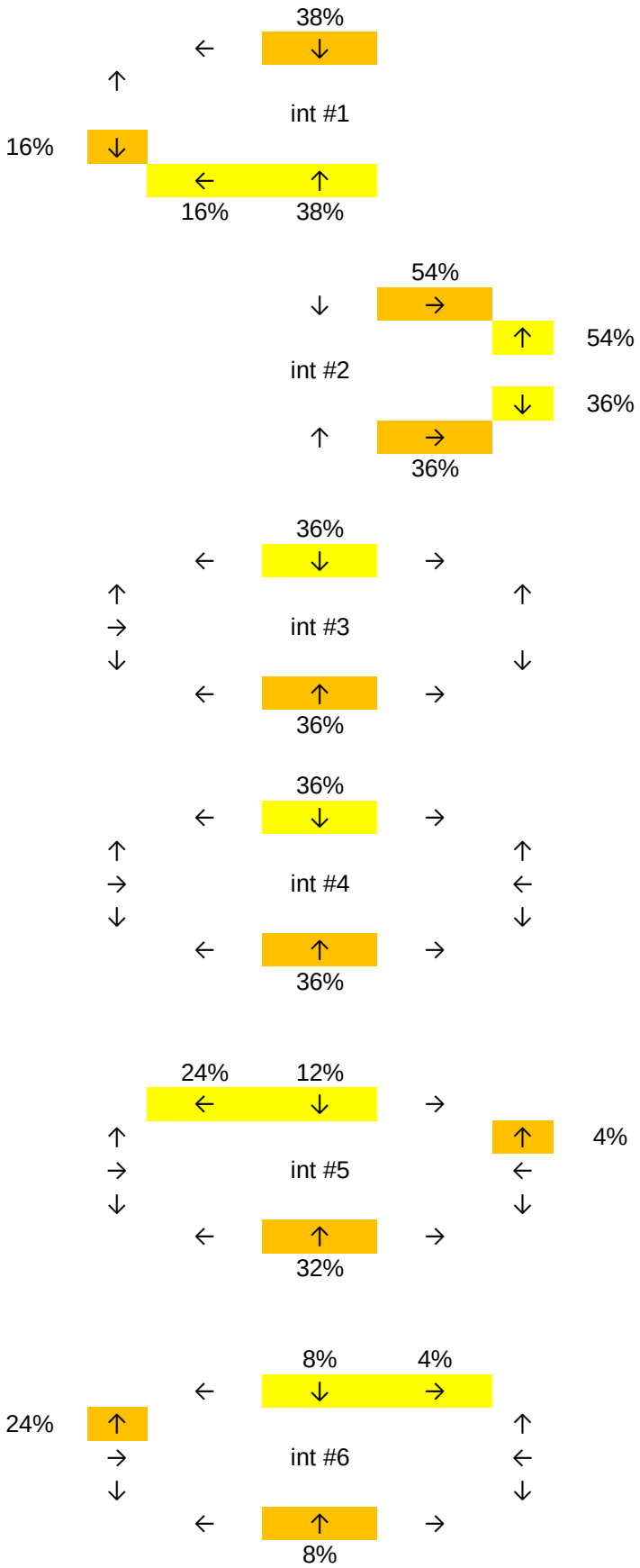








Apartments 50 units



apartments

Apartments 50 units

10% int #7 10%

10% int #8 10%

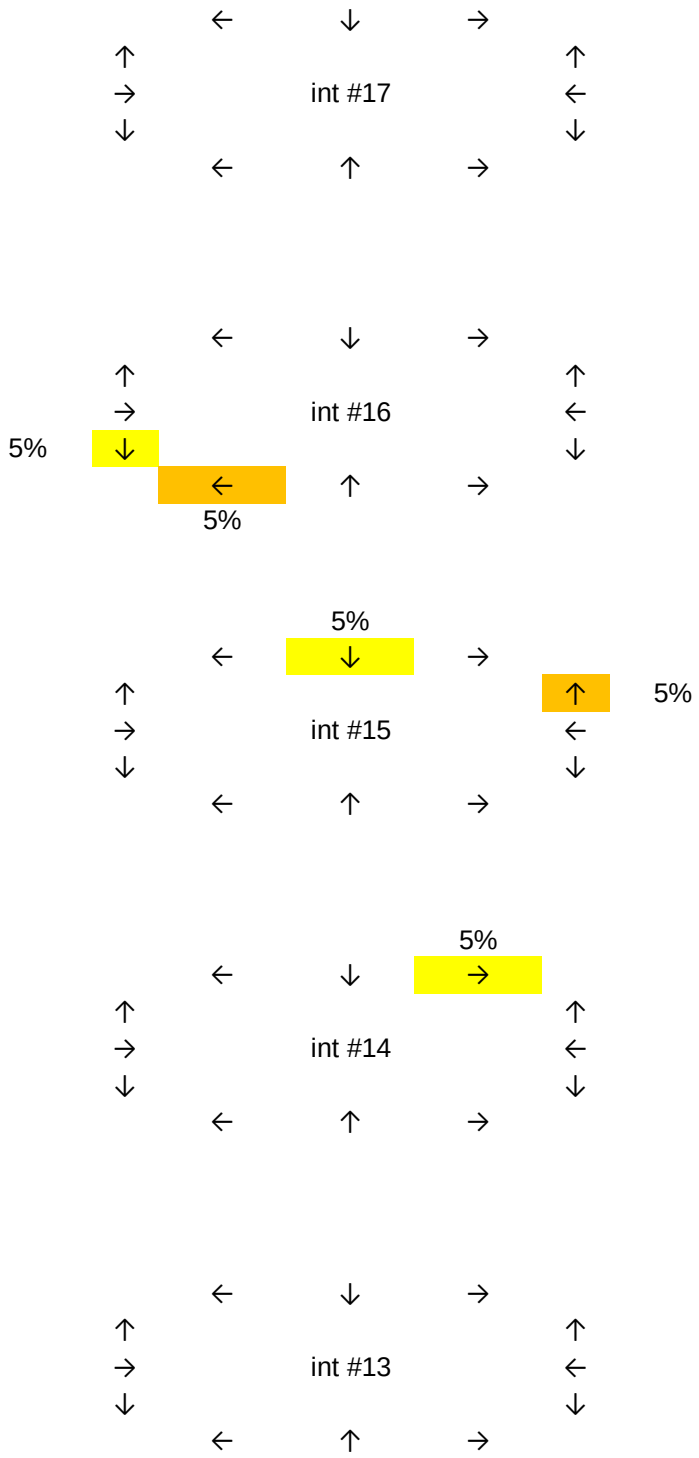
10% int #9 10%

10% int #10 10%

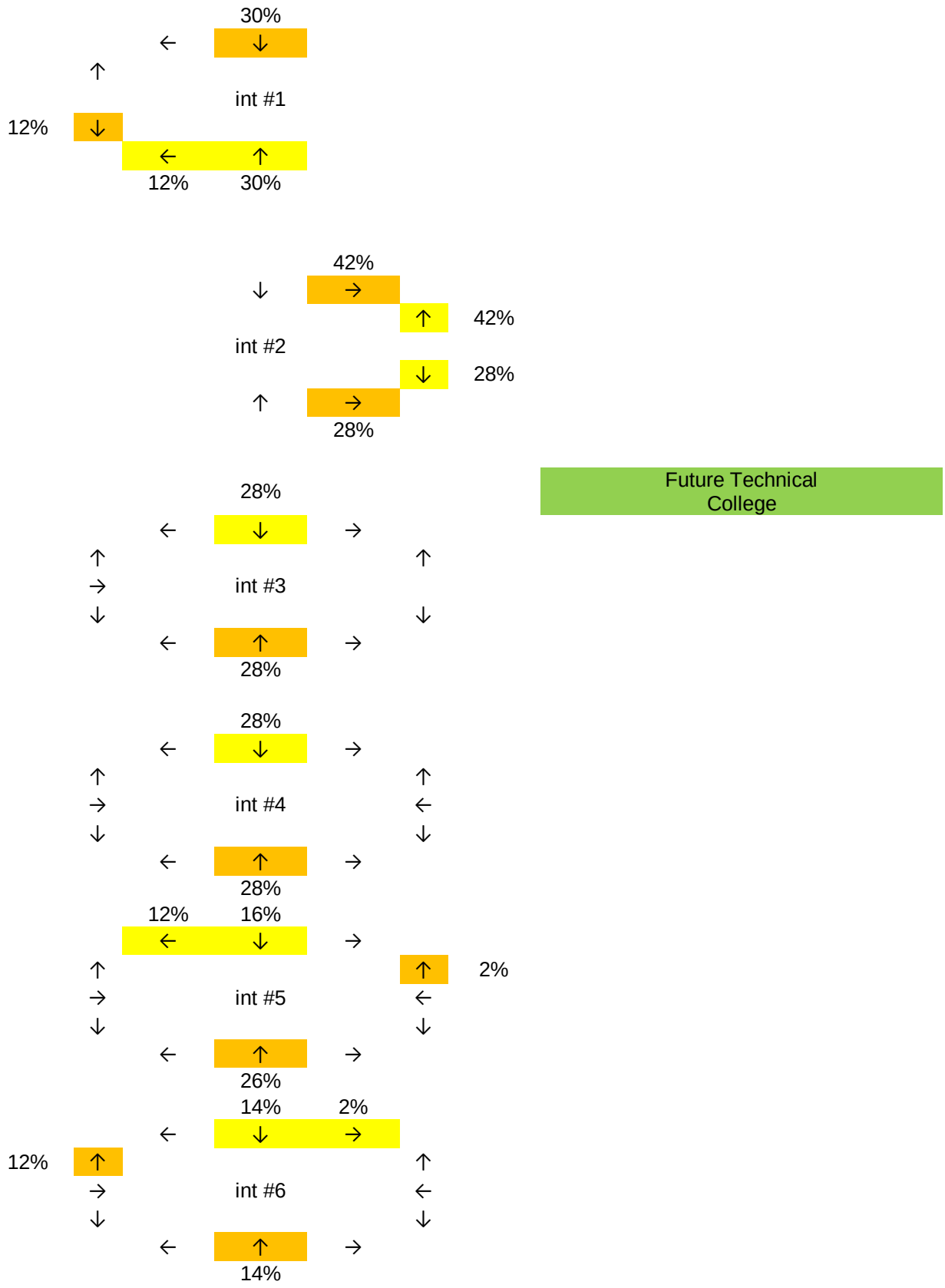
5% 5% int #11 5%

5% 5% int #12 5%

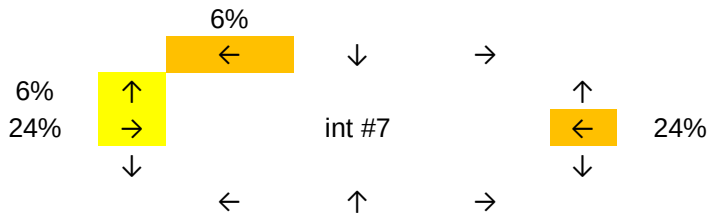
Apartments 50 units

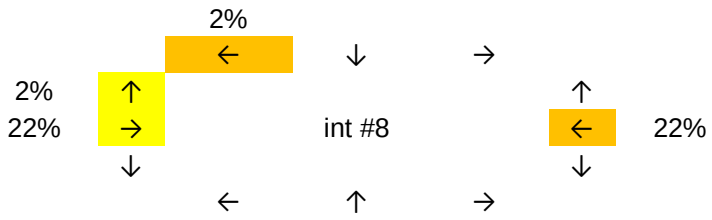


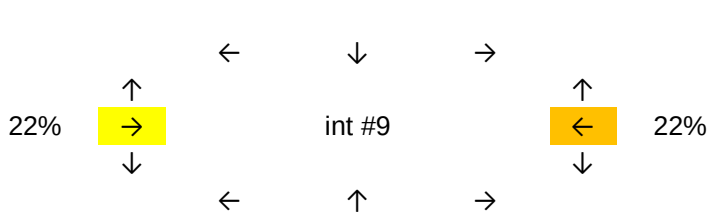
Technical College 900 Students

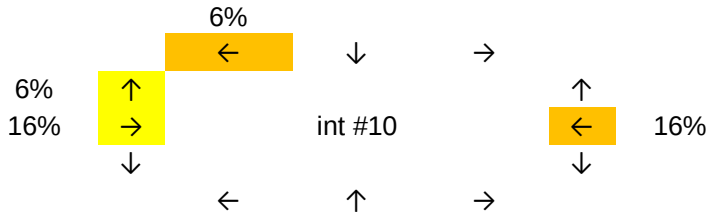


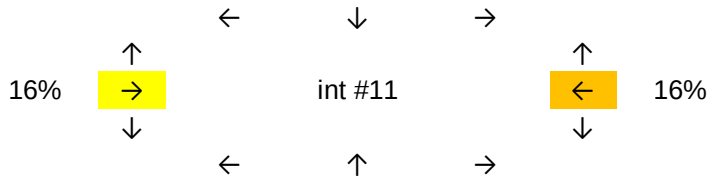
Technical College 900 Students

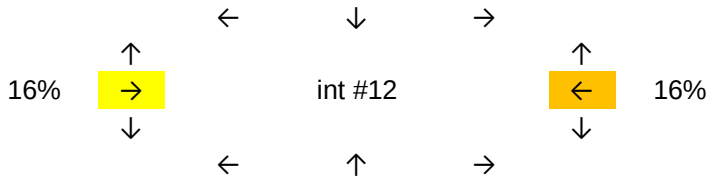




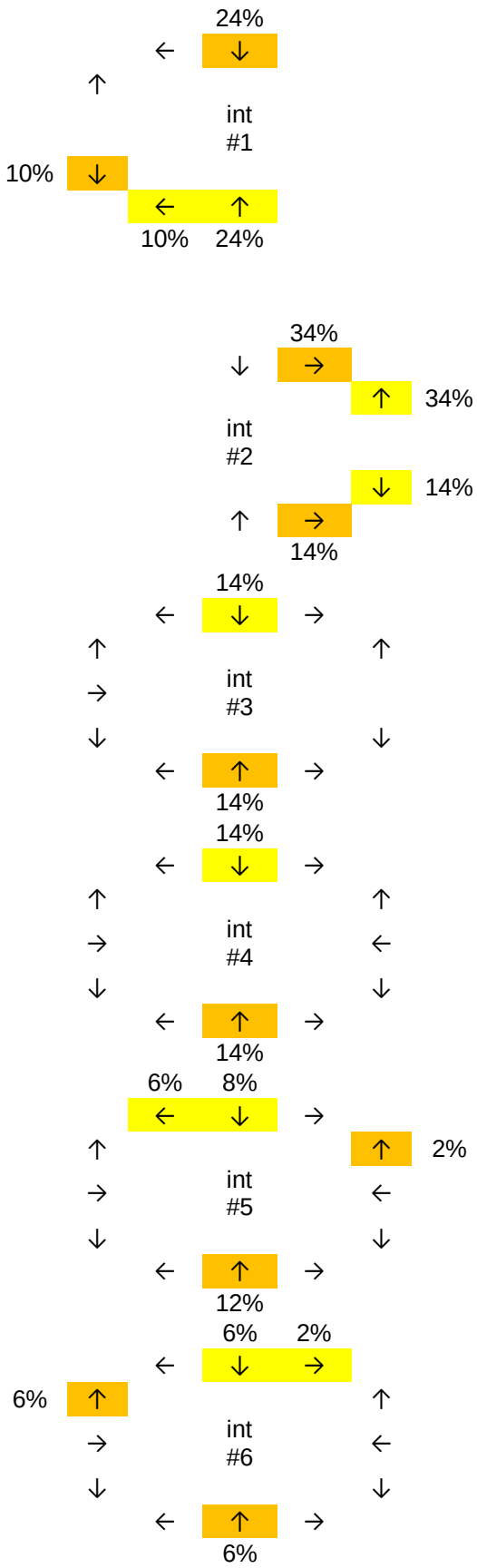




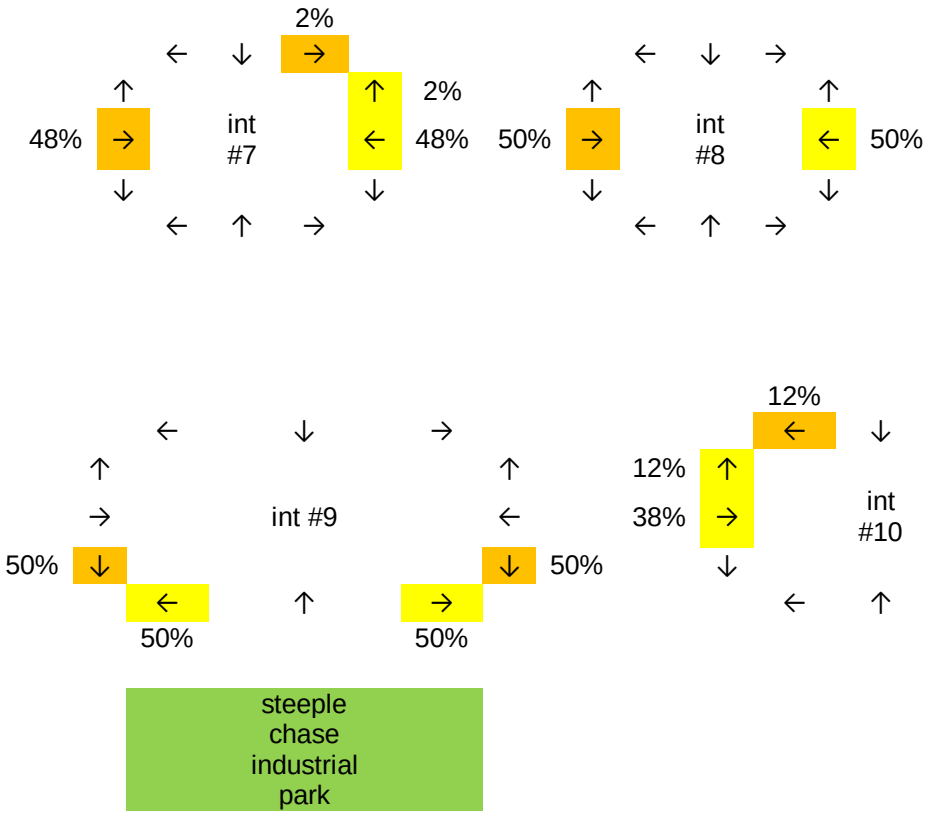




Industrial Park - Steeplechase 293 undeveloped acres & existing manufacturing sites



Industrial Park - Steeplechase 293 undeveloped acres & existing manufacturing sites



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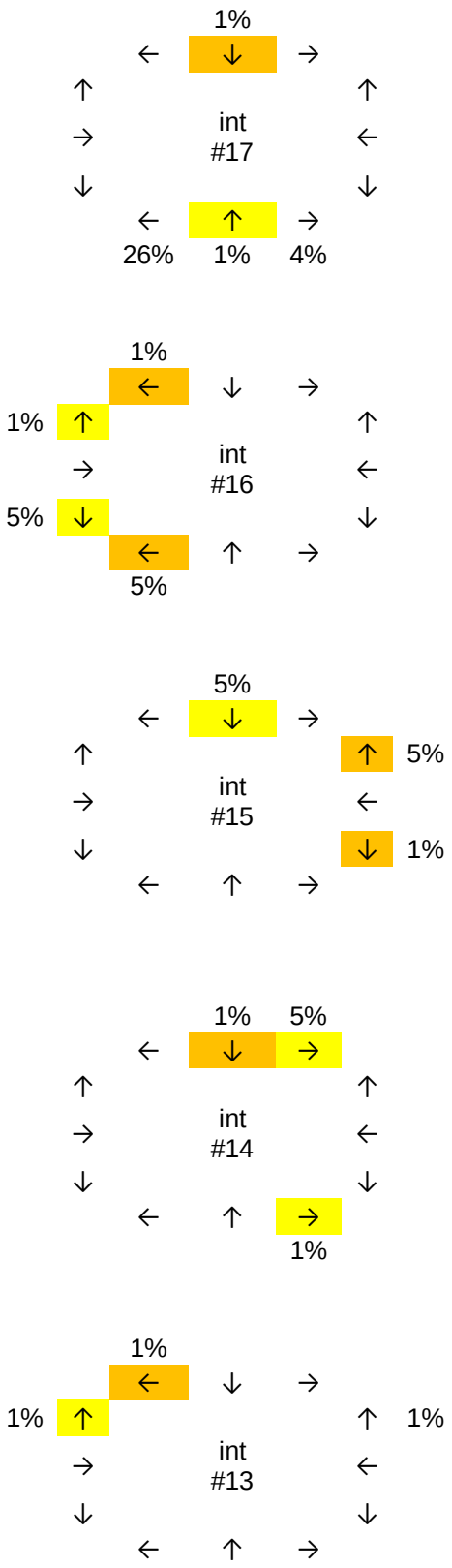
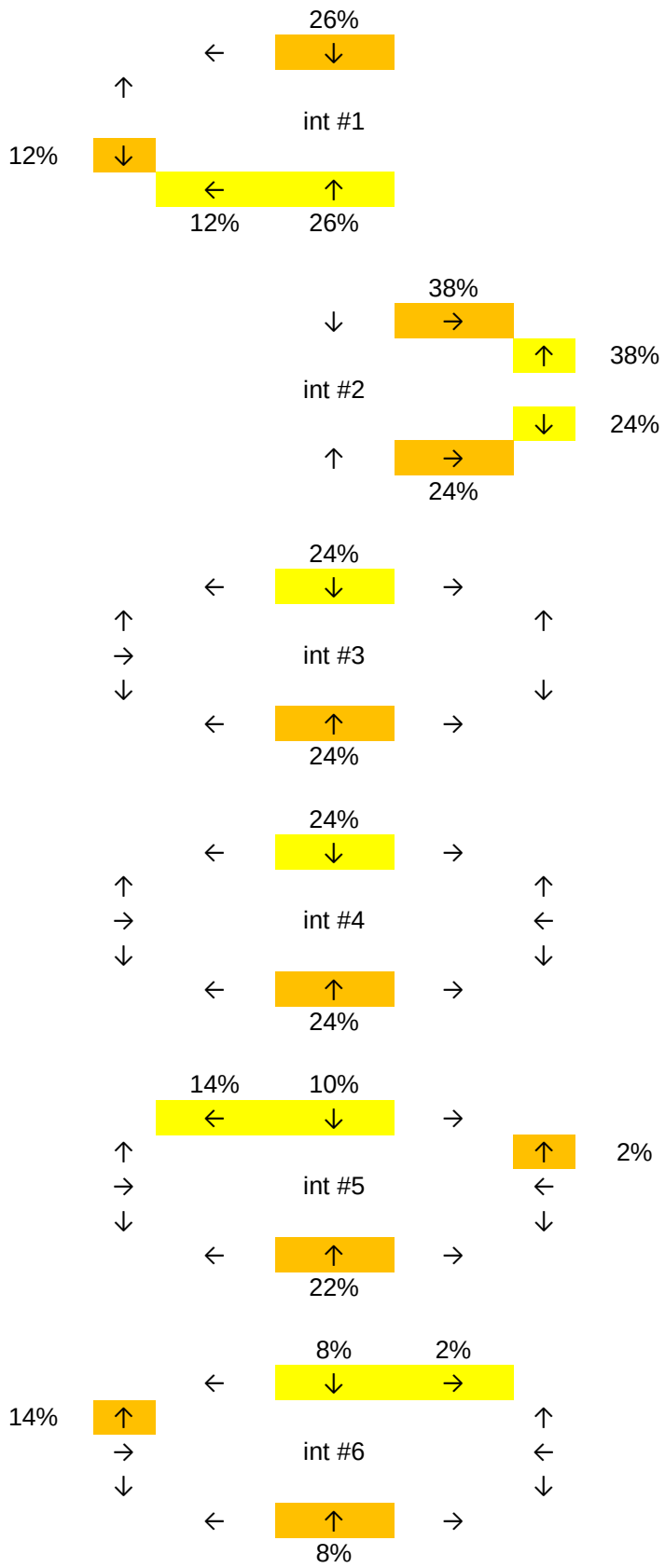
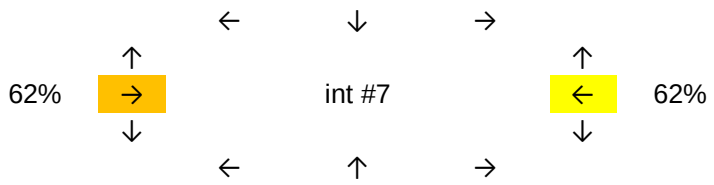
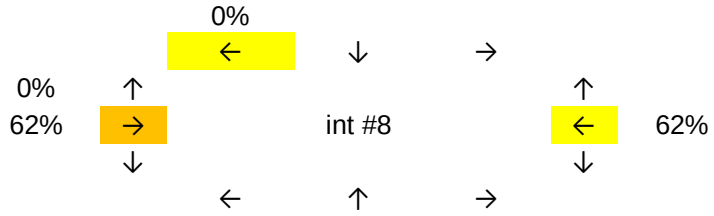


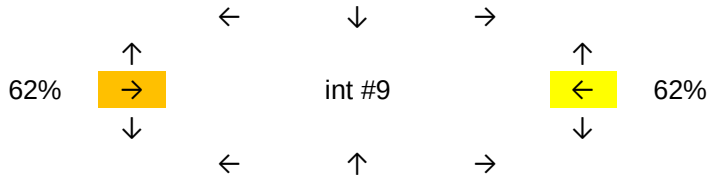
Residential 100 homes off of Precipice Road

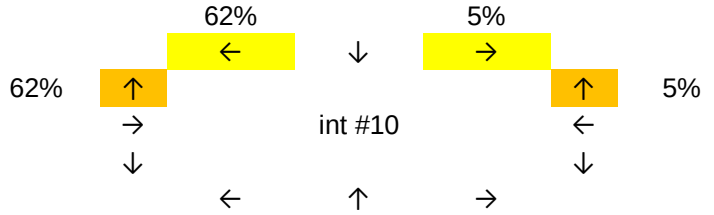


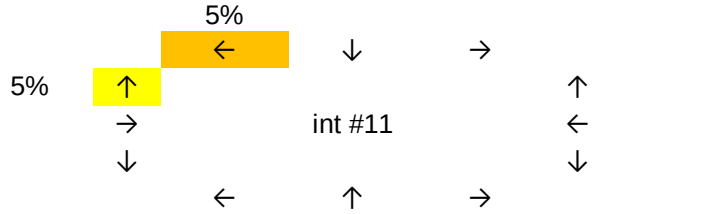
Residential 100 homes off of Precipice Road

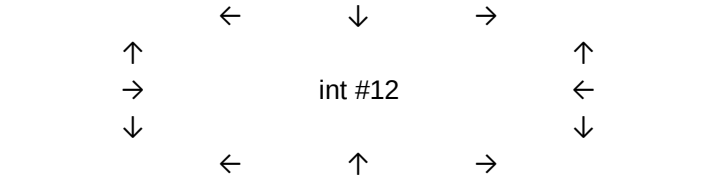




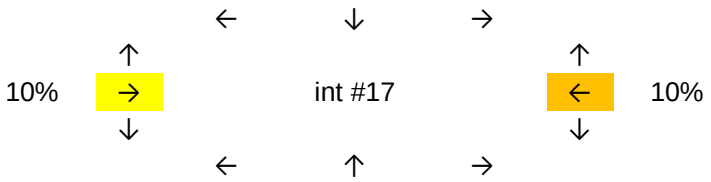


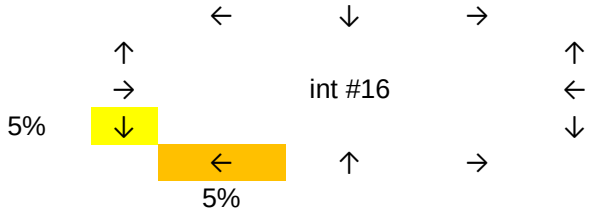


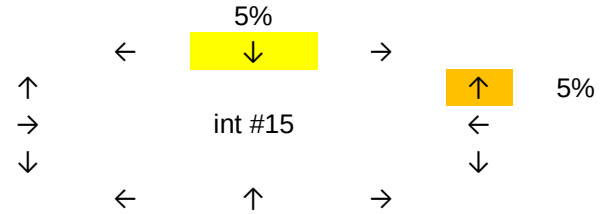


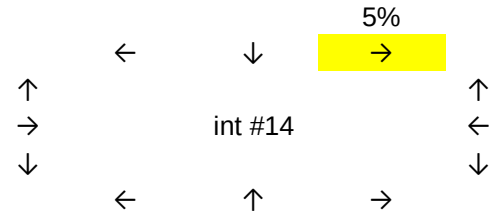


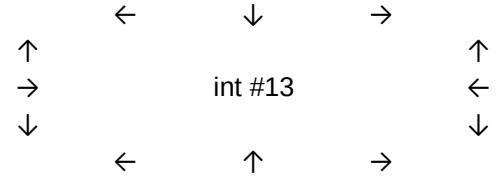
Residential 100 homes off of Precipice Road



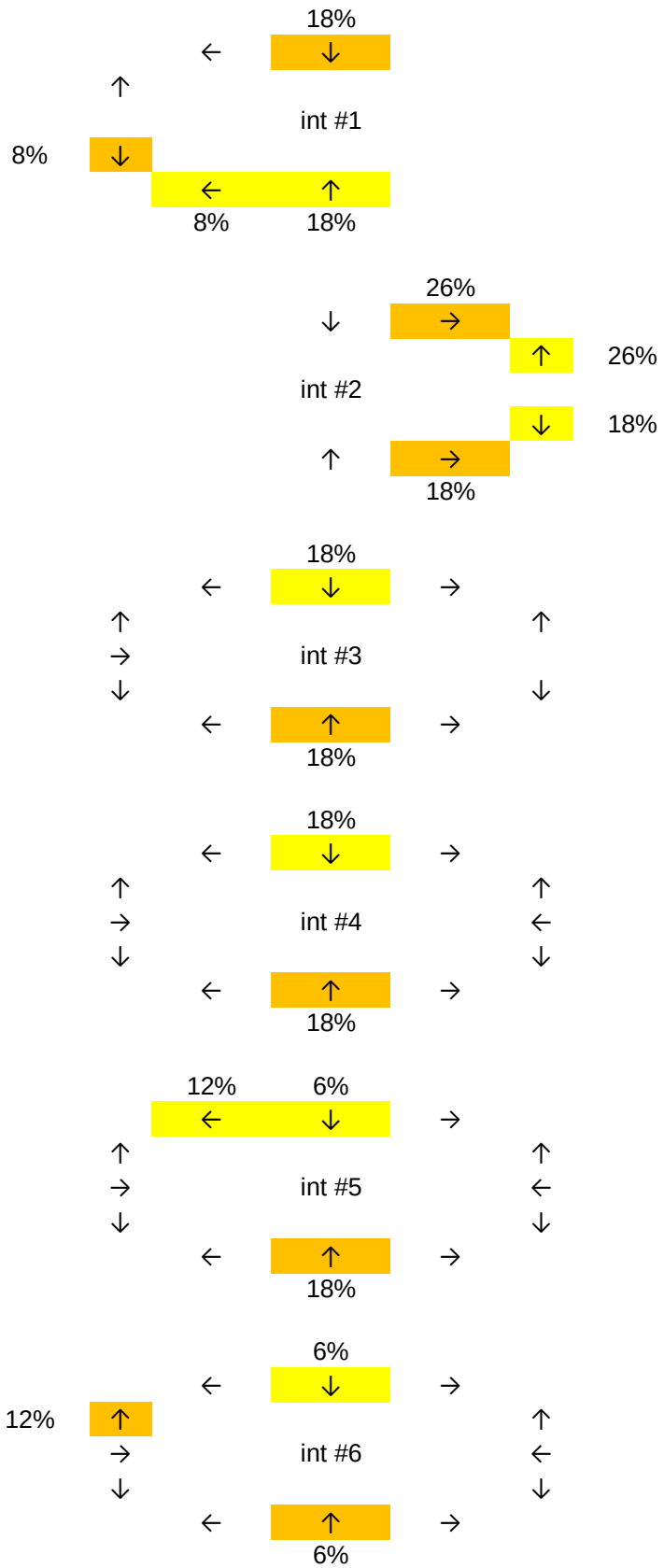




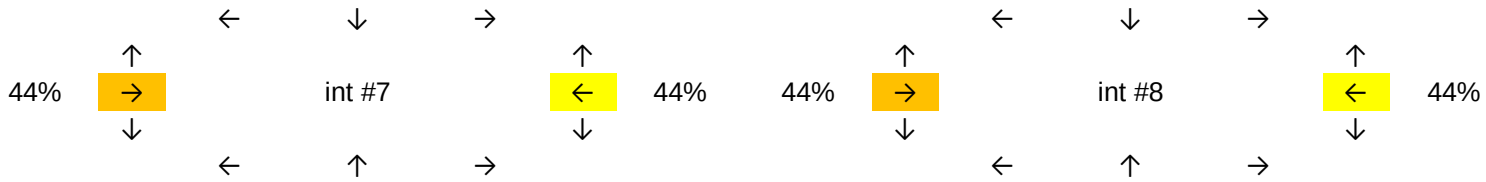


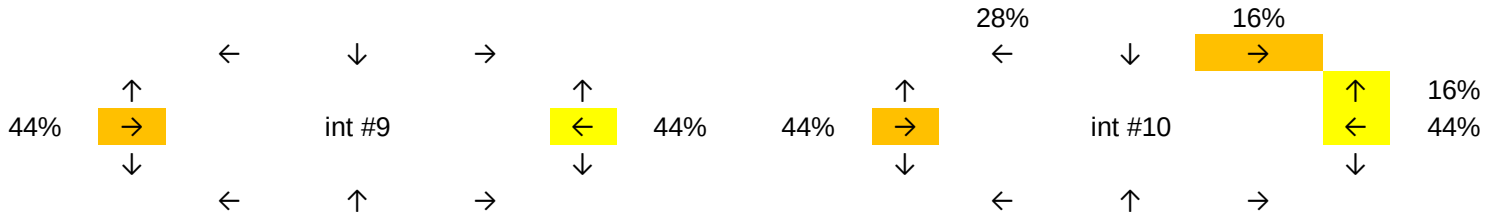


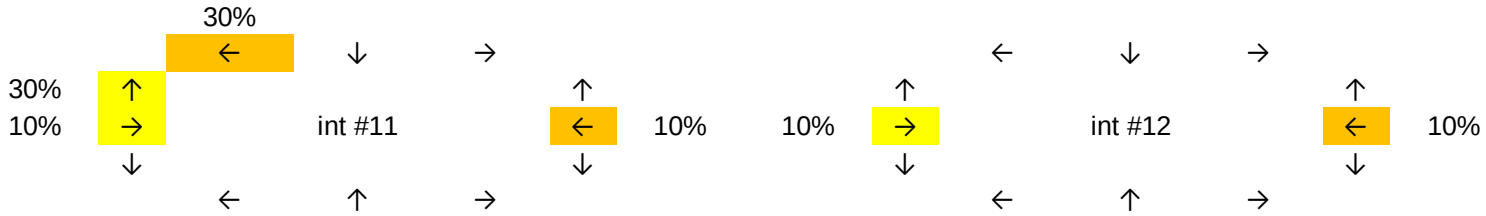
Residential 125 homes off of Black River Road 36 acres



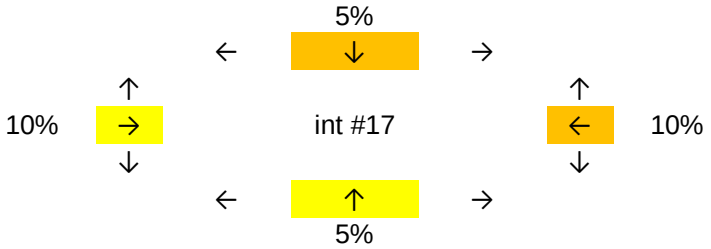
Residential 125 homes off of Black River Road 36 acres

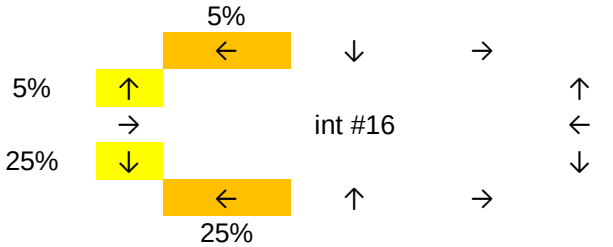


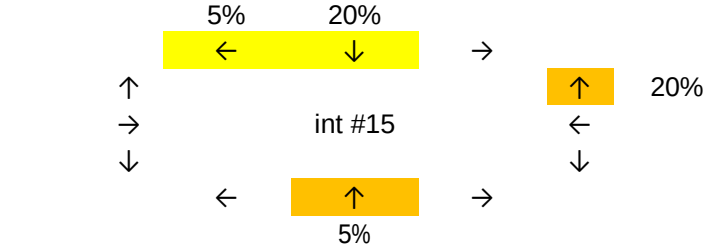


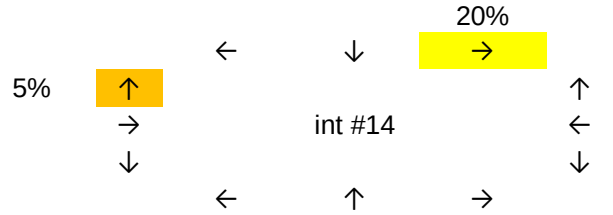


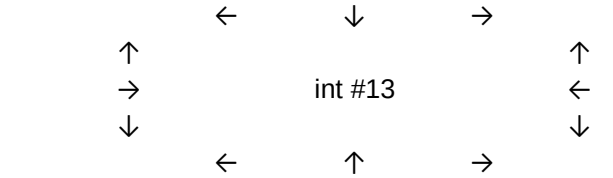
Residential 125 homes off of Black River Road 36 acres



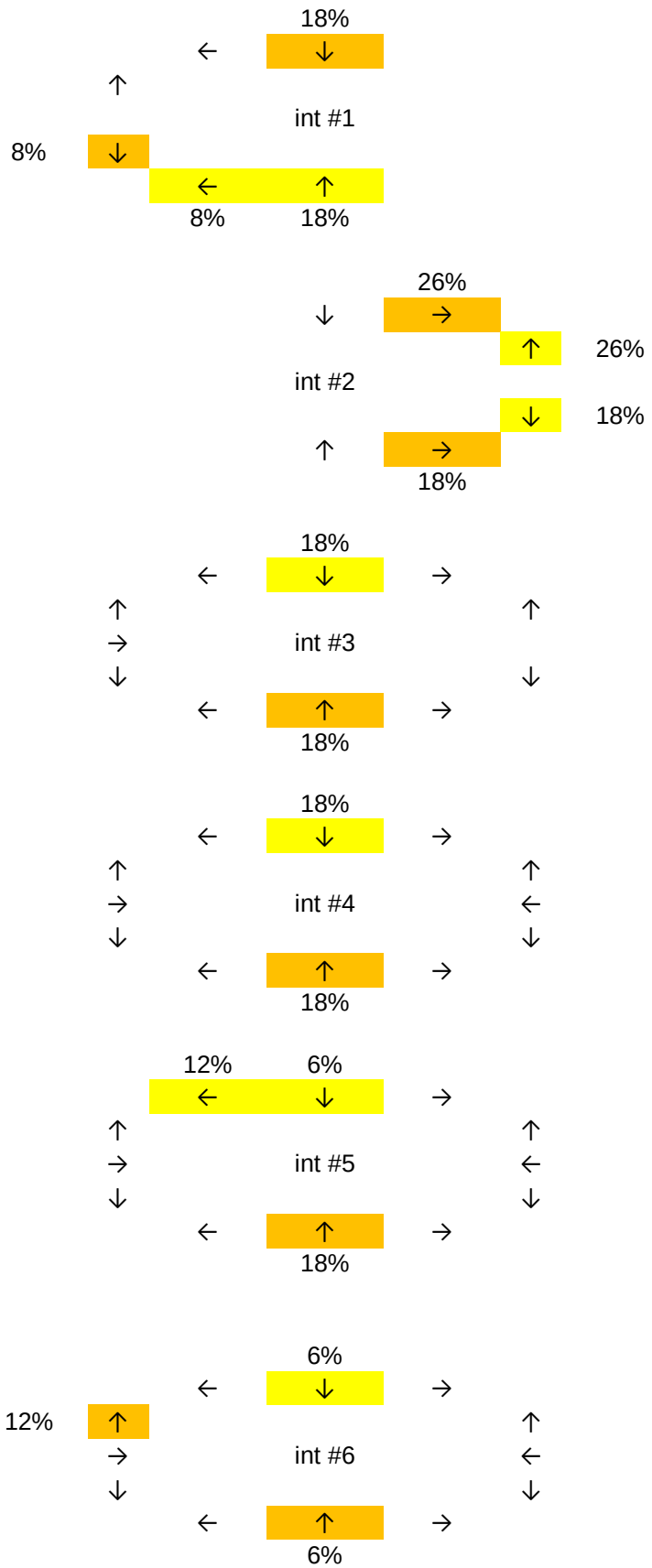








Residential 411 homes off of Mount Olivet Road 50 acres + 68 acres General Zoning



Residential 411 homes off of Mount Olivet Road 50 acres + 68 acres General Zoning

44% int #7 44%

44% int #8 44%

44% int #9 44%

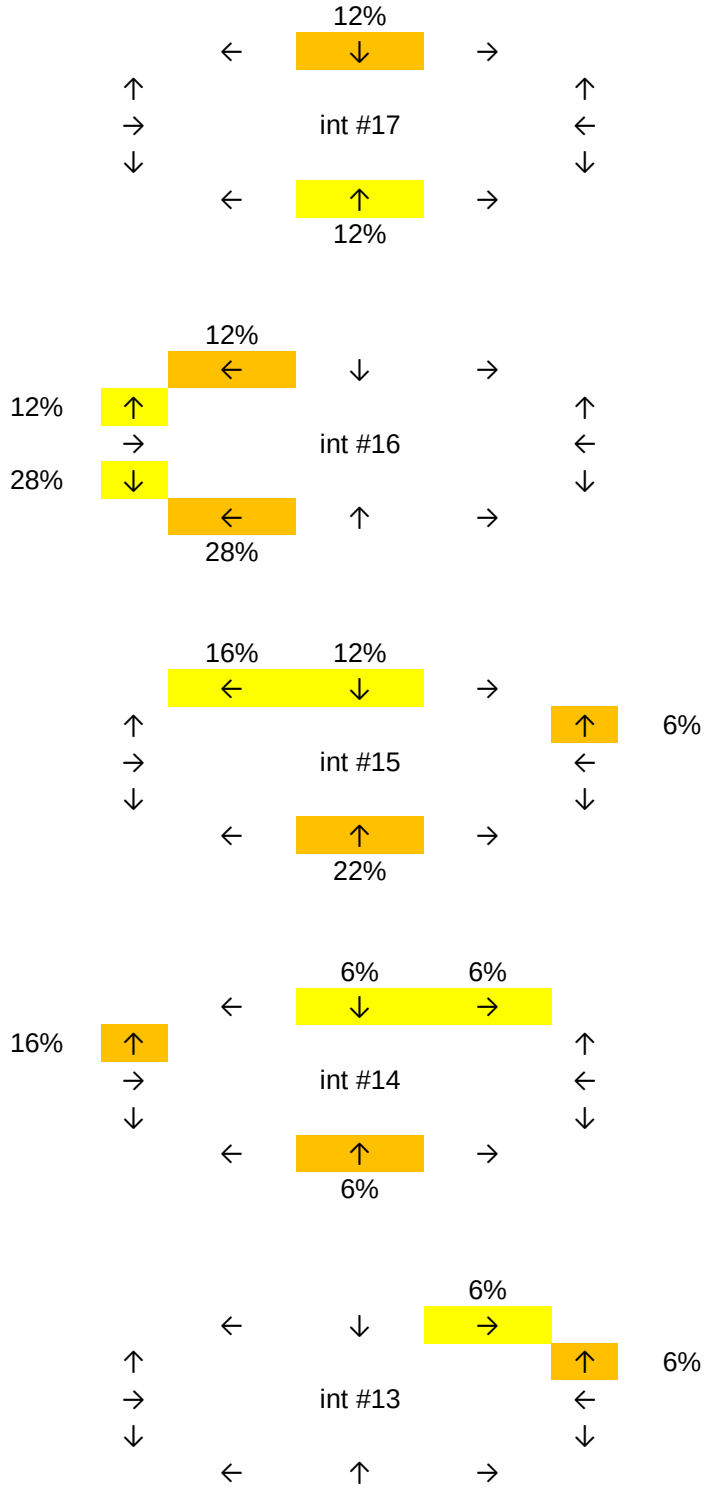
16%
44% int #10 16%
44%

Single Family Units 118 Acres

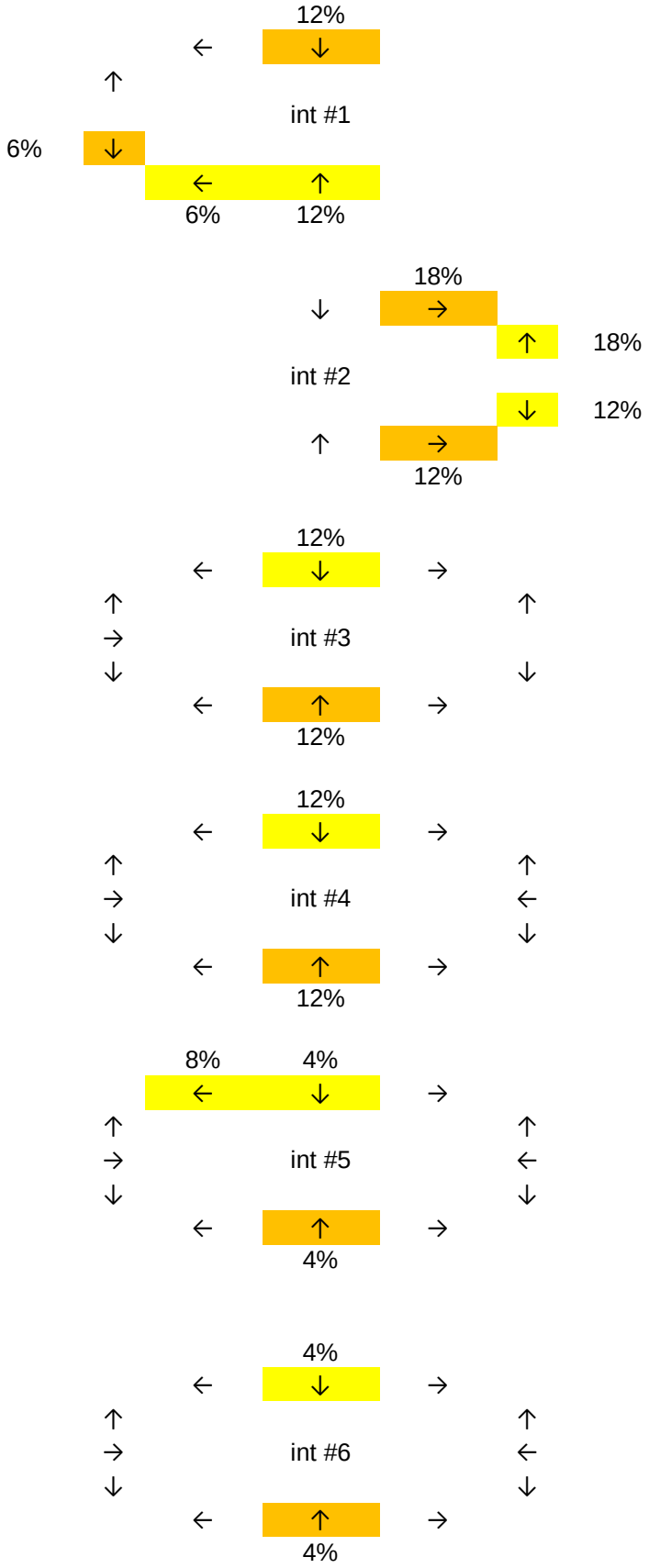
60%
60% int #11

int #12

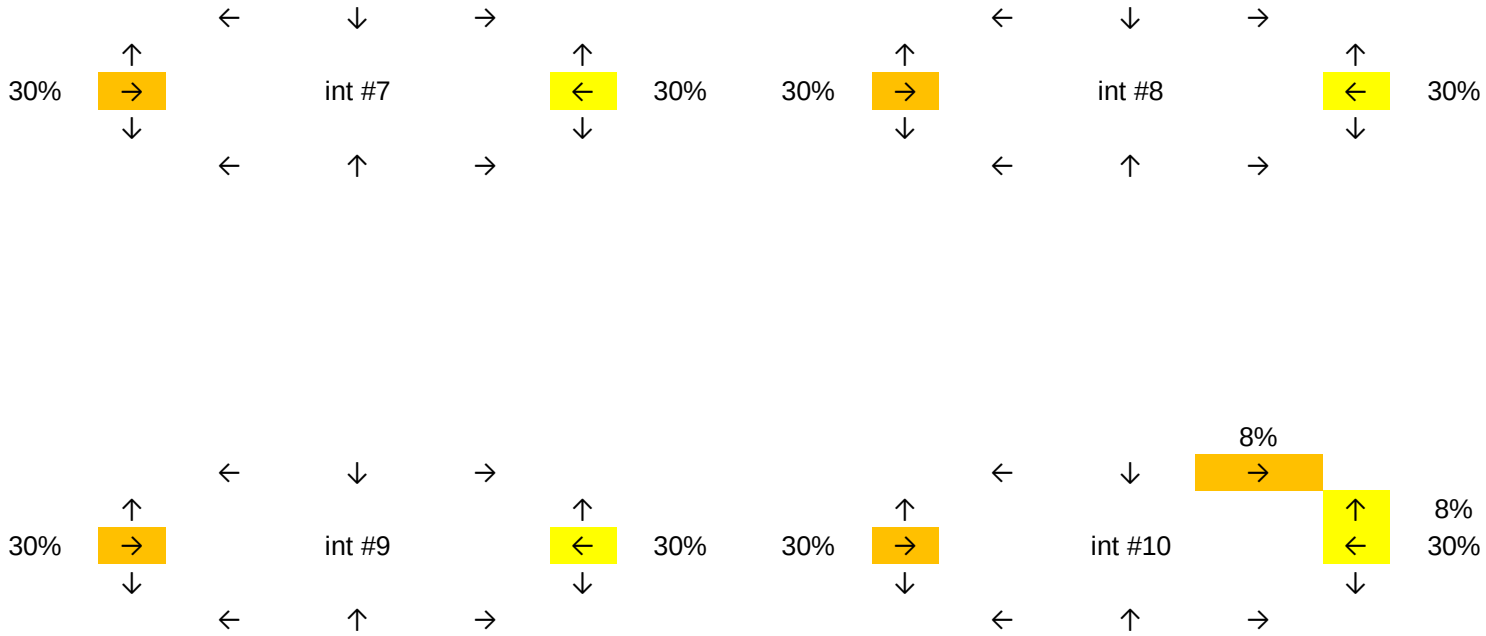
Residential 411 homes off of Mount Olivet Road 50 acres + 68 acres General Zoning

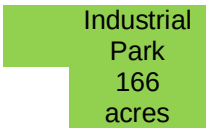


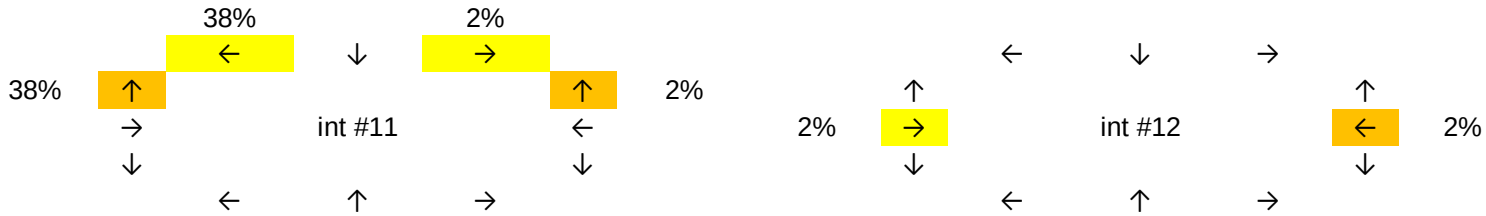
Industrial Park 166 acres General Zoning



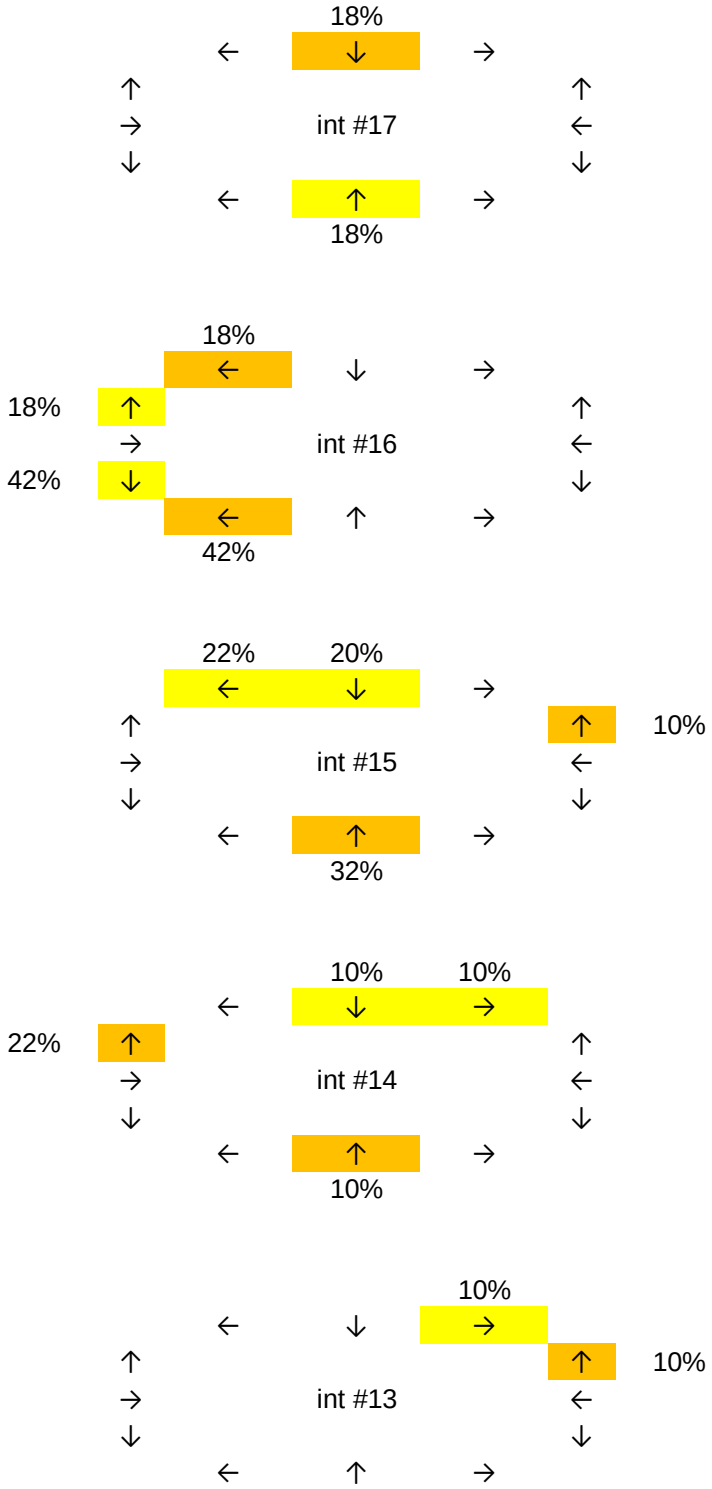
Industrial Park 166 acres General Zoning



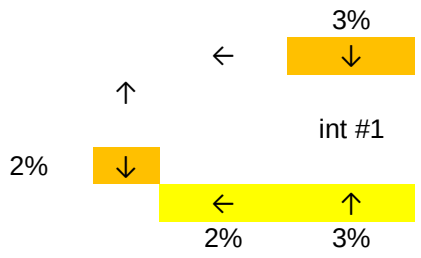


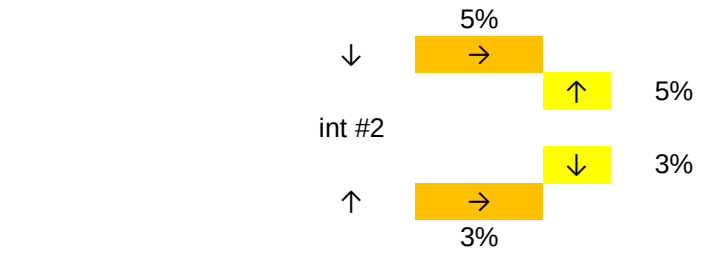


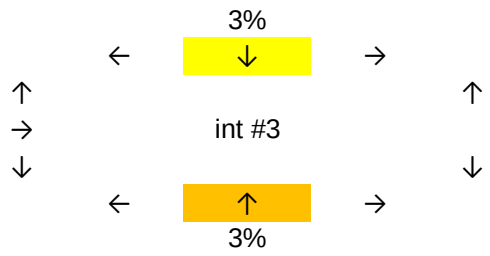
Industrial Park 166 acres General Zoning

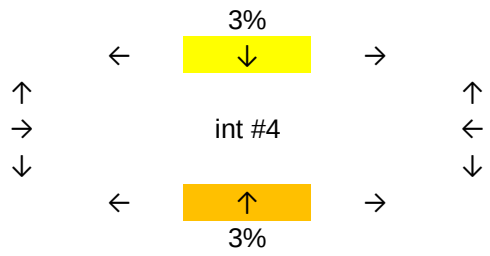


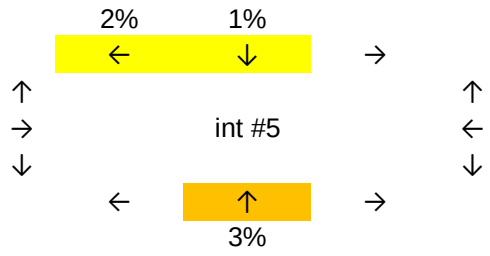
Industrial Park 206 Acres Governor's Hill

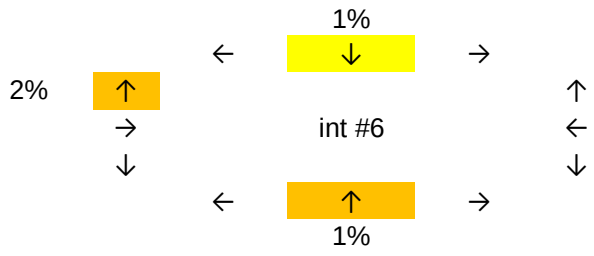




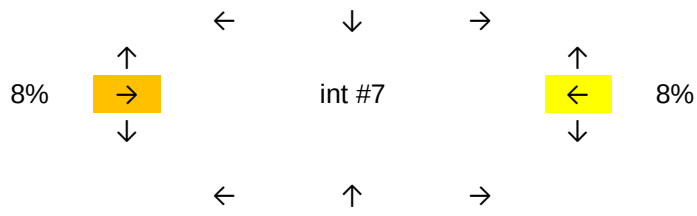


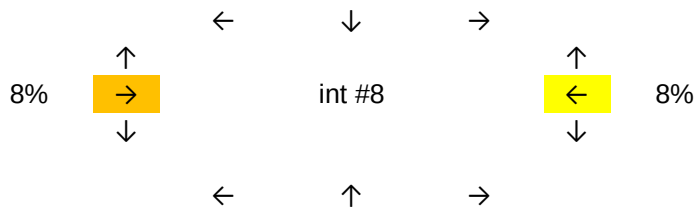


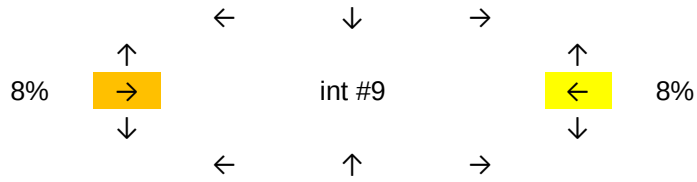


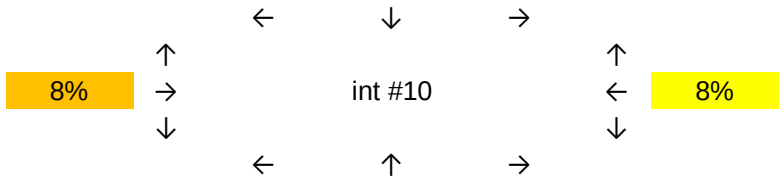


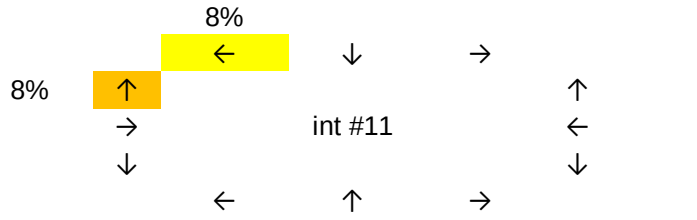
Industrial Park 206 Acres Governor's Hill

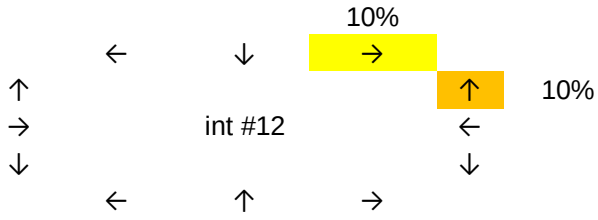




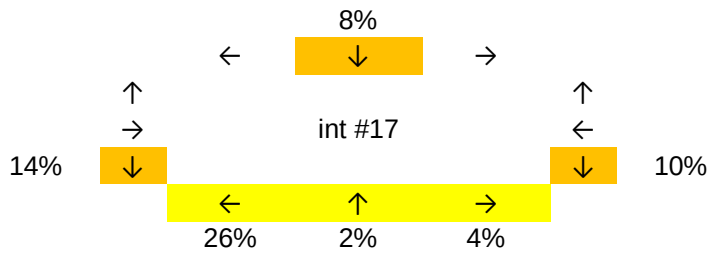


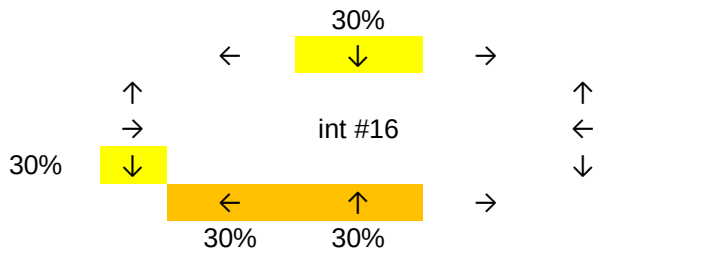


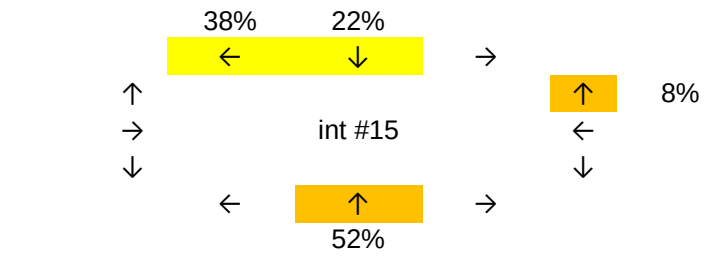


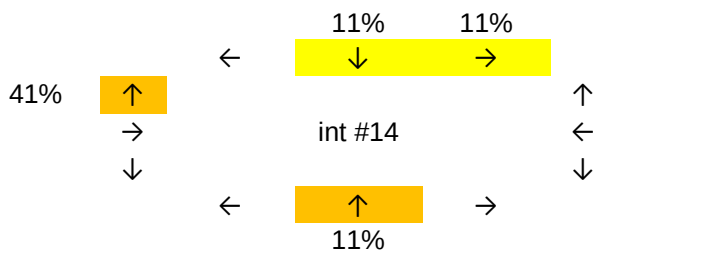


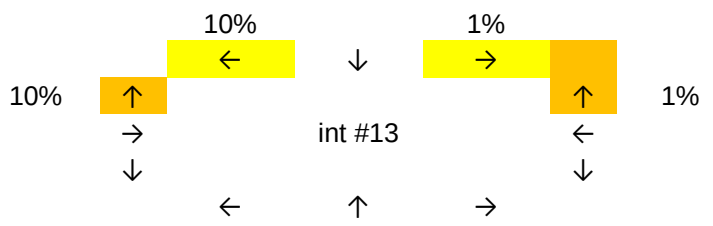
Industrial Park 206 Acres Governor's Hill





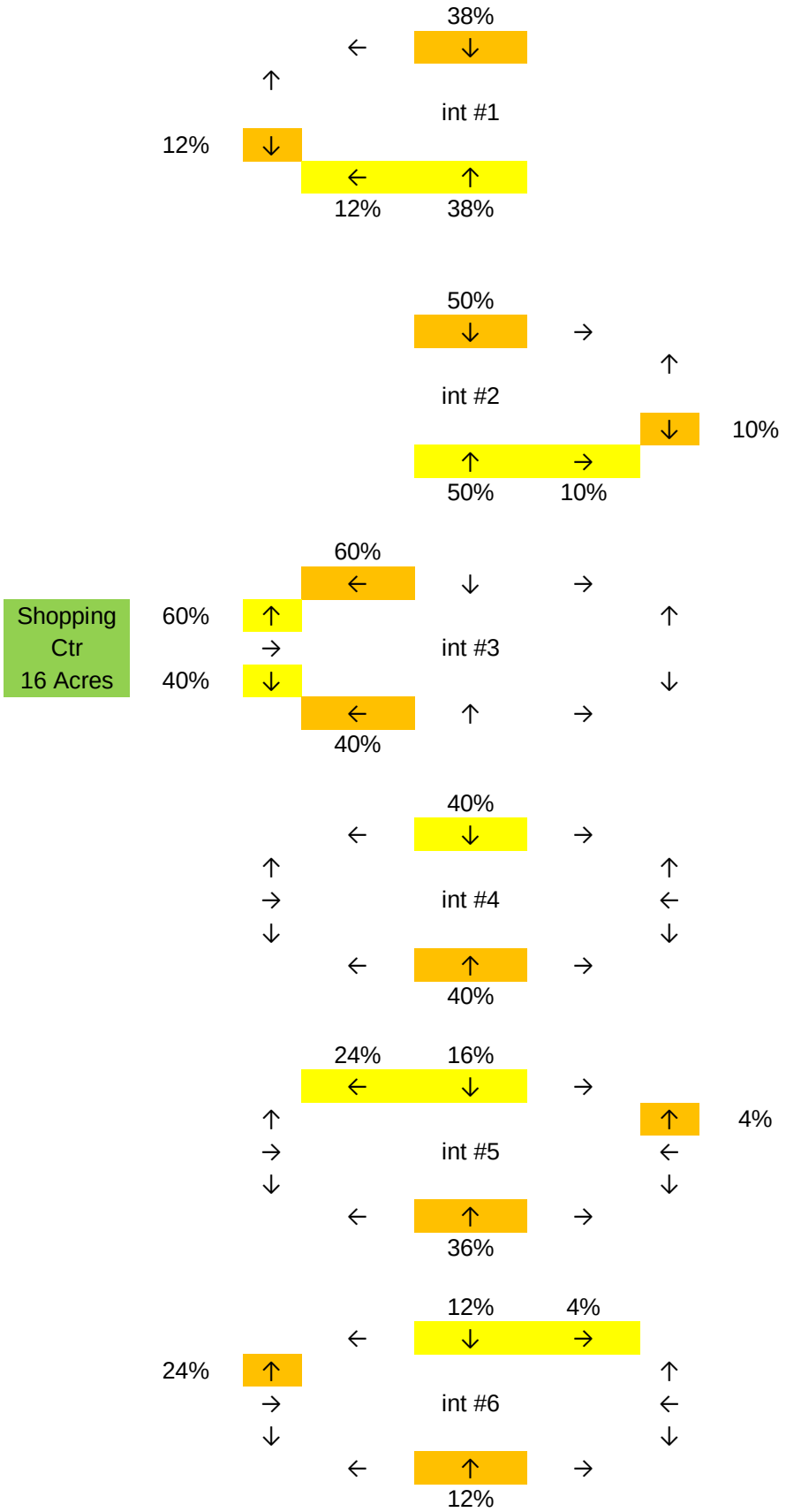




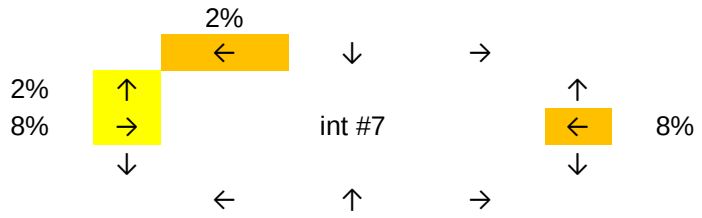


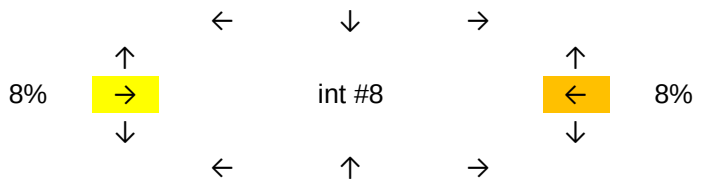
Appendix E 2040 Build Scenario 2 Trip Distributions

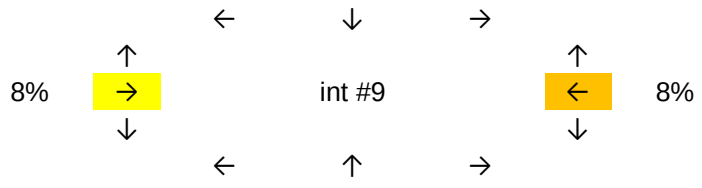
Shopping Center 139K SF on 16 acres

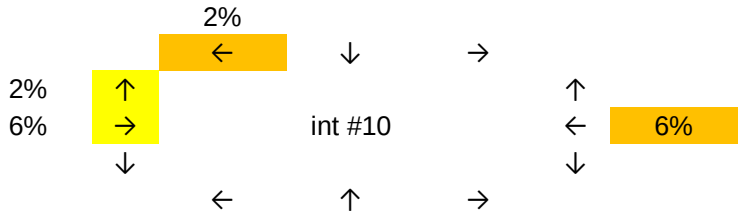


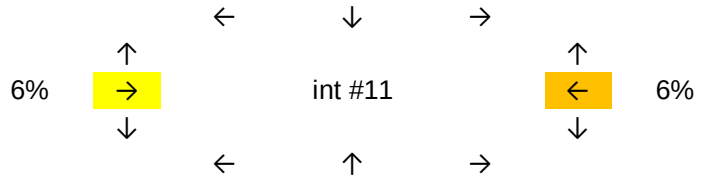
Shopping Center 139K SF on 16 acres

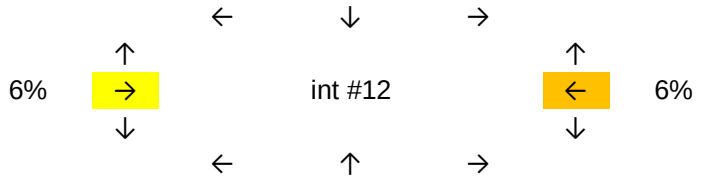




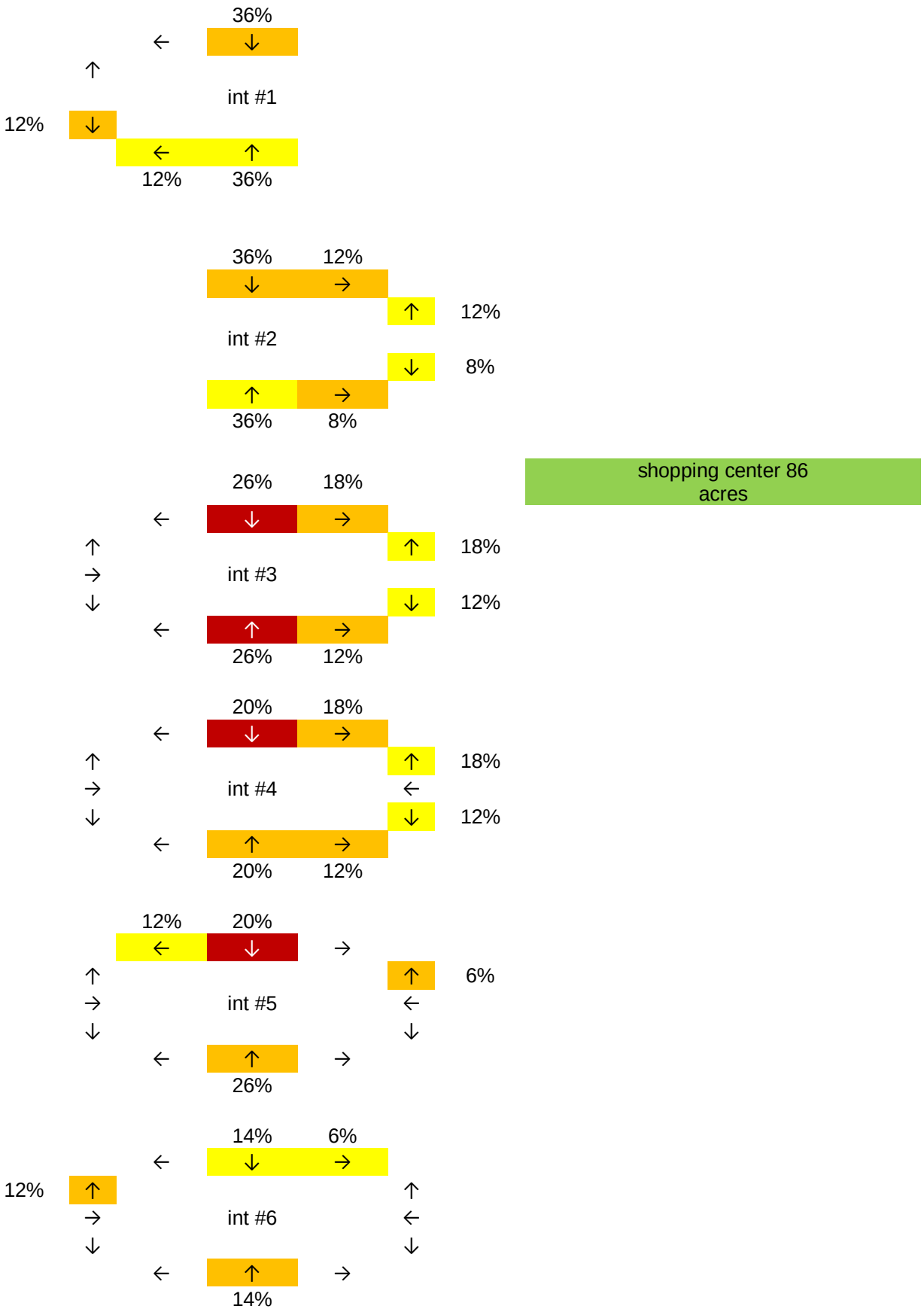




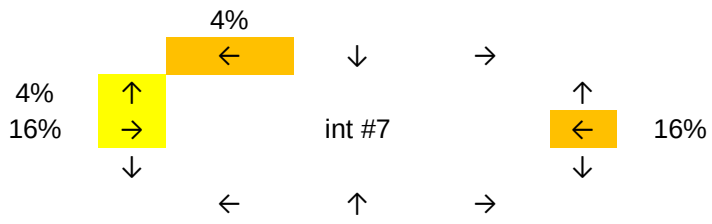


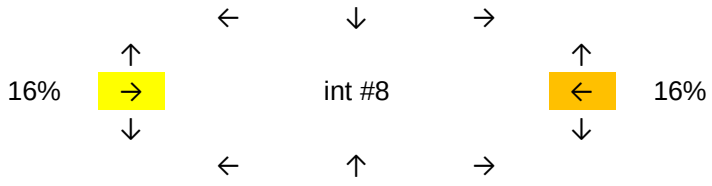


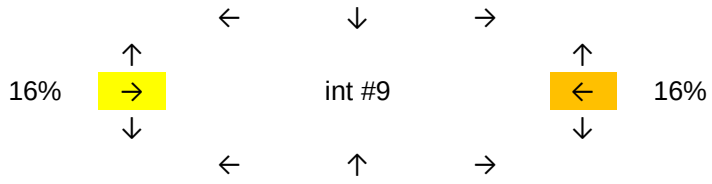
Shopping Center 741K SF on 86 acres

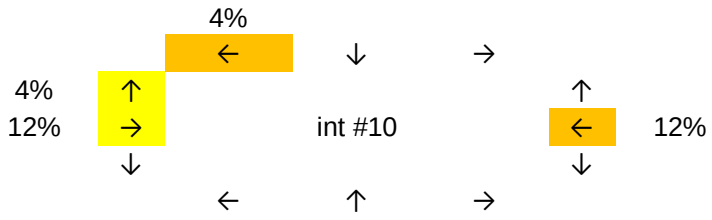


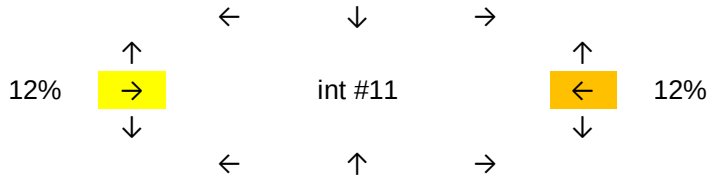
Shopping Center 741K SF on 86 acres

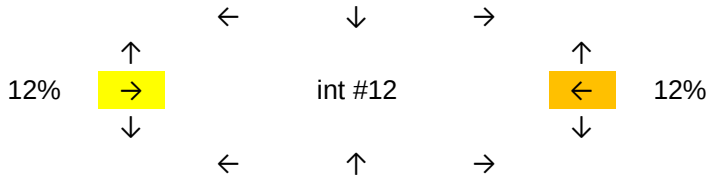




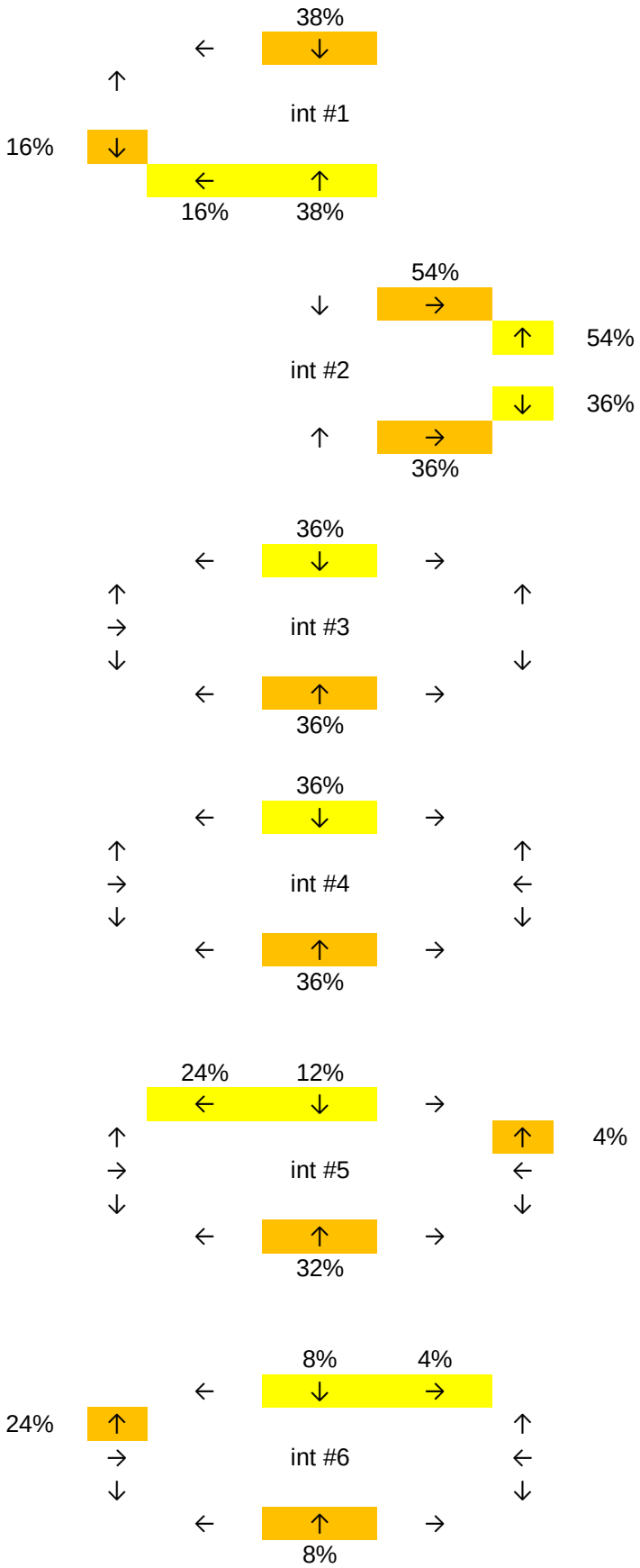








Apartments 50 units



apartments

Apartments 50 units

10% int #7 10%

10% int #8 10%

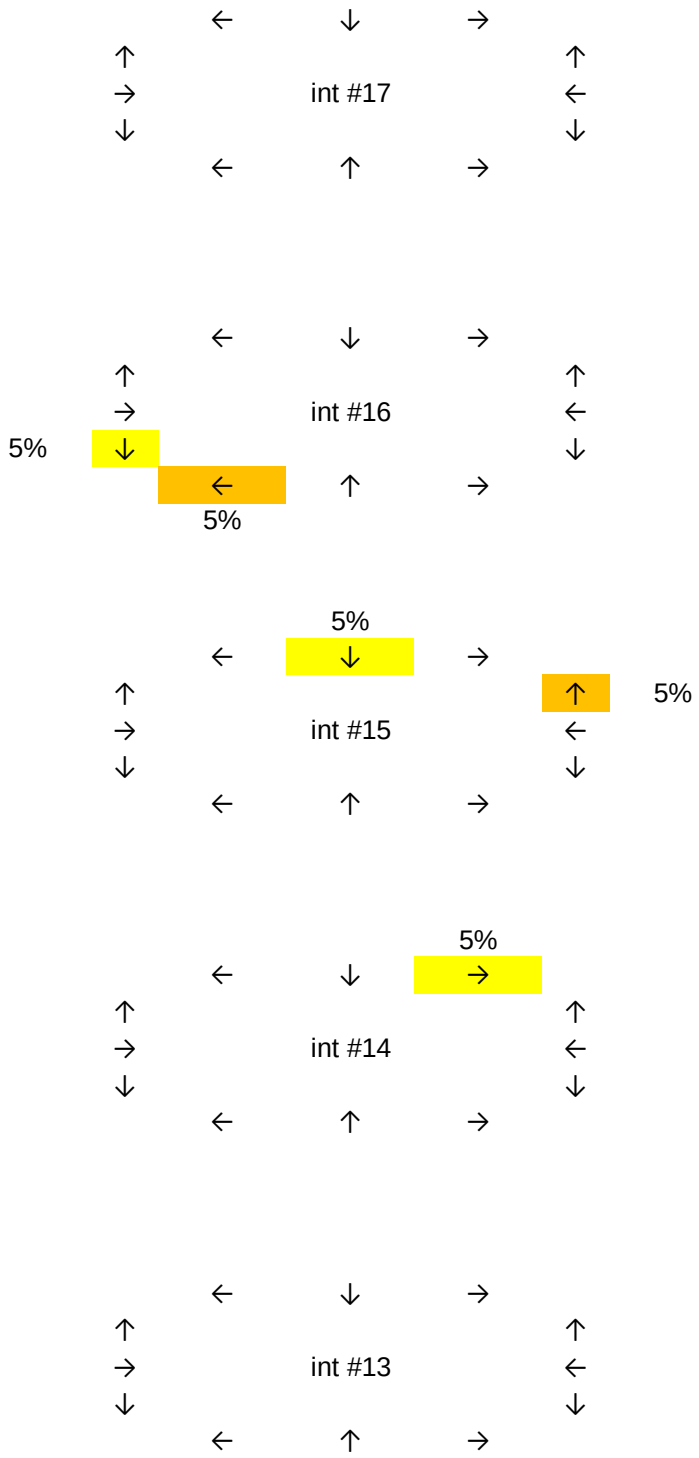
10% int #9 10%

10% int #10 10%

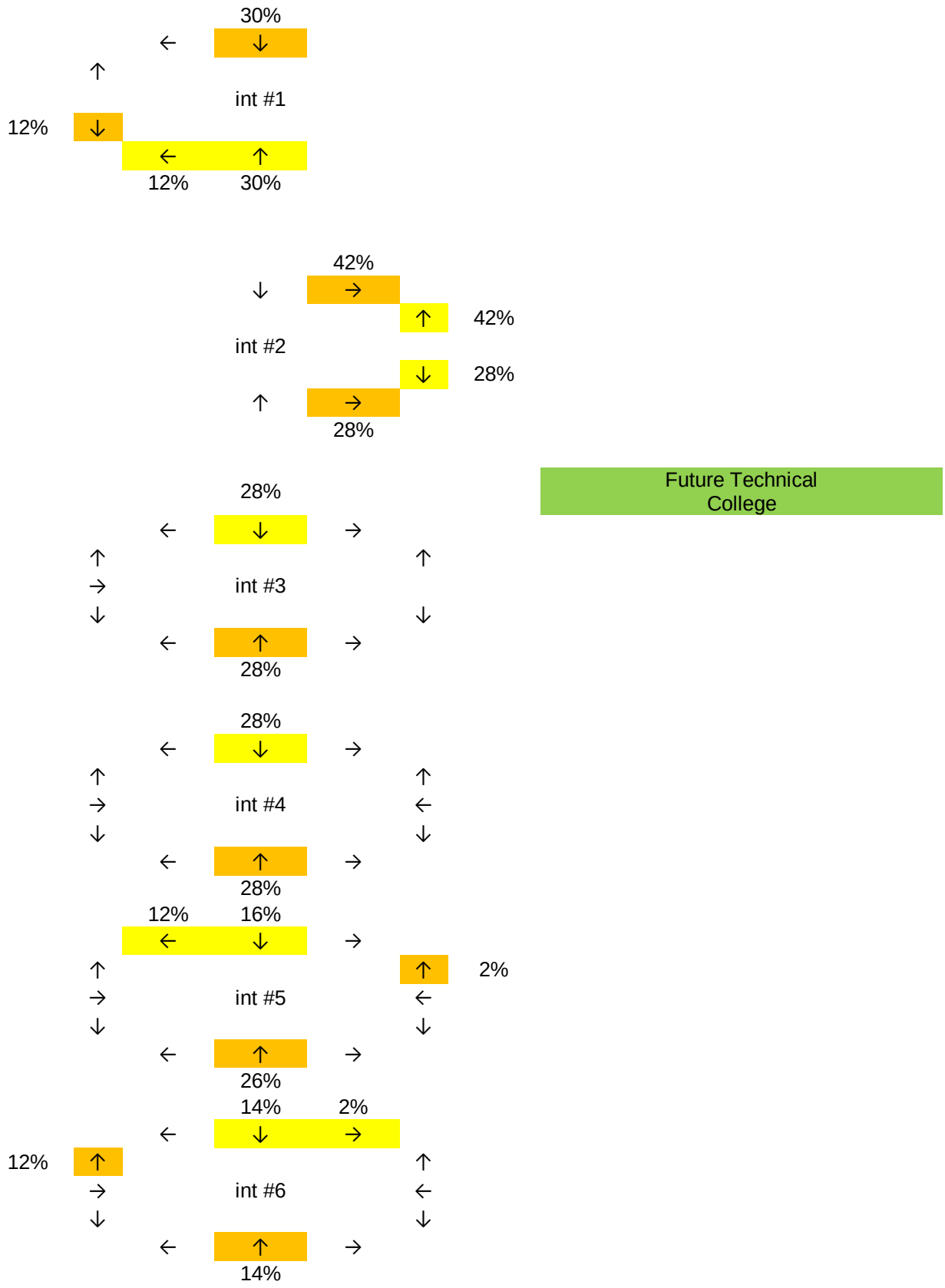
5% 5% int #11 5%

5% 5% int #12 5%

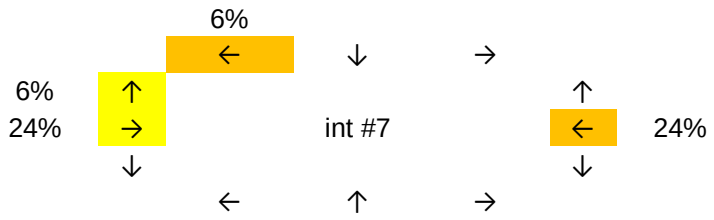
Apartments 50 units

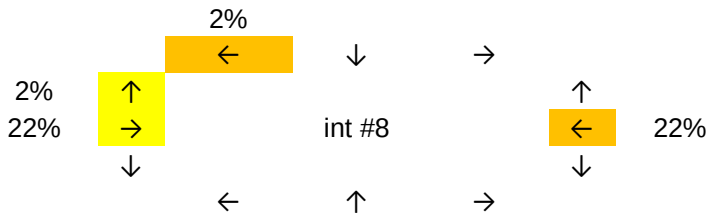


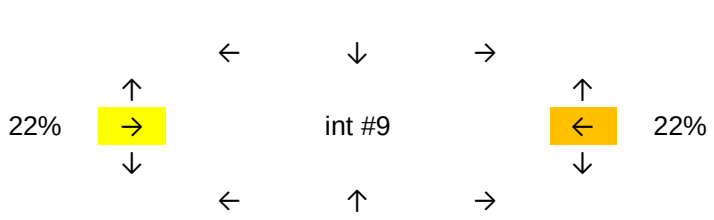
Technical College 900 Students

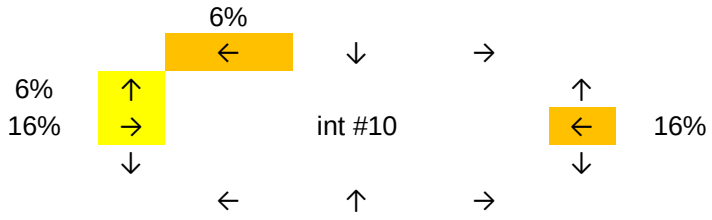


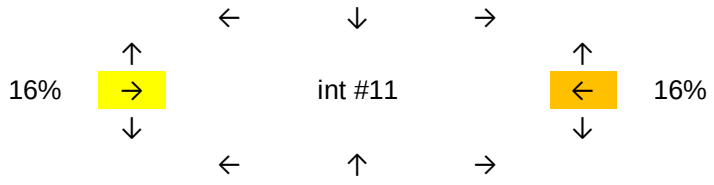
Technical College 900 Students

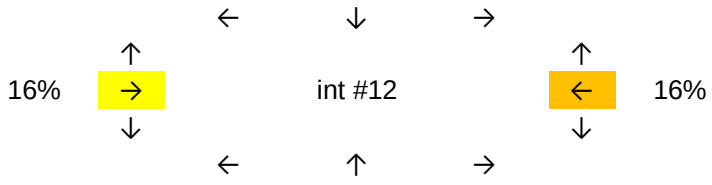












Industrial Park - Steeplechase 293 undeveloped acres & existing manufacturing sites for scenario 2

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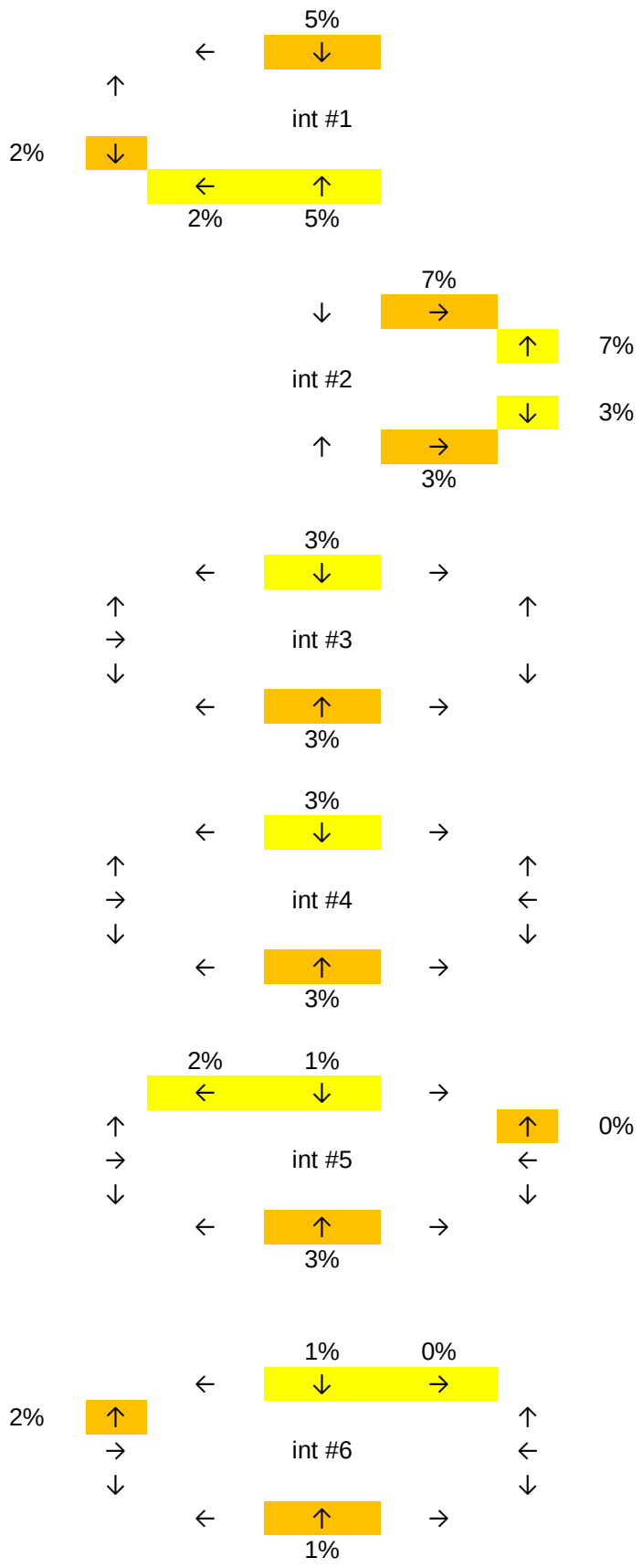
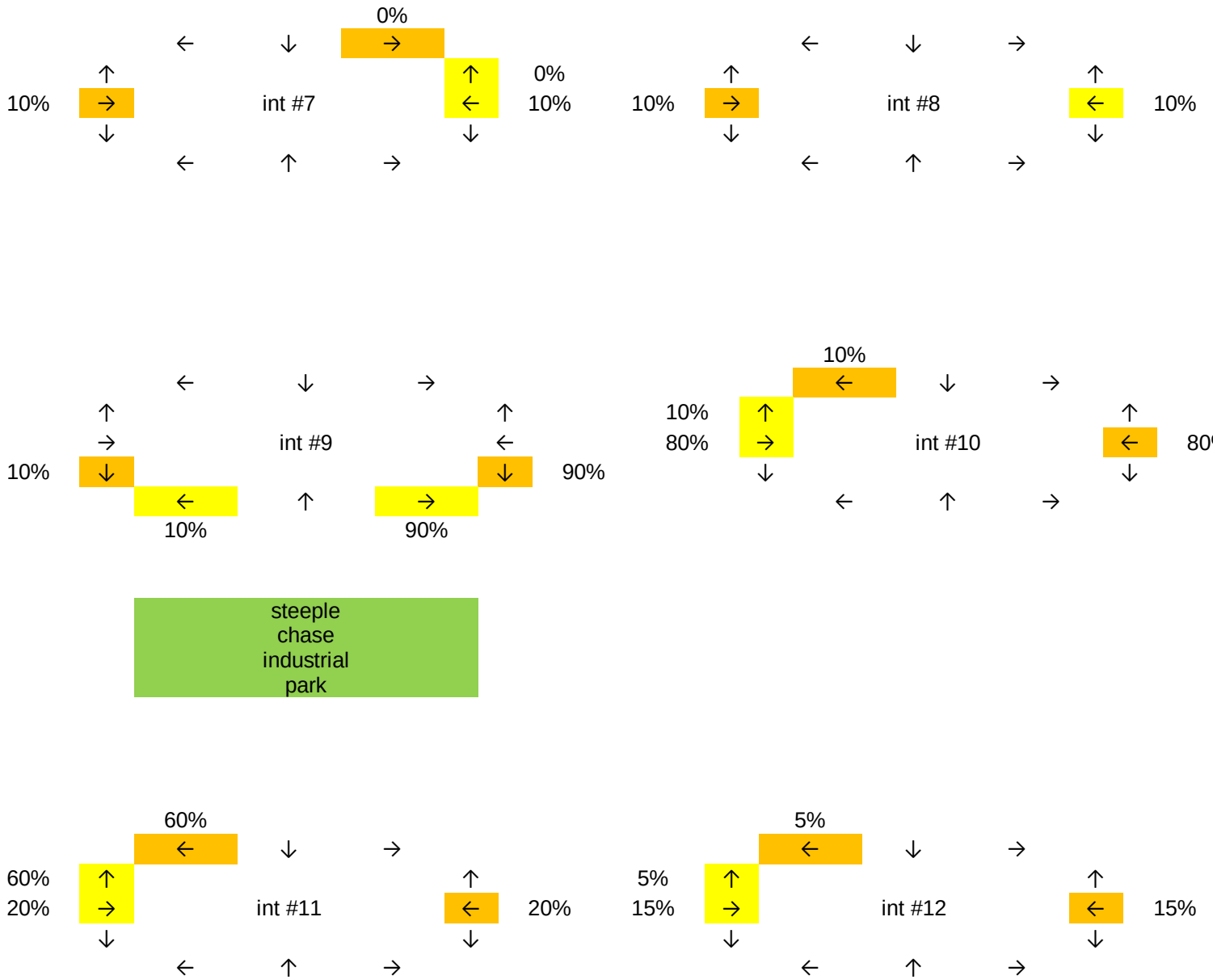
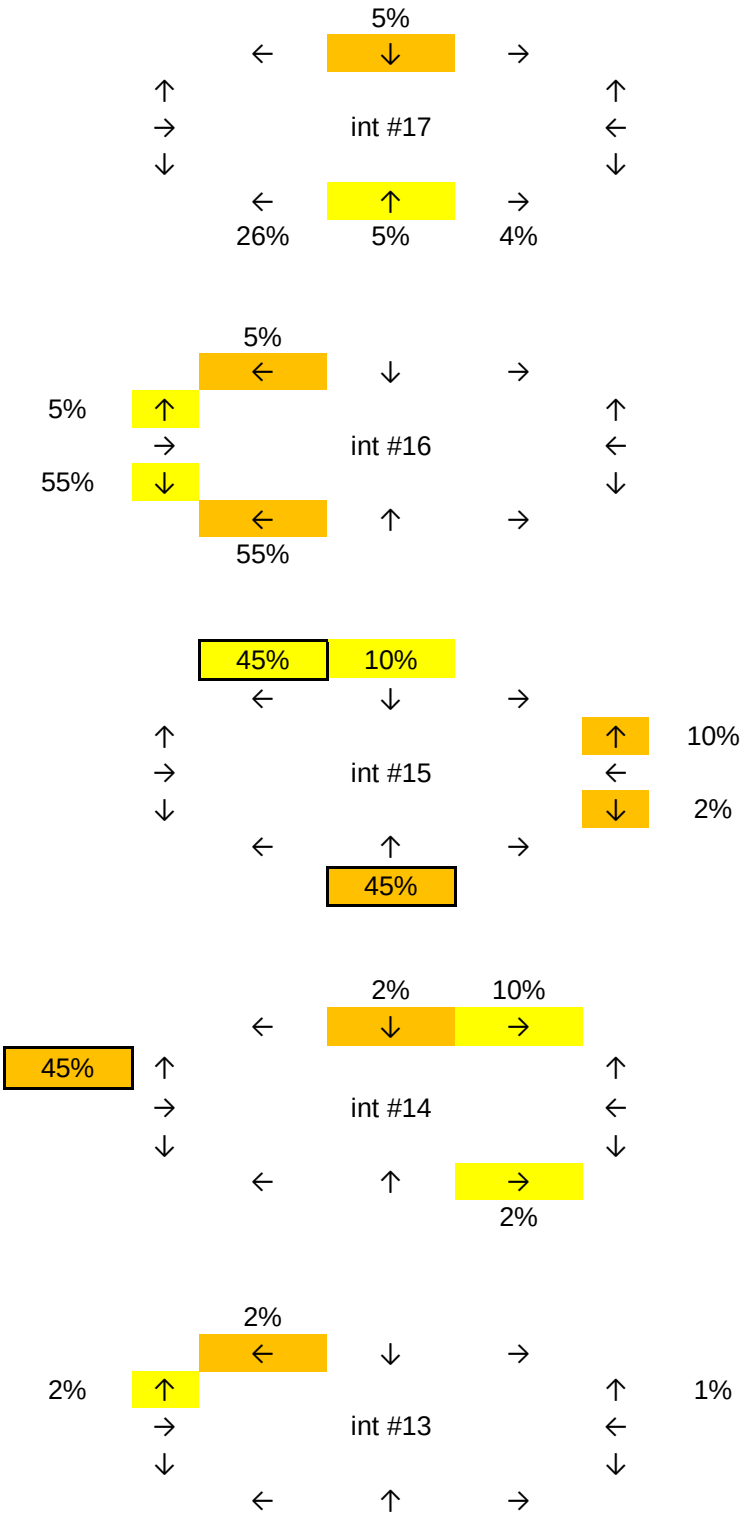


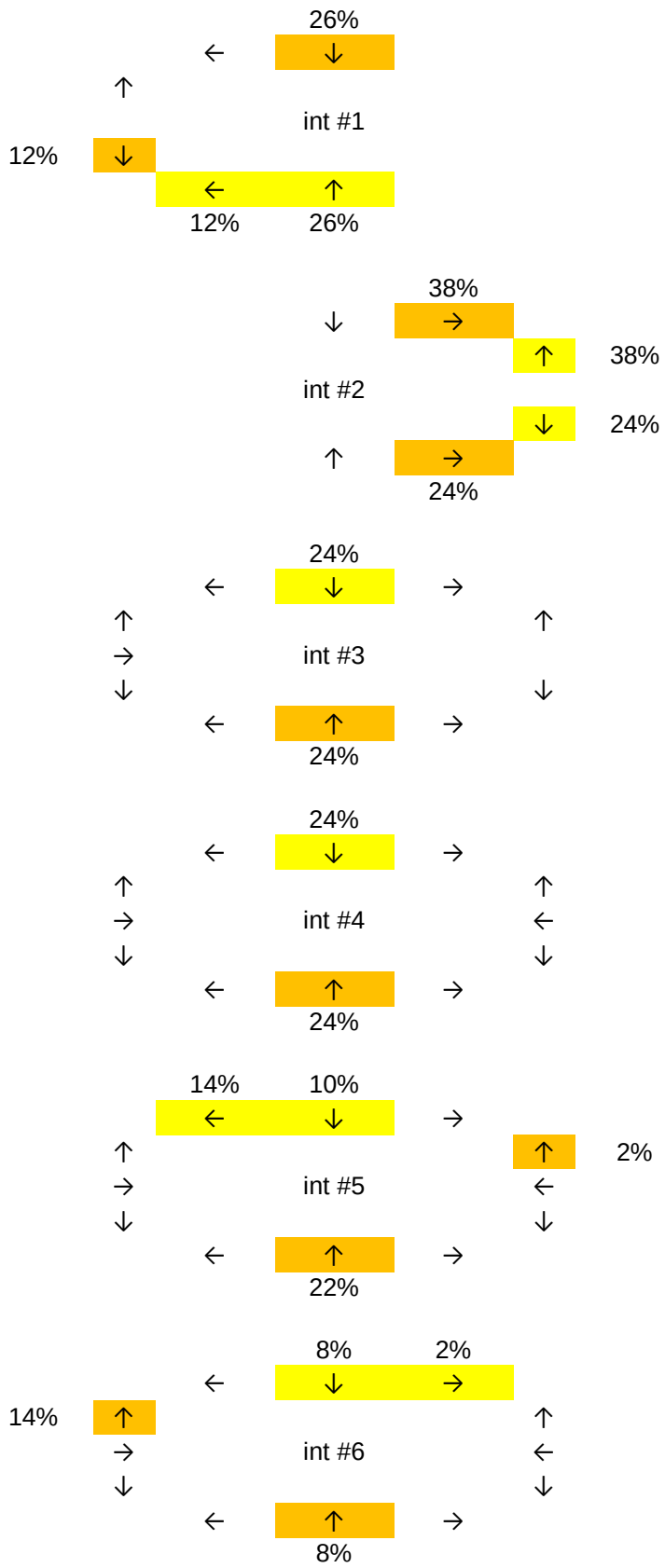
Industrial Park - Steeplechase 293 undeveloped acres & existing manufacturing sites for scenario 2



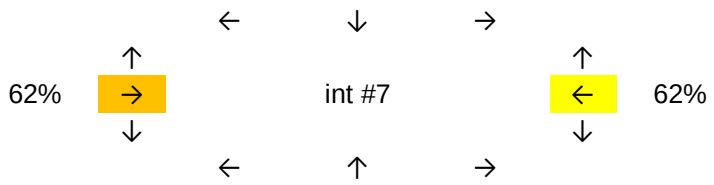
Industrial Park - Steeplechase 293 undeveloped acres & existing manufacturing sites for scenario 2

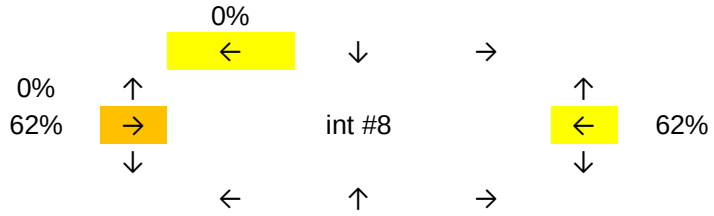


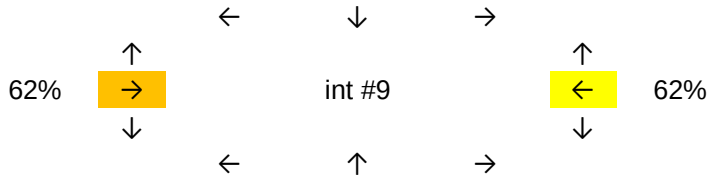
Residential 100 homes off of Precipice Road

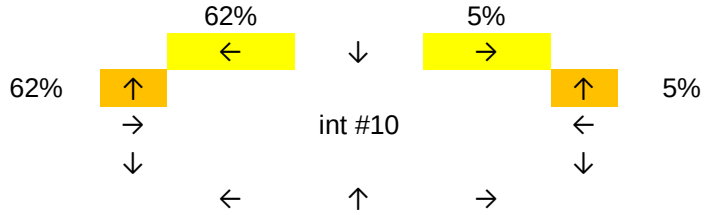


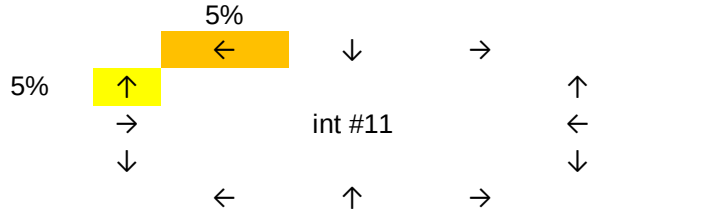
Residential 100 homes off of Precipice Road

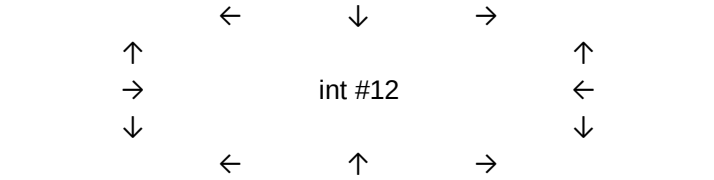




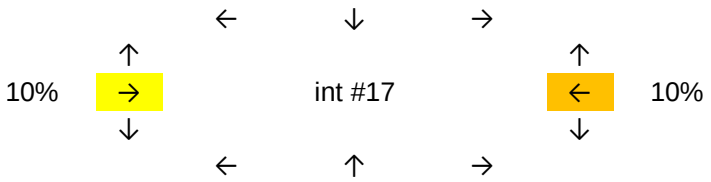


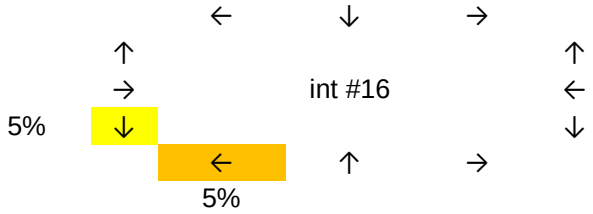


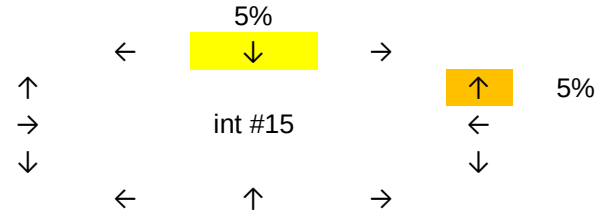


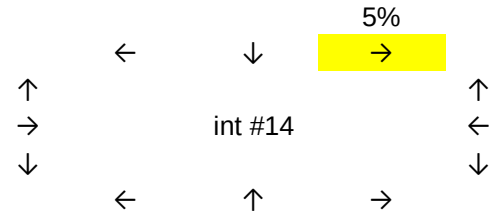


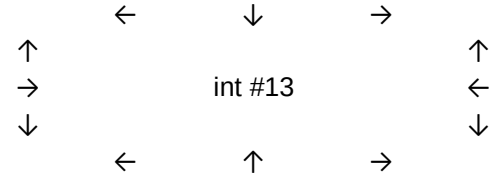
Residential 100 homes off of Precipice Road



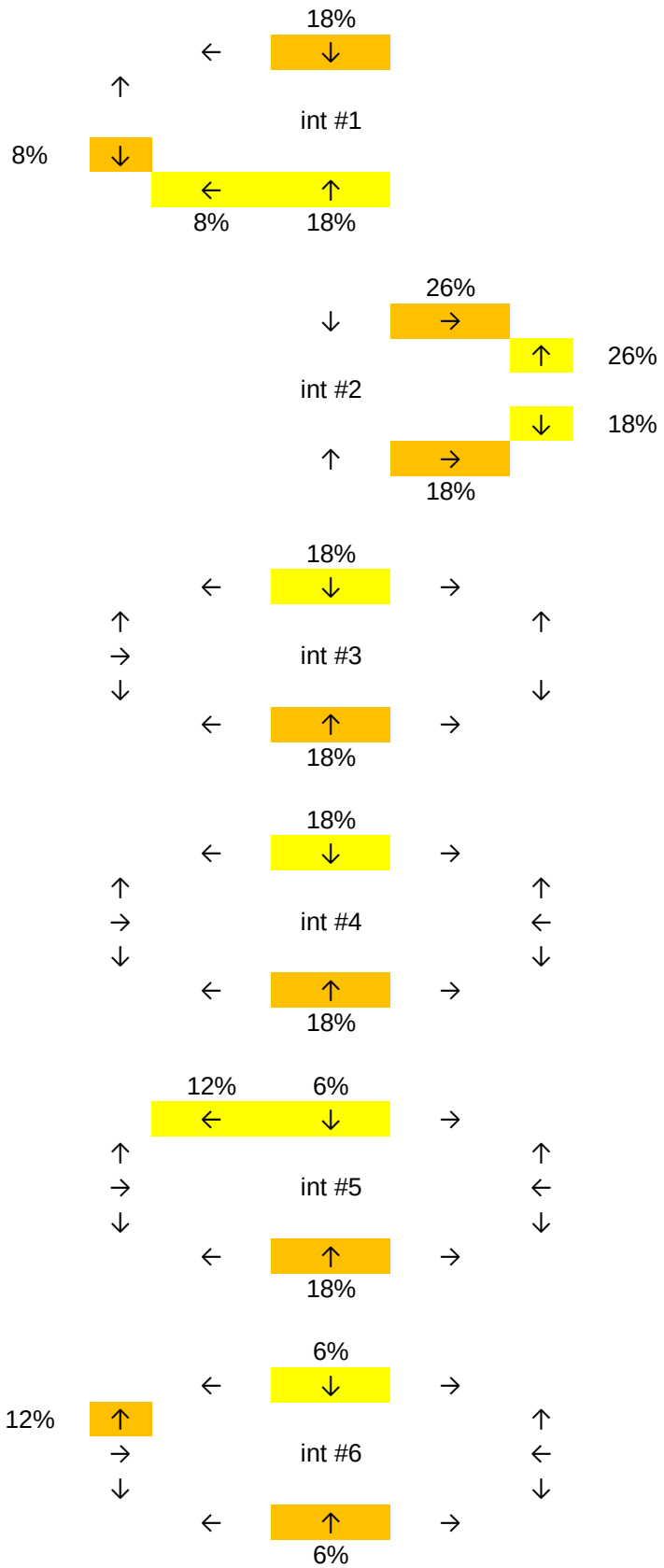




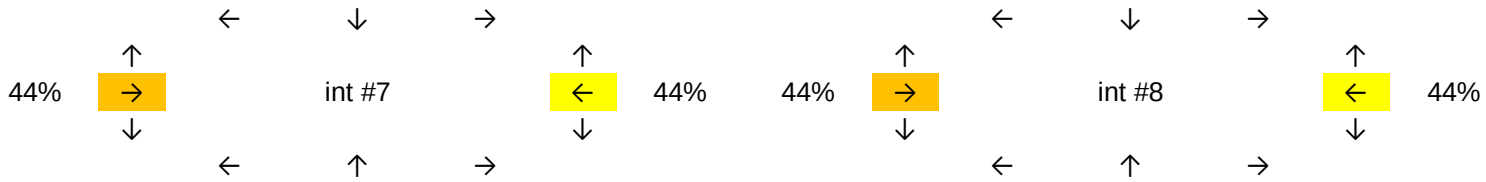


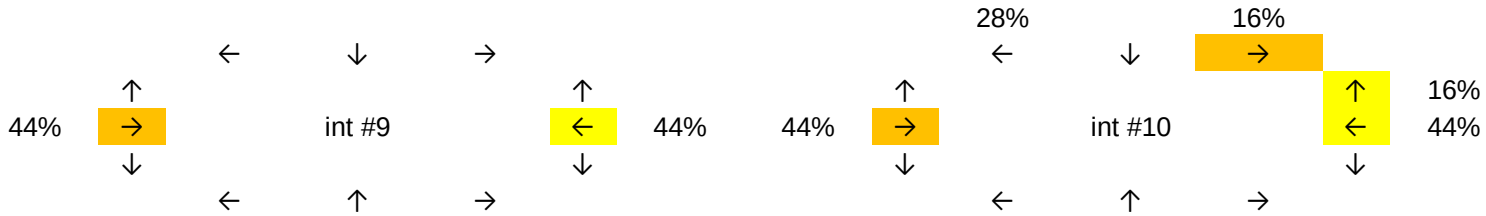


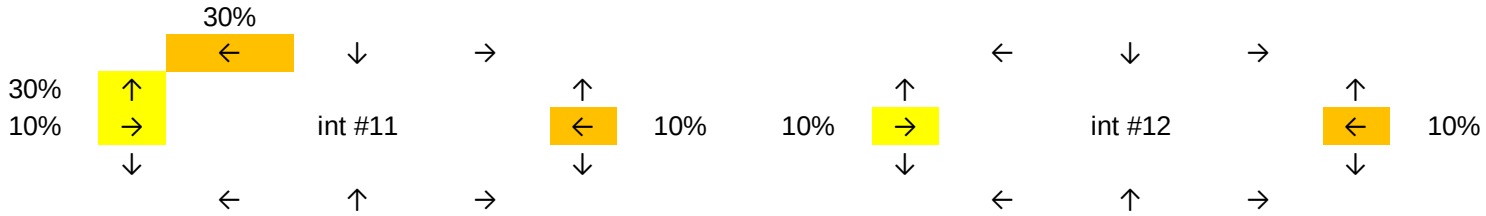
Residential 125 homes off of Black River Road 36 acres



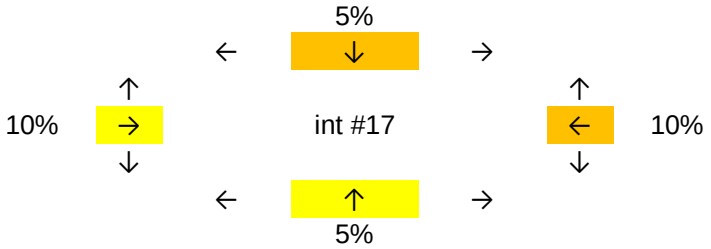
Residential 125 homes off of Black River Road 36 acres

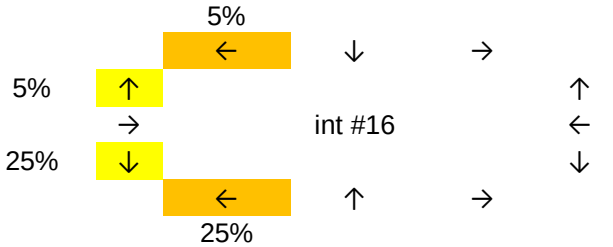


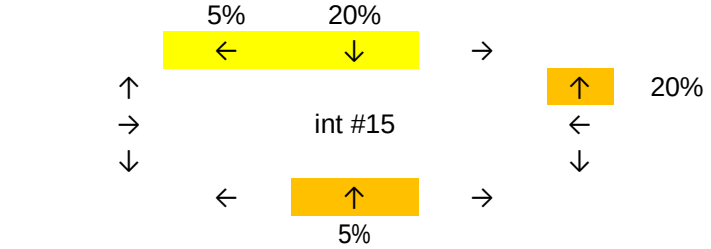


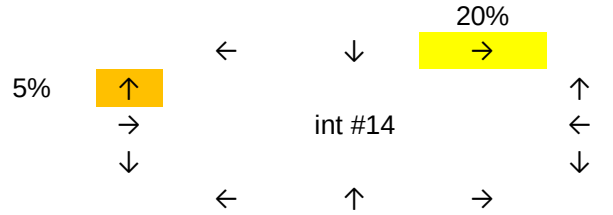


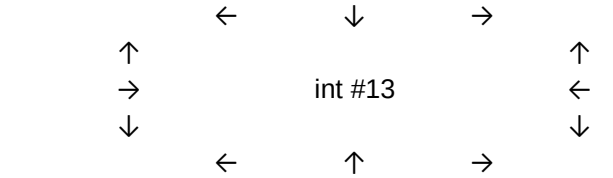
Residential 125 homes off of Black River Road 36 acres



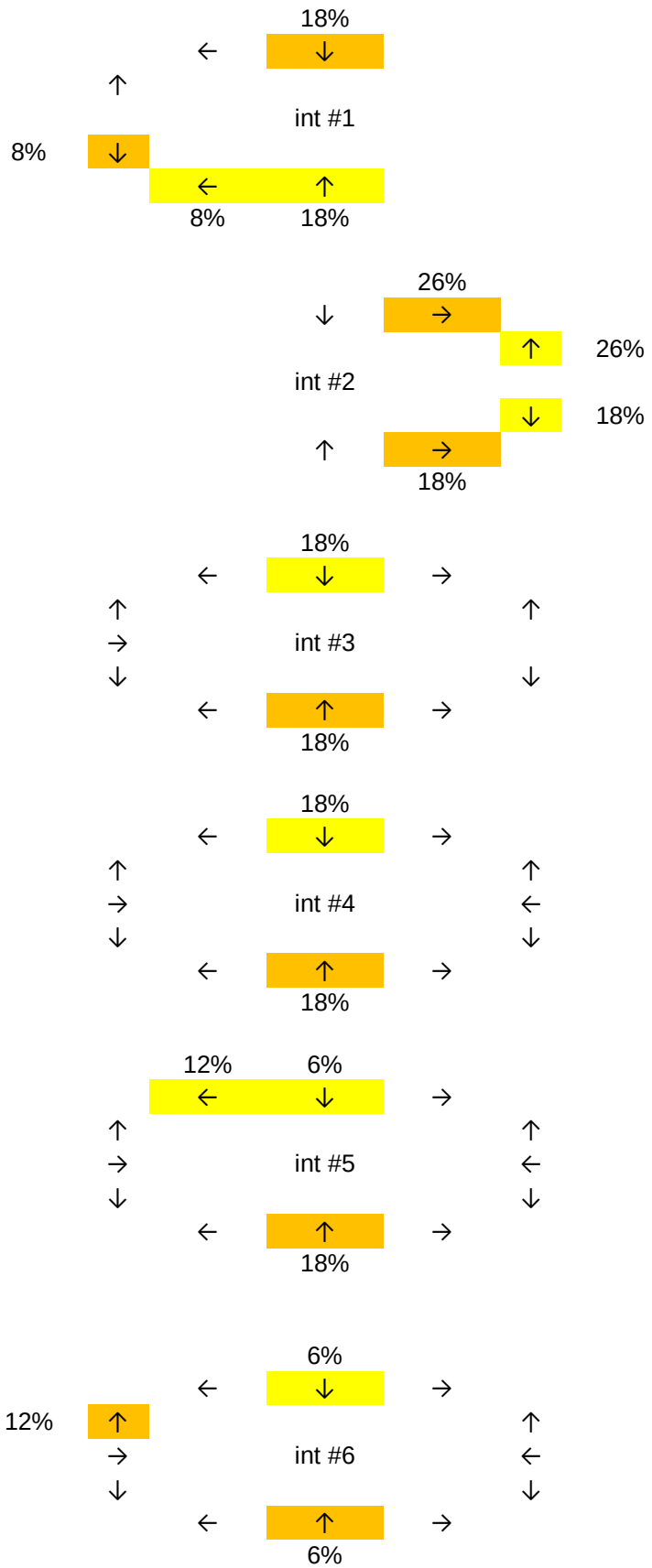








Residential 411 homes off of Mount Olivet Road 50 acres + 68 acres General Zoning



Residential 411 homes off of Mount Olivet Road 50 acres + 68 acres General Zoning

44% int #7 44%

44% int #8 44%

44% int #9 44%

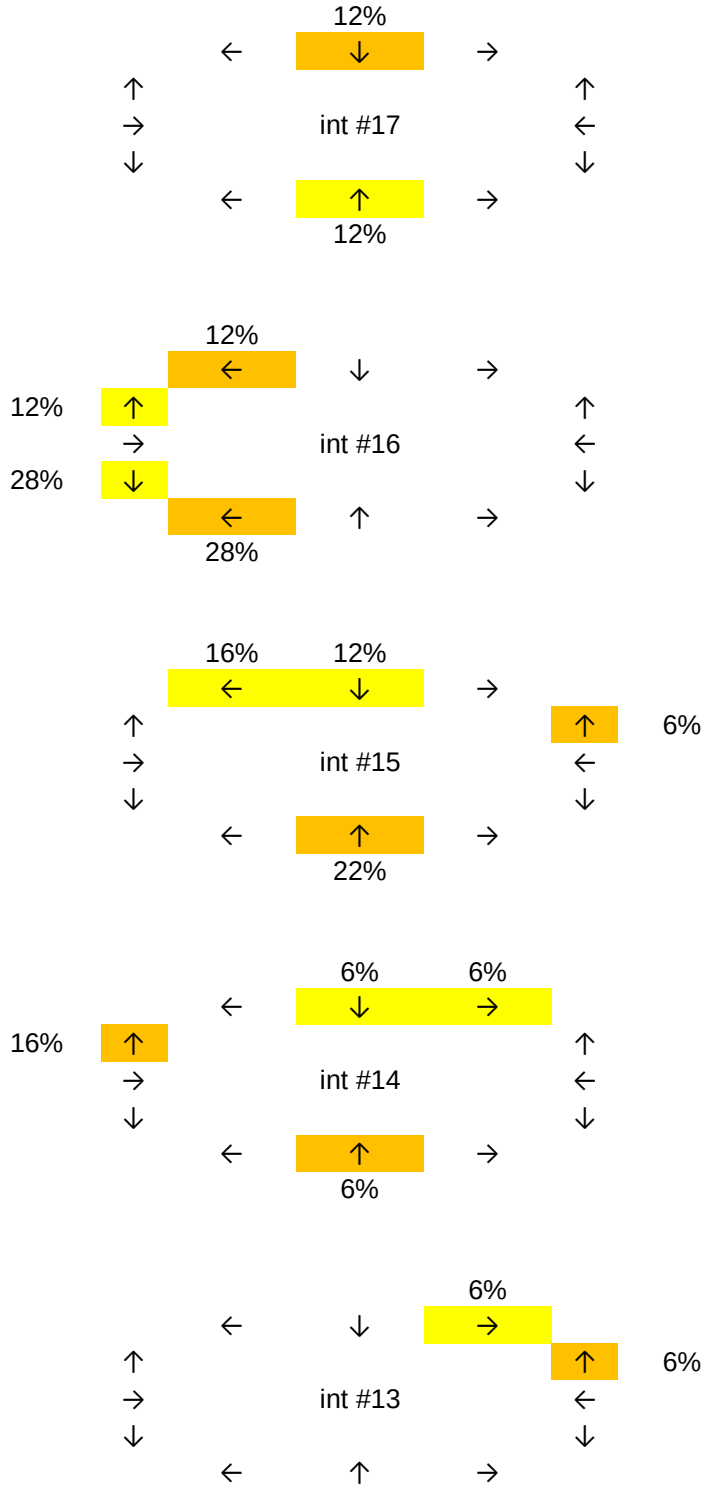
16%
44% int #10 16%
44%

Single Family Units 118 Acres

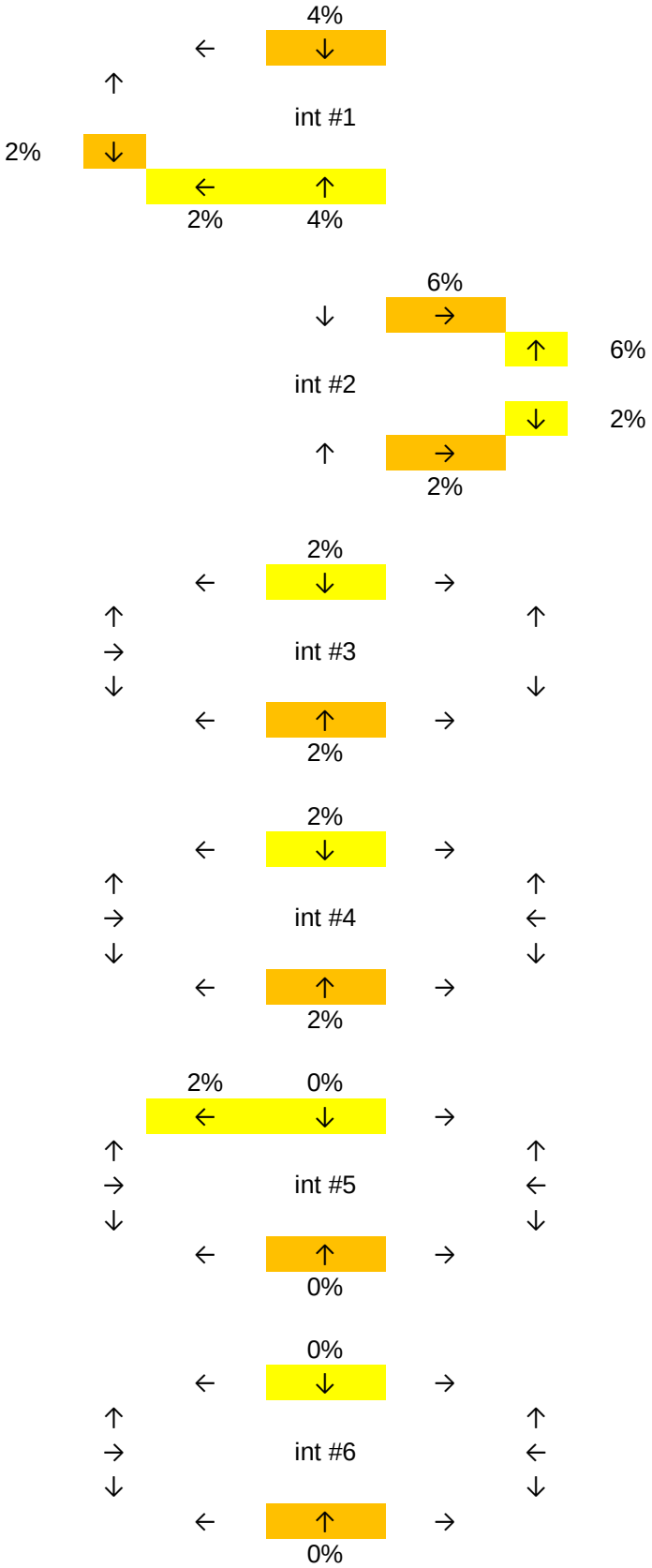
60%
60% int #11

int #12

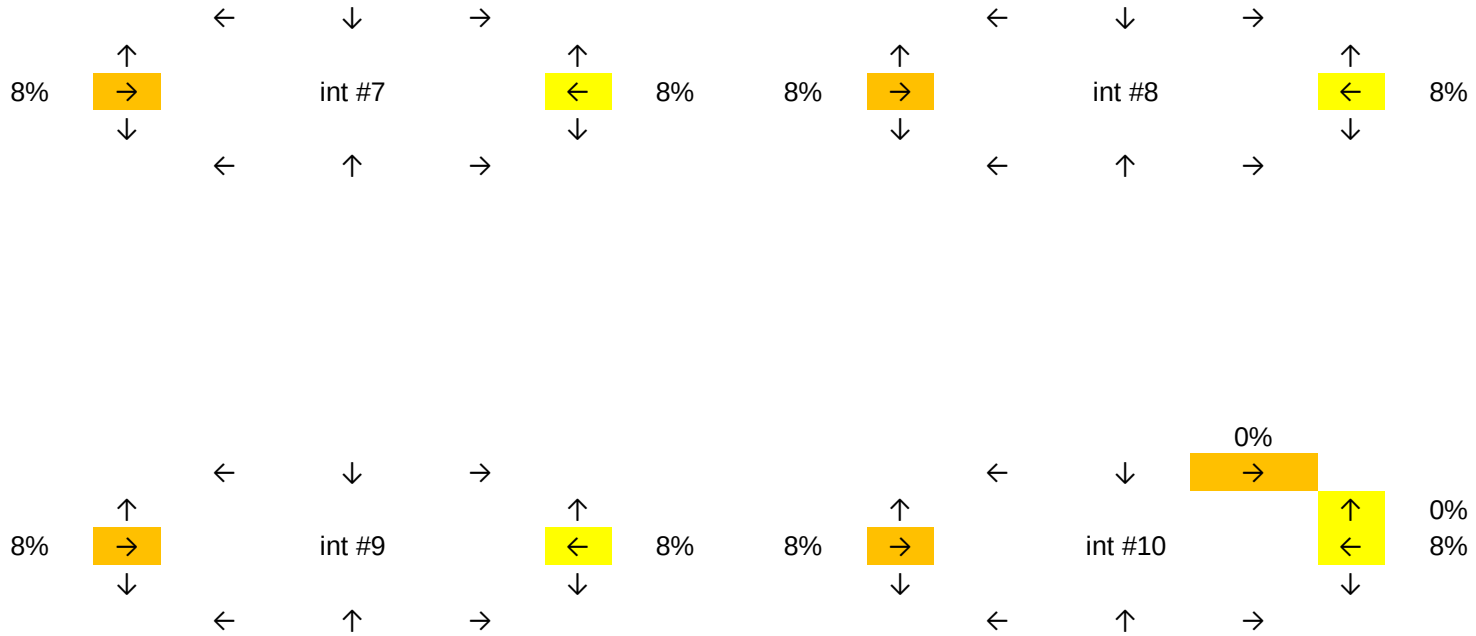
Residential 411 homes off of Mount Olivet Road 50 acres + 68 acres General Zoning

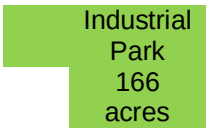


Industrial Park 166 acres General Zoning for Scenario 2

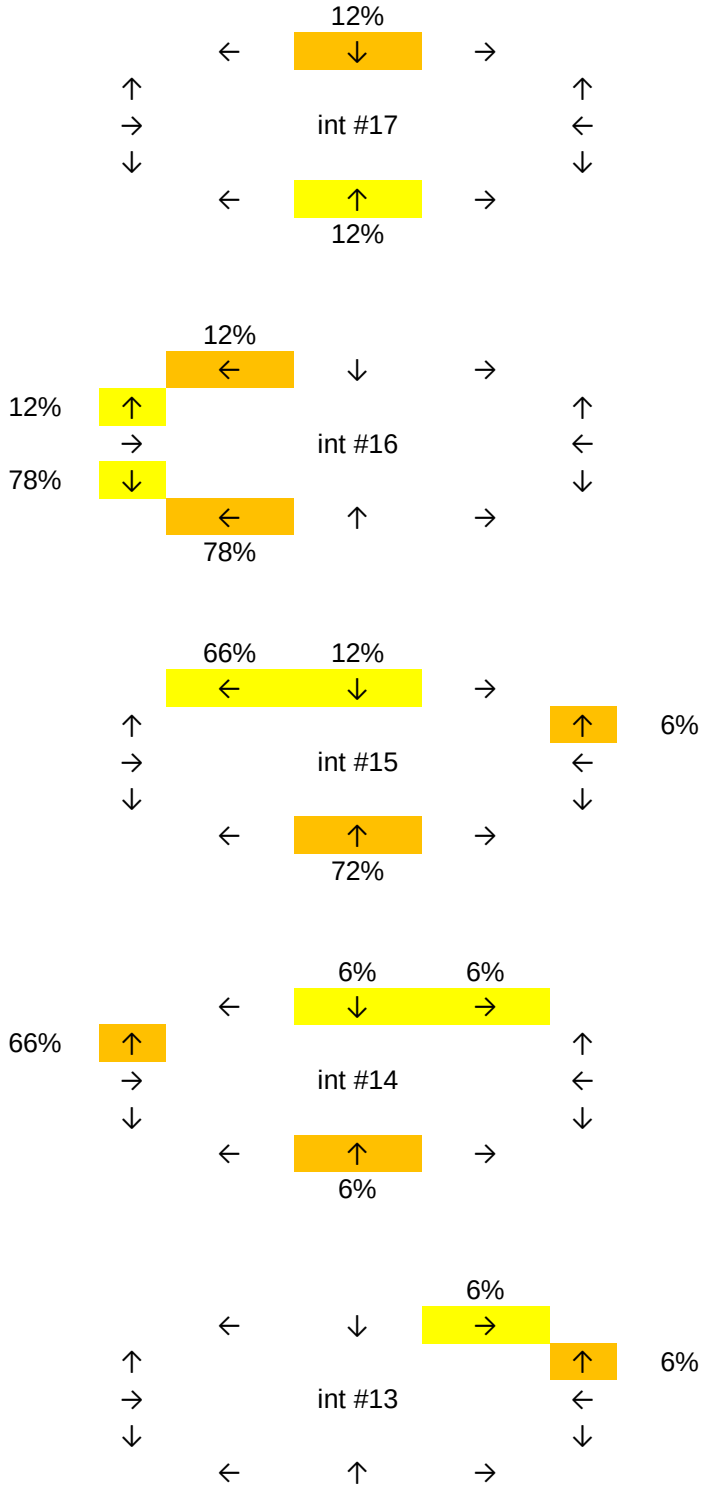


Industrial Park 166 acres General Zoning for Scenario 2

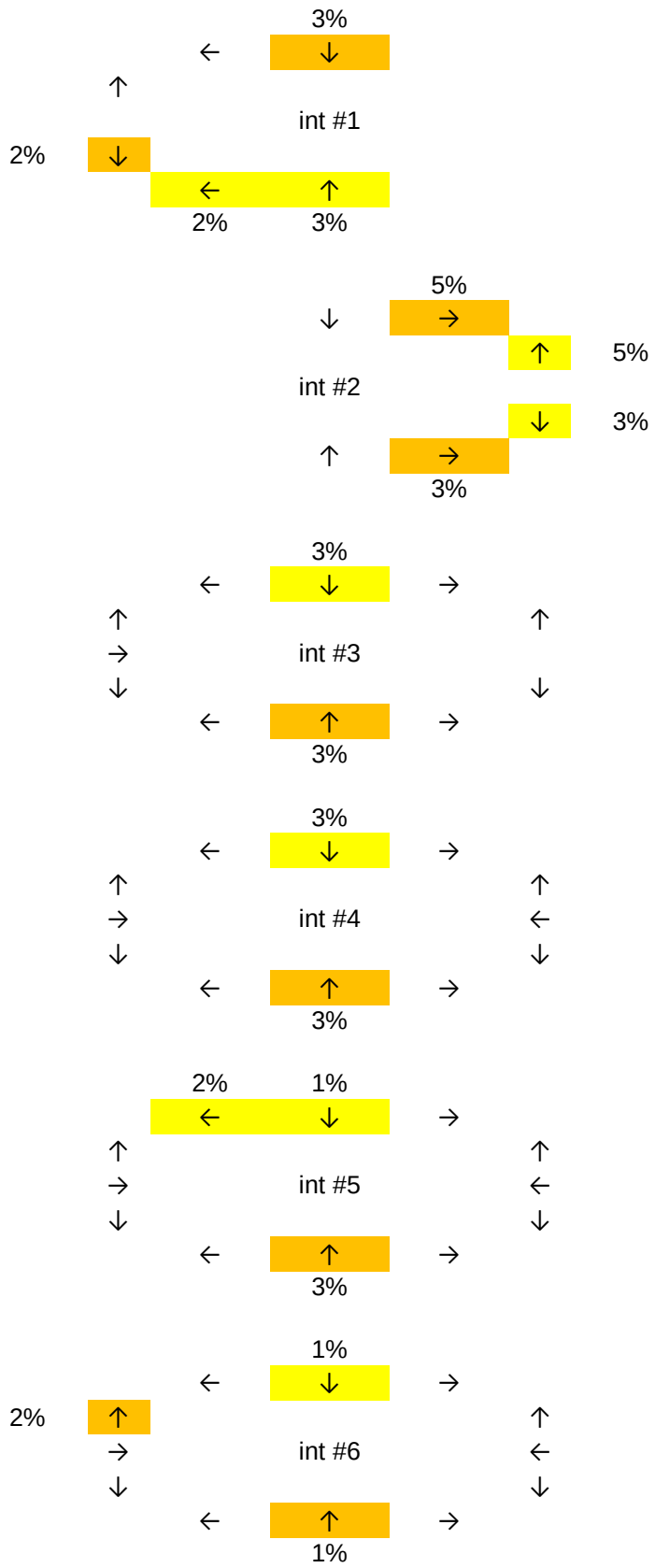




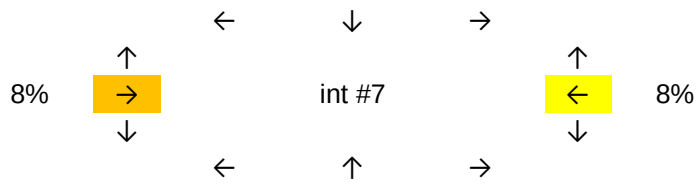
Industrial Park 166 acres General Zoning for Scenario 2

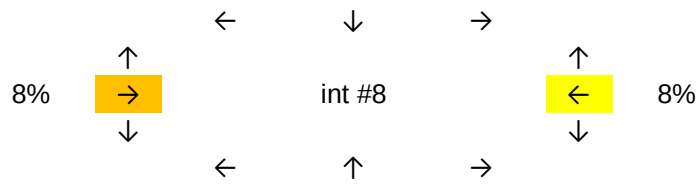


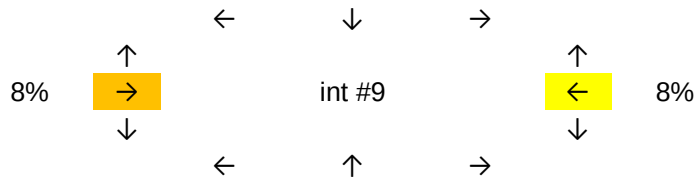
Industrial Park 206 Acres Governor's Hill scenario 2

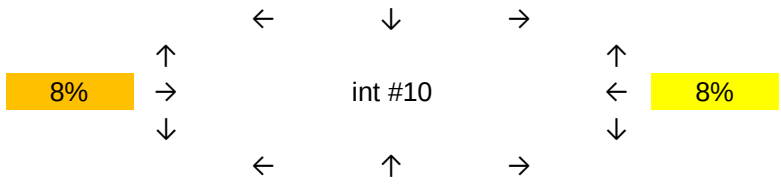


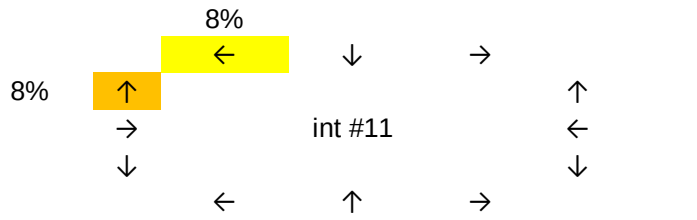
Industrial Park 206 Acres Governor's Hill scenario 2

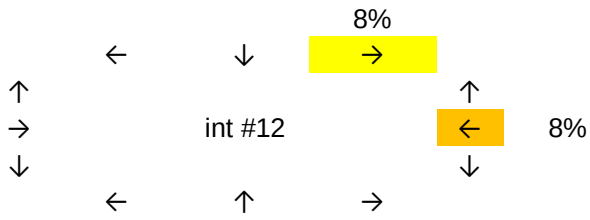






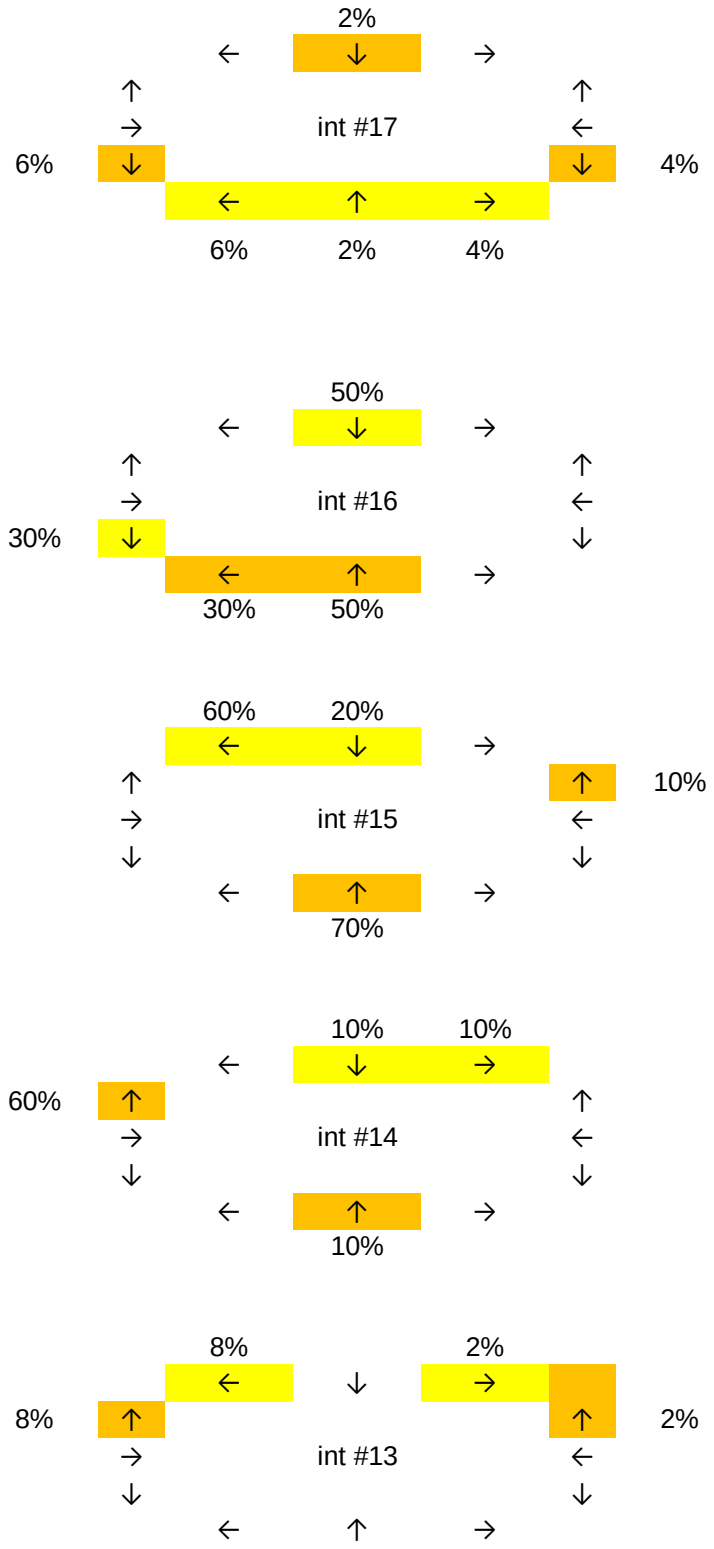






Industrial Park 206 Acres Governor's Hill scenario 2

Governors Hill Industrial Park



Appendix F 2017 Existing Free Flow Level of Service

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	R Garrett
Agency/Co:	Kershaw County/AECMOM
Date:	8/4/2017
Analysis Period:	AM Peak
Highway:	US 521
From/To:	South of I-20
Jurisdiction:	Kershaw County
Analysis Year:	2017
Project ID:	Black River Road Corridor

Station #1

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	0		0	
Median type	Divided		Divided	
Free-flow speed:	Base		Base	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.0	mph	0.0	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	480	vph	492	vph
Peak-hour factor, PHF	0.82		0.77	
Peak 15-minute volume, v15	146		161	
Trucks and buses	6	%	6	%
Recreational vehicles	7	%	7	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.958		0.958	
Flow rate, vp	304	pcphpl	335	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	304	pcphpl	335	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		A	
Density, D	6.8	pc/mi/ln	7.4	pc/mi/ln

_____ Bicycle Level of Service _____

Posted speed limit, Sp		45
Percent of segment with occupied on-highway parking	0	0
Pavement rating, P	3	3
Flow rate in outside lane, vOL	291.6	321.1
Effective width of outside lane, We	24.00	24.00
Effective speed factor, St	4.42	4.42
Bicycle LOS Score, BLOS	3.16	3.21
Bicycle LOS	C	C

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	R Garrett
Agency/Co:	Kershaw County/AECMOM
Date:	8/4/2017
Analysis Period:	PM Peak
Highway:	US 521
From/To:	South of I-20
Jurisdiction:	Kershaw County
Analysis Year:	2017
Project ID:	Black River Road Corridor Station #1

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	0		0	
Median type	Divided		Divided	
Free-flow speed:	Base		Base	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.0	mph	0.0	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	437	vph	487	vph
Peak-hour factor, PHF	0.92		0.89	
Peak 15-minute volume, v15	118		136	
Trucks and buses	6	%	6	%
Recreational vehicles	7	%	7	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.958		0.958	
Flow rate, vp	247	pcphpl	284	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	247	pcphpl	284	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		A	
Density, D	5.5	pc/mi/ln	6.3	pc/mi/ln

_____ Bicycle Level of Service _____

Posted speed limit, Sp	45	45
Percent of segment with occupied on-highway parking	0	0
Pavement rating, P	3	3
Flow rate in outside lane, vOL	237.0	272.4
Effective width of outside lane, We	24.00	24.00
Effective speed factor, St	4.42	4.42
Bicycle LOS Score, BLOS	3.12	3.21
Bicycle LOS	C	C

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	R Garrett
Agency/Co:	Kershaw County/AECMOM
Date:	8/4/2017
Analysis Period:	AM Peak
Highway:	US 521
From/To:	I-20 to Century Blvd
Jurisdiction:	Kershaw County
Analysis Year:	2017
Project ID:	Black River Road Corridor Station #2

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	0		1	
Median type	Divided		Divided	
Free-flow speed:	Base		Base	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.0	mph	0.3	mph
Free-flow speed	45.0	mph	44.8	mph

VOLUME

Direction	1		2	
Volume, V	586	vph	904	vph
Peak-hour factor, PHF	0.93		0.82	
Peak 15-minute volume, v15	158		276	
Trucks and buses	5	%	5	%
Recreational vehicles	11	%	11	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.955		0.955	
Flow rate, vp	331	pcphpl	577	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	331	pcphpl	577	pcphpl
Free-flow speed, FFS	45.0	mph	44.8	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		B	
Density, D	7.4	pc/mi/ln	12.8	pc/mi/ln

_____ Bicycle Level of Service _____

Posted speed limit, Sp	45	45
Percent of segment with occupied on-highway parking	0	0
Pavement rating, P	3	3
Flow rate in outside lane, vOL	316.4	551.2
Effective width of outside lane, We	24.00	24.00
Effective speed factor, St	4.42	4.42
Bicycle LOS Score, BLOS	2.92	3.20
Bicycle LOS	C	C

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	R Garrett
Agency/Co:	Kershaw County/AECMOM
Date:	8/4/2017
Analysis Period:	PM Peak
Highway:	US 521
From/To:	I-20 to Century Blvd
Jurisdiction:	Kershaw County
Analysis Year:	2017
Project ID:	Black River Road Corridor Station #2

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	0		1	
Median type	Divided		Divided	
Free-flow speed:	Base		Base	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.0	mph	0.3	mph
Free-flow speed	45.0	mph	44.8	mph

VOLUME

Direction	1		2	
Volume, V	739	vph	653	vph
Peak-hour factor, PHF	0.93		0.91	
Peak 15-minute volume, v15	200		179	
Trucks and buses	5	%	5	%
Recreational vehicles	11	%	11	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.955		0.955	
Flow rate, vp	417	pcphpl	374	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	417	pcphpl	374	pcphpl
Free-flow speed, FFS	45.0	mph	44.8	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		A	
Density, D	9.3	pc/mi/ln	8.3	pc/mi/ln

_____ Bicycle Level of Service _____

Posted speed limit, Sp	45	45
Percent of segment with occupied on-highway parking	0	0
Pavement rating, P	3	3
Flow rate in outside lane, vOL	399.0	357.2
Effective width of outside lane, We	24.00	24.00
Effective speed factor, St	4.42	4.42
Bicycle LOS Score, BLOS	3.03	3.03
Bicycle LOS	C	C

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	R Garrett
Agency/Co:	Kershaw Co/ AECOM
Date:	8/7/2017
Analysis Period:	am peak
Highway:	US 521
From/To:	Black River Rd to Ehrenclou Dr
Jurisdiction:	Kershaw County
Analysis Year:	2017
Project ID:	Black River Road Corridor count station #3

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	1		1	
Median type	Divided		Divided	
Free-flow speed:	Base		Base	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.3	mph	0.3	mph
Free-flow speed	44.8	mph	44.8	mph

VOLUME

Direction	1		2	
Volume, V	740	vph	841	vph
Peak-hour factor, PHF	0.87		0.82	
Peak 15-minute volume, v15	213		255	
Trucks and buses	5	%	5	%
Recreational vehicles	5	%	5	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.966		0.966	
Flow rate, vp	441	pcphpl	528	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	441	pcphpl	528	pcphpl
Free-flow speed, FFS	44.8	mph	44.8	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		B	
Density, D	9.8	pc/mi/ln	11.7	pc/mi/ln

_____ Bicycle Level of Service _____

Posted speed limit, Sp	45	45
Percent of segment with occupied on-highway parking	0	0
Pavement rating, P	3	3
Flow rate in outside lane, vOL	426.3	510.3
Effective width of outside lane, We	24.00	24.00
Effective speed factor, St	4.42	4.42
Bicycle LOS Score, BLOS	3.07	3.16
Bicycle LOS	C	C

Overall results are not computed when free-flow speed is less than 45 mph.

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	R Garrett
Agency/Co:	Kershaw Co/ AECOM
Date:	8/7/2017
Analysis Period:	pm peak
Highway:	US 521
From/To:	Black River Rd to Ehrenclou Dr
Jurisdiction:	Kershaw County
Analysis Year:	2017
Project ID:	Black River Road Corridor count station #3

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	1		1	
Median type	Divided		Divided	
Free-flow speed:	Base		Base	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.3	mph	0.3	mph
Free-flow speed	44.8	mph	44.8	mph

VOLUME

Direction	1		2	
Volume, V	885	vph	818	vph
Peak-hour factor, PHF	0.92		0.92	
Peak 15-minute volume, v15	242		222	
Trucks and buses	5	%	5	%
Recreational vehicles	5	%	5	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.966		0.966	
Flow rate, vp	500	pcphpl	459	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	500	pcphpl	459	pcphpl
Free-flow speed, FFS	44.8	mph	44.8	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	B		A	
Density, D	11.1	pc/mi/ln	10.2	pc/mi/ln

_____ Bicycle Level of Service _____

Posted speed limit, Sp	45	45
Percent of segment with occupied on-highway parking	0	0
Pavement rating, P	3	3
Flow rate in outside lane, vOL	483.6	444.1
Effective width of outside lane, We	24.00	24.00
Effective speed factor, St	4.42	4.42
Bicycle LOS Score, BLOS	3.16	3.15
Bicycle LOS	C	C

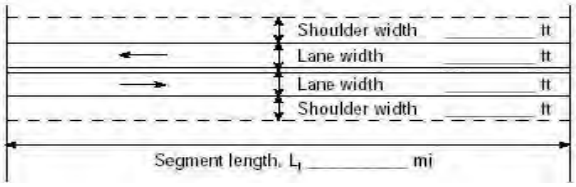
Overall results are not computed when free-flow speed is less than 45 mph.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-12 Black River Road*
Agency or Company	*Kershaw Co/ AECOM*	From/To	*from US 521 to Hermitage Farm*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw Co*
Analysis Time Period	*am peak*	Analysis Year	*2017*

Project Description: *S-12 Black River Road count station #4*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.81*

No-passing zone *18%*

% Trucks and Buses , P_T *1 %*

% Recreational vehicles, P_R *13%*

Access points *mi* *29*/mi

Analysis direction vol., V_d *210*veh/h

Opposing direction vol., V_o *372*veh/h

Shoulder width ft *3.0*

Lane Width ft *10.0*

Segment Length mi *0.6*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.4*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.996*	*0.998*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*260*	*460*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*3.7 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*7.3 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.8 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*34.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*27.7 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.999*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*260*	*459*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*32.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*28.0*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*42.2*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*B*
Volume to capacity ratio, *v/c*	*0.27*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*81.4*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*259.3*
Effective width, Wv (Eq. 15-29) ft	*13.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*3.89*
Bicycle level of service (Exhibit 15-4)	*D*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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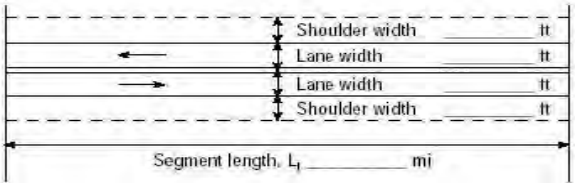
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-12 Black River Road*
Agency or Company	*Kershaw Co/ AECOM*	From/To	*from US 521 to Hermitage Farm*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw Co*
Analysis Time Period	*pm peak*	Analysis Year	*2017*

Project Description: *S-12 Black River Road count station #4*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.81*

No-passing zone *18%*

% Trucks and Buses , P_T *1 %*

% Recreational vehicles, P_R *13%*

Access points *mi* *29*/mi

Analysis direction vol., V_d *358*veh/h

Opposing direction vol., V_o *345*veh/h

Shoulder width ft *3.0*

Lane Width ft *10.0*

Segment Length mi *0.6*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.3*	*1.3*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.997*	*0.997*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*443*	*427*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*3.7 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*7.3 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.8 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*34.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*26.5 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*1.000*	*1.000*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*442*	*426*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*45.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*30.1*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*60.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.28*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*77.7*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*442.0*
Effective width, Wv (Eq. 15-29) ft	*13.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.16*
Bicycle level of service (Exhibit 15-4)	*D*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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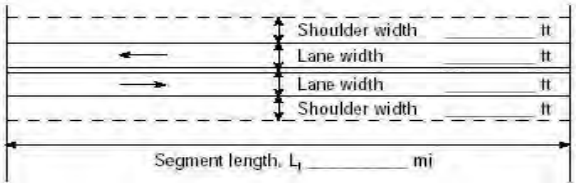
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-12 Black River Road*
Agency or Company	*Kershaw Co/ AECOM*	From/To	*Hermitage Farm to Rapid Run*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw Co*
Analysis Time Period	*am peak*	Analysis Year	*2017*

Project Description: *S-12 Black River Road count station #5*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.86*

No-passing zone *40%*

% Trucks and Buses , P_T *1 %*

% Recreational vehicles, P_R *6%*

Access points *mi* *14*/mi

Analysis direction vol., V_d *181*veh/h

Opposing direction vol., V_o *298*veh/h

Shoulder width ft *3.0*

Lane Width ft *10.0*

Segment Length mi *1.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.5*	*1.4*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.995*	*0.996*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*212*	*348*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*3.7 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*3.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.8 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*37.8 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*32.7 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.999*	*0.999*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*211*	*347*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*25.9*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*42.7*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*42.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*B*
Volume to capacity ratio, *v/c*	*0.20*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*86.4*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*210.5*
Effective width, Wv (Eq. 15-29) ft	*13.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*3.78*
Bicycle level of service (Exhibit 15-4)	*D*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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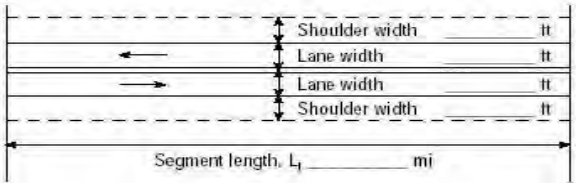
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-12 Black River Road*
Agency or Company	*Kershaw Co/ AECOM*	From/To	*Hermitage Farm to Rapid Run*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw Co*
Analysis Time Period	*pm peak*	Analysis Year	*2017*

Project Description: *S-12 Black River Road count station #5*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.79*

No-passing zone *40%*

% Trucks and Buses , P_T *1 %*

% Recreational vehicles, P_R *6%*

Access points *mi* *14*/mi

Analysis direction vol., V_d *312*veh/h

Opposing direction vol., V_o *311*veh/h

Shoulder width ft *3.0*

Lane Width ft *10.0*

Segment Length mi *1.0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.3*	*1.3*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.997*	*0.997*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*396*	*395*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*3.7 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*3.5 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.5 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*37.8 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*31.1 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.999*	*0.999*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*395*	*394*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*42.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*40.8*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*62.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.25*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*82.4*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*394.9*
Effective width, Wv (Eq. 15-29) ft	*13.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*4.10*
Bicycle level of service (Exhibit 15-4)	*D*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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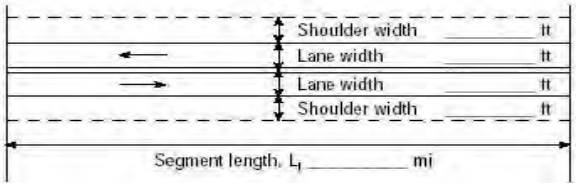
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-12 Black River Road*
Agency or Company	*Kershaw Co/ AECOM*	From/To	*Rapid Run to Mount Olive Road*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw Co*
Analysis Time Period	*am peak*	Analysis Year	*2017*

Project Description: *S-12 Black River Road count station #6*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling
Grade Length mi Up/down
Peak-hour factor, PHF *0.87*
No-passing zone *73%*
% Trucks and Buses , P_T *1 %*
% Recreational vehicles, P_R *11%*
Access points *mi* *16*/mi

Analysis direction vol., V_d *104*veh/h
Opposing direction vol., V_o *198*veh/h
Shoulder width ft *3.0*
Lane Width ft *10.0*
Segment Length mi *1.1*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.8*	*1.5*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.992*	*0.995*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*121*	*229*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*3.7 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*4.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*3.4 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*37.3 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*31.2 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.999*	*0.999*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*120*	*228*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*14.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*50.3*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*31.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*A*
Volume to capacity ratio, *v/c*	*0.13*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*83.7*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*119.5*
Effective width, Wv (Eq. 15-29) ft	*19.24*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.49*
Bicycle level of service (Exhibit 15-4)	*B*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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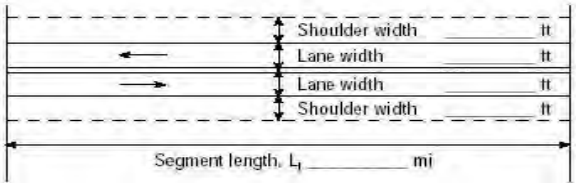
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-12 Black River Road*
Agency or Company	*Kershaw Co/ AECOM*	From/To	*Rapid Run to Mount Olive Road*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw Co*
Analysis Time Period	*pm peak*	Analysis Year	*2017*

Project Description: *S-12 Black River Road count station #6*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling
Grade Length mi Up/down
Peak-hour factor, PHF *0.82*
No-passing zone *73%*

Analysis direction vol., V_d *232*veh/h
Opposing direction vol., V_o *153*veh/h
Shoulder width ft *3.0*
Lane Width ft *10.0*
Segment Length mi *1.1*

% Trucks and Buses , P_T *1* %
% Recreational vehicles, P_R *11*%
Access points *mi* *16*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.4*	*1.6*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.996*	*0.994*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*284*	*188*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*3.7 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*4.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*3.4 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*37.3 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*30.3 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.999*	*0.999*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*283*	*187*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*28.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*53.5*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*61.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.17*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*81.1*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*282.9*
Effective width, Wv (Eq. 15-29) ft	*13.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*3.93*
Bicycle level of service (Exhibit 15-4)	*D*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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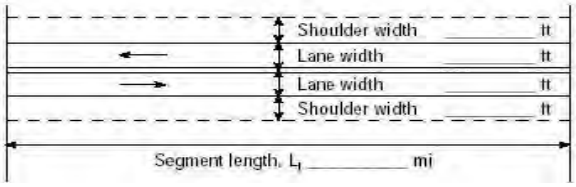
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-189 Mount Olivet Road*
Agency or Company	*Kershaw Co / AECOM*	From/To	*from Black River to Humphries*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw County*
Analysis Time Period	*am peak*	Analysis Year	*2017*

Project Description: *Mount Olivet Road Count station #7*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.81*

No-passing zone *73%*

% Trucks and Buses , P_T *3 %*

% Recreational vehicles, P_R *3%*

Access points *mi* *4*/mi

Analysis direction vol., V_d *21*veh/h

Opposing direction vol., V_o *31*veh/h

Shoulder width ft *2.0*

Lane Width ft *10.0*

Segment Length mi *1.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.9*	*1.9*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.974*	*0.974*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*27*	*39*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*3.7 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*1.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.2 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*50.3 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*47.5 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.997*	*0.997*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*26*	*38*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*3.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*51.9*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*24.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*A*
Volume to capacity ratio, *v/c*	*0.02*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*94.5*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*25.9*
Effective width, Wv (Eq. 15-29) ft	*22.74*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.56*
Bicycle level of service (Exhibit 15-4)	*B*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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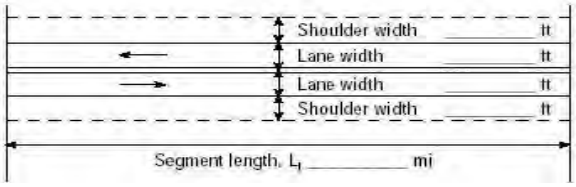
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-189 Mount Olivet Road*
Agency or Company	*Kershaw Co / AECOM*	From/To	*from Black River to Humphries*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw County*
Analysis Time Period	*pm peak*	Analysis Year	*2017*

Project Description: *Mount Olivet Road Count station #7*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.56*

No-passing zone *73%*

% Trucks and Buses , P_T *3 %*

% Recreational vehicles, P_R *3%*

Access points *mi* *4*/mi

Analysis direction vol., V_d *30*veh/h

Opposing direction vol., V_o *22*veh/h

Shoulder width ft *2.0*

Lane Width ft *10.0*

Segment Length mi *1.5*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.9*	*1.9*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.974*	*0.974*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*55*	*41*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*55.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*3.7 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*1.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.2 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*50.3 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*47.3 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.997*	*0.997*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*54*	*40*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*6.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*51.6*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*36.2*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*A*
Volume to capacity ratio, *v/c*	*0.03*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*94.1*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*54.1*
Effective width, Wv (Eq. 15-29) ft	*22.20*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.86*
Bicycle level of service (Exhibit 15-4)	*B*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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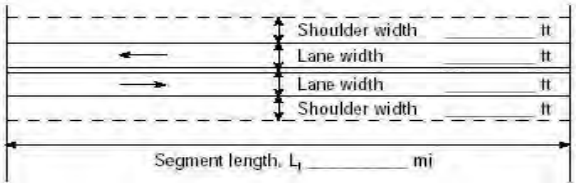
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-329 Humphries Road*
Agency or Company	*Kershaw Co / AECOM*	From/To	*Cleveland School to I-20*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw County*
Analysis Time Period	*am peak*	Analysis Year	*2017*

Project Description: *S-329 Humphries Road count sta #8*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling
Grade Length mi Up/down
Peak-hour factor, PHF *0.80*
No-passing zone *100%*
% Trucks and Buses , P_T *2 %*
% Recreational vehicles, P_R *13%*
Access points *mi* *0*/mi

Analysis direction vol., V_d *113*veh/h
Opposing direction vol., V_o *51*veh/h
Shoulder width ft *6.0*
Lane Width ft *12.0*
Segment Length mi *0.3*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.7*	*1.9*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.986*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*143*	*65*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.4 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*45.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*41.0 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.998*	*0.998*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*142*	*64*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*16.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*49.5*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*50.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*B*
Volume to capacity ratio, *v/c*	*0.08*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*91.1*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*141.3*
Effective width, Wv (Eq. 15-29) ft	*31.83*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*-0.32*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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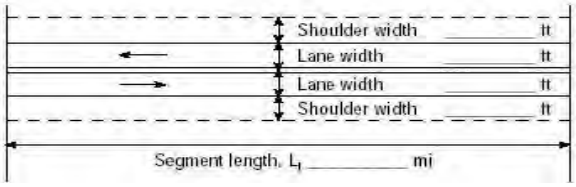
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-329 Humphries Road*
Agency or Company	*Kershaw Co / AECOM*	From/To	*Cleveland School to I-20*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw County*
Analysis Time Period	*pm peak*	Analysis Year	*2017*

Project Description: *S-329 Humphries Road count sta #8*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling
Grade Length mi Up/down
Peak-hour factor, PHF *0.85*
No-passing zone *100%*
% Trucks and Buses , P_T *2 %*
% Recreational vehicles, P_R *13%*
Access points *mi* *0*/mi

Analysis direction vol., V_d *38*veh/h
Opposing direction vol., V_o *74*veh/h
Shoulder width ft *6.0*
Lane Width ft *12.0*
Segment Length mi *0.3*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.9*	*1.9*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*46*	*89*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.4 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*45.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*41.6 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.998*	*0.998*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*45*	*87*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*5.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*50.8*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*22.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*A*
Volume to capacity ratio, *v/c*	*0.05*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*92.3*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*44.7*
Effective width, Wv (Eq. 15-29) ft	*38.58*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*-3.27*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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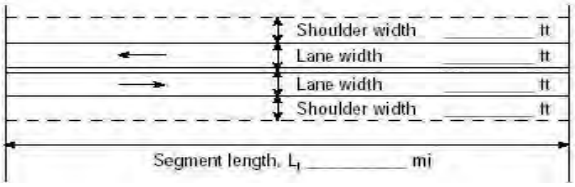
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-329 Humphries Road*
Agency or Company	*Kershaw Co / AECOM*	From/To	*I-20 to Mt Olivet*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw County*
Analysis Time Period	*am peak*	Analysis Year	*2017*

Project Description: *S-329 Humphries Road count sta #9*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.82*

No-passing zone *100%*

% Trucks and Buses , P_T *7 %*

% Recreational vehicles, P_R *10%*

Access points *mi* *0*/mi

Analysis direction vol., V_d *107*veh/h

Opposing direction vol., V_o *195*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *0.3*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.8*	*1.5*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.947*	*0.966*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*138*	*246*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*3.7 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*45.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*38.3 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.993*	*0.993*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*131*	*239*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*16.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*52.7*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*34.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*A*
Volume to capacity ratio, *v/c*	*0.14*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*85.2*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*130.5*
Effective width, Wv (Eq. 15-29) ft	*32.37*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*0.93*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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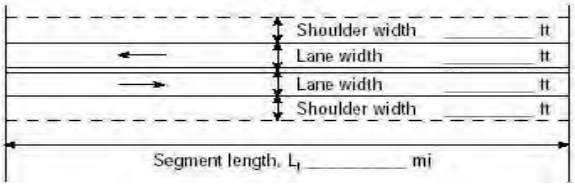
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-329 Humphries Road*
Agency or Company	*Kershaw Co / AECOM*	From/To	*I-20 to Mt Olivet*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw County*
Analysis Time Period	*pm peak*	Analysis Year	*2017*

Project Description: *S-329 Humphries Road count sta #9*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling
Grade Length mi Up/down
Peak-hour factor, PHF *0.78*
No-passing zone *100%*
% Trucks and Buses , P_T *7 %*
% Recreational vehicles, P_R *10%*
Access points *mi* *0*/mi

Analysis direction vol., V_d *116*veh/h
Opposing direction vol., V_o *99*veh/h
Shoulder width ft *6.0*
Lane Width ft *12.0*
Segment Length mi *0.3*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.7*	*1.8*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.953*	*0.947*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*156*	*134*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.9 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*45.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*39.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.993*	*0.993*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*150*	*128*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*16.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*56.5*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*47.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*B*
Volume to capacity ratio, *v/c*	*0.09*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*88.5*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*148.7*
Effective width, Wv (Eq. 15-29) ft	*31.56*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.25*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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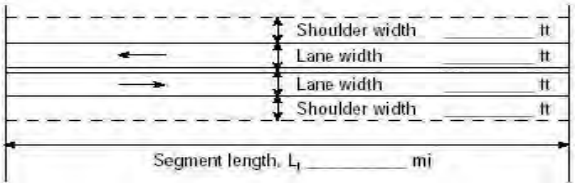
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-329 Humphries Road*
Agency or Company	*Kershaw Co / AECOM*	From/To	*Mt Olivet to S-34*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw County*
Analysis Time Period	*am peak*	Analysis Year	*2017*

Project Description: *S-329 Humphries Road count sta #10*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.78*

No-passing zone *35%*

% Trucks and Buses , P_T *6 %*

% Recreational vehicles, P_R *16%*

Access points *mi* *11*/mi

Analysis direction vol., V_d *93*veh/h

Opposing direction vol., V_o *169*veh/h

Shoulder width ft *4.0*

Lane Width ft *12.0*

Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.8*	*1.5*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.954*	*0.971*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*125*	*222*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*1.3 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.3 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*41.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*36.9 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.994*	*0.994*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*119*	*217*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*14.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*39.0*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*28.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*A*
Volume to capacity ratio, *v/c*	*0.13*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*90.2*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*118.8*
Effective width, Wv (Eq. 15-29) ft	*24.56*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.77*
Bicycle level of service (Exhibit 15-4)	*C*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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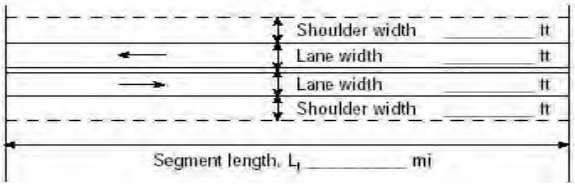
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*R Garrett*	Highway / Direction of Travel	*S-329 Humphries Road*
Agency or Company	*Kershaw Co / AECOM*	From/To	*Mt Olivet to S-34*
Date Performed	*8/8/2017*	Jurisdiction	*Kershaw County*
Analysis Time Period	*pm peak*	Analysis Year	*2017*

Project Description: *S-329 Humphries Road count sta #10*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling
Grade Length mi Up/down
Peak-hour factor, PHF *0.84*
No-passing zone *35%*
% Trucks and Buses , P_T *6 %*
% Recreational vehicles, P_R *16%*
Access points *mi* *11*/mi

Analysis direction vol., V_d *99*veh/h
Opposing direction vol., V_o *89*veh/h
Shoulder width ft *4.0*
Lane Width ft *12.0*
Segment Length mi *1.2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.8*	*1.9*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.954*	*0.949*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*123*	*112*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*1.3 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.5 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*41.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*38.7 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.1*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.994*	*0.994*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*118*	*106*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*13.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*40.6*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*34.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*A*
Volume to capacity ratio, *v/c*	*0.07*
Capacity, $C_{d,ATS}$ (Equation 15-12) pc/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) pc/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*94.4*

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*117.7*
Effective width, Wv (Eq. 15-29) ft	*24.08*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.92*
Bicycle level of service (Exhibit 15-4)	*C*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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Appendix G 2017 Existing Level of Service

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	224	215	502	604	6
Future Vol, veh/h	3	224	215	502	604	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	86	86	85	85
Heavy Vehicles, %	1	1	3	3	2	2
Mvmt Flow	5	345	250	584	711	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1506	359	718	0	-	0
Stage 1	714	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Critical Hdwy	6.82	6.92	4.16	-	-	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	2.23	-	-	-
Pot Cap-1 Maneuver	113	640	872	-	-	-
Stage 1	449	-	-	-	-	-
Stage 2	409	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	81	640	872	-	-	-
Mov Cap-2 Maneuver	196	-	-	-	-	-
Stage 1	449	-	-	-	-	-
Stage 2	292	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18	3.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	872	-	621	-	-
HCM Lane V/C Ratio	0.287	-	0.562	-	-
HCM Control Delay (s)	10.8	-	18	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	1.2	-	3.5	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	141	197	503	54	105	722
Future Vol, veh/h	141	197	503	54	105	722
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	25	-	450	400	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	78	78
Heavy Vehicles, %	1	1	4	4	2	2
Mvmt Flow	155	216	553	59	135	926

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1285	276	0	0	553	0
Stage 1	553	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.14	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.22	-
Pot Cap-1 Maneuver	158	724	-	-	1013	-
Stage 1	543	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 137	724	-	-	1013	-
Mov Cap-2 Maneuver	264	-	-	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	380	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.2	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	264	724	1013	-
HCM Lane V/C Ratio	-	-	0.587	0.299	0.133	-
HCM Control Delay (s)	-	-	36.3	12.1	9.1	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	3.4	1.3	0.5	-

Notes

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

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	15	39	1	520	1	19	829
Future Vol, veh/h	15	39	1	520	1	19	829
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	-	-	-	-
Veh in Median Storage, #	1	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	71	71	88	88	88	73	73
Heavy Vehicles, %	0	0	2	2	2	2	2
Mvmt Flow	21	55	1	591	1	26	1136

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1214	296	1135	0	0	592	0
Stage 1	594	-	-	-	-	-	-
Stage 2	620	-	-	-	-	-	-
Critical Hdwy	7.5	6.9	6.44	-	-	4.14	-
Critical Hdwy Stg 1	6.5	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.52	-	-	2.22	-
Pot Cap-1 Maneuver	140	706	272	-	-	980	-
Stage 1	463	-	-	-	-	-	-
Stage 2	447	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	132	706	272	-	-	980	-
Mov Cap-2 Maneuver	259	-	-	-	-	-	-
Stage 1	463	-	-	-	-	-	-
Stage 2	415	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	9.1	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	477	980	-
HCM Lane V/C Ratio	-	-	0.159	0.027	-
HCM Control Delay (s)	9.1	-	14	8.8	0.3
HCM Lane LOS	A	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	35	116	1	65	23	451	144	100	742	0
Future Vol, veh/h	0	0	35	116	1	65	23	451	144	100	742	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	250	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	91	91	91	92	92	92	74	74	74
Heavy Vehicles, %	0	0	0	1	1	1	3	3	3	2	2	2
Mvmt Flow	0	0	40	127	1	71	25	490	157	135	1003	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1569	1813	501	1312	1813	245	1003	0	0	490	0	0
Stage 1	1273	1273	-	540	540	-	-	-	-	-	-	-
Stage 2	296	540	-	772	1273	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.52	6.52	6.92	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.51	4.01	3.31	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	76	79	521	~ 117	78	758	680	-	-	1070	-	-
Stage 1	180	241	-	496	522	-	-	-	-	-	-	-
Stage 2	694	524	-	361	239	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	59	65	521	~ 93	64	758	680	-	-	1070	-	-
Mov Cap-2 Maneuver	132	148	-	193	144	-	-	-	-	-	-	-
Stage 1	169	211	-	467	491	-	-	-	-	-	-	-
Stage 2	590	493	-	291	209	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	52.4	0.5	1.1
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	680	-	-	521	262	1070	-	-
HCM Lane V/C Ratio	0.037	-	-	0.076	0.763	0.126	-	-
HCM Control Delay (s)	10.5	0.2	-	12.5	52.4	8.8	-	-
HCM Lane LOS	B	A	-	B	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	5.6	0.4	-	-

Notes

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	0	92	207	526	0	0	353	545
Future Vol, veh/h	0	0	0	5	0	92	207	526	0	0	353	545
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	300	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	81	81	81	88	88	88	78	78	78
Heavy Vehicles, %	2	2	2	5	5	5	4	4	4	2	2	2
Mvmt Flow	0	0	0	6	0	114	235	598	0	0	453	699

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1294	1521	299	453	0	-	-	-	0
Stage 1	1068	1068	-	-	-	-	-	-	-
Stage 2	226	453	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.6	7	4.18	-	-	-	-	-
Critical Hdwy Stg 1	5.9	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	2.24	-	-	-	-	-
Pot Cap-1 Maneuver	150	114	688	1090	-	0	0	-	-
Stage 1	285	290	-	-	-	0	0	-	-
Stage 2	781	561	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	118	0	688	1090	-	-	-	-	-
Mov Cap-2 Maneuver	118	0	-	-	-	-	-	-	-
Stage 1	224	0	-	-	-	-	-	-	-
Stage 2	781	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	2.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1090	-	725	-	-
HCM Lane V/C Ratio	0.216	-	0.165	-	-
HCM Control Delay (s)	9.2	-	10.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.8	-	0.6	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	315	1	204	0	0	0	0	418	2	97	264	0
Future Vol, veh/h	315	1	204	0	0	0	0	418	2	97	264	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	275	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	92	92	92	80	80	80	72	72	72
Heavy Vehicles, %	4	4	4	2	2	2	5	5	5	2	2	2
Mvmt Flow	339	1	219	0	0	0	0	523	3	135	367	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	897	1159	183	-	0	0	523	0	0
Stage 1	636	636	-	-	-	-	-	-	-
Stage 2	261	523	-	-	-	-	-	-	-
Critical Hdwy	6.88	6.58	6.98	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.88	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.88	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4.04	3.34	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 276	191	822	0	-	-	1040	-	0
Stage 1	484	465	-	0	-	-	-	-	0
Stage 2	753	524	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	~ 240	0	822	-	-	-	1040	-	-
Mov Cap-2 Maneuver	~ 240	0	-	-	-	-	-	-	-
Stage 1	421	0	-	-	-	-	-	-	-
Stage 2	753	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	1214	1040	-
HCM Lane V/C Ratio	-	-	0.461	0.13	-
HCM Control Delay (s)	-	-	10.5	9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	2.5	0.4	-

Notes

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

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	148	283	9	5	66
Future Vol, veh/h	15	148	283	9	5	66
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	80	80	86	86	85	85
Heavy Vehicles, %	3	3	1	1	1	1
Mvmt Flow	19	185	329	10	6	78

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	340	0	-	0	557	334
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	223	-
Critical Hdwy	4.13	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.227	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1214	-	-	-	493	710
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1214	-	-	-	485	710
Mov Cap-2 Maneuver	-	-	-	-	485	-
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1214	-	-	-	688
HCM Lane V/C Ratio	0.015	-	-	-	0.121
HCM Control Delay (s)	8	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	139	285	1	0	4
Future Vol, veh/h	1	139	285	1	0	4
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	85	85	84	84	50	50
Heavy Vehicles, %	3	3	1	1	0	0
Mvmt Flow	1	164	339	1	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	340	0	-	0	506	340
Stage 1	-	-	-	-	340	-
Stage 2	-	-	-	-	166	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1214	-	-	-	530	707
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	868	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1214	-	-	-	529	707
Mov Cap-2 Maneuver	-	-	-	-	529	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	867	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1214	-	-	-	707
HCM Lane V/C Ratio	0.001	-	-	-	0.011
HCM Control Delay (s)	8	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	108	16	4	190	8	4	0	6	9	1	35
Future Vol, veh/h	9	108	16	4	190	8	4	0	6	9	1	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	325	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	84	84	84	50	50	50	80	80	80
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	9	114	17	5	226	10	8	0	12	11	1	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	236	0	0	114	0	0	396	378	114	379	373	231
Stage 1	-	-	-	-	-	-	133	133	-	240	240	-
Stage 2	-	-	-	-	-	-	263	245	-	139	133	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1343	-	-	1488	-	-	568	557	944	582	561	813
Stage 1	-	-	-	-	-	-	875	790	-	768	711	-
Stage 2	-	-	-	-	-	-	747	707	-	869	790	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1343	-	-	1488	-	-	532	551	944	570	555	813
Mov Cap-2 Maneuver	-	-	-	-	-	-	532	551	-	570	555	-
Stage 1	-	-	-	-	-	-	869	784	-	763	708	-
Stage 2	-	-	-	-	-	-	703	704	-	852	784	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	10.1	10.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	721	1343	-	-	1488	-	-	742
HCM Lane V/C Ratio	0.028	0.007	-	-	0.003	-	-	0.076
HCM Control Delay (s)	10.1	7.7	0	-	7.4	0	-	10.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	36	77	139	52	34	56
Future Vol, veh/h	36	77	139	52	34	56
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	74	74	81	81	68	68
Heavy Vehicles, %	0	4	1	0	0	0
Mvmt Flow	49	104	172	64	50	82

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	236	0	-	0	405	204
Stage 1	-	-	-	-	204	-
Stage 2	-	-	-	-	201	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1343	-	-	-	606	842
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	838	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1343	-	-	-	582	842
Mov Cap-2 Maneuver	-	-	-	-	582	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	805	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1343	-	-	-	720
HCM Lane V/C Ratio	0.036	-	-	-	0.184
HCM Control Delay (s)	7.8	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	89	177	1	3	10
Future Vol, veh/h	13	89	177	1	3	10
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	80	80	81	81	65	65
Heavy Vehicles, %	0	4	1	0	0	9
Mvmt Flow	16	111	219	1	5	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	220	0	-	0	363	219
Stage 1	-	-	-	-	219	-
Stage 2	-	-	-	-	144	-
Critical Hdwy	4.1	-	-	-	6.4	6.29
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.381
Pot Cap-1 Maneuver	1361	-	-	-	640	803
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	888	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1361	-	-	-	632	803
Mov Cap-2 Maneuver	-	-	-	-	632	-
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	876	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1361	-	-	-	756
HCM Lane V/C Ratio	0.012	-	-	-	0.026
HCM Control Delay (s)	7.7	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	77	146	57	37	5
Future Vol, veh/h	9	77	146	57	37	5
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	74	74	70	70	55	55
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	12	104	209	81	67	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	290	0	-	0	377	249
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	128	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1283	-	-	-	629	795
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1283	-	-	-	623	795
Mov Cap-2 Maneuver	-	-	-	-	623	-
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	894	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1283	-	-	-	639
HCM Lane V/C Ratio	0.009	-	-	-	0.12
HCM Control Delay (s)	7.8	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	104	5	8	4	3	39
Future Vol, veh/h	104	5	8	4	3	39
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	78	78	50	50	58	58
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	133	6	16	8	5	67

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	293	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	273	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1604	-	-	-	702	1064
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	778	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1604	-	-	-	644	1064
Mov Cap-2 Maneuver	-	-	-	-	644	-
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	SB
HCM Control Delay, s	7.1	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1604	-	-	-	1017
HCM Lane V/C Ratio	0.083	-	-	-	0.071
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	0	13	0	0	0	0	103	7	32	29	0
Future Vol, veh/h	29	0	13	0	0	0	0	103	7	32	29	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	525	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	62	62	62	92	92	92	74	74	74	73	73	73
Heavy Vehicles, %	7	0	0	2	2	2	0	0	0	6	0	0
Mvmt Flow	47	0	21	0	0	0	0	139	9	44	40	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	266	266	40	-	0	0	139	0	0
Stage 1	127	127	-	-	-	-	-	-	-
Stage 2	139	139	-	-	-	-	-	-	-
Critical Hdwy	6.47	6.5	6.2	-	-	-	4.16	-	-
Critical Hdwy Stg 1	5.47	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.47	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4	3.3	-	-	-	2.254	-	-
Pot Cap-1 Maneuver	712	643	1037	0	-	-	1420	-	0
Stage 1	887	795	-	0	-	-	-	-	0
Stage 2	876	785	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	690	0	1037	-	-	-	1420	-	-
Mov Cap-2 Maneuver	690	0	-	-	-	-	-	-	-
Stage 1	860	0	-	-	-	-	-	-	-
Stage 2	876	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	6.1	0	4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	3350	1420	-
HCM Lane V/C Ratio	-	-	0.006	0.031	-
HCM Control Delay (s)	-	-	6.1	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	1	14	54	81	0	0	61	113
Future Vol, veh/h	0	0	0	0	1	14	54	81	0	0	61	113
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	525	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	38	38	38	73	73	92	73	73	73
Heavy Vehicles, %	2	2	2	0	100	0	0	2	0	0	3	0
Mvmt Flow	0	0	0	0	3	37	74	111	0	0	84	155

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	343	343	111	84	0	-	-	-	0
Stage 1	259	259	-	-	-	-	-	-	-
Stage 2	84	84	-	-	-	-	-	-	-
Critical Hdwy	6.4	7.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	5.4	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.9	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	657	450	948	1526	-	0	0	-	-
Stage 1	789	546	-	-	-	0	0	-	-
Stage 2	944	668	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	625	0	948	1526	-	-	-	-	-
Mov Cap-2 Maneuver	646	0	-	-	-	-	-	-	-
Stage 1	751	0	-	-	-	-	-	-	-
Stage 2	944	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1526	-	1016	-	-
HCM Lane V/C Ratio	0.048	-	0.039	-	-
HCM Control Delay (s)	7.5	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	6	1	11	0	18	5	3	0	12	79	6	0	0	146	6
Future Vol, veh/h	0	6	1	11	0	18	5	3	0	12	79	6	0	0	146	6
Peak Hour Factor	0.92	0.75	0.75	0.75	0.92	0.50	0.50	0.50	0.92	0.58	0.58	0.58	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	0	0	9	2	0	0	0	2	0	4	0	2	0	1	0
Mvmt Flow	0	8	1	15	0	36	10	6	0	21	136	10	0	0	180	7
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	8.1	8.3	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	33%	69%	0%
Vol Thru, %	81%	6%	19%	96%
Vol Right, %	6%	61%	12%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	18	26	152
LT Vol	12	6	18	0
Through Vol	79	1	5	146
RT Vol	6	11	3	6
Lane Flow Rate	167	24	52	188
Geometry Grp	1	1	1	1
Degree of Util (X)	0.198	0.03	0.069	0.222
Departure Headway (Hd)	4.27	4.44	4.772	4.255
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	845	807	752	848
Service Time	2.275	2.463	2.794	2.26
HCM Lane V/C Ratio	0.198	0.03	0.069	0.222
HCM Control Delay	8.3	7.6	8.1	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.2	0.8

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	90	70	50	210	19	75	8	13	9	30	55
Future Vol, veh/h	17	90	70	50	210	19	75	8	13	9	30	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	75	75	75	56	56	56	73	73	73
Heavy Vehicles, %	0	2	0	2	1	0	2	0	15	0	3	0
Mvmt Flow	26	136	106	67	280	25	134	14	23	12	41	75

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	305	0	0	242	0	0	725	680	189	686	720	293
Stage 1	-	-	-	-	-	-	241	241	-	426	426	-
Stage 2	-	-	-	-	-	-	484	439	-	260	294	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.12	6.5	6.35	7.1	6.53	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.5	-	6.1	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.5	-	6.1	5.53	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.518	4	3.435	3.5	4.027	3.3
Pot Cap-1 Maneuver	1267	-	-	1324	-	-	340	376	821	364	353	751
Stage 1	-	-	-	-	-	-	762	710	-	610	584	-
Stage 2	-	-	-	-	-	-	564	582	-	749	668	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1267	-	-	1324	-	-	259	345	821	321	324	751
Mov Cap-2 Maneuver	-	-	-	-	-	-	259	345	-	321	324	-
Stage 1	-	-	-	-	-	-	744	693	-	595	548	-
Stage 2	-	-	-	-	-	-	441	546	-	696	652	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.4	33.5	15.1
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	292	1267	-	-	1324	-	-	485
HCM Lane V/C Ratio	0.587	0.02	-	-	0.05	-	-	0.265
HCM Control Delay (s)	33.5	7.9	0	-	7.9	0	-	15.1
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	3.5	0.1	-	-	0.2	-	-	1.1

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	255	264	656	545	1
Future Vol, veh/h	2	255	264	656	545	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	89	89	86	86
Heavy Vehicles, %	0	2	1	1	3	0
Mvmt Flow	2	307	297	737	634	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1596	317	635	0	-	0
Stage 1	634	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Critical Hdwy	6.8	6.94	4.12	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.32	2.21	-	-	-
Pot Cap-1 Maneuver	99	679	951	-	-	-
Stage 1	496	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	68	679	951	-	-	-
Mov Cap-2 Maneuver	170	-	-	-	-	-
Stage 1	496	-	-	-	-	-
Stage 2	231	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.1	3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	951	-	664	-	-
HCM Lane V/C Ratio	0.312	-	0.466	-	-
HCM Control Delay (s)	10.5	-	15.1	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	1.3	-	2.5	-	-

Intersection	
Int Delay, s/veh	7.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	90	244	649	113	213	589
Future Vol, veh/h	90	244	649	113	213	589
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	25	-	450	400	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	96	96	88	88
Heavy Vehicles, %	2	1	1	0	1	3
Mvmt Flow	125	339	676	118	242	669

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1495	338	0	0	676	0
Stage 1	676	-	-	-	-	-
Stage 2	819	-	-	-	-	-
Critical Hdwy	7.54	6.92	-	-	4.12	-
Critical Hdwy Stg 1	6.54	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	-	-	-
Follow-up Hdwy	3.52	3.31	-	-	2.21	-
Pot Cap-1 Maneuver	~ 85	661	-	-	918	-
Stage 1	409	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 68	661	-	-	918	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	409	-	-	-	-	-
Stage 2	247	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30.6	0	2.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	169	661	918	-
HCM Lane V/C Ratio	-	-	0.74	0.513	0.264	-
HCM Control Delay (s)	-	-	70.3	16	10.3	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	4.6	2.9	1.1	-

Notes

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

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	5	33	1	732	9	30	697
Future Vol, veh/h	5	33	1	732	9	30	697
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	-	-	-	-
Veh in Median Storage, #	1	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	71	71	90	90	90	87	87
Heavy Vehicles, %	0	0	0	1	0	0	3
Mvmt Flow	7	46	1	813	10	34	801

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1291	412	801	0	0	823	0
Stage 1	821	-	-	-	-	-	-
Stage 2	470	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	6.4	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.5	-	-	2.2	-
Pot Cap-1 Maneuver	158	595	452	-	-	816	-
Stage 1	398	-	-	-	-	-	-
Stage 2	601	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	146	595	452	-	-	816	-
Mov Cap-2 Maneuver	276	-	-	-	-	-	-
Stage 1	398	-	-	-	-	-	-
Stage 2	556	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	6.4	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	516	816	-
HCM Lane V/C Ratio	-	-	0.104	0.042	-
HCM Control Delay (s)	6.5	-	12.8	9.6	0.3
HCM Lane LOS	A	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	2	26	88	2	77	6	661	106	75	554	0
Future Vol, veh/h	4	2	26	88	2	77	6	661	106	75	554	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	250	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	85	85	85	96	96	96	90	90	90
Heavy Vehicles, %	0	0	0	1	0	0	0	1	0	0	2	0
Mvmt Flow	4	2	29	104	2	91	6	689	110	83	616	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1140	1483	308	1177	1483	344	616	0	0	689	0	0
Stage 1	782	782	-	701	701	-	-	-	-	-	-	-
Stage 2	358	701	-	476	782	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.52	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.52	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.52	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.51	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	158	126	694	148	126	658	974	-	-	915	-	-
Stage 1	358	408	-	398	444	-	-	-	-	-	-	-
Stage 2	638	444	-	541	408	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	125	113	694	130	113	658	974	-	-	915	-	-
Mov Cap-2 Maneuver	238	217	-	253	233	-	-	-	-	-	-	-
Stage 1	354	371	-	394	439	-	-	-	-	-	-	-
Stage 2	541	439	-	468	371	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	27.3	0.1	1.1
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	974	-	-	504	353	915	-	-
HCM Lane V/C Ratio	0.006	-	-	0.071	0.557	0.091	-	-
HCM Control Delay (s)	8.7	0	-	12.7	27.3	9.3	-	-
HCM Lane LOS	A	A	-	B	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	3.2	0.3	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	4	2	105	175	667	0	0	353	313
Future Vol, veh/h	0	0	0	4	2	105	175	667	0	0	353	313
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	300	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	79	79	79	94	94	94	91	91	91
Heavy Vehicles, %	2	2	2	0	0	4	5	1	0	0	1	5
Mvmt Flow	0	0	0	5	3	133	186	710	0	0	388	344

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1276	1470	355	388	0	-	-	-	0
Stage 1	1082	1082	-	-	-	-	-	-	-
Stage 2	194	388	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.5	6.98	4.2	-	-	-	-	-
Critical Hdwy Stg 1	5.8	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.34	2.25	-	-	-	-	-
Pot Cap-1 Maneuver	161	129	636	1146	-	0	0	-	-
Stage 1	291	296	-	-	-	0	0	-	-
Stage 2	826	612	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	135	0	636	1146	-	-	-	-	-
Mov Cap-2 Maneuver	135	0	-	-	-	-	-	-	-
Stage 1	244	0	-	-	-	-	-	-	-
Stage 2	826	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1146	-	672	-	-
HCM Lane V/C Ratio	0.162	-	0.209	-	-
HCM Control Delay (s)	8.8	-	11.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.8	-	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	440	3	224	0	0	0	0	399	8	101	257	0
Future Vol, veh/h	440	3	224	0	0	0	0	399	8	101	257	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	275	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	92	92	92	83	83	83	91	91	91
Heavy Vehicles, %	0	0	4	2	2	2	0	3	0	0	2	0
Mvmt Flow	463	3	236	0	0	0	0	481	10	111	282	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	744	985	141	-	0	0	481	0	0
Stage 1	504	504	-	-	-	-	-	-	-
Stage 2	240	481	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.5	6.98	-	-	-	4.1	-	-
Critical Hdwy Stg 1	5.8	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.34	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 354	250	875	0	-	-	1092	-	0
Stage 1	578	544	-	0	-	-	-	-	0
Stage 2	783	557	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	~ 318	0	875	-	-	-	1092	-	-
Mov Cap-2 Maneuver	~ 318	0	-	-	-	-	-	-	-
Stage 1	519	0	-	-	-	-	-	-	-
Stage 2	783	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	1182	1092	-
HCM Lane V/C Ratio	-	-	0.594	0.102	-
HCM Control Delay (s)	-	-	12.4	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	4.1	0.3	-

Notes

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

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	61	287	348	11	13	45
Future Vol, veh/h	61	287	348	11	13	45
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	81	81	66	66	76	76
Heavy Vehicles, %	0	1	1	0	0	2
Mvmt Flow	75	354	527	17	17	59

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	544	0	-	0	1041	536
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	505	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1035	-	-	-	257	545
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	610	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1035	-	-	-	234	545
Mov Cap-2 Maneuver	-	-	-	-	234	-
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	555	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1035	-	-	-	420
HCM Lane V/C Ratio	0.073	-	-	-	0.182
HCM Control Delay (s)	8.8	0	-	-	15.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	299	347	0	1	2
Future Vol, veh/h	2	299	347	0	1	2
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	79	79	64	64	25	25
Heavy Vehicles, %	3	3	1	0	0	0
Mvmt Flow	3	378	542	0	4	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	542	0	-	0	926	542
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1022	-	-	-	301	544
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1022	-	-	-	300	544
Mov Cap-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	690	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1022	-	-	-	428
HCM Lane V/C Ratio	0.002	-	-	-	0.028
HCM Control Delay (s)	8.5	0	-	-	13.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	199	3	2	248	7	14	0	4	1	0	32
Future Vol, veh/h	36	199	3	2	248	7	14	0	4	1	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	325	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	57	57	57	56	56	56	80	80	80
Heavy Vehicles, %	0	1	33	0	1	0	7	0	0	0	0	0
Mvmt Flow	43	237	4	4	435	12	25	0	7	1	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	447	0	0	237	0	0	791	777	237	774	771	441
Stage 1	-	-	-	-	-	-	323	323	-	448	448	-
Stage 2	-	-	-	-	-	-	468	454	-	326	323	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.17	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.563	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1124	-	-	1342	-	-	301	330	807	318	333	621
Stage 1	-	-	-	-	-	-	679	654	-	594	576	-
Stage 2	-	-	-	-	-	-	566	573	-	691	654	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1124	-	-	1342	-	-	271	314	807	304	317	621
Mov Cap-2 Maneuver	-	-	-	-	-	-	271	314	-	304	317	-
Stage 1	-	-	-	-	-	-	649	625	-	568	574	-
Stage 2	-	-	-	-	-	-	527	571	-	655	625	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.1	17.6	11.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	318	1124	-	-	1342	-	-	602
HCM Lane V/C Ratio	0.101	0.038	-	-	0.003	-	-	0.069
HCM Control Delay (s)	17.6	8.3	0	-	7.7	0	-	11.4
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	60	187	129	33	50	50
Future Vol, veh/h	60	187	129	33	50	50
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	64	64	68	68	86	86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	94	292	190	49	58	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	238	0	-	0	694	214
Stage 1	-	-	-	-	214	-
Stage 2	-	-	-	-	480	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1341	-	-	-	412	831
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	627	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1341	-	-	-	377	831
Mov Cap-2 Maneuver	-	-	-	-	377	-
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	574	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1341	-	-	-	519
HCM Lane V/C Ratio	0.07	-	-	-	0.224
HCM Control Delay (s)	7.9	0	-	-	13.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	194	131	0	2	19
Future Vol, veh/h	33	194	131	0	2	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	73	73	73	73	69	69
Heavy Vehicles, %	0	4	1	0	0	9
Mvmt Flow	45	266	179	0	3	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	179	0	-	0	535	179
Stage 1	-	-	-	-	179	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	4.1	-	-	-	6.4	6.29
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.381
Pot Cap-1 Maneuver	1409	-	-	-	510	846
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1409	-	-	-	491	846
Mov Cap-2 Maneuver	-	-	-	-	491	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	687	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1409	-	-	-	791
HCM Lane V/C Ratio	0.032	-	-	-	0.038
HCM Control Delay (s)	7.6	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		Y	
Traffic Vol, veh/h	3	161	114	25	57	7
Future Vol, veh/h	3	161	114	25	57	7
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	78	78	76	76	62	62
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	206	150	33	92	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	183	0	-	0	380	166
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	214	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1404	-	-	-	626	884
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	826	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1404	-	-	-	624	884
Mov Cap-2 Maneuver	-	-	-	-	624	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	824	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1404	-	-	-	645
HCM Lane V/C Ratio	0.003	-	-	-	0.16
HCM Control Delay (s)	7.6	0	-	-	11.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	5	8	2	6	70
Future Vol, veh/h	29	5	8	2	6	70
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	85	85	63	63	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	34	6	13	3	7	84

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	16	0	-	0	88	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	74	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1615	-	-	-	918	1072
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	954	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1615	-	-	-	899	1072
Mov Cap-2 Maneuver	-	-	-	-	899	-
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	SB
HCM Control Delay, s	6.2	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1615	-	-	-	1056
HCM Lane V/C Ratio	0.021	-	-	-	0.087
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	86	1	48	0	0	0	0	30	1	21	23	0
Future Vol, veh/h	86	1	48	0	0	0	0	30	1	21	23	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	525	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	78	78	78	50	50	50
Heavy Vehicles, %	0	0	0	2	2	2	0	0	0	5	0	0
Mvmt Flow	105	1	59	0	0	0	0	38	1	42	46	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	168	168	46	-	0	0	38	0	0
Stage 1	130	130	-	-	-	-	-	-	-
Stage 2	38	38	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	-	-	-	4.15	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	-	-	-	2.245	-	-
Pot Cap-1 Maneuver	827	728	1029	0	-	-	1553	-	0
Stage 1	901	792	-	0	-	-	-	-	0
Stage 2	990	867	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	805	0	1029	-	-	-	1553	-	-
Mov Cap-2 Maneuver	805	0	-	-	-	-	-	-	-
Stage 1	877	0	-	-	-	-	-	-	-
Stage 2	990	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	6.3	0	3.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	2894	1553	-
HCM Lane V/C Ratio	-	-	0.021	0.027	-
HCM Control Delay (s)	-	-	6.3	7.4	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	6	0	17	17	97	0	0	38	58
Future Vol, veh/h	0	0	0	6	0	17	17	97	0	0	38	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	525	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	64	64	64	75	75	75	67	67	67
Heavy Vehicles, %	2	2	2	0	0	0	0	0	0	0	3	12
Mvmt Flow	0	0	0	9	0	27	23	129	0	0	57	87

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	232	232	129	57	0	-	-	-	0
Stage 1	175	175	-	-	-	-	-	-	-
Stage 2	57	57	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	761	672	926	1560	-	0	0	-	-
Stage 1	860	758	-	-	-	0	0	-	-
Stage 2	971	851	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	750	0	926	1560	-	-	-	-	-
Mov Cap-2 Maneuver	744	0	-	-	-	-	-	-	-
Stage 1	847	0	-	-	-	-	-	-	-
Stage 2	971	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8	1.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1560	-	1253	-	-
HCM Lane V/C Ratio	0.015	-	0.029	-	-
HCM Control Delay (s)	7.3	-	8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	6	8	18	0	6	5	0	0	9	98	11	0	2	72	7
Future Vol, veh/h	0	6	8	18	0	6	5	0	0	9	98	11	0	2	72	7
Peak Hour Factor	0.92	0.44	0.44	0.44	0.92	0.69	0.69	0.69	0.92	0.69	0.69	0.69	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0	2	0	11	0
Mvmt Flow	0	14	18	41	0	9	7	0	0	13	142	16	0	2	78	8
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.8	8.2	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	19%	55%	2%
Vol Thru, %	83%	25%	45%	89%
Vol Right, %	9%	56%	0%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	118	32	11	81
LT Vol	9	6	6	2
Through Vol	98	8	5	72
RT Vol	11	18	0	7
Lane Flow Rate	171	73	16	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.194	0.085	0.021	0.101
Departure Headway (Hd)	4.081	4.183	4.655	4.139
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	869	862	773	852
Service Time	2.155	2.184	2.658	2.23
HCM Lane V/C Ratio	0.197	0.085	0.021	0.103
HCM Control Delay	8.2	7.6	7.8	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.3	0.1	0.3

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	182	30	36	130	9	19	44	44	17	20	5
Future Vol, veh/h	9	182	30	36	130	9	19	44	44	17	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	83	83	83	65	65	65	62	62	62
Heavy Vehicles, %	0	1	20	0	0	0	0	0	0	0	0	0
Mvmt Flow	14	276	45	43	157	11	29	68	68	27	32	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	167	0	0	321	0	0	595	580	298	642	597	162
Stage 1	-	-	-	-	-	-	326	326	-	249	249	-
Stage 2	-	-	-	-	-	-	269	254	-	393	348	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1423	-	-	1250	-	-	419	428	746	390	419	888
Stage 1	-	-	-	-	-	-	691	652	-	759	704	-
Stage 2	-	-	-	-	-	-	741	701	-	636	638	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1423	-	-	1250	-	-	375	407	746	298	398	888
Mov Cap-2 Maneuver	-	-	-	-	-	-	375	407	-	298	398	-
Stage 1	-	-	-	-	-	-	683	644	-	750	677	-
Stage 2	-	-	-	-	-	-	673	674	-	511	630	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.6	16	16.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	491	1423	-	-	1250	-	-	372
HCM Lane V/C Ratio	0.335	0.01	-	-	0.035	-	-	0.182
HCM Control Delay (s)	16	7.6	0	-	8	0	-	16.8
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1.5	0	-	-	0.1	-	-	0.7

Appendix H 2040 No-Build Level of Service

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	257	247	576	693	7
Future Vol, veh/h	3	257	247	576	693	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	3	286	274	640	770	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1643	389	778	0	-	0
Stage 1	774	-	-	-	-	-
Stage 2	869	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	90	607	828	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	60	607	828	-	-	-
Mov Cap-2 Maneuver	166	-	-	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	246	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.9	3.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	828	-	589	-	-
HCM Lane V/C Ratio	0.331	-	0.49	-	-
HCM Control Delay (s)	11.5	-	16.9	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	1.5	-	2.7	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	162	226	577	62	120	828
Future Vol, veh/h	162	226	577	62	120	828
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	25	-	450	400	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	180	251	641	69	133	920

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1368	321	0	0	641	0
Stage 1	641	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	~ 137	672	-	-	933	-
Stage 1	484	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 117	672	-	-	933	-
Mov Cap-2 Maneuver	245	-	-	-	-	-
Stage 1	484	-	-	-	-	-
Stage 2	375	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.5	0	1.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	245	672	933	-
HCM Lane V/C Ratio	-	-	0.735	0.374	0.143	-
HCM Control Delay (s)	-	-	51.8	13.5	9.5	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	5.1	1.7	0.5	-

Notes

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

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	17	45	1	597	1	22	951
Future Vol, veh/h	17	45	1	597	1	22	951
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	-	-	-	-
Veh in Median Storage, #	1	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	19	50	1	663	1	24	1057

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1243	332	1056	0	0	664	0
Stage 1	666	-	-	-	-	-	-
Stage 2	577	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	165	661	303	-	-	914	-
Stage 1	470	-	-	-	-	-	-
Stage 2	522	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	154	661	303	-	-	914	-
Mov Cap-2 Maneuver	289	-	-	-	-	-	-
Stage 1	470	-	-	-	-	-	-
Stage 2	489	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	8.5	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	489	914	-
HCM Lane V/C Ratio	-	-	0.141	0.027	-
HCM Control Delay (s)	8.5	-	13.6	9	0.3
HCM Lane LOS	A	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	39	131	1	73	26	508	162	113	836	0
Future Vol, veh/h	0	0	39	131	1	73	26	508	162	113	836	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	250	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	43	146	1	81	29	564	180	126	929	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1521	1802	464	1338	1802	282	929	0	0	564	0	0
Stage 1	1180	1180	-	622	622	-	-	-	-	-	-	-
Stage 2	341	622	-	716	1180	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	80	78	542	~ 110	78	712	726	-	-	997	-	-
Stage 1	200	260	-	439	475	-	-	-	-	-	-	-
Stage 2	645	475	-	385	260	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	60	63	542	~ 87	63	712	726	-	-	997	-	-
Mov Cap-2 Maneuver	139	148	-	189	148	-	-	-	-	-	-	-
Stage 1	186	227	-	408	441	-	-	-	-	-	-	-
Stage 2	530	441	-	309	227	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	74.2	0.5	1.1
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	726	-	-	542	255	997	-	-
HCM Lane V/C Ratio	0.04	-	-	0.08	0.893	0.126	-	-
HCM Control Delay (s)	10.2	0.2	-	12.2	74.2	9.1	-	-
HCM Lane LOS	B	A	-	B	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	7.7	0.4	-	-

Notes

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

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	6	0	106	238	604	0	0	405	625
Future Vol, veh/h	0	0	0	6	0	106	238	604	0	0	405	625
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	300	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	7	0	118	264	671	0	0	450	694

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1425	1650	336	450	0	-	-	-	0
Stage 1	1200	1200	-	-	-	-	-	-	-
Stage 2	225	450	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.56	6.96	4.16	-	-	-	-	-
Critical Hdwy Stg 1	5.86	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	2.23	-	-	-	-	-
Pot Cap-1 Maneuver	125	97	657	1100	-	0	0	-	-
Stage 1	246	254	-	-	-	0	0	-	-
Stage 2	788	568	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	95	0	657	1100	-	-	-	-	-
Mov Cap-2 Maneuver	95	0	-	-	-	-	-	-	-
Stage 1	187	0	-	-	-	-	-	-	-
Stage 2	788	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	2.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1100	-	694	-	-
HCM Lane V/C Ratio	0.24	-	0.179	-	-
HCM Control Delay (s)	9.3	-	11.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.9	-	0.7	-	-

Intersection	
Int Delay, s/veh	172.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	355	1	230	0	0	0	0	471	2	109	298	0
Future Vol, veh/h	355	1	230	0	0	0	0	471	2	109	298	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	275	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	394	1	256	0	0	0	0	523	2	121	331	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	835	1096	166	-	0	0	523	0	0
Stage 1	573	573	-	-	-	-	-	-	-
Stage 2	262	523	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	-	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	-	-	-	2.23	-	-
Pot Cap-1 Maneuver	~ 259	210	846	0	-	-	1033	-	0
Stage 1	469	499	-	0	-	-	-	-	0
Stage 2	717	526	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	~ 236	185	846	-	-	-	1033	-	-
Mov Cap-2 Maneuver	~ 236	185	-	-	-	-	-	-	-
Stage 1	469	441	-	-	-	-	-	-	-
Stage 2	717	526	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 430.8	0	2.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	347	1033	-
HCM Lane V/C Ratio	-	-	1.876	0.117	-
HCM Control Delay (s)	-	-	$ 430.8	8.9	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	43.6	0.4	-

Notes

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

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	170	325	10	6	76
Future Vol, veh/h	17	170	325	10	6	76
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	19	189	361	11	7	84

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	372	0	-	0	594	367
Stage 1	-	-	-	-	367	-
Stage 2	-	-	-	-	227	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1181	-	-	-	466	676
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	808	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1181	-	-	-	458	676
Mov Cap-2 Maneuver	-	-	-	-	458	-
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	793	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1181	-	-	-	653
HCM Lane V/C Ratio	0.016	-	-	-	0.14
HCM Control Delay (s)	8.1	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	160	327	1	0	5
Future Vol, veh/h	1	160	327	1	0	5
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1	178	363	1	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	364	0	-	0	544	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1189	-	-	-	498	679
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	849	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1189	-	-	-	498	679
Mov Cap-2 Maneuver	-	-	-	-	498	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	848	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1189	-	-	-	679
HCM Lane V/C Ratio	0.001	-	-	-	0.008
HCM Control Delay (s)	8	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	122	18	5	214	9	5	0	7	10	1	39
Future Vol, veh/h	10	122	18	5	214	9	5	0	7	10	1	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	325	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	136	20	6	238	10	6	0	8	11	1	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	248	0	0	136	0	0	434	417	136	416	412	243
Stage 1	-	-	-	-	-	-	158	158	-	254	254	-
Stage 2	-	-	-	-	-	-	276	259	-	162	158	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1312	-	-	1442	-	-	530	525	910	545	528	793
Stage 1	-	-	-	-	-	-	842	765	-	748	695	-
Stage 2	-	-	-	-	-	-	728	692	-	838	765	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1312	-	-	1442	-	-	495	518	910	535	521	793
Mov Cap-2 Maneuver	-	-	-	-	-	-	495	518	-	535	521	-
Stage 1	-	-	-	-	-	-	834	758	-	741	692	-
Stage 2	-	-	-	-	-	-	684	689	-	823	758	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	10.4	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	674	1312	-	-	1442	-	-	716
HCM Lane V/C Ratio	0.02	0.008	-	-	0.004	-	-	0.078
HCM Control Delay (s)	10.4	7.8	0	-	7.5	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	41	88	160	60	39	64
Future Vol, veh/h	41	88	160	60	39	64
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	46	98	178	67	43	71

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	244	0	-	0	400	211
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	189	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1316	-	-	-	604	827
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	841	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1316	-	-	-	582	827
Mov Cap-2 Maneuver	-	-	-	-	582	-
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	810	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1316	-	-	-	713
HCM Lane V/C Ratio	0.035	-	-	-	0.161
HCM Control Delay (s)	7.8	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	102	203	1	3	11
Future Vol, veh/h	15	102	203	1	3	11
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	17	113	226	1	3	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	227	0	-	0	373	226
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	147	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1335	-	-	-	626	811
Stage 1	-	-	-	-	809	-
Stage 2	-	-	-	-	878	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1335	-	-	-	617	811
Mov Cap-2 Maneuver	-	-	-	-	617	-
Stage 1	-	-	-	-	809	-
Stage 2	-	-	-	-	866	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1335	-	-	-	760
HCM Lane V/C Ratio	0.012	-	-	-	0.02
HCM Control Delay (s)	7.7	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	88	168	65	42	6
Future Vol, veh/h	10	88	168	65	42	6
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	11	98	187	72	47	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	259	0	-	0	343	223
Stage 1	-	-	-	-	223	-
Stage 2	-	-	-	-	120	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1300	-	-	-	651	814
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1300	-	-	-	645	814
Mov Cap-2 Maneuver	-	-	-	-	645	-
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	895	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1300	-	-	-	662
HCM Lane V/C Ratio	0.009	-	-	-	0.081
HCM Control Delay (s)	7.8	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	6	9	5	3	45
Future Vol, veh/h	119	6	9	5	3	45
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	132	7	10	6	3	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	16	0	-	0	284	13
Stage 1	-	-	-	-	13	-
Stage 2	-	-	-	-	271	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1595	-	-	-	704	1064
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	772	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1595	-	-	-	646	1064
Mov Cap-2 Maneuver	-	-	-	-	646	-
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	708	-

Approach	EB	WB	SB
HCM Control Delay, s	7.1	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1595	-	-	-	1023
HCM Lane V/C Ratio	0.083	-	-	-	0.052
HCM Control Delay (s)	7.5	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	0	15	0	0	0	0	118	8	37	33	0
Future Vol, veh/h	33	0	15	0	0	0	0	118	8	37	33	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	525	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	37	0	17	0	0	0	0	131	9	41	37	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	250	250	37	-	0	0	131	0	0
Stage 1	119	119	-	-	-	-	-	-	-
Stage 2	131	131	-	-	-	-	-	-	-
Critical Hdwy	6.43	6.53	6.23	-	-	-	4.13	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	-	-	-	2.227	-	-
Pot Cap-1 Maneuver	736	651	1032	0	-	-	1448	-	0
Stage 1	904	795	-	0	-	-	-	-	0
Stage 2	893	786	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	715	0	1032	-	-	-	1448	-	-
Mov Cap-2 Maneuver	715	0	-	-	-	-	-	-	-
Stage 1	878	0	-	-	-	-	-	-	-
Stage 2	893	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	6.1	0	4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	3302	1448	-
HCM Lane V/C Ratio	-	-	0.005	0.028	-
HCM Control Delay (s)	-	-	6.1	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	1	16	62	93	0	0	70	130
Future Vol, veh/h	0	0	0	0	1	16	62	93	0	0	70	130
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	525	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	1	18	69	103	0	0	78	144

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	319	319	103	78	0	-	-	-	0
Stage 1	241	241	-	-	-	-	-	-	-
Stage 2	78	78	-	-	-	-	-	-	-
Critical Hdwy	6.43	6.53	6.23	4.13	-	-	-	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	2.227	-	-	-	-	-
Pot Cap-1 Maneuver	672	596	949	1514	-	0	0	-	-
Stage 1	797	704	-	-	-	0	0	-	-
Stage 2	943	828	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	641	0	949	1514	-	-	-	-	-
Mov Cap-2 Maneuver	657	0	-	-	-	-	-	-	-
Stage 1	761	0	-	-	-	-	-	-	-
Stage 2	943	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1514	-	1008	-	-
HCM Lane V/C Ratio	0.046	-	0.019	-	-
HCM Control Delay (s)	7.5	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	7	1	13	0	21	6	3	0	14	91	7	0	0	168	7
Future Vol, veh/h	0	7	1	13	0	21	6	3	0	14	91	7	0	0	168	7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	8	1	14	0	23	7	3	0	16	101	8	0	0	187	8
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	8	8	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	33%	70%	0%
Vol Thru, %	81%	5%	20%	96%
Vol Right, %	6%	62%	10%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	112	21	30	175
LT Vol	14	7	21	0
Through Vol	91	1	6	168
RT Vol	7	13	3	7
Lane Flow Rate	124	23	33	194
Geometry Grp	1	1	1	1
Degree of Util (X)	0.145	0.028	0.044	0.223
Departure Headway (Hd)	4.186	4.388	4.758	4.121
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	845	821	757	861
Service Time	2.272	2.389	2.759	2.193
HCM Lane V/C Ratio	0.147	0.028	0.044	0.225
HCM Control Delay	8	7.5	8	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.1	0.9

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	103	80	57	241	22	86	9	15	10	34	63
Future Vol, veh/h	20	103	80	57	241	22	86	9	15	10	34	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	114	89	63	268	24	96	10	17	11	38	70

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	292	0	0	203	0	0	664	622	159	624	655	280
Stage 1	-	-	-	-	-	-	203	203	-	407	407	-
Stage 2	-	-	-	-	-	-	461	419	-	217	248	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1264	-	-	1363	-	-	373	402	884	396	384	756
Stage 1	-	-	-	-	-	-	797	732	-	619	596	-
Stage 2	-	-	-	-	-	-	579	588	-	783	699	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1264	-	-	1363	-	-	294	372	884	359	356	756
Mov Cap-2 Maneuver	-	-	-	-	-	-	294	372	-	359	356	-
Stage 1	-	-	-	-	-	-	781	717	-	607	563	-
Stage 2	-	-	-	-	-	-	463	556	-	742	685	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.4	22.2	14
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	330	1264	-	-	1363	-	-	518
HCM Lane V/C Ratio	0.37	0.018	-	-	0.046	-	-	0.23
HCM Control Delay (s)	22.2	7.9	0	-	7.8	0	-	14
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.7	0.1	-	-	0.1	-	-	0.9

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	293	303	753	625	1
Future Vol, veh/h	2	293	303	753	625	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	326	337	837	694	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1787	348	696	0	-	0
Stage 1	695	-	-	-	-	-
Stage 2	1092	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	72	645	889	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	281	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	45	645	889	-	-	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	174	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.8	3.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	889	-	628	-	-
HCM Lane V/C Ratio	0.379	-	0.522	-	-
HCM Control Delay (s)	11.5	-	16.8	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	1.8	-	3	-	-

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	103	280	745	130	244	676
Future Vol, veh/h	103	280	745	130	244	676
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	25	-	450	400	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	114	311	828	144	271	751

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1746	414	0	0	828	0
Stage 1	828	-	-	-	-	-
Stage 2	918	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	~ 76	584	-	-	793	-
Stage 1	387	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 50	584	-	-	793	-
Mov Cap-2 Maneuver	152	-	-	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	228	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.3	0	3.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	152	584	793	-
HCM Lane V/C Ratio	-	-	0.753	0.533	0.342	-
HCM Control Delay (s)	-	-	78.5	18	11.9	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	4.6	3.1	1.5	-

Notes

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

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	6	38	1	840	10	34	754
Future Vol, veh/h	6	38	1	840	10	34	754
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	-	-	-	-
Veh in Median Storage, #	1	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3
Mvmt Flow	7	42	1	933	11	38	838

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1435	472	837	0	0	944	0
Stage 1	941	-	-	-	-	-	-
Stage 2	494	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	123	536	419	-	-	716	-
Stage 1	338	-	-	-	-	-	-
Stage 2	576	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	111	536	419	-	-	716	-
Mov Cap-2 Maneuver	234	-	-	-	-	-	-
Stage 1	338	-	-	-	-	-	-
Stage 2	519	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	6.7	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	456	716	-
HCM Lane V/C Ratio	-	-	0.107	0.053	-
HCM Control Delay (s)	6.8	-	13.8	10.3	0.5
HCM Lane LOS	A	-	B	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	2	29	99	2	87	7	745	119	85	624	0
Future Vol, veh/h	5	2	29	99	2	87	7	745	119	85	624	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	250	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	6	2	32	110	2	97	8	828	132	94	693	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1313	1725	347	1380	1725	414	693	0	0	828	0	0
Stage 1	882	882	-	843	843	-	-	-	-	-	-	-
Stage 2	431	843	-	537	882	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	115	87	646	~ 103	87	584	891	-	-	793	-	-
Stage 1	305	360	-	323	375	-	-	-	-	-	-	-
Stage 2	570	375	-	493	360	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	85	75	646	~ 87	75	584	891	-	-	793	-	-
Mov Cap-2 Maneuver	189	168	-	201	187	-	-	-	-	-	-	-
Stage 1	299	317	-	317	368	-	-	-	-	-	-	-
Stage 2	463	368	-	410	317	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.2	44.6	0.2	1.2
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	891	-	-	432	288	793	-	-
HCM Lane V/C Ratio	0.009	-	-	0.093	0.725	0.119	-	-
HCM Control Delay (s)	9.1	0.1	-	14.2	44.6	10.2	-	-
HCM Lane LOS	A	A	-	B	E	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	5.2	0.4	-	-

Notes

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	2	120	201	765	0	0	405	359
Future Vol, veh/h	0	0	0	5	2	120	201	765	0	0	405	359
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	300	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	6	2	133	223	850	0	0	450	399

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1522	1747	425	450	0	-	-	-	0
Stage 1	1297	1297	-	-	-	-	-	-	-
Stage 2	225	450	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.56	6.96	4.16	-	-	-	-	-
Critical Hdwy Stg 1	5.86	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	2.23	-	-	-	-	-
Pot Cap-1 Maneuver	108	84	575	1100	-	0	0	-	-
Stage 1	218	228	-	-	-	0	0	-	-
Stage 2	788	568	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	86	0	575	1100	-	-	-	-	-
Mov Cap-2 Maneuver	86	0	-	-	-	-	-	-	-
Stage 1	174	0	-	-	-	-	-	-	-
Stage 2	788	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1100	-	609	-	-
HCM Lane V/C Ratio	0.203	-	0.232	-	-
HCM Control Delay (s)	9.1	-	12.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.8	-	0.9	-	-

Intersection	
Int Delay, s/veh	62.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	496	3	252	0	0	0	0	450	9	114	290	0
Future Vol, veh/h	496	3	252	0	0	0	0	450	9	114	290	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	275	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	551	3	280	0	0	0	0	500	10	127	322	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	826	1076	161	-	0	0	500	0	0
Stage 1	576	576	-	-	-	-	-	-	-
Stage 2	250	500	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.56	6.96	-	-	-	4.16	-	-
Critical Hdwy Stg 1	5.86	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	-	-	-	2.23	-	-
Pot Cap-1 Maneuver	~ 308	216	852	0	-	-	1053	-	0
Stage 1	~ 523	498	-	0	-	-	-	-	0
Stage 2	765	539	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	~ 271	0	852	-	-	-	1053	-	-
Mov Cap-2 Maneuver	~ 271	0	-	-	-	-	-	-	-
Stage 1	~ 460	0	-	-	-	-	-	-	-
Stage 2	765	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	132.8	0	2.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	684	1053	-
HCM Lane V/C Ratio	-	-	1.22	0.12	-
HCM Control Delay (s)	-	-	132.8	8.9	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	29.4	0.4	-

Notes

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

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	329	399	13	15	52
Future Vol, veh/h	70	329	399	13	15	52
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	78	366	443	14	17	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	458	0	-	0	972	451
Stage 1	-	-	-	-	451	-
Stage 2	-	-	-	-	521	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1098	-	-	-	279	606
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	594	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1098	-	-	-	254	606
Mov Cap-2 Maneuver	-	-	-	-	254	-
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	541	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1098	-	-	-	463
HCM Lane V/C Ratio	0.071	-	-	-	0.161
HCM Control Delay (s)	8.5	0	-	-	14.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	343	398	0	1	2
Future Vol, veh/h	2	343	398	0	1	2
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	381	442	0	1	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	442	0	-	0	828	442
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	386	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1113	-	-	-	340	613
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	685	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1113	-	-	-	339	613
Mov Cap-2 Maneuver	-	-	-	-	339	-
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	684	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1113	-	-	-	483
HCM Lane V/C Ratio	0.002	-	-	-	0.007
HCM Control Delay (s)	8.2	0	-	-	12.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	224	3	2	280	8	16	0	5	1	0	36
Future Vol, veh/h	41	224	3	2	280	8	16	0	5	1	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	325	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	46	249	3	2	311	9	18	0	6	1	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	320	0	0	249	0	0	680	664	249	663	660	316
Stage 1	-	-	-	-	-	-	340	340	-	320	320	-
Stage 2	-	-	-	-	-	-	340	324	-	343	340	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1234	-	-	1311	-	-	364	380	787	373	382	722
Stage 1	-	-	-	-	-	-	673	637	-	690	651	-
Stage 2	-	-	-	-	-	-	673	648	-	670	637	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1234	-	-	1311	-	-	332	363	787	358	365	722
Mov Cap-2 Maneuver	-	-	-	-	-	-	332	363	-	358	365	-
Stage 1	-	-	-	-	-	-	644	610	-	660	650	-
Stage 2	-	-	-	-	-	-	634	647	-	637	610	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.1	15	10.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	385	1234	-	-	1311	-	-	703
HCM Lane V/C Ratio	0.061	0.037	-	-	0.002	-	-	0.058
HCM Control Delay (s)	15	8	0	-	7.8	0	-	10.4
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	69	215	148	38	57	57
Future Vol, veh/h	69	215	148	38	57	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	77	239	164	42	63	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	578	186
Stage 1	-	-	-	-	186	-
Stage 2	-	-	-	-	392	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1358	-	-	-	476	854
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1358	-	-	-	445	854
Mov Cap-2 Maneuver	-	-	-	-	445	-
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	637	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1358	-	-	-	585
HCM Lane V/C Ratio	0.056	-	-	-	0.217
HCM Control Delay (s)	7.8	0	-	-	12.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	223	150	0	2	22
Future Vol, veh/h	38	223	150	0	2	22
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	42	248	167	0	2	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	167	0	-	0	499	167
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	332	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1405	-	-	-	529	875
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	725	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1405	-	-	-	510	875
Mov Cap-2 Maneuver	-	-	-	-	510	-
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	700	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1405	-	-	-	826
HCM Lane V/C Ratio	0.03	-	-	-	0.032
HCM Control Delay (s)	7.6	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	185	131	29	65	8
Future Vol, veh/h	3	185	131	29	65	8
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	3	206	146	32	72	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	178	0	-	0	374	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	212	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1392	-	-	-	625	880
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1392	-	-	-	624	880
Mov Cap-2 Maneuver	-	-	-	-	624	-
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	819	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1392	-	-	-	645
HCM Lane V/C Ratio	0.002	-	-	-	0.126
HCM Control Delay (s)	7.6	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	6	9	2	7	80
Future Vol, veh/h	33	6	9	2	7	80
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	37	7	10	2	8	89

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	12	0	-	0	91	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	80	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1600	-	-	-	907	1067
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	941	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1600	-	-	-	886	1067
Mov Cap-2 Maneuver	-	-	-	-	886	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	919	-

Approach	EB	WB	SB
HCM Control Delay, s	6.2	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1600	-	-	-	1050
HCM Lane V/C Ratio	0.023	-	-	-	0.092
HCM Control Delay (s)	7.3	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	1	55	0	0	0	0	34	1	24	26	0
Future Vol, veh/h	99	1	55	0	0	0	0	34	1	24	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	525	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	110	1	61	0	0	0	0	38	1	27	29	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	120	120	29	-	0	0	38	0	0
Stage 1	82	82	-	-	-	-	-	-	-
Stage 2	38	38	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	-	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	-	-	-	2.227	-	-
Pot Cap-1 Maneuver	853	768	1043	0	-	-	1566	-	0
Stage 1	924	825	-	0	-	-	-	-	0
Stage 2	975	861	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	842	755	1043	-	-	-	1566	-	-
Mov Cap-2 Maneuver	842	755	-	-	-	-	-	-	-
Stage 1	924	811	-	-	-	-	-	-	-
Stage 2	975	861	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	7.9	0	3.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	1304	1566	-
HCM Lane V/C Ratio	-	-	0.048	0.017	-
HCM Control Delay (s)	-	-	7.9	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	7	0	20	20	111	0	0	44	67
Future Vol, veh/h	0	0	0	7	0	20	20	111	0	0	44	67
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	525	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	8	0	22	22	123	0	0	49	74

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	217	217	123	49	0	-	-	-	0
Stage 1	168	168	-	-	-	-	-	-	-
Stage 2	49	49	-	-	-	-	-	-	-
Critical Hdwy	6.43	6.53	6.23	4.13	-	-	-	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	2.227	-	-	-	-	-
Pot Cap-1 Maneuver	769	679	925	1551	-	0	0	-	-
Stage 1	859	758	-	-	-	0	0	-	-
Stage 2	971	852	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	758	0	925	1551	-	-	-	-	-
Mov Cap-2 Maneuver	747	0	-	-	-	-	-	-	-
Stage 1	847	0	-	-	-	-	-	-	-
Stage 2	971	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8	1.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1551	-	1249	-	-
HCM Lane V/C Ratio	0.014	-	0.024	-	-
HCM Control Delay (s)	7.4	-	8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	7	9	21	0	7	6	0	0	10	112	13	0	2	83	8
Future Vol, veh/h	0	7	9	21	0	7	6	0	0	10	112	13	0	2	83	8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	8	10	23	0	8	7	0	0	11	124	14	0	2	92	9
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.7	8	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	19%	54%	2%
Vol Thru, %	83%	24%	46%	89%
Vol Right, %	10%	57%	0%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	37	13	93
LT Vol	10	7	7	2
Through Vol	112	9	6	83
RT Vol	13	21	0	8
Lane Flow Rate	150	41	14	103
Geometry Grp	1	1	1	1
Degree of Util (X)	0.17	0.048	0.019	0.118
Departure Headway (Hd)	4.084	4.215	4.656	4.115
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	872	855	773	863
Service Time	2.141	2.216	2.657	2.181
HCM Lane V/C Ratio	0.172	0.048	0.018	0.119
HCM Control Delay	8	7.4	7.7	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.2	0.1	0.4

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	209	34	41	149	10	22	50	50	20	23	6
Future Vol, veh/h	10	209	34	41	149	10	22	50	50	20	23	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	232	38	46	166	11	24	56	56	22	26	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	177	0	0	270	0	0	551	541	251	591	554	171
Stage 1	-	-	-	-	-	-	273	273	-	262	262	-
Stage 2	-	-	-	-	-	-	278	268	-	329	292	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1393	-	-	1288	-	-	444	447	785	417	439	870
Stage 1	-	-	-	-	-	-	731	682	-	741	690	-
Stage 2	-	-	-	-	-	-	726	685	-	682	669	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1393	-	-	1288	-	-	405	425	785	336	418	870
Mov Cap-2 Maneuver	-	-	-	-	-	-	405	425	-	336	418	-
Stage 1	-	-	-	-	-	-	724	676	-	734	662	-
Stage 2	-	-	-	-	-	-	665	658	-	576	663	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.6	14.4	15.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	518	1393	-	-	1288	-	-	403
HCM Lane V/C Ratio	0.262	0.008	-	-	0.035	-	-	0.135
HCM Control Delay (s)	14.4	7.6	0	-	7.9	0	-	15.3
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1	0	-	-	0.1	-	-	0.5

Appendix I 2040 Build Scenario 1 Level of Service

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	485	354	845	1325	7
Future Volume (veh/h)	3	485	354	845	1325	7
Number	3	18	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	3	539	393	939	1472	8
Adj No. of Lanes	1	2	1	2	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	88	1006	644	2909	1628	9
Arrive On Green	0.05	0.05	0.31	0.83	0.46	0.46
Sat Flow, veh/h	1757	2760	1757	3597	3666	19
Grp Volume(v), veh/h	3	539	393	939	722	758
Grp Sat Flow(s),veh/h/ln	1757	1380	1757	1752	1752	1841
Q Serve(g_s), s	0.2	0.0	13.1	6.2	38.1	38.1
Cycle Q Clear(g_c), s	0.2	0.0	13.1	6.2	38.1	38.1
Prop In Lane	1.00	1.00	1.00			0.01
Lane Grp Cap(c), veh/h	88	1006	644	2909	798	838
V/C Ratio(X)	0.03	0.54	0.61	0.32	0.90	0.90
Avail Cap(c_a), veh/h	158	1117	644	2909	841	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.84	0.84	1.00	1.00
Uniform Delay (d), s/veh	45.2	25.1	26.3	2.0	25.2	25.2
Incr Delay (d2), s/veh	0.2	0.4	1.4	0.2	15.6	15.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.9	9.1	3.0	21.7	22.7
LnGrp Delay(d),s/veh	45.4	25.5	27.7	2.2	40.8	40.3
LnGrp LOS	D	C	C	A	D	D
Approach Vol, veh/h	542			1332	1480	
Approach Delay, s/veh	25.6			9.8	40.5	
Approach LOS	C			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	37.5	51.5				89.0		11.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	25.0	48.0				79.0		9.0
Max Q Clear Time (g_c+I1), s	15.1	40.1				8.2		2.2
Green Ext Time (p_c), s	5.0	5.4				9.3		1.3

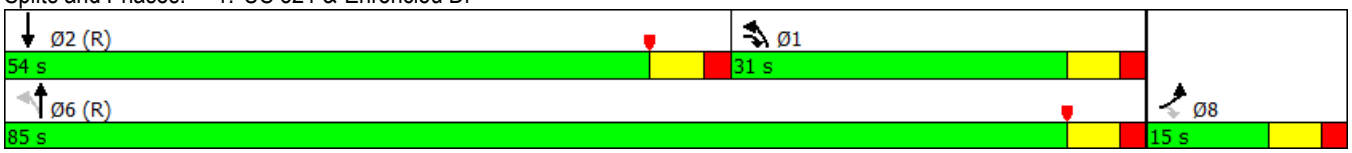
Intersection Summary	
HCM 2010 Ctrl Delay	25.9
HCM 2010 LOS	C

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	485	354	845	1325	7
Future Volume (vph)	3	485	354	845	1325	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	200	300			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	0.88	1.00	0.95	0.95	0.95
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1752	2760	1752	3505	3501	0
Flt Permitted	0.950		0.104			
Satd. Flow (perm)	1752	2760	192	3505	3501	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		29			1	
Link Speed (mph)	45			45	35	
Link Distance (ft)	743			3562	1732	
Travel Time (s)	11.3			54.0	33.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	3	539	393	939	1472	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	539	393	939	1480	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	8	1	1	6	2	
Permitted Phases		8	6			
Detector Phase	8	1	1	6	2	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	15.0	15.0	15.0	22.0	22.0	
Total Split (s)	15.0	31.0	31.0	85.0	54.0	
Total Split (%)	15.0%	31.0%	31.0%	85.0%	54.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	C-Min	C-Min	
Act Effct Green (s)	5.8	25.4	91.5	96.3	62.6	
Actuated g/C Ratio	0.06	0.25	0.92	0.96	0.63	
v/c Ratio	0.03	0.75	0.74	0.28	0.67	
Control Delay	45.0	38.6	19.2	0.7	15.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.0	38.6	19.2	0.7	15.4	
LOS	D	D	B	A	B	
Approach Delay	38.6			6.1	15.4	
Approach LOS	D			A	B	
Queue Length 50th (ft)	2	173	11	0	286	
Queue Length 95th (ft)	11	196	192	77	507	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	663			3482	1652	
Turn Bay Length (ft)	100	200	300			
Base Capacity (vph)	157	778	569	3377	2193	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.02	0.69	0.69	0.28	0.67	

Intersection Summary	
Area Type: Other	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 23 (23%), Referenced to phase 2:SBT and 6:NBTL, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 15.5	Intersection LOS: B
Intersection Capacity Utilization 75.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: US 521 & Ehrenclou Dr



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	333	493	41	686	436	835	947
Future Volume (veh/h)	333	493	41	686	436	835	947
Number	7	14		6	16	5	2
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845		1845	1845	1845	1845
Adj Flow Rate, veh/h	370	548		762	0	928	1052
Adj No. of Lanes	2	2		2	1	2	2
Peak Hour Factor	0.90	0.90		0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3		3	3	3	3
Cap, veh/h	558	1283		1245	813	1027	2511
Arrive On Green	0.16	0.16		0.47	0.00	0.30	0.72
Sat Flow, veh/h	3408	2760		3597	1568	3408	3597
Grp Volume(v), veh/h	370	548		762	0	928	1052
Grp Sat Flow(s),veh/h/ln	1704	1380		1752	1568	1704	1752
Q Serve(g_s), s	10.2	13.3		16.1	0.0	26.1	12.2
Cycle Q Clear(g_c), s	10.2	13.3		16.1	0.0	26.1	12.2
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	558	1283		1245	813	1027	2511
V/C Ratio(X)	0.66	0.43		0.61	0.00	0.90	0.42
Avail Cap(c_a), veh/h	613	1328		1245	813	1159	2511
HCM Platoon Ratio	1.00	1.00		1.33	1.33	1.00	1.00
Upstream Filter(I)	0.96	0.96		0.90	0.00	0.66	0.66
Uniform Delay (d), s/veh	39.2	17.9		21.3	0.0	33.5	5.7
Incr Delay (d2), s/veh	2.3	0.2		2.0	0.0	6.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	11.6		8.1	0.0	13.2	6.0
LnGrp Delay(d),s/veh	41.5	18.1		23.3	0.0	40.0	6.1
LnGrp LOS	D	B		C		D	A
Approach Vol, veh/h	918			762			1980
Approach Delay, s/veh	27.5			23.3			22.0
Approach LOS	C			C			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		77.6		22.4	36.1	41.5		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		55.0		18.0	34.0	30.0		
Max Q Clear Time (g_c+I1), s		14.2		15.3	28.1	18.1		
Green Ext Time (p_c), s		17.1		1.1	2.0	8.2		

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.

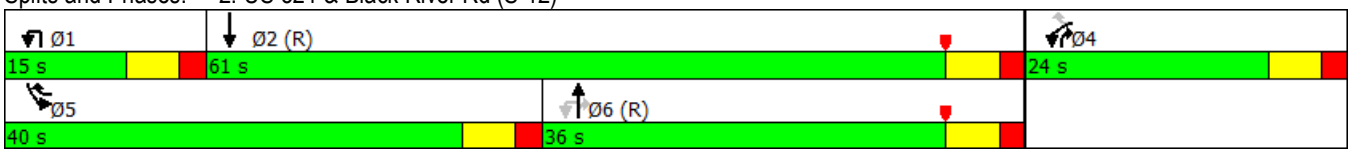
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	333	493	41	686	436	835	947
Future Volume (vph)	333	493	41	686	436	835	947
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	300	200		450	500	
Storage Lanes	1	1	1		1	2	
Taper Length (ft)	100		100			100	
Lane Util. Factor	0.97	0.88	1.00	0.95	1.00	0.97	0.95
Frt		0.850			0.850		
Flt Protected	0.950		0.950			0.950	
Satd. Flow (prot)	3400	2760	1752	3505	1568	3400	3505
Flt Permitted	0.950		0.272			0.950	
Satd. Flow (perm)	3400	2760	502	3505	1568	3400	3505
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		62			27		
Link Speed (mph)	45			45			45
Link Distance (ft)	1830			1085			3562
Travel Time (s)	27.7			16.4			54.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	370	548	46	762	484	928	1052
Shared Lane Traffic (%)							
Lane Group Flow (vph)	370	548	46	762	484	928	1052
Turn Type	Prot	pm+ov	pm+pt	NA	pm+ov	Prot	NA
Protected Phases	4	5	1	6	4	5	2
Permitted Phases		4	6		6		
Detector Phase	4	5	1	6	4	5	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	15.0	15.0	24.0	24.0	15.0	22.0
Total Split (s)	24.0	40.0	15.0	36.0	24.0	40.0	61.0
Total Split (%)	24.0%	40.0%	15.0%	36.0%	24.0%	40.0%	61.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	15.8	54.1	40.2	33.9	55.7	32.3	64.6
Actuated g/C Ratio	0.16	0.54	0.40	0.34	0.56	0.32	0.65
v/c Ratio	0.69	0.36	0.16	0.64	0.55	0.85	0.46
Control Delay	48.1	10.0	9.3	24.0	8.3	34.7	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	10.0	9.3	24.0	8.3	34.7	11.0
LOS	D	B	A	C	A	C	B
Approach Delay	25.4			17.6			22.1
Approach LOS	C			B			C
Queue Length 50th (ft)	117	73	8	190	129	292	226
Queue Length 95th (ft)	163	101	m19	217	133	314	227

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1750			1005			3482
Turn Bay Length (ft)	300	300	200		450	500	
Base Capacity (vph)	612	1568	327	1189	919	1157	2264
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.35	0.14	0.64	0.53	0.80	0.46

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTU, Start of Yellow, Master Intersection
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 21.4 Intersection LOS: C
Intersection Capacity Utilization 67.3% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: US 521 & Black River Rd (S-12)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	73	0	0	121	156	49	1033	40	81	1194
Future Volume (vph)	0	0	73	0	0	121	156	49	1033	40	81	1194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0			6.0		6.0	6.0	6.0	6.0	6.0
Lane Util. Factor			1.00			1.00		1.00	0.95	1.00	1.00	0.95
Frt			0.86			0.86		1.00	1.00	0.85	1.00	1.00
Flt Protected			1.00			1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)			1596			1596		1752	3505	1568	1752	3505
Flt Permitted			1.00			1.00		0.19	1.00	1.00	0.18	1.00
Satd. Flow (perm)			1596			1596		358	3505	1568	333	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	81	0	0	134	173	54	1148	44	90	1327
RTOR Reduction (vph)	0	0	6	0	0	124	0	0	0	13	0	0
Lane Group Flow (vph)	0	0	75	0	0	10	0	227	1148	31	90	1327
Turn Type			Perm			Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA
Protected Phases							5	5	2		1	6
Permitted Phases			2 4 5 8			1	2	2		2	6	
Actuated Green, G (s)			80.5			7.5		70.0	70.0	70.0	63.8	63.8
Effective Green, g (s)			80.5			7.5		70.0	70.0	70.0	63.8	63.8
Actuated g/C Ratio			0.80			0.08		0.70	0.70	0.70	0.64	0.64
Clearance Time (s)						6.0		6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)						3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)			1284			119		441	2453	1097	318	2236
v/s Ratio Prot								0.07	c0.33		0.02	c0.38
v/s Ratio Perm			c0.05			0.01		0.29		0.02	0.16	
v/c Ratio			0.06			0.08		0.51	0.47	0.03	0.28	0.59
Uniform Delay, d1			2.0			43.1		13.8	6.7	4.6	8.3	10.5
Progression Factor			1.00			1.00		0.64	0.56	1.00	0.62	0.60
Incremental Delay, d2			0.0			0.3		1.0	0.6	0.0	0.4	1.0
Delay (s)			2.0			43.4		9.8	4.3	4.6	5.6	7.4
Level of Service			A			D		A	A	A	A	A
Approach Delay (s)		2.0			43.4				5.2			6.9
Approach LOS		A			D				A			A

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	71
Future Volume (vph)	71
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	79
RTOR Reduction (vph)	29
Lane Group Flow (vph)	50
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	63.8
Effective Green, g (s)	63.8
Actuated g/C Ratio	0.64
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1000
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.05
Uniform Delay, d1	6.8
Progression Factor	0.19
Incremental Delay, d2	0.1
Delay (s)	1.3
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	73	0	0	121	156	49	1033	40	81	1194
Future Volume (vph)	0	0	73	0	0	121	156	49	1033	40	81	1194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0		500		0	350	
Storage Lanes	0		1	0		1		1		1	1	
Taper Length (ft)	100			100				100			100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95
Frt			0.865			0.865				0.850		
Flt Protected								0.950			0.950	
Satd. Flow (prot)	0	0	1596	0	0	1596	0	1752	3505	1568	1752	3505
Flt Permitted								0.194			0.181	
Satd. Flow (perm)	0	0	1596	0	0	1596	0	358	3505	1568	334	3505
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			33			342				98		
Link Speed (mph)		30			30				45			45
Link Distance (ft)		397			427				1137			1085
Travel Time (s)		9.0			9.7				17.2			16.4
Lane Group Flow (vph)	0	0	81	0	0	134	0	227	1148	44	90	1327
Turn Type			Perm			Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA
Protected Phases							5	5	2		1	6
Permitted Phases			2 4 5 8			1	2	2		2	6	
Detector Phase			2 4 5 8			1	5	5	2	2	1	6
Switch Phase												
Minimum Initial (s)						5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)						15.0	15.0	15.0	24.0	24.0	15.0	24.0
Total Split (s)						15.0	21.0	21.0	61.0	61.0	15.0	55.0
Total Split (%)						15.0%	21.0%	21.0%	61.0%	61.0%	15.0%	55.0%
Yellow Time (s)						4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)						2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)						0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)						6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode						None	None	None	C-Min	C-Min	None	C-Min
v/c Ratio			0.06			0.31		0.51	0.46	0.04	0.28	0.58
Control Delay			1.5			1.8		13.9	4.4	0.4	6.7	7.5
Queue Delay			0.0			0.0		0.0	0.0	0.0	0.0	0.0
Total Delay			1.5			1.8		13.9	4.4	0.4	6.7	7.5
Queue Length 50th (ft)			5			0		17	48	0	15	128
Queue Length 95th (ft)			14			0		89	126	m3	m25	233
Internal Link Dist (ft)		317			347				1057			1005
Turn Bay Length (ft)								500			350	
Base Capacity (vph)			1468			455		472	2494	1144	345	2278
Starvation Cap Reductn			0			0		0	0	0	0	0
Spillback Cap Reductn			0			0		0	0	0	0	0
Storage Cap Reductn			0			0		0	0	0	0	0
Reduced v/c Ratio			0.06			0.29		0.48	0.46	0.04	0.26	0.58

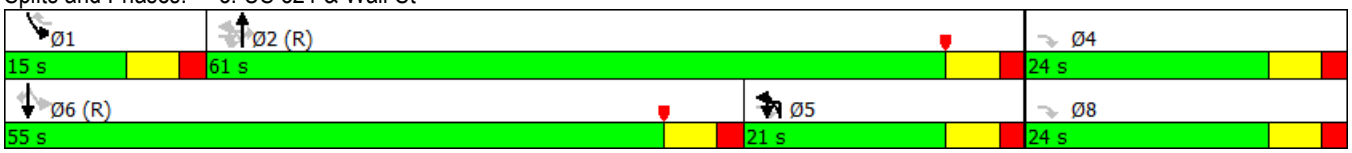
Intersection Summary

Lane Group	SBR	Ø4	Ø8
Lane Configurations			
Traffic Volume (vph)	71		
Future Volume (vph)	71		
Ideal Flow (vphpl)	1900		
Storage Length (ft)	150		
Storage Lanes	1		
Taper Length (ft)			
Lane Util. Factor	1.00		
Frt	0.850		
Flt Protected			
Satd. Flow (prot)	1568		
Flt Permitted			
Satd. Flow (perm)	1568		
Right Turn on Red	Yes		
Satd. Flow (RTOR)	98		
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Lane Group Flow (vph)	79		
Turn Type	Perm		
Protected Phases		4	8
Permitted Phases	6		
Detector Phase	6		
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	24.0	11.0	24.0
Total Split (s)	55.0	24.0	24.0
Total Split (%)	55.0%	24%	24%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		
Total Lost Time (s)	6.0		
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Recall Mode	C-Min	None	None
v/c Ratio	0.08		
Control Delay	0.3		
Queue Delay	0.0		
Total Delay	0.3		
Queue Length 50th (ft)	0		
Queue Length 95th (ft)	m2		
Internal Link Dist (ft)			
Turn Bay Length (ft)	150		
Base Capacity (vph)	1053		
Starvation Cap Reductn	0		
Spillback Cap Reductn	0		
Storage Cap Reductn	0		
Reduced v/c Ratio	0.08		

Intersection Summary

Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 91 (91%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: US 521 & Wall St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	39	0	0	265	26	962	201	44	172	1204
Future Volume (vph)	0	0	39	0	0	265	26	962	201	44	172	1204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0			6.0	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor			1.00			1.00	1.00	0.95	1.00		1.00	0.95
Frt			0.86			0.86	1.00	1.00	0.85		1.00	1.00
Flt Protected			1.00			1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)			1596			1596	1752	3505	1568		1752	3505
Flt Permitted			1.00			1.00	0.16	1.00	1.00		0.23	1.00
Satd. Flow (perm)			1596			1596	302	3505	1568		420	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	43	0	0	294	29	1069	223	49	191	1338
RTOR Reduction (vph)	0	0	40	0	0	0	0	0	80	0	0	0
Lane Group Flow (vph)	0	0	3	0	0	294	29	1069	143	0	240	1338
Turn Type			Perm			Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases							5	2		1	1	6
Permitted Phases			4			1 2 6 8	2		2	6	6	
Actuated Green, G (s)			6.8			100.0	68.2	64.0	64.0		81.2	71.0
Effective Green, g (s)			6.8			100.0	68.2	64.0	64.0		81.2	71.0
Actuated g/C Ratio			0.07			1.00	0.68	0.64	0.64		0.81	0.71
Clearance Time (s)			6.0				6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)			3.0				3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			108			1596	266	2243	1003		490	2488
v/s Ratio Prot							0.00	0.31			c0.05	c0.38
v/s Ratio Perm			0.00			c0.18	0.07		0.09		0.34	
v/c Ratio			0.03			0.18	0.11	0.48	0.14		0.49	0.54
Uniform Delay, d1			43.5			0.0	10.7	9.3	7.1		8.3	6.8
Progression Factor			1.00			1.00	0.66	0.60	0.45		0.70	0.22
Incremental Delay, d2			0.1			0.1	0.2	0.7	0.3		0.7	0.7
Delay (s)			43.6			0.1	7.3	6.3	3.5		6.4	2.2
Level of Service			D			A	A	A	A		A	A
Approach Delay (s)		43.6			0.1			5.8				2.8
Approach LOS		D			A			A				A

Intersection Summary			
HCM 2000 Control Delay	4.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	1
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	71.0
Effective Green, g (s)	71.0
Actuated g/C Ratio	0.71
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1113
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.00
Uniform Delay, d1	4.2
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	4.2
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	39	0	0	265	26	962	201	44	172	1204
Future Volume (vph)	0	0	39	0	0	265	26	962	201	44	172	1204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		250		500	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	100			100			100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt			0.865			0.865			0.850			
Flt Protected							0.950				0.950	
Satd. Flow (prot)	0	0	1596	0	0	1596	1752	3505	1568	0	1752	3505
Flt Permitted							0.164				0.228	
Satd. Flow (perm)	0	0	1596	0	0	1596	303	3505	1568	0	421	3505
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			230						223			
Link Speed (mph)		30			30			45				45
Link Distance (ft)		221			679			677				1137
Travel Time (s)		5.0			15.4			10.3				17.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	43	0	0	294	29	1069	223	49	191	1338
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	43	0	0	294	29	1069	223	0	240	1338
Turn Type			Perm			Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases							5	2		1	1	6
Permitted Phases			4			1 2 6 8	2		2	6	6	
Detector Phase			4			1 2 6 8	5	2	2	1	1	6
Switch Phase												
Minimum Initial (s)			5.0				5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)			15.0				15.0	22.0	22.0	15.0	15.0	22.0
Total Split (s)			17.0				17.0	57.0	57.0	26.0	26.0	66.0
Total Split (%)			17.0%				17.0%	57.0%	57.0%	26.0%	26.0%	66.0%
Yellow Time (s)			4.0				4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)			2.0				2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)			0.0				0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)			6.0				6.0	6.0	6.0		6.0	6.0
Lead/Lag							Lag	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode			None				None	C-Min	C-Min	None	None	C-Min
Act Effct Green (s)			6.8			98.8	72.8	66.4	66.4		80.0	73.4
Actuated g/C Ratio			0.07			0.99	0.73	0.66	0.66		0.80	0.73
v/c Ratio			0.13			0.19	0.09	0.46	0.20		0.53	0.52
Control Delay			0.8			0.3	2.3	5.9	0.9		8.2	2.2
Queue Delay			0.0			0.0	0.0	0.0	0.0		0.0	0.0
Total Delay			0.8			0.3	2.3	5.9	0.9		8.2	2.2
LOS			A			A	A	A	A		A	A
Approach Delay		0.8			0.3			4.9				3.1
Approach LOS		A			A			A				A
Queue Length 50th (ft)			0			0	2	88	0		13	23
Queue Length 95th (ft)			0			0	m4	150	0		44	38

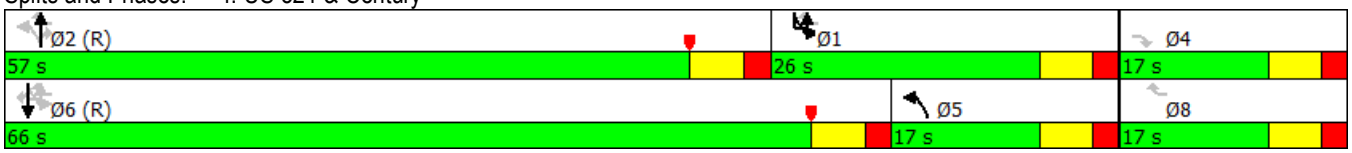
Lane Group	SBR	Ø8
Lane Configurations	↱	
Traffic Volume (vph)	1	
Future Volume (vph)	1	
Ideal Flow (vphpl)	1900	
Storage Length (ft)	0	
Storage Lanes	1	
Taper Length (ft)		
Lane Util. Factor	1.00	
Frt	0.850	
Flt Protected		
Satd. Flow (prot)	1568	
Flt Permitted		
Satd. Flow (perm)	1568	
Right Turn on Red	Yes	
Satd. Flow (RTOR)	98	
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor	0.90	
Adj. Flow (vph)	1	
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1	
Turn Type	Perm	
Protected Phases		8
Permitted Phases	6	
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	22.0	15.0
Total Split (s)	66.0	17.0
Total Split (%)	66.0%	17%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.0	
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	C-Min	None
Act Effct Green (s)	73.4	
Actuated g/C Ratio	0.73	
v/c Ratio	0.00	
Control Delay	0.0	
Queue Delay	0.0	
Total Delay	0.0	
LOS	A	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	m0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Internal Link Dist (ft)		141			599			597				1057
Turn Bay Length (ft)							150		250		500	
Base Capacity (vph)			380			1547	393	2326	1115		650	2571
Starvation Cap Reductn			0			0	0	0	0		0	0
Spillback Cap Reductn			0			0	0	0	0		0	0
Storage Cap Reductn			0			0	0	0	0		0	0
Reduced v/c Ratio			0.11			0.19	0.07	0.46	0.20		0.37	0.52

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 10 (10%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 3.6 Intersection LOS: A
Intersection Capacity Utilization 70.0% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: US 521 & Century



Lane Group	SBR	Ø8
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)	1176	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.00	

Intersection Summary

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	6	0	159	238	992	0	0	518	749
Future Vol, veh/h	0	0	0	6	0	159	238	992	0	0	518	749
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	0	300	-	-	-	-	200
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	7	0	177	264	1102	0	0	576	832

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1919	2207	551	576	0	-	-	-	0
Stage 1	1631	1631	-	-	-	-	-	-	-
Stage 2	288	576	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.56	6.96	4.16	-	-	-	-	-
Critical Hdwy Stg 1	5.86	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	2.23	-	-	-	-	-
Pot Cap-1 Maneuver	58	43	476	987	-	0	0	-	0
Stage 1	144	157	-	-	-	0	0	-	0
Stage 2	733	498	-	-	-	0	0	-	0
Platoon blocked, %					-			-	
Mov Cap-1 Maneuver	42	0	476	987	-	-	-	-	-
Mov Cap-2 Maneuver	42	0	-	-	-	-	-	-	-
Stage 1	105	0	-	-	-	-	-	-	-
Stage 2	733	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.2	1.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT
Capacity (veh/h)	987	-	42	476	-
HCM Lane V/C Ratio	0.268	-	0.159	0.371	-
HCM Control Delay (s)	10	-	106.2	17	-
HCM Lane LOS	A	-	F	C	-
HCM 95th %tile Q(veh)	1.1	-	0.5	1.7	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	546	1	230	0	0	0	0	667	2	132	388	0
Future Volume (veh/h)	546	1	230	0	0	0	0	667	2	132	388	0
Number	3	8	18				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900				0	1845	1900	1845	1845	0
Adj Flow Rate, veh/h	607	1	0				0	741	0	147	431	0
Adj No. of Lanes	2	1	0				0	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	713	386	0				0	2351	0	485	2351	0
Arrive On Green	0.21	0.21	0.00				0.00	0.67	0.00	0.45	0.45	0.00
Sat Flow, veh/h	3408	1845	0				0	3689	0	708	3597	0
Grp Volume(v), veh/h	607	1	0				0	741	0	147	431	0
Grp Sat Flow(s),veh/h/ln	1704	1845	0				0	1752	0	708	1752	0
Q Serve(g_s), s	17.1	0.0	0.0				0.0	8.8	0.0	14.7	7.4	0.0
Cycle Q Clear(g_c), s	17.1	0.0	0.0				0.0	8.8	0.0	23.5	7.4	0.0
Prop In Lane	1.00		0.00				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	713	386	0				0	2351	0	485	2351	0
V/C Ratio(X)	0.85	0.00	0.00				0.00	0.32	0.00	0.30	0.18	0.00
Avail Cap(c_a), veh/h	1057	572	0				0	2351	0	485	2351	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.0	31.3	0.0				0.0	6.9	0.0	18.7	11.1	0.0
Incr Delay (d2), s/veh	4.5	0.0	0.0				0.0	0.4	0.0	1.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.0	0.0				0.0	4.3	0.0	3.1	3.6	0.0
LnGrp Delay(d),s/veh	42.5	31.3	0.0				0.0	7.2	0.0	20.3	11.3	0.0
LnGrp LOS	D	C						A		C	B	
Approach Vol, veh/h		608						741			578	
Approach Delay, s/veh		42.5						7.2			13.6	
Approach LOS		D						A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		73.1				73.1		26.9
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		57.0				57.0		31.0
Max Q Clear Time (g_c+I1), s		25.5				10.8		19.1
Green Ext Time (p_c), s		10.3				11.2		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.

6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp

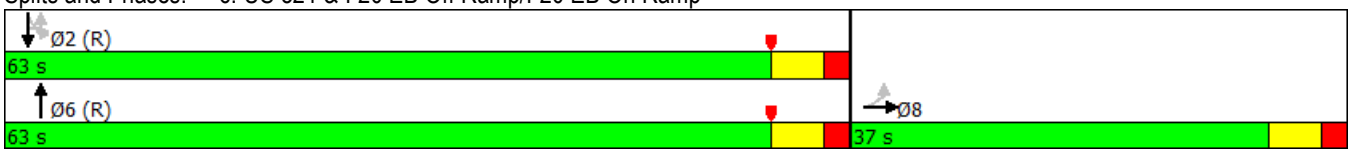
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	546	1	230	0	0	0	0	667	2	132	388	0
Future Volume (vph)	546	1	230	0	0	0	0	667	2	132	388	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	275		0
Storage Lanes	2		0	0		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.851										
Flt Protected	0.950									0.950		
Satd. Flow (prot)	3400	1570	0	0	0	0	0	3505	0	1752	3505	0
Flt Permitted	0.950									0.345		
Satd. Flow (perm)	3400	1570	0	0	0	0	0	3505	0	636	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		256										
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		406			964			1214			707	
Travel Time (s)		6.2			14.6			18.4			10.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	607	1	256	0	0	0	0	741	2	147	431	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	607	257	0	0	0	0	0	743	0	147	431	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		8						6			2	
Permitted Phases	8									2		
Detector Phase	8	8						6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	
Minimum Split (s)	15.0	15.0						22.0		22.0	22.0	
Total Split (s)	37.0	37.0						63.0		63.0	63.0	
Total Split (%)	37.0%	37.0%						63.0%		63.0%	63.0%	
Yellow Time (s)	4.0	4.0						4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0						0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0						6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None						C-Min		C-Min	C-Min	
Act Effct Green (s)	24.6	24.6						63.4		63.4	63.4	
Actuated g/C Ratio	0.25	0.25						0.63		0.63	0.63	
v/c Ratio	0.73	0.44						0.33		0.36	0.19	
Control Delay	39.5	6.1						9.7		4.4	1.7	
Queue Delay	0.0	0.0						0.0		0.0	0.0	
Total Delay	39.5	6.1						9.7		4.4	1.7	
LOS	D	A						A		A	A	
Approach Delay		29.6						9.7			2.4	
Approach LOS		C						A			A	
Queue Length 50th (ft)	183	1						105		4	5	
Queue Length 95th (ft)	221	56						167		45	18	

6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		326			884			1134			627	
Turn Bay Length (ft)										275		
Base Capacity (vph)	1056	664						2224		403	2224	
Starvation Cap Reductn	0	0						0		0	0	
Spillback Cap Reductn	0	0						0		0	0	
Storage Cap Reductn	0	0						0		0	0	
Reduced v/c Ratio	0.57	0.39						0.33		0.36	0.19	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 51 (51%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 15.6	Intersection LOS: B
Intersection Capacity Utilization 72.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp



Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↑↳		↰	↱
Traffic Vol, veh/h	31	1141	737	15	31	100
Future Vol, veh/h	31	1141	737	15	31	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	34	1268	819	17	34	111

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	836	0	-	0	1530	418
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	703	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	787	-	-	-	107	581
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	449	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	787	-	-	-	102	581
Mov Cap-2 Maneuver	-	-	-	-	102	-
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	430	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	23.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	787	-	-	-	102	581
HCM Lane V/C Ratio	0.044	-	-	-	0.338	0.191
HCM Control Delay (s)	9.8	-	-	-	57.3	12.7
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.3	0.7

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	1155	741	1	0	8
Future Vol, veh/h	2	1155	741	1	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	1283	823	1	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	824	0	-	0	1470	412
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	646	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	795	-	-	-	117	586
Stage 1	-	-	-	-	389	-
Stage 2	-	-	-	-	481	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	795	-	-	-	117	586
Mov Cap-2 Maneuver	-	-	-	-	249	-
Stage 1	-	-	-	-	389	-
Stage 2	-	-	-	-	480	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	795	-	-	-	586
HCM Lane V/C Ratio	0.003	-	-	-	0.015
HCM Control Delay (s)	9.5	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	493	642	629	515	9	118	0	120	10	1	39
Future Volume (veh/h)	10	493	642	629	515	9	118	0	120	10	1	39
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1845	1900	1845	1900
Adj Flow Rate, veh/h	11	548	0	699	572	10	131	0	0	11	1	43
Adj No. of Lanes	1	1	1	2	1	0	2	0	1	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	376	631	536	793	1183	21	218	0	97	15	1	57
Arrive On Green	0.34	0.34	0.00	0.23	0.65	0.65	0.06	0.00	0.00	0.05	0.05	0.05
Sat Flow, veh/h	821	1845	1568	3408	1807	32	3514	0	1568	321	29	1256
Grp Volume(v), veh/h	11	548	0	699	0	582	131	0	0	55	0	0
Grp Sat Flow(s),veh/h/ln	821	1845	1568	1704	0	1839	1757	0	1568	1607	0	0
Q Serve(g_s), s	0.7	21.0	0.0	14.9	0.0	12.1	2.7	0.0	0.0	2.6	0.0	0.0
Cycle Q Clear(g_c), s	0.7	21.0	0.0	14.9	0.0	12.1	2.7	0.0	0.0	2.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.20		0.78
Lane Grp Cap(c), veh/h	376	631	536	793	0	1203	218	0	97	73	0	0
V/C Ratio(X)	0.03	0.87	0.00	0.88	0.00	0.48	0.60	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	400	684	581	857	0	1291	419	0	187	213	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.6	23.3	0.0	28.0	0.0	6.6	34.5	0.0	0.0	35.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	10.9	0.0	10.0	0.0	0.3	2.7	0.0	0.0	14.6	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(50%),veh/ln	0.2	12.6	0.0	8.1	0.0	6.1	1.4	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	16.6	34.2	0.0	38.0	0.0	6.9	37.2	0.0	0.0	50.2	0.0	0.0
LnGrp LOS	B	C		D		A	D			D		
Approach Vol, veh/h		559			1281			131			55	
Approach Delay, s/veh		33.8			23.9			37.2			50.2	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		9.4		55.4		10.7	23.6	31.8
Change Period (Y+Rc), s		6.0		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		10.0		53.0		9.0	19.0	28.0
Max Q Clear Time (g_c+I1), s		4.6		14.1		4.7	16.9	23.0
Green Ext Time (p_c), s		0.1		8.3		0.1	0.6	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	28.2
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	493	642	629	515	9	118	0	120	10	1	39
Future Volume (vph)	10	493	642	629	515	9	118	0	120	10	1	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	250		0	350		0	100		0
Storage Lanes	1		1	2		0	1		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.997				0.850		0.894	
Flt Protected	0.950			0.950			0.950	0.950			0.990	
Satd. Flow (prot)	1752	1845	1568	3400	1839	0	1665	1665	1568	0	1633	0
Flt Permitted	0.445			0.950			0.950	0.950			0.990	
Satd. Flow (perm)	821	1845	1568	3400	1839	0	1665	1665	1568	0	1633	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			572		2				182		43	
Link Speed (mph)		45			45			30			25	
Link Distance (ft)		5109			4296			668			274	
Travel Time (s)		77.4			65.1			15.2			7.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	548	713	699	572	10	131	0	133	11	1	43
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	11	548	713	699	582	0	65	66	133	0	55	0
Turn Type	Perm	NA	Free	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases		8		7	4		6	6		2	2	
Permitted Phases	8		Free						6			
Detector Phase	8	8		7	4		6	6	6	2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.0	22.0		15.0	22.0		15.0	15.0	15.0	15.0	15.0	
Total Split (s)	34.0	34.0		25.0	59.0		15.0	15.0	15.0	16.0	16.0	
Total Split (%)	37.8%	37.8%		27.8%	65.6%		16.7%	16.7%	16.7%	17.8%	17.8%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Recall Mode	Min	Min		None	Min		None	None	None	None	None	
Act Effct Green (s)	26.9	26.9	79.7	19.2	52.3		7.8	7.8	7.8		6.7	
Actuated g/C Ratio	0.34	0.34	1.00	0.24	0.66		0.10	0.10	0.10		0.08	
v/c Ratio	0.04	0.88	0.45	0.85	0.48		0.40	0.41	0.42		0.31	
Control Delay	21.6	44.4	1.0	42.9	10.1		44.2	44.4	6.6		20.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	21.6	44.4	1.0	42.9	10.1		44.2	44.4	6.6		20.9	
LOS	C	D	A	D	B		D	D	A		C	
Approach Delay		19.9			28.0			25.3			20.9	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)	4	281	0	191	158		34	35	0		6	
Queue Length 95th (ft)	17	#503	0	#315	267		78	81	25		41	

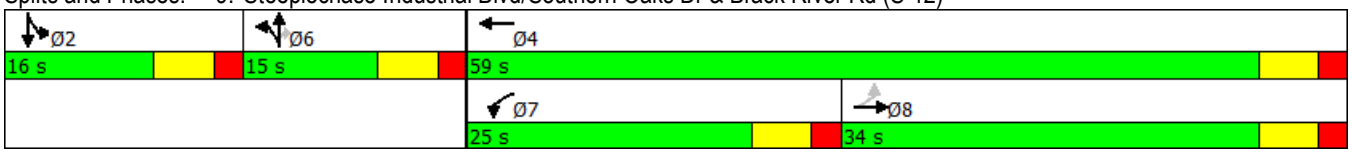
9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		5029			4216			588			194	
Turn Bay Length (ft)	150			250			350					
Base Capacity (vph)	293	659	1568	824	1244		191	191	341		245	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.04	0.83	0.45	0.85	0.47		0.34	0.35	0.39		0.22	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 79.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 24.0 Intersection LOS: C
Intersection Capacity Utilization 68.8% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	517	874	117	111	275
Future Volume (veh/h)	95	517	874	117	111	275
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	106	574	971	130	123	306
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	229	1140	1140	969	287	257
Arrive On Green	0.62	0.62	0.62	0.62	0.16	0.16
Sat Flow, veh/h	505	1845	1845	1568	1757	1568
Grp Volume(v), veh/h	106	574	971	130	123	306
Grp Sat Flow(s),veh/h/ln	505	1845	1845	1568	1757	1568
Q Serve(g_s), s	10.7	9.5	23.3	1.9	3.5	9.0
Cycle Q Clear(g_c), s	34.0	9.5	23.3	1.9	3.5	9.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	229	1140	1140	969	287	257
V/C Ratio(X)	0.46	0.50	0.85	0.13	0.43	1.19
Avail Cap(c_a), veh/h	229	1140	1140	969	287	257
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	5.8	8.5	4.4	20.7	23.0
Incr Delay (d2), s/veh	1.5	0.4	6.3	0.1	1.0	118.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.9	13.6	0.8	1.8	12.3
LnGrp Delay(d),s/veh	24.0	6.2	14.8	4.4	21.7	141.5
LnGrp LOS	C	A	B	A	C	F
Approach Vol, veh/h		680	1101		429	
Approach Delay, s/veh		9.0	13.6		107.1	
Approach LOS		A	B		F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				40.0		15.0		40.0
Change Period (Y+Rc), s				6.0		6.0		6.0
Max Green Setting (Gmax), s				34.0		9.0		34.0
Max Q Clear Time (g_c+I1), s				36.0		11.0		25.3
Green Ext Time (p_c), s				0.0		0.0		6.5

Intersection Summary	
HCM 2010 Ctrl Delay	30.3
HCM 2010 LOS	C

10: Black River Rd (S-12) & Precipice Rd (S-46)

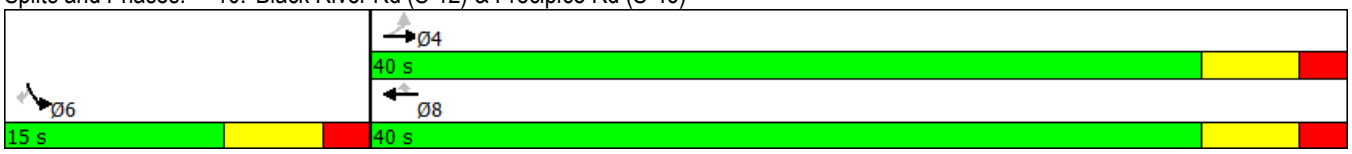
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	517	874	117	111	275
Future Volume (vph)	95	517	874	117	111	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			150	250	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1845	1845	1568	1752	1568
Flt Permitted	0.133				0.950	
Satd. Flow (perm)	245	1845	1845	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				130		138
Link Speed (mph)		45	45		45	
Link Distance (ft)		4296	2076		512	
Travel Time (s)		65.1	31.5		7.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	106	574	971	130	123	306
Shared Lane Traffic (%)						
Lane Group Flow (vph)	106	574	971	130	123	306
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.0	22.0	22.0	22.0	15.0	15.0
Total Split (s)	40.0	40.0	40.0	40.0	15.0	15.0
Total Split (%)	72.7%	72.7%	72.7%	72.7%	27.3%	27.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	None	Min	Min
Act Effct Green (s)	29.9	29.9	29.9	29.9	8.6	8.6
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.17	0.17
v/c Ratio	0.74	0.53	0.89	0.13	0.41	0.80
Control Delay	43.2	8.2	21.9	1.4	25.3	32.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	8.2	21.9	1.4	25.3	32.0
LOS	D	A	C	A	C	C
Approach Delay		13.6	19.5		30.1	
Approach LOS		B	B		C	
Queue Length 50th (ft)	20	87	214	0	37	52
Queue Length 95th (ft)	#102	149	#480	14	79	#171

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Internal Link Dist (ft)		4216	1996		432	
Turn Bay Length (ft)	150			150	250	
Base Capacity (vph)	166	1256	1256	1109	315	396
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.46	0.77	0.12	0.39	0.77

Intersection Summary	
Area Type: Other	
Cycle Length: 55	
Actuated Cycle Length: 50.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 19.7	Intersection LOS: B
Intersection Capacity Utilization 73.0%	ICU Level of Service D
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Black River Rd (S-12) & Precipice Rd (S-46)



Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	410	223	674	14	5	276
Future Vol, veh/h	410	223	674	14	5	276
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	456	248	749	16	6	307

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	764	0	-	0	1916	757
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	1159	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	844	-	-	-	74	406
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	297	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	844	-	-	-	34	406
Mov Cap-2 Maneuver	-	-	-	-	34	-
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	137	-

Approach	EB	WB	SB
HCM Control Delay, s	9.2	0	38.3
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	844	-	-	-	34	406
HCM Lane V/C Ratio	0.54	-	-	-	0.163	0.755
HCM Control Delay (s)	14.2	-	-	-	130.5	36.6
HCM Lane LOS	B	-	-	-	F	E
HCM 95th %tile Q(veh)	3.3	-	-	-	0.5	6.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	208	639	141	53	18
Future Vol, veh/h	12	208	639	141	53	18
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	13	231	710	157	59	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	867	0	-	0	1046	788
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	258	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	772	-	-	-	252	390
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	783	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	772	-	-	-	247	390
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	768	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	772	-	-	-	272
HCM Lane V/C Ratio	0.017	-	-	-	0.29
HCM Control Delay (s)	9.7	0	-	-	23.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	197	6	9	83	27	69
Future Vol, veh/h	197	6	9	83	27	69
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	219	7	10	92	30	77

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	102	0	-	0	500	56
Stage 1	-	-	-	-	56	-
Stage 2	-	-	-	-	444	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1484	-	-	-	529	1008
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	644	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1484	-	-	-	451	1008
Mov Cap-2 Maneuver	-	-	-	-	451	-
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	549	-

Approach	EB	WB	SB
HCM Control Delay, s	7.6	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1484	-	-	-	748
HCM Lane V/C Ratio	0.147	-	-	-	0.143
HCM Control Delay (s)	7.8	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.5

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	501	0	15	0	0	0	0	271	10	103	81	0
Future Vol, veh/h	501	0	15	0	0	0	0	271	10	103	81	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	525	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	557	0	17	0	0	0	0	301	11	114	90	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	620	620	90	-	0	0	301	0	0
Stage 1	319	319	-	-	-	-	-	-	-
Stage 2	301	301	-	-	-	-	-	-	-
Critical Hdwy	6.43	6.53	6.23	-	-	-	4.13	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	-	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 450	403	965	0	-	-	1254	-	0
Stage 1	735	651	-	0	-	-	-	-	0
Stage 2	748	663	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	~ 409	0	965	-	-	-	1254	-	-
Mov Cap-2 Maneuver	~ 409	0	-	-	-	-	-	-	-
Stage 1	668	0	-	-	-	-	-	-	-
Stage 2	748	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	5.3	0	4.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	12685	1254	-
HCM Lane V/C Ratio	-	-	0.001	0.091	-
HCM Control Delay (s)	-	-	5.3	8.2	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.3	-

Notes

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

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	12	1	216	62	714	0	0	172	234
Future Vol, veh/h	0	0	0	12	1	216	62	714	0	0	172	234
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	525	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	13	1	240	69	793	0	0	191	260

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1122	1122	793	191	0	-	-	-	0
Stage 1	931	931	-	-	-	-	-	-	-
Stage 2	191	191	-	-	-	-	-	-	-
Critical Hdwy	6.43	6.53	6.23	4.13	-	-	-	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	2.227	-	-	-	-	-
Pot Cap-1 Maneuver	227	205	387	1377	-	0	0	-	-
Stage 1	382	344	-	-	-	0	0	-	-
Stage 2	839	740	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	216	0	387	1377	-	-	-	-	-
Mov Cap-2 Maneuver	303	0	-	-	-	-	-	-	-
Stage 1	363	0	-	-	-	-	-	-	-
Stage 2	839	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.1	0.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1377	-	410	-	-
HCM Lane V/C Ratio	0.05	-	0.621	-	-
HCM Control Delay (s)	7.8	-	27.1	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.2	-	4.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	1	185	21	6	3	608	318	7	0	202	148
Future Volume (veh/h)	58	1	185	21	6	3	608	318	7	0	202	148
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	64	1	206	23	7	3	676	353	8	0	224	164
Adj No. of Lanes	0	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	272	3	694	200	146	63	735	1233	28	117	263	193
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.32	0.69	0.69	0.00	0.27	0.27
Sat Flow, veh/h	1311	28	1568	1159	1226	526	1757	1797	41	1007	991	726
Grp Volume(v), veh/h	65	0	206	23	0	10	676	0	361	0	0	388
Grp Sat Flow(s),veh/h/ln	1340	0	1568	1159	0	1752	1757	0	1837	1007	0	1717
Q Serve(g_s), s	2.6	0.0	5.2	1.2	0.0	0.3	16.6	0.0	4.7	0.0	0.0	13.2
Cycle Q Clear(g_c), s	3.0	0.0	5.2	4.1	0.0	0.3	16.6	0.0	4.7	0.0	0.0	13.2
Prop In Lane	0.98		1.00	1.00		0.30	1.00		0.02	1.00		0.42
Lane Grp Cap(c), veh/h	276	0	694	200	0	209	735	0	1261	117	0	456
V/C Ratio(X)	0.24	0.00	0.30	0.12	0.00	0.05	0.92	0.00	0.29	0.00	0.00	0.85
Avail Cap(c_a), veh/h	312	0	736	230	0	255	878	0	1458	142	0	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	11.0	27.2	0.0	24.1	11.8	0.0	3.8	0.0	0.0	21.5
Incr Delay (d2), s/veh	0.4	0.0	0.2	0.3	0.0	0.1	13.1	0.0	0.1	0.0	0.0	12.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.3	0.4	0.0	0.2	13.4	0.0	2.3	0.0	0.0	7.8
LnGrp Delay(d),s/veh	25.8	0.0	11.3	27.4	0.0	24.2	24.9	0.0	3.9	0.0	0.0	33.8
LnGrp LOS	C		B	C		C	C		A			C
Approach Vol, veh/h		271			33			1037			388	
Approach Delay, s/veh		14.8			26.4			17.6			33.8	
Approach LOS		B			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	26.0	22.4		13.4		48.4		13.4
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	25.0	18.0		9.0		49.0		9.0
Max Q Clear Time (g_c+I1), s	18.6	15.2		6.1		6.7		7.2
Green Ext Time (p_c), s	1.4	1.2		0.3		4.8		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.0
HCM 2010 LOS	C

16: Dr Humphries Rd & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	1	185	21	6	3	608	318	7	0	202	148
Future Volume (vph)	58	1	185	21	6	3	608	318	7	0	202	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	300		0	150		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.955			0.997			0.937	
Flt Protected		0.953		0.950			0.950					
Satd. Flow (prot)	0	1758	1568	1752	1762	0	1752	1839	0	1845	1728	0
Flt Permitted		0.923		0.930			0.266					
Satd. Flow (perm)	0	1703	1568	1716	1762	0	491	1839	0	1845	1728	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			206		3			4			51	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		810			829			482			3375	
Travel Time (s)		12.3			12.6			7.3			51.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	64	1	206	23	7	3	676	353	8	0	224	164
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	206	23	10	0	676	361	0	0	388	0
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8	1		4		1	6			2	
Permitted Phases	8		8	4			6			2		
Detector Phase	8	8	1	4	4		1	6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		15.0	22.0		22.0	22.0	
Total Split (s)	15.0	15.0	31.0	15.0	15.0		31.0	55.0		24.0	24.0	
Total Split (%)	21.4%	21.4%	44.3%	21.4%	21.4%		44.3%	78.6%		34.3%	34.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		8.2	26.4	7.9	7.9		42.0	45.9			16.0	
Actuated g/C Ratio		0.15	0.47	0.14	0.14		0.75	0.82			0.29	
v/c Ratio		0.26	0.24	0.10	0.04		0.84	0.24			0.73	
Control Delay		29.8	2.0	28.2	23.9		21.0	3.5			29.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		29.8	2.0	28.2	23.9		21.0	3.5			29.1	
LOS		C	A	C	C		C	A			C	
Approach Delay		8.7			26.9			15.0			29.1	
Approach LOS		A			C			B			C	
Queue Length 50th (ft)		26	0	9	3		163	45			135	
Queue Length 95th (ft)		60	24	29	15		#368	76			#274	

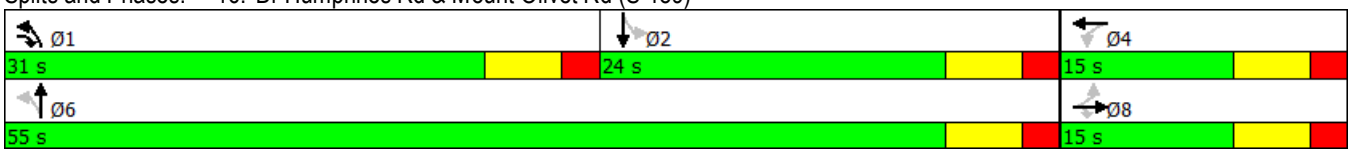
16: Dr Humphries Rd & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		730			749			402			3295	
Turn Bay Length (ft)				150			300					
Base Capacity (vph)		308	1067	311	322		1005	1510			660	
Starvation Cap Reductn		0	0	0	0		0	0			0	
Spillback Cap Reductn		0	0	0	0		0	0			0	
Storage Cap Reductn		0	0	0	0		0	0			0	
Reduced v/c Ratio		0.21	0.19	0.07	0.03		0.67	0.24			0.59	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 55.9
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 17.4 Intersection LOS: B
Intersection Capacity Utilization 78.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: Dr Humphries Rd & Mount Olivet Rd (S-189)



Intersection	
Intersection Delay, s/veh	33.3
Intersection LOS	D

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	20	117	186	0	133	246	22	0	115	62	20	0	10	235	63
Future Vol, veh/h	0	20	117	186	0	133	246	22	0	115	62	20	0	10	235	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	22	130	207	0	148	273	24	0	128	69	22	0	11	261	70
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	27.1	49	19.4	28.2
HCM LOS	D	E	C	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	58%	6%	33%	3%
Vol Thru, %	31%	36%	61%	76%
Vol Right, %	10%	58%	5%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	197	323	401	308
LT Vol	115	20	133	10
Through Vol	62	117	246	235
RT Vol	20	186	22	63
Lane Flow Rate	219	359	446	342
Geometry Grp	1	1	1	1
Degree of Util (X)	0.501	0.722	0.912	0.722
Departure Headway (Hd)	8.24	7.241	7.371	7.593
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	436	499	495	476
Service Time	6.33	5.318	5.371	5.671
HCM Lane V/C Ratio	0.502	0.719	0.901	0.718
HCM Control Delay	19.4	27.1	49	28.2
HCM Lane LOS	C	D	E	D
HCM 95th-tile Q	2.7	5.8	10.5	5.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1110	161	106	731	91	62
Future Volume (veh/h)	1110	161	106	731	91	62
Number	8	18	7	4	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	1233	0	118	812	101	69
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	2429	1087	391	2808	139	199
Arrive On Green	0.69	0.00	0.05	0.80	0.08	0.08
Sat Flow, veh/h	3597	1568	1757	3597	1757	1568
Grp Volume(v), veh/h	1233	0	118	812	101	69
Grp Sat Flow(s),veh/h/ln	1752	1568	1757	1752	1757	1568
Q Serve(g_s), s	16.7	0.0	1.7	6.0	5.6	4.0
Cycle Q Clear(g_c), s	16.7	0.0	1.7	6.0	5.6	4.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2429	1087	391	2808	139	199
V/C Ratio(X)	0.51	0.00	0.30	0.29	0.73	0.35
Avail Cap(c_a), veh/h	2429	1087	482	2808	334	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.59	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	0.0	5.4	2.6	45.0	39.9
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.3	7.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	0.9	2.9	3.0	3.6
LnGrp Delay(d),s/veh	7.7	0.0	5.9	2.8	52.1	40.9
LnGrp LOS	A		A	A	D	D
Approach Vol, veh/h	1233			930	170	
Approach Delay, s/veh	7.7			3.2	47.6	
Approach LOS	A			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				86.1		13.9	10.8	75.3
Change Period (Y+Rc), s				6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s				69.0		19.0	10.0	53.0
Max Q Clear Time (g_c+I1), s				8.0		7.6	3.7	18.7
Green Ext Time (p_c), s				24.0		0.3	0.1	18.8

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

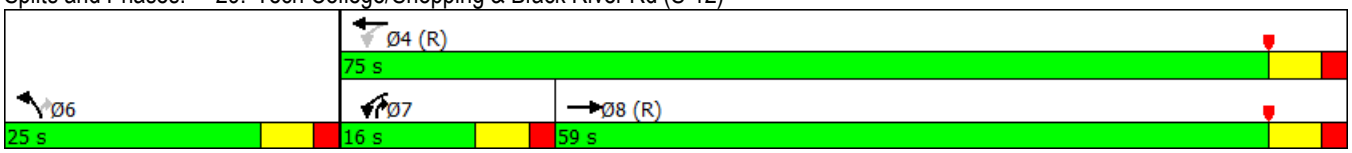
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1110	161	106	731	91	62
Future Volume (vph)	1110	161	106	731	91	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	250		250	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	1752	3505	1752	1568
Flt Permitted			0.164		0.950	
Satd. Flow (perm)	3505	1568	303	3505	1752	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		70				48
Link Speed (mph)	45			45	30	
Link Distance (ft)	1830			880	1149	
Travel Time (s)	27.7			13.3	26.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1233	179	118	812	101	69
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1233	179	118	812	101	69
Turn Type	NA	Free	pm+pt	NA	Prot	pm+ov
Protected Phases	8		7	4	6	7
Permitted Phases		Free	4			6
Detector Phase	8		7	4	6	7
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	24.0		15.0	22.0	24.0	15.0
Total Split (s)	59.0		16.0	75.0	25.0	16.0
Total Split (%)	59.0%		16.0%	75.0%	25.0%	16.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min		None	C-Min	None	None
Act Effct Green (s)	66.3	100.0	79.5	80.7	11.1	21.7
Actuated g/C Ratio	0.66	1.00	0.80	0.81	0.11	0.22
v/c Ratio	0.53	0.11	0.34	0.29	0.52	0.18
Control Delay	6.6	0.1	5.9	3.7	50.8	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	0.1	5.9	3.7	50.8	12.9
LOS	A	A	A	A	D	B
Approach Delay	5.7			4.0	35.4	
Approach LOS	A			A	D	
Queue Length 50th (ft)	128	0	15	65	62	10
Queue Length 95th (ft)	168	m0	34	106	109	41

29: Tech College/Shopping & Black River Rd (S-12)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Internal Link Dist (ft)	1750			800	1069	
Turn Bay Length (ft)		150	250		250	
Base Capacity (vph)	2323	1568	385	2827	332	421
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.11	0.31	0.29	0.30	0.16

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 3 (3%), Referenced to phase 4:WBTL and 8:EBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 7.1	Intersection LOS: A
Intersection Capacity Utilization 56.6%	ICU Level of Service B
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 29: Tech College/Shopping & Black River Rd (S-12)



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	562	677	1743	1371	1
Future Volume (veh/h)	2	562	677	1743	1371	1
Number	3	18	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	2	624	752	1937	1523	1
Adj No. of Lanes	1	2	1	2	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	132	1196	690	2892	1498	1
Arrive On Green	0.08	0.08	0.36	0.82	0.42	0.42
Sat Flow, veh/h	1757	2760	1757	3597	3687	2
Grp Volume(v), veh/h	2	624	752	1937	743	781
Grp Sat Flow(s),veh/h/ln	1757	1380	1757	1752	1752	1844
Q Serve(g_s), s	0.1	9.0	43.0	25.9	50.0	50.0
Cycle Q Clear(g_c), s	0.1	9.0	43.0	25.9	50.0	50.0
Prop In Lane	1.00	1.00	1.00			0.00
Lane Grp Cap(c), veh/h	132	1196	690	2892	730	768
V/C Ratio(X)	0.02	0.52	1.09	0.67	1.02	1.02
Avail Cap(c_a), veh/h	132	1196	690	2892	730	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.22	0.22	1.00	1.00
Uniform Delay (d), s/veh	51.4	24.9	34.5	4.1	35.0	35.0
Incr Delay (d2), s/veh	0.0	0.4	46.9	0.3	37.6	36.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	7.6	31.8	12.2	31.8	33.3
LnGrp Delay(d),s/veh	51.4	25.3	81.3	4.4	72.6	71.8
LnGrp LOS	D	C	F	A	F	F
Approach Vol, veh/h	626			2689	1524	
Approach Delay, s/veh	25.4			25.9	72.2	
Approach LOS	C			C	E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	49.0	56.0				105.0		15.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	43.0	50.0				99.0		9.0
Max Q Clear Time (g_c+I1), s	45.0	52.0				27.9		11.0
Green Ext Time (p_c), s	0.0	0.0				58.8		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	40.4
HCM 2010 LOS	D

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	663			3482	1652	
Turn Bay Length (ft)	100	200	300			
Base Capacity (vph)	131	1340	878	3398	1460	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.02	0.47	0.86	0.57	1.04	

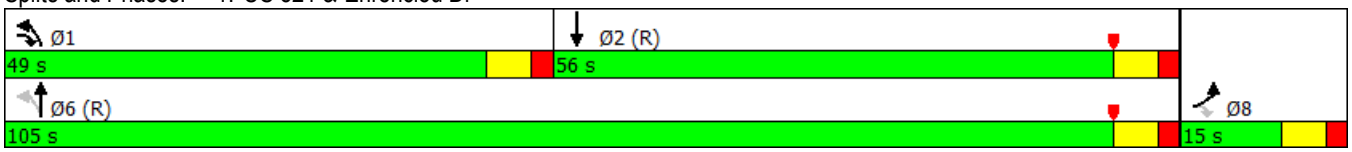
Intersection Summary	
Area Type: Other	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 100 (83%), Referenced to phase 2:SBT and 6:NBTL, Start of Yellow	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 29.2	Intersection LOS: C
Intersection Capacity Utilization 94.6%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: US 521 & Ehrenclou Dr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	562	677	1743	1371	1
Future Volume (vph)	2	562	677	1743	1371	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	200	300			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	0.88	1.00	0.95	0.95	0.95
Frt		0.850				
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1752	2760	1752	3505	3505	0
Flt Permitted	0.950		0.078			
Satd. Flow (perm)	1752	2760	144	3505	3505	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		12				
Link Speed (mph)	45			45	35	
Link Distance (ft)	743			3562	1732	
Travel Time (s)	11.3			54.0	33.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	624	752	1937	1523	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	624	752	1937	1524	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	8	1	1	6	2	
Permitted Phases		8	6			
Detector Phase	8	1	1	6	2	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	15.0	15.0	15.0	22.0	22.0	
Total Split (s)	15.0	49.0	49.0	105.0	56.0	
Total Split (%)	12.5%	40.8%	40.8%	87.5%	46.7%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	C-Min	C-Min	
Act Effct Green (s)	5.8	58.0	111.5	116.3	50.0	
Actuated g/C Ratio	0.05	0.48	0.93	0.97	0.42	
v/c Ratio	0.02	0.47	0.86	0.57	1.04	
Control Delay	55.0	21.6	24.3	1.0	70.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.0	21.6	24.3	1.0	70.5	
LOS	D	C	C	A	E	
Approach Delay	21.8			7.5	70.5	
Approach LOS	C			A	E	
Queue Length 50th (ft)	2	174	299	0	~673	
Queue Length 95th (ft)	11	229	m#639	m103	#812	

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	538	1020	150	1369	432	683	1054
Future Volume (veh/h)	538	1020	150	1369	432	683	1054
Number	7	14		6	16	5	2
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845		1845	1845	1845	1845
Adj Flow Rate, veh/h	598	1133		1521	0	759	1171
Adj No. of Lanes	2	2		2	1	2	2
Peak Hour Factor	0.90	0.90		0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3		3	3	3	3
Cap, veh/h	625	1127		1548	980	767	2512
Arrive On Green	0.18	0.18		0.44	0.00	0.22	0.72
Sat Flow, veh/h	3408	2760		3597	1568	3408	3597
Grp Volume(v), veh/h	598	1133		1521	0	759	1171
Grp Sat Flow(s),veh/h/ln	1704	1380		1752	1568	1704	1752
Q Serve(g_s), s	20.9	22.0		51.4	0.0	26.6	17.1
Cycle Q Clear(g_c), s	20.9	22.0		51.4	0.0	26.6	17.1
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	625	1127		1548	980	767	2512
V/C Ratio(X)	0.96	1.01		0.98	0.00	0.99	0.47
Avail Cap(c_a), veh/h	625	1127		1548	980	767	2512
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69		0.52	0.00	0.36	0.36
Uniform Delay (d), s/veh	48.5	35.5		33.0	0.0	46.4	7.2
Incr Delay (d2), s/veh	20.3	23.6		13.0	0.0	17.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	27.3		27.5	0.0	14.4	8.2
LnGrp Delay(d),s/veh	68.8	59.1		46.0	0.0	63.5	7.5
LnGrp LOS	E	F		D		E	A
Approach Vol, veh/h	1731			1521			1930
Approach Delay, s/veh	62.5			46.0			29.5
Approach LOS	E			D			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		92.0		28.0	33.0	59.0		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		65.0		22.0	27.0	53.0		
Max Q Clear Time (g_c+I1), s		19.1		24.0	28.6	53.4		
Green Ext Time (p_c), s		15.8		0.0	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	45.4
HCM 2010 LOS	D

Notes

User approved ignoring U-Turning movement.

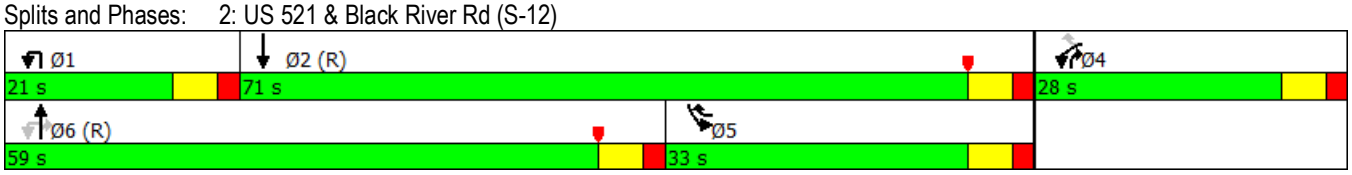
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	538	1020	150	1369	432	683	1054
Future Volume (vph)	538	1020	150	1369	432	683	1054
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	300	200		450	500	
Storage Lanes	1	1	1		1	2	
Taper Length (ft)	100		100			100	
Lane Util. Factor	0.97	0.88	1.00	0.95	1.00	0.97	0.95
Frt		0.850			0.850		
Flt Protected	0.950		0.950			0.950	
Satd. Flow (prot)	3400	2760	1752	3505	1568	3400	3505
Flt Permitted	0.950		0.098			0.950	
Satd. Flow (perm)	3400	2760	181	3505	1568	3400	3505
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		17			11		
Link Speed (mph)	45			45			45
Link Distance (ft)	1830			1085			3562
Travel Time (s)	27.7			16.4			54.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	598	1133	167	1521	480	759	1171
Shared Lane Traffic (%)							
Lane Group Flow (vph)	598	1133	167	1521	480	759	1171
Turn Type	Prot	pm+ov	pm+pt	NA	pm+ov	Prot	NA
Protected Phases	4	5	1	6	4	5	2
Permitted Phases		4	6		6		
Detector Phase	4	5	1	6	4	5	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	15.0	15.0	24.0	24.0	15.0	22.0
Total Split (s)	28.0	33.0	21.0	59.0	28.0	33.0	71.0
Total Split (%)	23.3%	27.5%	17.5%	49.2%	23.3%	27.5%	59.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lag	Lead	Lead		Lag	Lag
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	22.0	55.0	53.0	53.0	81.0	27.0	67.7
Actuated g/C Ratio	0.18	0.46	0.44	0.44	0.68	0.22	0.56
v/c Ratio	0.96	0.89	0.70	0.98	0.45	0.99	0.59
Control Delay	68.0	33.2	37.0	35.1	4.3	53.8	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.0	33.2	37.0	35.1	4.3	53.8	10.7
LOS	E	C	D	D	A	D	B
Approach Delay	45.2			28.4			27.7
Approach LOS	D			C			C
Queue Length 50th (ft)	242	410	72	501	55	279	146
Queue Length 95th (ft)	#347	#353	m104	#762	m87	m#302	m151

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1750			1005			3482
Turn Bay Length (ft)	300	300	200		450	500	
Base Capacity (vph)	623	1274	276	1548	1061	765	1978
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.89	0.61	0.98	0.45	0.99	0.59

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTU, Start of Yellow, Master Intersection
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 33.2 Intersection LOS: C
Intersection Capacity Utilization 87.7% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: US 521 & Black River Rd (S-12)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	389	0	0	398	246	145	1550	142	232	1501
Future Volume (vph)	0	0	389	0	0	398	246	145	1550	142	232	1501
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0			6.0		6.0	6.0	6.0	6.0	6.0
Lane Util. Factor			1.00			1.00		1.00	0.95	1.00	1.00	0.95
Frt			0.86			0.86		1.00	1.00	0.85	1.00	1.00
Flt Protected			1.00			1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)			1596			1596		1752	3505	1568	1752	3505
Flt Permitted			1.00			1.00		0.10	1.00	1.00	0.08	1.00
Satd. Flow (perm)			1596			1596		192	3505	1568	155	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	432	0	0	442	273	161	1722	158	258	1668
RTOR Reduction (vph)	0	0	8	0	0	223	0	0	0	46	0	0
Lane Group Flow (vph)	0	0	424	0	0	219	0	434	1722	112	258	1668
Turn Type			Perm			Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA
Protected Phases							5	5	2		1	6
Permitted Phases			2 4 5 8			1	2	2		2	6	
Actuated Green, G (s)			85.8			22.2		74.1	74.1	74.1	69.7	69.7
Effective Green, g (s)			85.8			22.2		74.1	74.1	74.1	69.7	69.7
Actuated g/C Ratio			0.71			0.18		0.62	0.62	0.62	0.58	0.58
Clearance Time (s)						6.0		6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)						3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)			1141			295		464	2164	968	385	2035
v/s Ratio Prot								c0.21	0.49		0.12	c0.48
v/s Ratio Perm			c0.27			0.14		c0.37		0.07	0.26	
v/c Ratio			0.37			0.74		0.94	0.80	0.12	0.67	0.82
Uniform Delay, d1			6.6			46.2		30.5	17.3	9.5	30.8	20.1
Progression Factor			1.00			1.00		0.57	0.29	0.04	1.02	0.67
Incremental Delay, d2			0.2			9.6		19.0	2.0	0.2	3.5	3.0
Delay (s)			6.8			55.8		36.4	7.0	0.5	35.1	16.5
Level of Service			A			E		D	A	A	D	B
Approach Delay (s)		6.8			55.8				12.1			17.6
Approach LOS		A			E				B			B

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	215
Future Volume (vph)	215
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	239
RTOR Reduction (vph)	46
Lane Group Flow (vph)	193
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	69.7
Effective Green, g (s)	69.7
Actuated g/C Ratio	0.58
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	910
v/s Ratio Prot	
v/s Ratio Perm	0.12
v/c Ratio	0.21
Uniform Delay, d1	12.0
Progression Factor	0.51
Incremental Delay, d2	0.4
Delay (s)	6.5
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	389	0	0	398	246	145	1550	142	232	1501
Future Volume (vph)	0	0	389	0	0	398	246	145	1550	142	232	1501
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0		500		0	350	
Storage Lanes	0		1	0		1		1		1	1	
Taper Length (ft)	100			100				100			100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95
Frt			0.865			0.865				0.850		
Flt Protected								0.950			0.950	
Satd. Flow (prot)	0	0	1596	0	0	1596	0	1752	3505	1568	1752	3505
Flt Permitted								0.104			0.084	
Satd. Flow (perm)	0	0	1596	0	0	1596	0	192	3505	1568	155	3505
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			27			274				119		
Link Speed (mph)		30			30				45			45
Link Distance (ft)		397			427				1137			1085
Travel Time (s)		9.0			9.7				17.2			16.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	432	0	0	442	273	161	1722	158	258	1668
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	432	0	0	442	0	434	1722	158	258	1668
Turn Type			Perm			Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA
Protected Phases							5	5	2		1	6
Permitted Phases			2 4 5 8			1	2	2		2	6	
Detector Phase			2 4 5 8			1	5	5	2	2	1	6
Switch Phase												
Minimum Initial (s)						5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)						15.0	15.0	15.0	24.0	24.0	15.0	24.0
Total Split (s)						28.0	33.0	33.0	68.0	68.0	28.0	63.0
Total Split (%)						23.3%	27.5%	27.5%	56.7%	56.7%	23.3%	52.5%
Yellow Time (s)						4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)						2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)						0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)						6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode						None	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)			85.8			22.2		74.1	74.1	74.1	69.7	69.7
Actuated g/C Ratio			0.72			0.18		0.62	0.62	0.62	0.58	0.58
v/c Ratio			0.38			0.85		0.94	0.80	0.16	0.67	0.82
Control Delay			8.7			32.7		45.4	8.6	0.4	32.1	16.9
Queue Delay			0.0			0.0		0.0	0.0	0.0	0.0	0.0
Total Delay			8.7			32.7		45.4	8.6	0.4	32.1	16.9
LOS			A			C		D	A	A	C	B
Approach Delay		8.7			32.7				14.9			17.3
Approach LOS		A			C				B			B
Queue Length 50th (ft)			107			133		251	150	0	131	411
Queue Length 95th (ft)			225			236		m#400	#810	m0	m182	m503

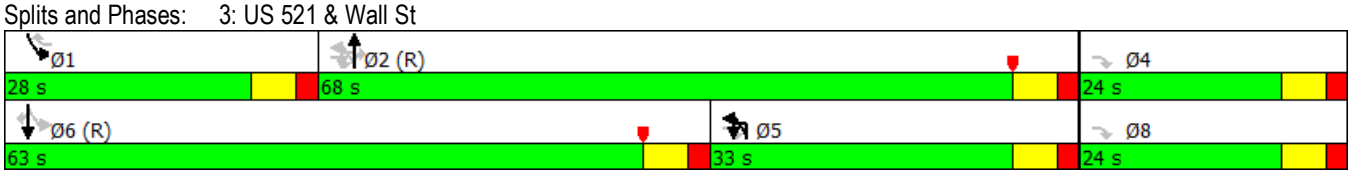
Lane Group	SBR	Ø4	Ø8
Lane Configurations			
Traffic Volume (vph)	215		
Future Volume (vph)	215		
Ideal Flow (vphpl)	1900		
Storage Length (ft)	150		
Storage Lanes	1		
Taper Length (ft)			
Lane Util. Factor	1.00		
Frt	0.850		
Flt Protected			
Satd. Flow (prot)	1568		
Flt Permitted			
Satd. Flow (perm)	1568		
Right Turn on Red	Yes		
Satd. Flow (RTOR)	109		
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor	0.90		
Adj. Flow (vph)	239		
Shared Lane Traffic (%)			
Lane Group Flow (vph)	239		
Turn Type	Perm		
Protected Phases		4	8
Permitted Phases	6		
Detector Phase	6		
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	24.0	11.0	24.0
Total Split (s)	63.0	24.0	24.0
Total Split (%)	52.5%	20%	20%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		
Total Lost Time (s)	6.0		
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Recall Mode	C-Min	None	None
Act Effct Green (s)	69.7		
Actuated g/C Ratio	0.58		
v/c Ratio	0.25		
Control Delay	3.8		
Queue Delay	0.0		
Total Delay	3.8		
LOS	A		
Approach Delay			
Approach LOS			
Queue Length 50th (ft)	17		
Queue Length 95th (ft)	m35		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		317			347				1057			1005
Turn Bay Length (ft)								500			350	
Base Capacity (vph)			1298			556		470	2164	1013	430	2034
Starvation Cap Reductn			0			0		0	0	0	0	0
Spillback Cap Reductn			0			0		0	0	0	0	0
Storage Cap Reductn			0			0		0	0	0	0	0
Reduced v/c Ratio			0.33			0.79		0.92	0.80	0.16	0.60	0.82

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 76 (63%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 16.8 Intersection LOS: B
Intersection Capacity Utilization 102.2% ICU Level of Service G
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 521 & Wall St



Lane Group	SBR	Ø4	Ø8
Internal Link Dist (ft)			
Turn Bay Length (ft)	150		
Base Capacity (vph)	956		
Starvation Cap Reductn	0		
Spillback Cap Reductn	0		
Storage Cap Reductn	0		
Reduced v/c Ratio	0.25		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	37	0	0	549	7	1301	256	233	284	1578
Future Volume (vph)	0	0	37	0	0	549	7	1301	256	233	284	1578
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0			6.0	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor			1.00			1.00	1.00	0.95	1.00		1.00	0.95
Frt			0.86			0.86	1.00	1.00	0.85		1.00	1.00
Flt Protected			1.00			1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)			1596			1596	1752	3505	1568		1752	3505
Flt Permitted			1.00			1.00	0.13	1.00	1.00		0.06	1.00
Satd. Flow (perm)			1596			1596	247	3505	1568		119	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	41	0	0	610	8	1446	284	259	316	1753
RTOR Reduction (vph)	0	0	38	0	0	0	0	0	120	0	0	0
Lane Group Flow (vph)	0	0	3	0	0	610	8	1446	164	0	575	1753
Turn Type			Perm			Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases							5	2		1	1	6
Permitted Phases			4			1 2 6 8	2		2	6	6	
Actuated Green, G (s)			8.6			120.0	57.1	55.9	55.9		99.4	92.2
Effective Green, g (s)			8.6			120.0	57.1	55.9	55.9		99.4	92.2
Actuated g/C Ratio			0.07			1.00	0.48	0.47	0.47		0.83	0.77
Clearance Time (s)			6.0				6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)			3.0				3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			114			1596	132	1632	730		608	2693
v/s Ratio Prot							0.00	0.41			c0.30	0.50
v/s Ratio Perm			0.00			c0.38	0.03		0.10		c0.49	
v/c Ratio			0.03			0.38	0.06	0.89	0.23		0.95	0.65
Uniform Delay, d1			51.8			0.0	17.0	29.2	19.1		35.2	6.4
Progression Factor			1.00			1.00	0.59	0.81	0.43		1.43	0.37
Incremental Delay, d2			0.1			0.2	0.2	6.5	0.6		17.6	0.8
Delay (s)			51.9			0.2	10.3	30.1	8.8		68.1	3.2
Level of Service			D			A	B	C	A		E	A
Approach Delay (s)		51.9			0.2			26.5				19.2
Approach LOS		D			A			C				B

Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	2
Future Volume (vph)	2
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	2
RTOR Reduction (vph)	0
Lane Group Flow (vph)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	92.2
Effective Green, g (s)	92.2
Actuated g/C Ratio	0.77
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1204
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.00
Uniform Delay, d1	3.2
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	3.2
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	37	0	0	549	7	1301	256	233	284	1578
Future Volume (vph)	0	0	37	0	0	549	7	1301	256	233	284	1578
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		250		500	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	100			100			100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt			0.865			0.865			0.850			
Flt Protected							0.950				0.950	
Satd. Flow (prot)	0	0	1596	0	0	1596	1752	3505	1568	0	1752	3505
Flt Permitted							0.134				0.065	
Satd. Flow (perm)	0	0	1596	0	0	1596	247	3505	1568	0	120	3505
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			146						224			
Link Speed (mph)		30			30			45				45
Link Distance (ft)		221			679			677				1137
Travel Time (s)		5.0			15.4			10.3				17.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	41	0	0	610	8	1446	284	259	316	1753
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	41	0	0	610	8	1446	284	0	575	1753
Turn Type			Perm			Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases							5	2		1	1	6
Permitted Phases			4			1 2 6 8	2		2	6	6	
Detector Phase			4			1 2 6 8	5	2	2	1	1	6
Switch Phase												
Minimum Initial (s)			5.0				5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)			15.0				15.0	22.0	22.0	15.0	15.0	22.0
Total Split (s)			15.0				15.0	60.0	60.0	45.0	45.0	90.0
Total Split (%)			12.5%				12.5%	50.0%	50.0%	37.5%	37.5%	75.0%
Yellow Time (s)			4.0				4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)			2.0				2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)			0.0				0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)			6.0				6.0	6.0	6.0		6.0	6.0
Lead/Lag							Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode			None				None	C-Min	C-Min	None	None	C-Min
Act Effct Green (s)			8.6			120.0	61.4	55.8	55.8		99.4	97.0
Actuated g/C Ratio			0.07			1.00	0.51	0.46	0.46		0.83	0.81
v/c Ratio			0.16			0.38	0.04	0.89	0.33		0.94	0.62
Control Delay			1.4			0.7	5.6	31.2	3.1		64.7	2.6
Queue Delay			0.0			0.0	0.0	0.0	0.0		0.0	0.0
Total Delay			1.4			0.7	5.6	31.2	3.1		64.7	2.6
LOS			A			A	A	C	A		E	A
Approach Delay		1.4			0.7			26.5				17.9
Approach LOS		A			A			C				B
Queue Length 50th (ft)			0			0	2	507	30		380	77
Queue Length 95th (ft)			0			0	m2	#607	m0		m#560	m144

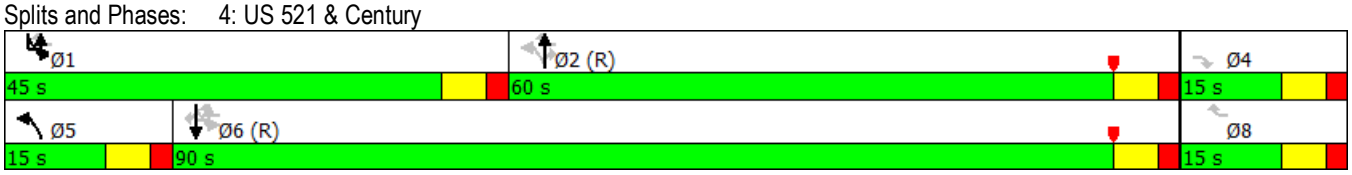
Lane Group	SBR	Ø8
Lane Configurations	↱	
Traffic Volume (vph)	2	
Future Volume (vph)	2	
Ideal Flow (vphpl)	1900	
Storage Length (ft)	0	
Storage Lanes	1	
Taper Length (ft)		
Lane Util. Factor	1.00	
Frt	0.850	
Flt Protected		
Satd. Flow (prot)	1568	
Flt Permitted		
Satd. Flow (perm)	1568	
Right Turn on Red	Yes	
Satd. Flow (RTOR)	82	
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor	0.90	
Adj. Flow (vph)	2	
Shared Lane Traffic (%)		
Lane Group Flow (vph)	2	
Turn Type	Perm	
Protected Phases		8
Permitted Phases	6	
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	22.0	15.0
Total Split (s)	90.0	15.0
Total Split (%)	75.0%	13%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.0	
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Recall Mode	C-Min	None
Act Effct Green (s)	97.0	
Actuated g/C Ratio	0.81	
v/c Ratio	0.00	
Control Delay	0.0	
Queue Delay	0.0	
Total Delay	0.0	
LOS	A	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	m0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Internal Link Dist (ft)		141			599			597				1057
Turn Bay Length (ft)							150		250		500	
Base Capacity (vph)			254			1569	246	1631	849		630	2833
Starvation Cap Reductn			0			0	0	0	0		0	0
Spillback Cap Reductn			0			0	0	0	0		0	0
Storage Cap Reductn			0			0	0	0	0		0	0
Reduced v/c Ratio			0.16			0.39	0.03	0.89	0.33		0.91	0.62

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 92 (77%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 18.7 Intersection LOS: B
Intersection Capacity Utilization 113.6% ICU Level of Service H
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: US 521 & Century



Lane Group	SBR	Ø8
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)	1283	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.00	

Intersection Summary

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	2	211	201	1339	0	0	854	758
Future Vol, veh/h	0	0	0	5	2	211	201	1339	0	0	854	758
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	300	-	-	-	-	200
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	6	2	234	223	1488	0	0	949	842

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2408	2883	744	949	0	-	-	-	0
Stage 1	1934	1934	-	-	-	-	-	-	-
Stage 2	474	949	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.56	6.96	4.16	-	-	-	-	-
Critical Hdwy Stg 1	5.86	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	2.23	-	-	-	-	-
Pot Cap-1 Maneuver	27	16	355	713	-	0	0	-	-
Stage 1	98	110	-	-	-	0	0	-	-
Stage 2	589	335	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	19	0	355	713	-	-	-	-	-
Mov Cap-2 Maneuver	19	0	-	-	-	-	-	-	-
Stage 1	67	0	-	-	-	-	-	-	-
Stage 2	589	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	41.1	1.6	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	713	-	19	355	-	-
HCM Lane V/C Ratio	0.313	-	0.409	0.66	-	-
HCM Control Delay (s)	12.3	-	290.8	32.8	-	-
HCM Lane LOS	B	-	F	D	-	-
HCM 95th %tile Q(veh)	1.3	-	1.1	4.5	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	801	3	252	0	0	0	0	712	9	7	227	626
Future Volume (veh/h)	801	3	252	0	0	0	0	712	9	7	227	626
Number	3	8	18				1	6	16		5	2
Initial Q (Qb), veh	0	0	0				0	0	0		0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1845	1845	1900				0	1845	1900		1845	1845
Adj Flow Rate, veh/h	890	3	0				0	791	0		252	696
Adj No. of Lanes	2	1	0				0	2	0		1	2
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90		0.90	0.90
Percent Heavy Veh, %	3	3	3				0	3	3		3	3
Cap, veh/h	952	515	0				0	2175	0		405	2175
Arrive On Green	0.28	0.28	0.00				0.00	0.62	0.00		1.00	1.00
Sat Flow, veh/h	3408	1845	0				0	3689	0		676	3597
Grp Volume(v), veh/h	890	3	0				0	791	0		252	696
Grp Sat Flow(s),veh/h/ln	1704	1845	0				0	1752	0		676	1752
Q Serve(g_s), s	30.6	0.1	0.0				0.0	13.3	0.0		20.0	0.0
Cycle Q Clear(g_c), s	30.6	0.1	0.0				0.0	13.3	0.0		33.2	0.0
Prop In Lane	1.00		0.00				0.00		0.00		1.00	
Lane Grp Cap(c), veh/h	952	515	0				0	2175	0		405	2175
V/C Ratio(X)	0.93	0.01	0.00				0.00	0.36	0.00		0.62	0.32
Avail Cap(c_a), veh/h	994	538	0				0	2175	0		405	2175
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00		2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	0.00		1.00	1.00
Uniform Delay (d), s/veh	42.2	31.2	0.0				0.0	11.2	0.0		3.0	0.0
Incr Delay (d2), s/veh	15.0	0.0	0.0				0.0	0.5	0.0		7.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	16.3	0.1	0.0				0.0	6.5	0.0		4.3	0.1
LnGrp Delay(d),s/veh	57.2	31.2	0.0				0.0	11.6	0.0		10.0	0.4
LnGrp LOS	E	C						B			B	A
Approach Vol, veh/h		893						791				948
Approach Delay, s/veh		57.1						11.6				2.9
Approach LOS		E						B				A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		80.5				80.5		39.5
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		73.0				73.0		35.0
Max Q Clear Time (g_c+I1), s		35.2				15.3		32.6
Green Ext Time (p_c), s		16.2				18.5		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.9
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Number	12
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Adj Sat Flow, veh/h/ln	0
Adj Flow Rate, veh/h	0
Adj No. of Lanes	0
Peak Hour Factor	0.90
Percent Heavy Veh, %	0
Cap, veh/h	0
Arrive On Green	0.00
Sat Flow, veh/h	0
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	0
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.00
Lane Grp Cap(c), veh/h	0
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	0
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer	

6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	801	3	252	0	0	0	0	712	9	7	227	626
Future Volume (vph)	801	3	252	0	0	0	0	712	9	7	227	626
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0		275	
Storage Lanes	2		0	0		0	0		0		1	
Taper Length (ft)	100			100			100				100	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Frt		0.852						0.998				
Flt Protected	0.950										0.950	
Satd. Flow (prot)	3400	1572	0	0	0	0	0	3498	0	0	1752	3505
Flt Permitted	0.950										0.308	
Satd. Flow (perm)	3400	1572	0	0	0	0	0	3498	0	0	568	3505
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		246						2				
Link Speed (mph)		45			45			45				45
Link Distance (ft)		406			964			1214				707
Travel Time (s)		6.2			14.6			18.4				10.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	890	3	280	0	0	0	0	791	10	8	252	696
Shared Lane Traffic (%)												
Lane Group Flow (vph)	890	283	0	0	0	0	0	801	0	0	260	696
Turn Type	Perm	NA						NA		Perm	Perm	NA
Protected Phases		8						6				2
Permitted Phases	8									2	2	
Detector Phase	8	8						6		2	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	5.0
Minimum Split (s)	15.0	15.0						22.0		22.0	22.0	22.0
Total Split (s)	41.0	41.0						79.0		79.0	79.0	79.0
Total Split (%)	34.2%	34.2%						65.8%		65.8%	65.8%	65.8%
Yellow Time (s)	4.0	4.0						4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0						6.0			6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None						C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	35.5	35.5						72.5			72.5	72.5
Actuated g/C Ratio	0.30	0.30						0.60			0.60	0.60
v/c Ratio	0.88	0.44						0.38			0.76	0.33
Control Delay	51.8	8.6						12.9			27.6	8.2
Queue Delay	0.0	0.0						0.0			0.0	0.0
Total Delay	51.8	8.6						12.9			27.6	8.2
LOS	D	A						B			C	A
Approach Delay		41.4						12.9				13.4
Approach LOS		D						B				B
Queue Length 50th (ft)	321	20						172			79	56
Queue Length 95th (ft)	#454	93						194			#320	123

6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.90
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

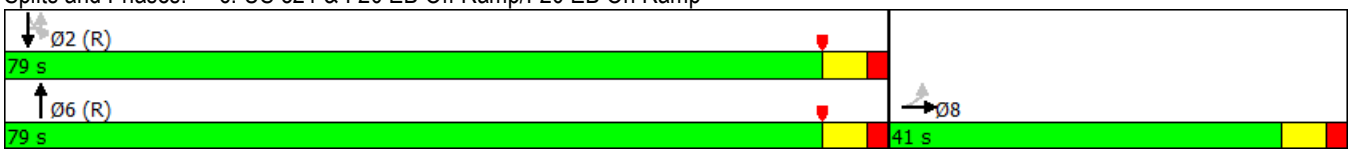
6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Internal Link Dist (ft)		326			884			1134				627
Turn Bay Length (ft)											275	
Base Capacity (vph)	1025	645						2147			348	2151
Starvation Cap Reductn	0	0						0			0	0
Spillback Cap Reductn	0	0						0			0	0
Storage Cap Reductn	0	0						0			0	0
Reduced v/c Ratio	0.87	0.44						0.37			0.75	0.32

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 8 (7%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 24.5 Intersection LOS: C
Intersection Capacity Utilization 71.4% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp



Lane Group	SBR
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	129	977	1512	34	22	107
Future Vol, veh/h	129	977	1512	34	22	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	143	1086	1680	38	24	119

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1718	0	-	0	2528	859
Stage 1	-	-	-	-	1699	-
Stage 2	-	-	-	-	829	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	360	-	-	-	~ 22	298
Stage 1	-	-	-	-	132	-
Stage 2	-	-	-	-	386	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	360	-	-	-	~ 13	298
Mov Cap-2 Maneuver	-	-	-	-	~ 13	-
Stage 1	-	-	-	-	132	-
Stage 2	-	-	-	-	233	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	191.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	360	-	-	-	13	298
HCM Lane V/C Ratio	0.398	-	-	-	1.88	0.399
HCM Control Delay (s)	21.5	-	-	-	$ 1003	24.9
HCM Lane LOS	C	-	-	-	F	C
HCM 95th %tile Q(veh)	1.9	-	-	-	3.8	1.8

Notes

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

8: Black River Rd (S-12) & Hermitage Farm Rd

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	997	1531	0	1	3
Future Vol, veh/h	3	997	1531	0	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	3	1108	1701	0	1	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1701	0	-	0	2262	851
Stage 1	-	-	-	-	1701	-
Stage 2	-	-	-	-	561	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	366	-	-	-	34	301
Stage 1	-	-	-	-	132	-
Stage 2	-	-	-	-	532	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	366	-	-	-	34	301
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	132	-
Stage 2	-	-	-	-	528	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	22.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	366	-	-	-	206
HCM Lane V/C Ratio	0.009	-	-	-	0.022
HCM Control Delay (s)	14.9	-	-	-	22.9
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	701	180	179	837	8	550	0	539	1	0	36
Future Volume (veh/h)	41	701	180	179	837	8	550	0	539	1	0	36
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1845	1900	1845	1900
Adj Flow Rate, veh/h	46	779	0	199	930	9	611	0	0	1	0	40
Adj No. of Lanes	1	1	1	2	1	0	2	0	1	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	148	746	634	280	1021	10	644	0	287	1	0	57
Arrive On Green	0.40	0.40	0.00	0.08	0.56	0.56	0.18	0.00	0.00	0.04	0.00	0.04
Sat Flow, veh/h	588	1845	1568	3408	1824	18	3514	0	1568	38	0	1534
Grp Volume(v), veh/h	46	779	0	199	0	939	611	0	0	41	0	0
Grp Sat Flow(s),veh/h/ln	588	1845	1568	1704	0	1842	1757	0	1568	1572	0	0
Q Serve(g_s), s	6.2	33.1	0.0	4.7	0.0	37.5	14.1	0.0	0.0	2.1	0.0	0.0
Cycle Q Clear(g_c), s	31.0	33.1	0.0	4.7	0.0	37.5	14.1	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.02		0.98
Lane Grp Cap(c), veh/h	148	746	634	280	0	1031	644	0	287	58	0	0
V/C Ratio(X)	0.31	1.04	0.00	0.71	0.00	0.91	0.95	0.00	0.00	0.70	0.00	0.00
Avail Cap(c_a), veh/h	148	746	634	375	0	1080	644	0	287	173	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.8	24.4	0.0	36.6	0.0	16.2	33.0	0.0	0.0	39.0	0.0	0.0
Incr Delay (d2), s/veh	1.2	45.1	0.0	4.1	0.0	11.1	23.6	0.0	0.0	14.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	25.9	0.0	2.3	0.0	22.0	8.9	0.0	0.0	1.1	0.0	0.0
LnGrp Delay(d),s/veh	37.0	69.4	0.0	40.7	0.0	27.3	56.6	0.0	0.0	53.3	0.0	0.0
LnGrp LOS	D	F		D		C	E			D		
Approach Vol, veh/h		825			1138			611			41	
Approach Delay, s/veh		67.6			29.6			56.6			53.3	
Approach LOS		E			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		9.0		51.8		21.0	12.7	39.1
Change Period (Y+Rc), s		6.0		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		9.0		48.0		15.0	9.0	33.0
Max Q Clear Time (g_c+I1), s		4.1		39.5		16.1	6.7	35.1
Green Ext Time (p_c), s		0.0		6.3		0.0	0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	48.3
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	701	180	179	837	8	550	0	539	1	0	36
Future Volume (vph)	41	701	180	179	837	8	550	0	539	1	0	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		300	250		0	350		0	100		0
Storage Lanes	1		0	2		0	1		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850		0.868	
Flt Protected	0.950			0.950			0.950	0.950			0.999	
Satd. Flow (prot)	1752	1845	1568	3400	1843	0	1665	1665	1568	0	1600	0
Flt Permitted	0.138			0.950			0.950	0.950			0.999	
Satd. Flow (perm)	255	1845	1568	3400	1843	0	1665	1665	1568	0	1600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182		1				575		182	
Link Speed (mph)		45			45			30			25	
Link Distance (ft)		5109			4267			751			274	
Travel Time (s)		77.4			64.7			17.1			7.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	46	779	200	199	930	9	611	0	599	1	0	40
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	46	779	200	199	939	0	305	306	599	0	41	0
Turn Type	Perm	NA	Perm	Prot	NA		Split	NA	Free	Split	NA	
Protected Phases		8		7	4		6	6		2	2	
Permitted Phases	8		8						Free			
Detector Phase	8	8	8	7	4		6	6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.0	22.0	22.0	15.0	22.0		15.0	15.0		15.0	15.0	
Total Split (s)	39.0	39.0	39.0	15.0	54.0		21.0	21.0		15.0	15.0	
Total Split (%)	43.3%	43.3%	43.3%	16.7%	60.0%		23.3%	23.3%		16.7%	16.7%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0			6.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min		None	None		None	None	
Act Effct Green (s)	33.2	33.2	33.2	8.6	47.8		15.1	15.1	81.5		5.5	
Actuated g/C Ratio	0.41	0.41	0.41	0.11	0.59		0.19	0.19	1.00		0.07	
v/c Ratio	0.45	1.04	0.27	0.56	0.87		0.99	0.99	0.38		0.15	
Control Delay	37.0	70.3	4.9	42.1	26.5		86.6	87.4	0.7		1.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	37.0	70.3	4.9	42.1	26.5		86.6	87.4	0.7		1.1	
LOS	D	E	A	D	C		F	F	A		A	
Approach Delay		56.1			29.2			44.3			1.1	
Approach LOS		E			C			D			A	
Queue Length 50th (ft)	19	~490	6	54	432		~193	~194	0		0	
Queue Length 95th (ft)	#66	#706	48	88	#721		#357	#360	0		0	

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		5029			4187			671			194	
Turn Bay Length (ft)	150		300	250			350					
Base Capacity (vph)	103	751	746	377	1092		308	308	1568		339	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.45	1.04	0.27	0.53	0.86		0.99	0.99	0.38		0.12	

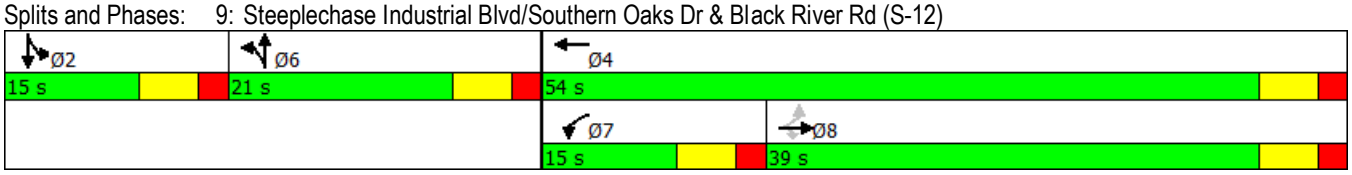
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 81.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 42.3 Intersection LOS: D
Intersection Capacity Utilization 85.6% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	298	997	760	118	122	179
Future Volume (veh/h)	298	997	760	118	122	179
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	331	1108	844	131	136	199
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	371	1328	1328	1129	211	188
Arrive On Green	0.72	0.72	0.72	0.72	0.12	0.12
Sat Flow, veh/h	569	1845	1845	1568	1757	1568
Grp Volume(v), veh/h	331	1108	844	131	136	199
Grp Sat Flow(s),veh/h/ln	569	1845	1845	1568	1757	1568
Q Serve(g_s), s	36.3	31.6	17.7	1.9	5.5	9.0
Cycle Q Clear(g_c), s	54.0	31.6	17.7	1.9	5.5	9.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	371	1328	1328	1129	211	188
V/C Ratio(X)	0.89	0.83	0.64	0.12	0.65	1.06
Avail Cap(c_a), veh/h	371	1328	1328	1129	211	188
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	7.4	5.4	3.2	31.5	33.0
Incr Delay (d2), s/veh	22.6	4.7	1.0	0.0	6.6	81.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	17.4	9.0	0.8	3.1	8.1
LnGrp Delay(d),s/veh	45.0	12.1	6.4	3.3	38.1	114.7
LnGrp LOS	D	B	A	A	D	F
Approach Vol, veh/h		1439	975		335	
Approach Delay, s/veh		19.7	6.0		83.6	
Approach LOS		B	A		F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				60.0		15.0		60.0
Change Period (Y+Rc), s				6.0		6.0		6.0
Max Green Setting (Gmax), s				54.0		9.0		54.0
Max Q Clear Time (g_c+I1), s				56.0		11.0		19.7
Green Ext Time (p_c), s				0.0		0.0		25.5

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

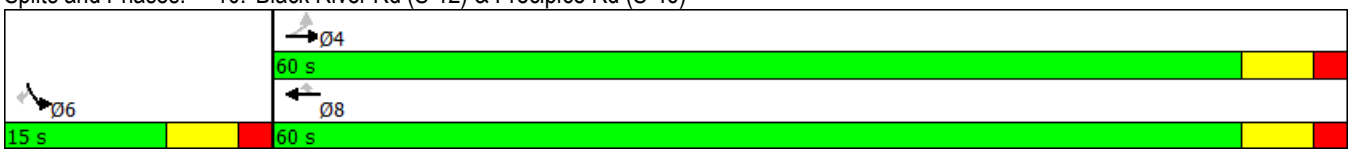
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	298	997	760	118	122	179
Future Volume (vph)	298	997	760	118	122	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			150	250	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1845	1845	1568	1752	1568
Flt Permitted	0.265				0.950	
Satd. Flow (perm)	489	1845	1845	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				131		199
Link Speed (mph)		45	45		45	
Link Distance (ft)		4267	2076		512	
Travel Time (s)		64.7	31.5		7.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	331	1108	844	131	136	199
Shared Lane Traffic (%)						
Lane Group Flow (vph)	331	1108	844	131	136	199
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.0	22.0	22.0	22.0	15.0	15.0
Total Split (s)	60.0	60.0	60.0	60.0	15.0	15.0
Total Split (%)	80.0%	80.0%	80.0%	80.0%	20.0%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	None	Min	Min
Act Effct Green (s)	50.6	50.6	50.6	50.6	8.6	8.6
Actuated g/C Ratio	0.71	0.71	0.71	0.71	0.12	0.12
v/c Ratio	0.95	0.85	0.64	0.11	0.65	0.55
Control Delay	52.7	15.6	8.3	0.9	47.5	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	15.6	8.3	0.9	47.5	11.5
LOS	D	B	A	A	D	B
Approach Delay		24.1	7.3		26.1	
Approach LOS		C	A		C	
Queue Length 50th (ft)	107	290	163	0	61	0
Queue Length 95th (ft)	#304	#523	259	12	#135	57

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Internal Link Dist (ft)		4187	1996		432	
Turn Bay Length (ft)	150			150	250	
Base Capacity (vph)	375	1415	1415	1233	224	374
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.78	0.60	0.11	0.61	0.53

Intersection Summary	
Area Type: Other	
Cycle Length: 75	
Actuated Cycle Length: 71.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 78.3%	ICU Level of Service D
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Black River Rd (S-12) & Precipice Rd (S-46)



11: Black River Rd (S-12) & Mount Olivet Rd (S-189)

Intersection	
Int Delay, s/veh	10.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	333	745	436	3	14	431
Future Vol, veh/h	333	745	436	3	14	431
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	370	828	484	3	16	479

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	488	0	-	0	2054	486
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	1568	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1070	-	-	-	60	579
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	188	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1070	-	-	-	39	579
Mov Cap-2 Maneuver	-	-	-	-	39	-
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	123	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	37.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1070	-	-	-	39	579
HCM Lane V/C Ratio	0.346	-	-	-	0.399	0.827
HCM Control Delay (s)	10.1	-	-	-	148.8	34.2
HCM Lane LOS	B	-	-	-	F	D
HCM 95th %tile Q(veh)	1.6	-	-	-	1.4	8.5

12: Black River Rd (S-12) & Cleveland School Rd (S-91)

Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	708	417	29	132	12
Future Vol, veh/h	14	708	417	29	132	12
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	16	787	463	32	147	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	496	0	-	0	1297	479
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	818	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1063	-	-	-	178	585
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	432	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1063	-	-	-	173	585
Mov Cap-2 Maneuver	-	-	-	-	173	-
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	420	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	87.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1063	-	-	-	184
HCM Lane V/C Ratio	0.015	-	-	-	0.87
HCM Control Delay (s)	8.4	0	-	-	87.5
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	6.4

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	61	6	9	33	80	150
Future Vol, veh/h	61	6	9	33	80	150
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	68	7	10	37	89	167

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	47	0	-	0	170	28
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	142	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1554	-	-	-	818	1044
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	883	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1554	-	-	-	782	1044
Mov Cap-2 Maneuver	-	-	-	-	782	-
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	844	-

Approach	EB	WB	SB
HCM Control Delay, s	6.8	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1554	-	-	-	935
HCM Lane V/C Ratio	0.044	-	-	-	0.273
HCM Control Delay (s)	7.4	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	247	1	55	0	0	0	0	83	12	230	170	0
Future Vol, veh/h	247	1	55	0	0	0	0	83	12	230	170	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	525	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	274	1	61	0	0	0	0	92	13	256	189	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	792	792	189	-	0	0	92	0	0
Stage 1	700	700	-	-	-	-	-	-	-
Stage 2	92	92	-	-	-	-	-	-	-
Critical Hdwy	6.43	6.53	6.23	-	-	-	4.13	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	-	-	-	2.227	-	-
Pot Cap-1 Maneuver	357	320	850	0	-	-	1496	-	0
Stage 1	491	440	-	0	-	-	-	-	0
Stage 2	929	817	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	296	0	850	-	-	-	1496	-	-
Mov Cap-2 Maneuver	296	0	-	-	-	-	-	-	-
Stage 1	407	0	-	-	-	-	-	-	-
Stage 2	929	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	5.8	0	4.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	4683	1496	-
HCM Lane V/C Ratio	-	-	0.013	0.171	-
HCM Control Delay (s)	-	-	5.8	7.9	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.6	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	11	0	103	20	309	0	0	390	474
Future Vol, veh/h	0	0	0	11	0	103	20	309	0	0	390	474
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	-	525	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	12	0	114	22	343	0	0	433	527

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	821	821	343	433	0	-	-	-	0
Stage 1	388	388	-	-	-	-	-	-	-
Stage 2	433	433	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	4.13	-	-	-	-	-
Critical Hdwy Stg 1	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	2.227	-	-	-	-	-
Pot Cap-1 Maneuver	292	308	697	1121	-	0	0	-	-
Stage 1	634	607	-	-	-	0	0	-	-
Stage 2	599	580	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	288	302	697	1121	-	-	-	-	-
Mov Cap-2 Maneuver	404	400	-	-	-	-	-	-	-
Stage 1	622	595	-	-	-	-	-	-	-
Stage 2	599	580	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1121	-	771	-	-
HCM Lane V/C Ratio	0.02	-	0.164	-	-
HCM Control Delay (s)	8.3	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	9	574	7	6	0	237	165	13	2	283	72
Future Volume (veh/h)	142	9	574	7	6	0	237	165	13	2	283	72
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	158	10	638	8	7	0	263	183	14	2	314	80
Adj No. of Lanes	0	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	545	32	747	293	630	0	407	837	64	423	394	100
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.00	0.14	0.49	0.49	0.28	0.28	0.28
Sat Flow, veh/h	1316	93	1568	772	1845	0	1757	1692	129	1169	1419	362
Grp Volume(v), veh/h	168	0	638	8	7	0	263	0	197	2	0	394
Grp Sat Flow(s),veh/h/ln	1409	0	1568	772	1845	0	1757	0	1822	1169	0	1781
Q Serve(g_s), s	6.4	0.0	25.0	0.6	0.2	0.0	7.2	0.0	4.5	0.1	0.0	15.0
Cycle Q Clear(g_c), s	6.5	0.0	25.0	7.1	0.2	0.0	7.2	0.0	4.5	0.1	0.0	15.0
Prop In Lane	0.94		1.00	1.00		0.00	1.00		0.07	1.00		0.20
Lane Grp Cap(c), veh/h	576	0	747	293	630	0	407	0	901	423	0	495
V/C Ratio(X)	0.29	0.00	0.85	0.03	0.01	0.00	0.65	0.00	0.22	0.00	0.00	0.80
Avail Cap(c_a), veh/h	576	0	747	293	630	0	1057	0	2065	737	0	973
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.0	0.0	16.9	20.7	15.9	0.0	16.2	0.0	10.5	19.1	0.0	24.5
Incr Delay (d2), s/veh	0.3	0.0	9.5	0.0	0.0	0.0	1.7	0.0	0.1	0.0	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	13.2	0.1	0.1	0.0	3.6	0.0	2.3	0.0	0.0	7.7
LnGrp Delay(d),s/veh	18.3	0.0	26.4	20.7	16.0	0.0	17.9	0.0	10.6	19.1	0.0	27.5
LnGrp LOS	B		C	C	B		B		B	B		C
Approach Vol, veh/h		806			15			460			396	
Approach Delay, s/veh		24.7			18.5			14.8			27.5	
Approach LOS		C			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	15.9	26.3		31.0		42.2		31.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	37.0	40.0		25.0		83.0		25.0
Max Q Clear Time (g_c+I1), s	9.2	17.0		9.1		6.5		27.0
Green Ext Time (p_c), s	0.7	3.3		3.2		3.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

16: Dr Humphries Rd & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	9	574	7	6	0	237	165	13	2	283	72
Future Volume (vph)	142	9	574	7	6	0	237	165	13	2	283	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	300		0	150		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.989			0.970	
Flt Protected		0.955		0.950			0.950			0.950		
Satd. Flow (prot)	0	1762	1568	1752	1845	0	1752	1824	0	1752	1789	0
Flt Permitted		0.734		0.651			0.280			0.634		
Satd. Flow (perm)	0	1354	1568	1201	1845	0	517	1824	0	1170	1789	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			321					7			11	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		810			829			482			3375	
Travel Time (s)		12.3			12.6			7.3			51.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	158	10	638	8	7	0	263	183	14	2	314	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	168	638	8	7	0	263	197	0	2	394	0
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8	1		4		1	6			2	
Permitted Phases	8		8	4			6			2		
Detector Phase	8	8	1	4	4		1	6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		15.0	22.0		22.0	22.0	
Total Split (s)	31.0	31.0	43.0	31.0	31.0		43.0	89.0		46.0	46.0	
Total Split (%)	25.8%	25.8%	35.8%	25.8%	25.8%		35.8%	74.2%		38.3%	38.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		14.8	34.1	14.8	14.8		39.9	39.9		20.7	20.7	
Actuated g/C Ratio		0.22	0.50	0.22	0.22		0.59	0.59		0.31	0.31	
v/c Ratio		0.57	0.67	0.03	0.02		0.49	0.18		0.01	0.71	
Control Delay		34.2	10.3	25.0	24.8		10.3	6.9		19.5	29.4	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		34.2	10.3	25.0	24.8		10.3	6.9		19.5	29.4	
LOS		C	B	C	C		B	A		B	C	
Approach Delay		15.3			24.9			8.8			29.3	
Approach LOS		B			C			A			C	
Queue Length 50th (ft)		59	74	3	2		43	30		1	130	
Queue Length 95th (ft)		156	242	15	14		105	76		6	303	

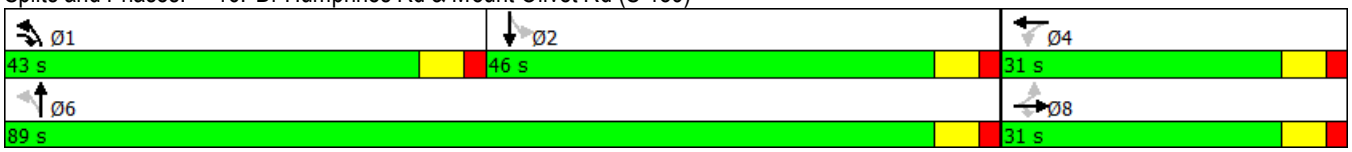
16: Dr Humphries Rd & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		730			749			402			3295	
Turn Bay Length (ft)				150			300			150		
Base Capacity (vph)		534	1412	474	728		1061	1767		739	1134	
Starvation Cap Reductn		0	0	0	0		0	0		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.31	0.45	0.02	0.01		0.25	0.11		0.00	0.35	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 67.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 16.9 Intersection LOS: B
Intersection Capacity Utilization 74.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 16: Dr Humphries Rd & Mount Olivet Rd (S-189)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	9	574	7	6	0	237	165	13	2	283	72
Future Volume (vph)	142	9	574	7	6	0	237	165	13	2	283	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00		1.00	0.99		1.00	0.97	
Flt Protected		0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1762	1568	1752	1845		1752	1825		1752	1788	
Flt Permitted		0.73	1.00	0.65	1.00		0.28	1.00		0.63	1.00	
Satd. Flow (perm)		1354	1568	1201	1845		517	1825		1169	1788	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	158	10	638	8	7	0	263	183	14	2	314	80
RTOR Reduction (vph)	0	0	188	0	0	0	0	3	0	0	8	0
Lane Group Flow (vph)	0	168	450	8	7	0	263	194	0	2	386	0
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8	1		4		1	6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)		14.9	27.7	14.9	14.9		40.0	40.0		21.2	21.2	
Effective Green, g (s)		14.9	27.7	14.9	14.9		40.0	40.0		21.2	21.2	
Actuated g/C Ratio		0.22	0.41	0.22	0.22		0.60	0.60		0.32	0.32	
Clearance Time (s)		6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		301	789	267	410		545	1091		370	566	
v/s Ratio Prot			c0.11		0.00		0.09	0.11			c0.22	
v/s Ratio Perm		0.12	0.18	0.01			0.20			0.00		
v/c Ratio		0.56	0.57	0.03	0.02		0.48	0.18		0.01	0.68	
Uniform Delay, d1		23.1	15.0	20.3	20.3		8.0	6.1		15.6	19.9	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.2	1.0	0.0	0.0		0.7	0.1		0.0	3.4	
Delay (s)		25.3	16.0	20.4	20.3		8.7	6.1		15.6	23.3	
Level of Service		C	B	C	C		A	A		B	C	
Approach Delay (s)		18.0			20.3			7.6			23.3	
Approach LOS		B			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	28.7
Intersection LOS	D

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	10	218	59	0	59	164	10	0	196	198	77	0	20	101	6
Future Vol, veh/h	0	10	218	59	0	59	164	10	0	196	198	77	0	20	101	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	11	242	66	0	66	182	11	0	218	220	86	0	22	112	7
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19.3	17.3	44.2	13.3
HCM LOS	C	C	E	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	42%	3%	25%	16%
Vol Thru, %	42%	76%	70%	80%
Vol Right, %	16%	21%	4%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	471	287	233	127
LT Vol	196	10	59	20
Through Vol	198	218	164	101
RT Vol	77	59	10	6
Lane Flow Rate	523	319	259	141
Geometry Grp	1	1	1	1
Degree of Util (X)	0.911	0.595	0.511	0.288
Departure Headway (Hd)	6.265	6.823	7.103	7.358
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	576	533	510	490
Service Time	4.358	4.823	5.103	5.377
HCM Lane V/C Ratio	0.908	0.598	0.508	0.288
HCM Control Delay	44.2	19.3	17.3	13.3
HCM Lane LOS	E	C	C	B
HCM 95th-tile Q	11.1	3.9	2.9	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	852	265	239	1380	274	254
Future Volume (veh/h)	852	265	239	1380	274	254
Number	8	18	7	4	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	947	0	266	1533	304	282
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	2004	897	443	2462	347	436
Arrive On Green	0.57	0.00	0.08	0.70	0.20	0.20
Sat Flow, veh/h	3597	1568	1757	3597	1757	1568
Grp Volume(v), veh/h	947	0	266	1533	304	282
Grp Sat Flow(s),veh/h/ln	1752	1568	1757	1752	1757	1568
Q Serve(g_s), s	19.0	0.0	7.1	27.8	20.1	19.0
Cycle Q Clear(g_c), s	19.0	0.0	7.1	27.8	20.1	19.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2004	897	443	2462	347	436
V/C Ratio(X)	0.47	0.00	0.60	0.62	0.88	0.65
Avail Cap(c_a), veh/h	2004	897	623	2462	483	558
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	11.1	9.4	46.7	38.1
Incr Delay (d2), s/veh	0.4	0.0	1.3	1.2	12.5	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	0.0	3.6	13.6	11.0	16.3
LnGrp Delay(d),s/veh	15.5	0.0	12.4	10.6	59.2	39.8
LnGrp LOS	B		B	B	E	D
Approach Vol, veh/h	947			1799	586	
Approach Delay, s/veh	15.5			10.9	49.9	
Approach LOS	B			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				90.3		29.7	15.7	74.6
Change Period (Y+Rc), s				6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s				75.0		33.0	22.0	47.0
Max Q Clear Time (g_c+I1), s				29.8		22.1	9.1	21.0
Green Ext Time (p_c), s				28.6		1.6	0.6	19.5

Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

29: Tech College/Shopping & Black River Rd (S-12)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	852	265	239	1380	274	254
Future Volume (vph)	852	265	239	1380	274	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		250	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1568	1752	3505	1752	1568
Flt Permitted			0.204		0.950	
Satd. Flow (perm)	3505	1568	376	3505	1752	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		159				42
Link Speed (mph)	45			45	30	
Link Distance (ft)	1830			880	1149	
Travel Time (s)	27.7			13.3	26.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	947	294	266	1533	304	282
Shared Lane Traffic (%)						
Lane Group Flow (vph)	947	294	266	1533	304	282
Turn Type	NA	Free	pm+pt	NA	Prot	pm+ov
Protected Phases	8		7	4	6	7
Permitted Phases		Free	4			6
Detector Phase	8		7	4	6	7
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	24.0		15.0	22.0	24.0	15.0
Total Split (s)	53.0		28.0	81.0	39.0	28.0
Total Split (%)	44.2%		23.3%	67.5%	32.5%	23.3%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min		None	C-Min	None	None
Act Effct Green (s)	62.2	120.0	82.2	82.2	25.8	45.8
Actuated g/C Ratio	0.52	1.00	0.68	0.68	0.22	0.38
v/c Ratio	0.52	0.19	0.64	0.64	0.81	0.45
Control Delay	11.4	0.2	15.4	13.0	60.9	24.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.4	0.2	15.4	13.0	60.9	24.1
LOS	B	A	B	B	E	C
Approach Delay	8.8			13.3	43.2	
Approach LOS	A			B	D	
Queue Length 50th (ft)	104	0	70	320	225	139
Queue Length 95th (ft)	m315	m0	128	469	306	168

29: Tech College/Shopping & Black River Rd (S-12)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Internal Link Dist (ft)	1750			800	1069	
Turn Bay Length (ft)		200	250		250	
Base Capacity (vph)	1817	1568	509	2400	481	725
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.19	0.52	0.64	0.63	0.39

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 80 (67%), Referenced to phase 4:WBTL and 8:EBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 67.0%	ICU Level of Service C
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 29: Tech College/Shopping & Black River Rd (S-12)

Appendix J 2040 Build Scenario 2 Level of Service

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	392	247	576	1033	7
Future Volume (veh/h)	3	392	247	576	1033	7
Number	3	18	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	3	436	274	640	1148	8
Adj No. of Lanes	1	2	1	2	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	98	1137	742	2843	1385	10
Arrive On Green	0.06	0.06	0.36	0.81	0.39	0.39
Sat Flow, veh/h	1757	2760	1757	3597	3660	25
Grp Volume(v), veh/h	3	436	274	640	564	592
Grp Sat Flow(s),veh/h/ln	1757	1380	1757	1752	1752	1840
Q Serve(g_s), s	0.1	0.0	3.6	3.8	26.1	26.1
Cycle Q Clear(g_c), s	0.1	0.0	3.6	3.8	26.1	26.1
Prop In Lane	1.00	1.00	1.00			0.01
Lane Grp Cap(c), veh/h	98	1137	742	2843	680	714
V/C Ratio(X)	0.03	0.38	0.37	0.23	0.83	0.83
Avail Cap(c_a), veh/h	176	1259	742	2843	857	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.89	0.89	1.00	1.00
Uniform Delay (d), s/veh	40.2	18.5	18.6	2.0	24.8	24.8
Incr Delay (d2), s/veh	0.1	0.2	0.3	0.2	11.2	10.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.8	4.7	1.8	14.6	15.3
LnGrp Delay(d),s/veh	40.3	18.7	18.9	2.1	36.0	35.6
LnGrp LOS	D	B	B	A	D	D
Approach Vol, veh/h	439			914	1156	
Approach Delay, s/veh	18.8			7.1	35.8	
Approach LOS	B			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	38.1	40.9				79.0		11.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	19.0	44.0				69.0		9.0
Max Q Clear Time (g_c+I1), s	5.6	28.1				5.8		2.1
Green Ext Time (p_c), s	4.0	6.8				5.4		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	392	247	576	1033	7
Future Volume (vph)	3	392	247	576	1033	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	200	300			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	0.88	1.00	0.95	0.95	0.95
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1752	2760	1752	3505	3501	0
Flt Permitted	0.950		0.194			
Satd. Flow (perm)	1752	2760	358	3505	3501	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		82			1	
Link Speed (mph)	45			45	35	
Link Distance (ft)	743			3562	1732	
Travel Time (s)	11.3			54.0	33.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	3	436	274	640	1148	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	436	274	640	1156	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	8	1	1	6	2	
Permitted Phases		8	6			
Detector Phase	8	1	1	6	2	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	15.0	15.0	15.0	22.0	22.0	
Total Split (s)	15.0	25.0	25.0	75.0	50.0	
Total Split (%)	16.7%	27.8%	27.8%	83.3%	55.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	C-Min	C-Min	
Act Effct Green (s)	5.8	19.3	81.5	86.3	58.7	
Actuated g/C Ratio	0.06	0.21	0.91	0.96	0.65	
v/c Ratio	0.03	0.66	0.47	0.19	0.51	
Control Delay	39.7	30.2	6.3	0.7	10.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	39.7	30.2	6.3	0.7	10.4	
LOS	D	C	A	A	B	
Approach Delay	30.2			2.4	10.4	
Approach LOS	C			A	B	
Queue Length 50th (ft)	2	107	11	0	148	
Queue Length 95th (ft)	10	131	58	45	302	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	663			3482	1652	
Turn Bay Length (ft)	100	200	300			
Base Capacity (vph)	175	731	633	3362	2283	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.02	0.60	0.43	0.19	0.51	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 38 (42%), Referenced to phase 2:SBT and 6:NBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 10.9	Intersection LOS: B
Intersection Capacity Utilization 61.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: US 521 & Ehrenclou Dr

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	299	421	41	686	233	420	907
Future Volume (veh/h)	299	421	41	686	233	420	907
Number	7	14		6	16	5	2
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845		1845	1845	1845	1845
Adj Flow Rate, veh/h	332	468		762	0	467	1008
Adj No. of Lanes	2	2		2	1	2	2
Peak Hour Factor	0.90	0.90		0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3		3	3	3	3
Cap, veh/h	592	937		1614	994	565	2429
Arrive On Green	0.17	0.17		0.92	0.00	0.17	0.69
Sat Flow, veh/h	3408	2760		3597	1568	3408	3597
Grp Volume(v), veh/h	332	468		762	0	467	1008
Grp Sat Flow(s),veh/h/ln	1704	1380		1752	1568	1704	1752
Q Serve(g_s), s	8.0	12.1		2.7	0.0	11.9	11.2
Cycle Q Clear(g_c), s	8.0	12.1		2.7	0.0	11.9	11.2
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	592	937		1614	994	565	2429
V/C Ratio(X)	0.56	0.50		0.47	0.00	0.83	0.42
Avail Cap(c_a), veh/h	720	1040		1614	994	795	2429
HCM Platoon Ratio	1.00	1.00		2.00	2.00	1.00	1.00
Upstream Filter(I)	0.85	0.85		0.93	0.00	0.82	0.82
Uniform Delay (d), s/veh	34.0	23.6		2.0	0.0	36.3	6.0
Incr Delay (d2), s/veh	0.7	0.4		0.9	0.0	4.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	9.7		1.3	0.0	5.9	5.5
LnGrp Delay(d),s/veh	34.8	24.0		3.0	0.0	40.4	6.4
LnGrp LOS	C	C		A		D	A
Approach Vol, veh/h	800			762			1475
Approach Delay, s/veh	28.5			3.0			17.2
Approach LOS	C			A			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		68.4		21.6	20.9	47.4		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		44.0		19.0	21.0	32.0		
Max Q Clear Time (g_c+I1), s		13.2		14.1	13.9	4.7		
Green Ext Time (p_c), s		7.6		1.5	1.0	5.2		

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Notes

User approved ignoring U-Turning movement.

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	299	421	41	686	233	420	907
Future Volume (vph)	299	421	41	686	233	420	907
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	300	200		450	300	
Storage Lanes	1	1	1		1	2	
Taper Length (ft)	100		100			100	
Lane Util. Factor	0.97	0.88	1.00	0.95	1.00	0.97	0.95
Frt		0.850			0.850		
Flt Protected	0.950		0.950			0.950	
Satd. Flow (prot)	3400	2760	1752	3505	1568	3400	3505
Flt Permitted	0.950		0.284			0.950	
Satd. Flow (perm)	3400	2760	524	3505	1568	3400	3505
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		109			76		
Link Speed (mph)	45			45			45
Link Distance (ft)	1830			1085			3562
Travel Time (s)	27.7			16.4			54.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	332	468	46	762	259	467	1008
Shared Lane Traffic (%)							
Lane Group Flow (vph)	332	468	46	762	259	467	1008
Turn Type	Prot	pm+ov	pm+pt	NA	pm+ov	Prot	NA
Protected Phases	4	5	1	6	4	5	2
Permitted Phases		4	6		6		
Detector Phase	4	5	1	6	4	5	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	15.0	15.0	24.0	24.0	15.0	22.0
Total Split (s)	25.0	27.0	15.0	38.0	25.0	27.0	50.0
Total Split (%)	27.8%	30.0%	16.7%	42.2%	27.8%	30.0%	55.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lead	Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	14.2	38.2	39.8	39.8	60.0	18.0	52.5
Actuated g/C Ratio	0.16	0.42	0.44	0.44	0.67	0.20	0.58
v/c Ratio	0.62	0.38	0.12	0.49	0.24	0.69	0.49
Control Delay	36.6	14.2	13.2	12.6	1.0	35.0	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	14.2	13.2	12.6	1.0	35.0	13.0
LOS	D	B	B	B	A	C	B
Approach Delay	23.5			9.8			20.0
Approach LOS	C			A			B
Queue Length 50th (ft)	94	85	7	65	0	132	241
Queue Length 95th (ft)	130	125	22	144	0	135	144

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	1750			1005			3482
Turn Bay Length (ft)	300	300	200		450	300	
Base Capacity (vph)	717	1323	387	1550	1150	796	2069
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.35	0.12	0.49	0.23	0.59	0.49

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 86 (96%), Referenced to phase 2:SBT and 6:NBTU, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 17.6 Intersection LOS: B
Intersection Capacity Utilization 54.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: US 521 & Black River Rd (S-12)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	73	0	0	121	156	49	1033	40	81	1194
Future Volume (vph)	0	0	73	0	0	121	156	49	1033	40	81	1194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0			6.0		6.0	6.0	6.0	6.0	6.0
Lane Util. Factor			1.00			1.00		1.00	0.95	1.00	1.00	0.95
Frt			0.86			0.86		1.00	1.00	0.85	1.00	1.00
Flt Protected			1.00			1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)			1596			1596		1752	3505	1568	1752	3505
Flt Permitted			1.00			1.00		0.19	1.00	1.00	0.18	1.00
Satd. Flow (perm)			1596			1596		358	3505	1568	333	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	81	0	0	134	173	54	1148	44	90	1327
RTOR Reduction (vph)	0	0	6	0	0	124	0	0	0	13	0	0
Lane Group Flow (vph)	0	0	75	0	0	10	0	227	1148	31	90	1327
Turn Type			Perm			Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA
Protected Phases							5	5	2		1	6
Permitted Phases			2 4 5 8			1	2	2		2	6	
Actuated Green, G (s)			80.5			7.5		70.0	70.0	70.0	63.8	63.8
Effective Green, g (s)			80.5			7.5		70.0	70.0	70.0	63.8	63.8
Actuated g/C Ratio			0.80			0.08		0.70	0.70	0.70	0.64	0.64
Clearance Time (s)						6.0		6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)						3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)			1284			119		441	2453	1097	318	2236
v/s Ratio Prot								0.07	c0.33		0.02	c0.38
v/s Ratio Perm			c0.05			0.01		0.29		0.02	0.16	
v/c Ratio			0.06			0.08		0.51	0.47	0.03	0.28	0.59
Uniform Delay, d1			2.0			43.1		13.8	6.7	4.6	8.3	10.5
Progression Factor			1.00			1.00		0.64	0.56	1.00	0.62	0.60
Incremental Delay, d2			0.0			0.3		1.0	0.6	0.0	0.4	1.0
Delay (s)			2.0			43.4		9.8	4.3	4.6	5.6	7.4
Level of Service			A			D		A	A	A	A	A
Approach Delay (s)		2.0			43.4				5.2			6.9
Approach LOS		A			D				A			A

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	71
Future Volume (vph)	71
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	79
RTOR Reduction (vph)	29
Lane Group Flow (vph)	50
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	63.8
Effective Green, g (s)	63.8
Actuated g/C Ratio	0.64
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1000
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.05
Uniform Delay, d1	6.8
Progression Factor	0.19
Incremental Delay, d2	0.1
Delay (s)	1.3
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

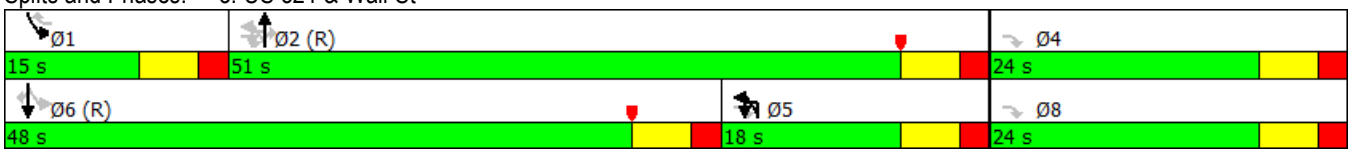
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	73	0	0	121	158	49	841	40	81	1176
Future Volume (vph)	0	0	73	0	0	121	158	49	841	40	81	1176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0		500		0	350	
Storage Lanes	0		1	0		1		1		1	1	
Taper Length (ft)	100			100				100			100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95
Frt			0.865			0.865				0.850		
Flt Protected								0.950			0.950	
Satd. Flow (prot)	0	0	1596	0	0	1596	0	1752	3505	1568	1752	3505
Flt Permitted								0.202			0.234	
Satd. Flow (perm)	0	0	1596	0	0	1596	0	373	3505	1568	432	3505
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			36			407				109		
Link Speed (mph)		30			30				45			45
Link Distance (ft)		397			427				1137			1085
Travel Time (s)		9.0			9.7				17.2			16.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	81	0	0	134	176	54	934	44	90	1307
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	81	0	0	134	0	230	934	44	90	1307
Turn Type			Perm			Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA
Protected Phases							5	5	2		1	6
Permitted Phases			2 4 5 8			1	2	2		2	6	
Detector Phase			2 4 5 8			1	5	5	2	2	1	6
Switch Phase												
Minimum Initial (s)						5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)						15.0	15.0	15.0	24.0	24.0	15.0	24.0
Total Split (s)						15.0	18.0	18.0	51.0	51.0	15.0	48.0
Total Split (%)						16.7%	20.0%	20.0%	56.7%	56.7%	16.7%	53.3%
Yellow Time (s)						4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)						2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)						0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)						6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode						None	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)			72.8			7.5		61.3	61.3	61.3	56.3	56.3
Actuated g/C Ratio			0.81			0.08		0.68	0.68	0.68	0.63	0.63
v/c Ratio			0.06			0.27		0.52	0.39	0.04	0.24	0.60
Control Delay			1.6			1.3		12.9	3.2	0.1	5.3	6.0
Queue Delay			0.0			0.0		0.0	0.0	0.0	0.0	0.0
Total Delay			1.6			1.3		12.9	3.2	0.1	5.3	6.0
LOS			A			A		B	A	A	A	A
Approach Delay		1.6			1.3				4.9			5.7
Approach LOS		A			A				A			A
Queue Length 50th (ft)			4			0		38	70	0	5	42
Queue Length 95th (ft)			14			0		74	55	0	18	88

Lane Group	SBR	Ø4	Ø8
Lane Configurations			
Traffic Volume (vph)	71		
Future Volume (vph)	71		
Ideal Flow (vphpl)	1900		
Storage Length (ft)	150		
Storage Lanes	1		
Taper Length (ft)			
Lane Util. Factor	1.00		
Frt	0.850		
Flt Protected			
Satd. Flow (prot)	1568		
Flt Permitted			
Satd. Flow (perm)	1568		
Right Turn on Red	Yes		
Satd. Flow (RTOR)	109		
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor	0.90		
Adj. Flow (vph)	79		
Shared Lane Traffic (%)			
Lane Group Flow (vph)	79		
Turn Type	Perm		
Protected Phases		4	8
Permitted Phases	6		
Detector Phase	6		
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	24.0	11.0	24.0
Total Split (s)	48.0	24.0	24.0
Total Split (%)	53.3%	27%	27%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		
Total Lost Time (s)	6.0		
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Recall Mode	C-Min	None	None
Act Effct Green (s)	56.3		
Actuated g/C Ratio	0.63		
v/c Ratio	0.08		
Control Delay	0.4		
Queue Delay	0.0		
Total Delay	0.4		
LOS	A		
Approach Delay			
Approach LOS			
Queue Length 50th (ft)	0		
Queue Length 95th (ft)	2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Internal Link Dist (ft)		317			347				1057			1005
Turn Bay Length (ft)								500			350	
Base Capacity (vph)			1479			526		453	2387	1102	402	2191
Starvation Cap Reductn			0			0		0	0	0	0	0
Spillback Cap Reductn			0			0		0	0	0	0	0
Storage Cap Reductn			0			0		0	0	0	0	0
Reduced v/c Ratio			0.05			0.25		0.51	0.39	0.04	0.22	0.60

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 86 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 5.0	Intersection LOS: A
Intersection Capacity Utilization 63.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: US 521 & Wall St



Lane Group	SBR	Ø4	Ø8
Internal Link Dist (ft)			
Turn Bay Length (ft)	150		
Base Capacity (vph)	1021		
Starvation Cap Reductn	0		
Spillback Cap Reductn	0		
Storage Cap Reductn	0		
Reduced v/c Ratio	0.08		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	40	0	0	269	26	759	201	44	174	1186
Future Volume (vph)	0	0	40	0	0	269	26	759	201	44	174	1186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0			6.0	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor			1.00			1.00	1.00	0.95	1.00		1.00	0.95
Frt			0.86			0.86	1.00	1.00	0.85		1.00	1.00
Flt Protected			1.00			1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)			1596			1596	1752	3505	1568		1752	3505
Flt Permitted			1.00			1.00	0.16	1.00	1.00		0.30	1.00
Satd. Flow (perm)			1596			1596	302	3505	1568		549	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	44	0	0	299	29	843	223	49	193	1318
RTOR Reduction (vph)	0	0	41	0	0	0	0	0	94	0	0	0
Lane Group Flow (vph)	0	0	3	0	0	299	29	843	129	0	242	1318
Turn Type			Perm			Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases							5	2		1	1	6
Permitted Phases			4			1 2 6 8	2		2	6	6	
Actuated Green, G (s)			6.9			90.0	54.3	51.9	51.9		71.1	62.7
Effective Green, g (s)			6.9			90.0	54.3	51.9	51.9		71.1	62.7
Actuated g/C Ratio			0.08			1.00	0.60	0.58	0.58		0.79	0.70
Clearance Time (s)			6.0				6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)			3.0				3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			122			1596	220	2021	904		610	2441
v/s Ratio Prot							0.00	0.24			c0.06	c0.38
v/s Ratio Perm			0.00			c0.19	0.08		0.08		0.26	
v/c Ratio			0.03			0.19	0.13	0.42	0.14		0.40	0.54
Uniform Delay, d1			38.4			0.0	13.2	10.6	8.8		5.9	6.6
Progression Factor			1.00			1.00	1.15	1.01	1.72		0.35	0.27
Incremental Delay, d2			0.1			0.1	0.2	0.6	0.3		0.4	0.7
Delay (s)			38.5			0.1	15.4	11.2	15.4		2.4	2.5
Level of Service			D			A	B	B	B		A	A
Approach Delay (s)		38.5			0.1			12.2				2.5
Approach LOS		D			A			B				A

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	1
Future Volume (vph)	1
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	1
RTOR Reduction (vph)	0
Lane Group Flow (vph)	1
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	62.7
Effective Green, g (s)	62.7
Actuated g/C Ratio	0.70
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1092
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.00
Uniform Delay, d1	4.1
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	4.1
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	40	0	0	269	26	759	201	44	174	1186
Future Volume (vph)	0	0	40	0	0	269	26	759	201	44	174	1186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		250		500	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	100			100			100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt			0.865			0.865			0.850			
Flt Protected							0.950				0.950	
Satd. Flow (prot)	0	0	1596	0	0	1596	1752	3505	1568	0	1752	3505
Flt Permitted							0.164				0.297	
Satd. Flow (perm)	0	0	1596	0	0	1596	303	3505	1568	0	548	3505
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			218						223			
Link Speed (mph)		30			30			45				45
Link Distance (ft)		221			679			677				1137
Travel Time (s)		5.0			15.4			10.3				17.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	44	0	0	299	29	843	223	49	193	1318
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	44	0	0	299	29	843	223	0	242	1318
Turn Type			Perm			Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases							5	2		1	1	6
Permitted Phases			4			1 2 6 8	2		2	6	6	
Detector Phase			4			1 2 6 8	5	2	2	1	1	6
Switch Phase												
Minimum Initial (s)			5.0				5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)			15.0				15.0	22.0	22.0	15.0	15.0	22.0
Total Split (s)			15.0				15.0	55.0	55.0	20.0	20.0	60.0
Total Split (%)			16.7%				16.7%	61.1%	61.1%	22.2%	22.2%	66.7%
Yellow Time (s)			4.0				4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)			2.0				2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)			0.0				0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)			6.0				6.0	6.0	6.0		6.0	6.0
Lead/Lag							Lag	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode			None				None	C-Min	C-Min	None	None	C-Min
Act Effct Green (s)			6.9			90.0	61.2	55.5	55.5		71.1	66.3
Actuated g/C Ratio			0.08			1.00	0.68	0.62	0.62		0.79	0.74
v/c Ratio			0.14			0.19	0.10	0.39	0.21		0.43	0.51
Control Delay			0.9			0.3	4.7	10.3	3.2		3.6	2.3
Queue Delay			0.0			0.0	0.0	0.0	0.0		0.0	0.0
Total Delay			0.9			0.3	4.7	10.3	3.2		3.6	2.3
LOS			A			A	A	B	A		A	A
Approach Delay		0.9			0.3			8.7				2.5
Approach LOS		A			A			A				A
Queue Length 50th (ft)			0			0	4	97	3		12	36
Queue Length 95th (ft)			0			0	m7	231	m29		15	36

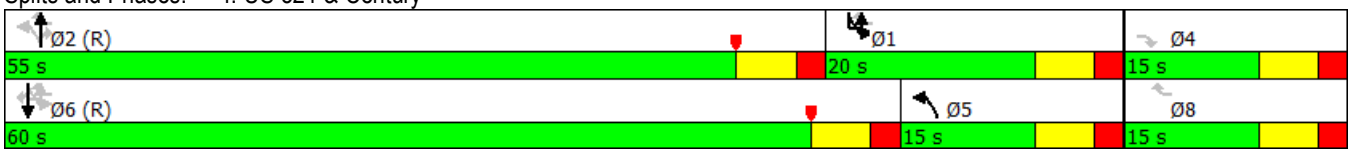
Lane Group	SBR	Ø8
Lane Configurations	↱	
Traffic Volume (vph)	1	
Future Volume (vph)	1	
Ideal Flow (vphpl)	1900	
Storage Length (ft)	0	
Storage Lanes	1	
Taper Length (ft)		
Lane Util. Factor	1.00	
Frt	0.850	
Flt Protected		
Satd. Flow (prot)	1568	
Flt Permitted		
Satd. Flow (perm)	1568	
Right Turn on Red	Yes	
Satd. Flow (RTOR)	109	
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor	0.90	
Adj. Flow (vph)	1	
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1	
Turn Type	Perm	
Protected Phases		8
Permitted Phases	6	
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	22.0	15.0
Total Split (s)	60.0	15.0
Total Split (%)	66.7%	17%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.0	
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	C-Min	None
Act Effct Green (s)	66.3	
Actuated g/C Ratio	0.74	
v/c Ratio	0.00	
Control Delay	0.0	
Queue Delay	0.0	
Total Delay	0.0	
LOS	A	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	m0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Internal Link Dist (ft)		141			599			597				1057
Turn Bay Length (ft)							150		250		500	
Base Capacity (vph)			355			1527	362	2179	1059		661	2583
Starvation Cap Reductn			0			0	0	0	0		0	0
Spillback Cap Reductn			0			0	0	0	0		0	0
Storage Cap Reductn			0			0	0	0	0		0	0
Reduced v/c Ratio			0.12			0.20	0.08	0.39	0.21		0.37	0.51

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 14 (16%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 4.5 Intersection LOS: A
Intersection Capacity Utilization 64.7% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: US 521 & Century



Lane Group	SBR	Ø8
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)	1184	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.00	

Intersection Summary

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	6	0	134	238	853	0	0	499	734
Future Vol, veh/h	0	0	0	6	0	134	238	853	0	0	499	734
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	0	300	-	-	-	-	200
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	7	0	149	264	948	0	0	554	816

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1754	2031	474	554	0	-	-	-	0
Stage 1	1477	1477	-	-	-	-	-	-	-
Stage 2	277	554	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.56	6.96	4.16	-	-	-	-	-
Critical Hdwy Stg 1	5.86	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	2.23	-	-	-	-	-
Pot Cap-1 Maneuver	76	56	534	1005	-	0	0	-	0
Stage 1	174	187	-	-	-	0	0	-	0
Stage 2	742	509	-	-	-	0	0	-	0
Platoon blocked, %					-			-	
Mov Cap-1 Maneuver	56	0	534	1005	-	-	-	-	-
Mov Cap-2 Maneuver	56	0	-	-	-	-	-	-	-
Stage 1	128	0	-	-	-	-	-	-	-
Stage 2	742	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17	2.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT
Capacity (veh/h)	1005	-	56	534	-
HCM Lane V/C Ratio	0.263	-	0.119	0.279	-
HCM Control Delay (s)	9.9	-	77.8	14.3	-
HCM Lane LOS	A	-	F	B	-
HCM 95th %tile Q(veh)	1.1	-	0.4	1.1	-

5: US 521 & I-20 WB On Ramp/I-20 WB Off Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	6	0	134	238	853	0	0	499	734
Future Volume (vph)	0	0	0	6	0	134	238	853	0	0	499	734
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	300		0	0		200
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected					0.950		0.950					
Satd. Flow (prot)	0	0	0	0	1752	1568	1752	3505	0	0	3505	1568
Flt Permitted					0.950		0.950					
Satd. Flow (perm)	0	0	0	0	1752	1568	1752	3505	0	0	3505	1568
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		827			195			707			677	
Travel Time (s)		12.5			3.0			10.7			10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	7	0	149	264	948	0	0	554	816
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	7	149	264	948	0	0	554	816
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 72.0% ICU Level of Service C
Analysis Period (min) 15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	502	1	234	0	0	0	0	588	2	130	378	0
Future Volume (veh/h)	502	1	234	0	0	0	0	588	2	130	378	0
Number	3	8	18				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900				0	1845	1900	1845	1845	0
Adj Flow Rate, veh/h	559	0	0				0	653	0	144	420	0
Adj No. of Lanes	2	1	0				0	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	766	402	0				0	1806	0	471	1806	0
Arrive On Green	0.22	0.00	0.00				0.00	0.52	0.00	1.00	1.00	0.00
Sat Flow, veh/h	3514	1845	0				0	3689	0	769	3597	0
Grp Volume(v), veh/h	559	0	0				0	653	0	144	420	0
Grp Sat Flow(s),veh/h/ln	1757	1845	0				0	1752	0	769	1752	0
Q Serve(g_s), s	6.7	0.0	0.0				0.0	5.0	0.0	2.9	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	0.0				0.0	5.0	0.0	7.8	0.0	0.0
Prop In Lane	1.00		0.00				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	766	402	0				0	1806	0	471	1806	0
V/C Ratio(X)	0.73	0.00	0.00				0.00	0.36	0.00	0.31	0.23	0.00
Avail Cap(c_a), veh/h	1171	615	0				0	1806	0	471	1806	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.4	0.0	0.0				0.0	6.5	0.0	0.8	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0				0.0	0.6	0.0	1.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0				0.0	2.5	0.0	0.8	0.1	0.0
LnGrp Delay(d),s/veh	17.7	0.0	0.0				0.0	7.1	0.0	2.5	0.3	0.0
LnGrp LOS	B							A		A	A	
Approach Vol, veh/h		559						653			564	
Approach Delay, s/veh		17.7						7.1			0.9	
Approach LOS		B						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		29.2				29.2		15.8
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		18.0				18.0		15.0
Max Q Clear Time (g_c+I1), s		9.8				7.0		8.7
Green Ext Time (p_c), s		4.5				5.5		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	8.4
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

User approved ignoring U-Turning movement.

6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	502	1	234	0	0	0	0	588	2	130	378	0
Future Volume (vph)	502	1	234	0	0	0	0	588	2	130	378	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	275		0
Storage Lanes	1		0	0		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.901										
Flt Protected	0.950	0.983								0.950		
Satd. Flow (prot)	1665	1552	0	0	0	0	0	3505	0	1752	3505	0
Flt Permitted	0.950	0.983								0.395		
Satd. Flow (perm)	1665	1552	0	0	0	0	0	3505	0	729	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		231						1				
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		406			964			1214			707	
Travel Time (s)		6.2			14.6			18.4			10.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	558	1	260	0	0	0	0	653	2	144	420	0
Shared Lane Traffic (%)	24%											
Lane Group Flow (vph)	424	395	0	0	0	0	0	655	0	144	420	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		8						6			2	
Permitted Phases	8									2		
Detector Phase	8	8						6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	
Minimum Split (s)	15.0	15.0						22.0		22.0	22.0	
Total Split (s)	21.0	21.0						24.0		24.0	24.0	
Total Split (%)	46.7%	46.7%						53.3%		53.3%	53.3%	
Yellow Time (s)	4.0	4.0						4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0						0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0						6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None						C-Min		C-Min	C-Min	
Act Effct Green (s)	14.9	14.9						18.1		18.1	18.1	
Actuated g/C Ratio	0.33	0.33						0.40		0.40	0.40	
v/c Ratio	0.77	0.59						0.46		0.49	0.30	
Control Delay	25.8	9.4						11.5		15.7	9.3	
Queue Delay	0.0	0.0						0.0		0.0	0.0	
Total Delay	25.8	9.4						11.5		15.7	9.3	
LOS	C	A						B		B	A	
Approach Delay		17.9						11.5			10.9	
Approach LOS		B						B			B	
Queue Length 50th (ft)	87	28						70		40	61	
Queue Length 95th (ft)	#226	96						97		84	80	

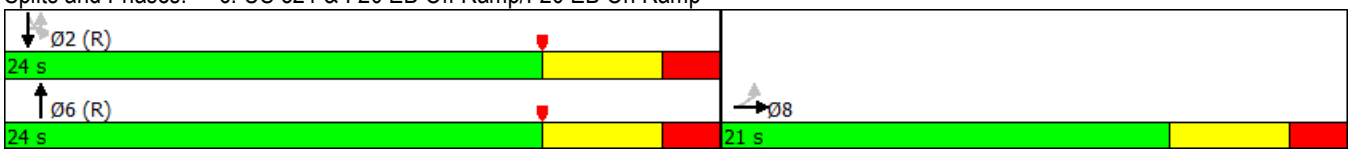
6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		326			884			1134			627	
Turn Bay Length (ft)										275		
Base Capacity (vph)	580	691						1464		304	1464	
Starvation Cap Reductn	0	0						0		0	0	
Spillback Cap Reductn	0	0						0		0	0	
Storage Cap Reductn	0	0						0		0	0	
Reduced v/c Ratio	0.73	0.57						0.45		0.47	0.29	

Intersection Summary

Area Type: Other
Cycle Length: 45
Actuated Cycle Length: 45
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 13.9 Intersection LOS: B
Intersection Capacity Utilization 72.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp



7: Black River Rd (S-12) & Tickle Hill Rd (S-403)

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	509	643	10	6	100
Future Vol, veh/h	31	509	643	10	6	100
Conflicting Peds, #/hr	0	0	0	10	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	34	566	714	11	7	111

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	736	0	-	0	1364	730
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	634	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	865	-	-	-	162	421
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	527	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	865	-	-	-	153	417
Mov Cap-2 Maneuver	-	-	-	-	153	-
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	501	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	17.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	865	-	-	-	153	417
HCM Lane V/C Ratio	0.04	-	-	-	0.044	0.266
HCM Control Delay (s)	9.3	-	-	-	29.6	16.7
HCM Lane LOS	A	-	-	-	D	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	1.1

7: Black River Rd (S-12) & Tickle Hill Rd (S-403)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	31	509	643	10	6	100
Future Volume (vph)	31	509	643	10	6	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	150	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1845	1841	0	1752	1568
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	1845	1841	0	1752	1568
Link Speed (mph)		45	45		35	
Link Distance (ft)		880	278		662	
Travel Time (s)		13.3	4.2		12.9	
Confl. Peds. (#/hr)				10		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	34	566	714	11	7	111
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	566	725	0	7	111
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 47.3%	ICU Level of Service A
Analysis Period (min) 15	

8: Black River Rd (S-12) & Hermitage Farm Rd

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	511	629	1	0	8
Future Vol, veh/h	2	511	629	1	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	568	699	1	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	700	0	-	0	1271	699
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	572	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	892	-	-	-	184	438
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	563	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	892	-	-	-	184	438
Mov Cap-2 Maneuver	-	-	-	-	184	-
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	562	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	892	-	-	-	438
HCM Lane V/C Ratio	0.002	-	-	-	0.02
HCM Control Delay (s)	9	-	-	-	13.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

8: Black River Rd (S-12) & Hermitage Farm Rd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	511	629	1	0	8
Future Volume (vph)	2	511	629	1	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1752	1845	1845	0	1596	0
Flt Permitted	0.950					
Satd. Flow (perm)	1752	1845	1845	0	1596	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		278	5109		664	
Travel Time (s)		4.2	77.4		15.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	568	699	1	0	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	568	700	0	9	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 43.2%	ICU Level of Service A
Analysis Period (min) 15	

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	348	143	1128	493	9	28	0	210	10	1	39
Future Volume (veh/h)	10	348	143	1128	493	9	28	0	210	10	1	39
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1900	1845	1900
Adj Flow Rate, veh/h	11	387	0	1253	548	10	31	0	0	11	1	43
Adj No. of Lanes	1	1	1	2	1	0	1	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	322	485	412	1413	1375	25	209	129	0	75	9	86
Arrive On Green	0.26	0.26	0.00	0.41	0.76	0.76	0.07	0.00	0.00	0.07	0.07	0.07
Sat Flow, veh/h	840	1845	1568	3408	1806	33	1344	1845	0	209	132	1221
Grp Volume(v), veh/h	11	387	0	1253	0	558	31	0	0	55	0	0
Grp Sat Flow(s),veh/h/ln	840	1845	1568	1704	0	1839	1344	1845	0	1562	0	0
Q Serve(g_s), s	0.7	14.0	0.0	24.3	0.0	7.4	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	0.7	14.0	0.0	24.3	0.0	7.4	1.2	0.0	0.0	2.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.00	0.20		0.78
Lane Grp Cap(c), veh/h	322	485	412	1413	0	1400	209	129	0	170	0	0
V/C Ratio(X)	0.03	0.80	0.00	0.89	0.00	0.40	0.15	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	360	569	484	1625	0	1599	416	414	0	407	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.6	24.5	0.0	19.3	0.0	2.9	31.4	0.0	0.0	31.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.8	0.0	5.8	0.0	0.2	0.3	0.0	0.0	1.1	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(50%),veh/ln	0.2	8.0	0.0	12.4	0.0	3.6	0.6	0.0	0.0	1.1	0.0	0.0
LnGrp Delay(d),s/veh	19.7	31.3	0.0	25.1	0.0	3.1	31.7	0.0	0.0	33.0	0.0	0.0
LnGrp LOS	B	C		C		A	C			C		
Approach Vol, veh/h		398			1811			31			55	
Approach Delay, s/veh		31.0			18.3			31.7			33.0	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	35.6	24.7		11.0		60.3		11.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	34.0	22.0		16.0		62.0		16.0
Max Q Clear Time (g_c+I1), s	26.3	16.0		4.4		9.4		3.2
Green Ext Time (p_c), s	3.3	2.8		0.2		6.6		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.0
HCM 2010 LOS	C

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	348	143	1128	493	9	28	0	210	10	1	39
Future Volume (vph)	10	348	143	1128	493	9	28	0	210	10	1	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		325	300		0	350		0	100		0
Storage Lanes	1		1	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997			0.850			0.894	
Flt Protected	0.950			0.950			0.950				0.990	
Satd. Flow (prot)	1752	1845	1568	3400	1839	0	1752	1568	0	0	1633	0
Flt Permitted	0.455			0.950			0.721				0.325	
Satd. Flow (perm)	839	1845	1568	3400	1839	0	1330	1568	0	0	536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182		2			716			43	
Link Speed (mph)		45			45			30			25	
Link Distance (ft)		5109			1064			741			274	
Travel Time (s)		77.4			16.1			16.8			7.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	387	159	1253	548	10	31	0	233	11	1	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	387	159	1253	558	0	31	233	0	0	55	0
Turn Type	Perm	NA	Free	Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		Free				8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		22.0	22.0		15.0	15.0	
Total Split (s)	28.0	28.0		40.0	68.0		22.0	22.0		22.0	22.0	
Total Split (%)	31.1%	31.1%		44.4%	75.6%		24.4%	24.4%		24.4%	24.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Recall Mode	None	None		None	None		Min	Min		None	None	
Act Effct Green (s)	20.3	20.3	79.0	33.2	59.5		7.4	7.4			7.4	
Actuated g/C Ratio	0.26	0.26	1.00	0.42	0.75		0.09	0.09			0.09	
v/c Ratio	0.05	0.82	0.10	0.88	0.40		0.25	0.29			0.62	
Control Delay	23.8	43.7	0.1	30.5	4.6		39.1	0.9			45.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	23.8	43.7	0.1	30.5	4.6		39.1	0.9			45.4	
LOS	C	D	A	C	A		D	A			D	
Approach Delay		30.9			22.5			5.4			45.4	
Approach LOS		C			C			A			D	
Queue Length 50th (ft)	4	181	0	293	74		15	0			6	
Queue Length 95th (ft)	17	#331	0	#449	135		41	0			#57	

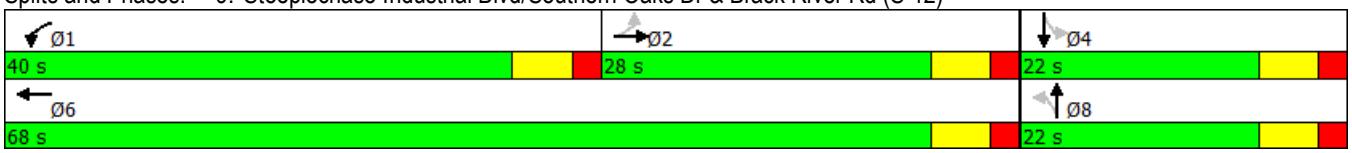
9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		5029			984			661			194	
Turn Bay Length (ft)	150		325	300			350					
Base Capacity (vph)	235	516	1568	1470	1451		270	889			143	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.05	0.75	0.10	0.85	0.38		0.11	0.26			0.38	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 79
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 23.0 Intersection LOS: C
Intersection Capacity Utilization 78.5% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	90	467	1376	109	58	250
Future Volume (veh/h)	90	467	1376	109	58	250
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	100	519	1529	121	64	278
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	255	2533	2135	1189	262	312
Arrive On Green	0.05	0.72	0.61	0.61	0.15	0.15
Sat Flow, veh/h	1757	3597	3597	1568	1757	1568
Grp Volume(v), veh/h	100	519	1529	121	64	278
Grp Sat Flow(s),veh/h/ln	1757	1752	1752	1568	1757	1568
Q Serve(g_s), s	1.8	4.5	28.3	1.9	3.0	14.0
Cycle Q Clear(g_c), s	1.8	4.5	28.3	1.9	3.0	14.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	255	2533	2135	1189	262	312
V/C Ratio(X)	0.39	0.20	0.72	0.10	0.24	0.89
Avail Cap(c_a), veh/h	637	4636	3477	1790	262	312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	4.2	12.7	3.0	35.2	36.6
Incr Delay (d2), s/veh	1.0	0.0	0.5	0.0	0.5	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.2	13.7	1.3	1.5	15.2
LnGrp Delay(d),s/veh	13.5	4.3	13.2	3.0	35.7	62.5
LnGrp LOS	B	A	B	A	D	E
Approach Vol, veh/h		619	1650		342	
Approach Delay, s/veh		5.8	12.4		57.5	
Approach LOS		A	B		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		73.7		20.0	10.6	63.1		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		124.0		14.0	25.0	93.0		
Max Q Clear Time (g_c+I1), s		6.5		16.0	3.8	30.3		
Green Ext Time (p_c), s		30.9		0.0	0.2	26.8		

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

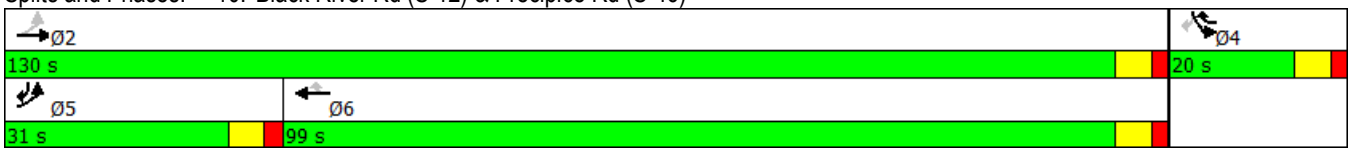
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	90	467	1376	109	58	250
Future Volume (vph)	90	467	1376	109	58	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			150	150	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Flt Permitted	0.073				0.950	
Satd. Flow (perm)	135	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				102		39
Link Speed (mph)		45	45		45	
Link Distance (ft)		3222	2076		512	
Travel Time (s)		48.8	31.5		7.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	100	519	1529	121	64	278
Shared Lane Traffic (%)						
Lane Group Flow (vph)	100	519	1529	121	64	278
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	5	2	6	4	4	5
Permitted Phases	2			6	4	4
Detector Phase	5	2	6	4	4	5
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	22.0	15.0	15.0	15.0	11.0
Total Split (s)	31.0	130.0	99.0	20.0	20.0	31.0
Total Split (%)	20.7%	86.7%	66.0%	13.3%	13.3%	20.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	None	Min	Min	Min	None
Act Effct Green (s)	67.5	67.5	49.3	65.1	9.4	27.5
Actuated g/C Ratio	0.75	0.75	0.55	0.73	0.10	0.31
v/c Ratio	0.32	0.20	0.79	0.10	0.35	0.55
Control Delay	8.7	3.2	19.6	1.3	49.7	29.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.7	3.2	19.6	1.3	49.7	29.4
LOS	A	A	B	A	D	C
Approach Delay		4.1	18.2		33.2	
Approach LOS		A	B		C	
Queue Length 50th (ft)	11	33	316	2	32	105
Queue Length 95th (ft)	47	57	544	18	99	260

10: Black River Rd (S-12) & Precipice Rd (S-46)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Internal Link Dist (ft)		3142	1996		432	
Turn Bay Length (ft)	150			150	150	
Base Capacity (vph)	584	3472	3257	1258	292	764
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.15	0.47	0.10	0.22	0.36

Intersection Summary	
Area Type: Other	
Cycle Length: 150	
Actuated Cycle Length: 89.7	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 63.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: Black River Rd (S-12) & Precipice Rd (S-46)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	335	196	524	14	5	921
Future Volume (veh/h)	335	196	524	14	5	921
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1845
Adj Flow Rate, veh/h	372	218	582	16	6	0
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	548	1307	729	20	14	13
Arrive On Green	0.16	0.71	0.41	0.41	0.01	0.00
Sat Flow, veh/h	1757	1845	1787	49	1757	1568
Grp Volume(v), veh/h	372	218	0	598	6	0
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1836	1757	1568
Q Serve(g_s), s	4.4	1.7	0.0	12.1	0.1	0.0
Cycle Q Clear(g_c), s	4.4	1.7	0.0	12.1	0.1	0.0
Prop In Lane	1.00			0.03	1.00	1.00
Lane Grp Cap(c), veh/h	548	1307	0	749	14	13
V/C Ratio(X)	0.68	0.17	0.00	0.80	0.42	0.00
Avail Cap(c_a), veh/h	684	1699	0	997	373	333
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.7	2.0	0.0	11.0	20.9	0.0
Incr Delay (d2), s/veh	2.0	0.1	0.0	3.4	18.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.8	0.0	6.7	0.1	0.0
LnGrp Delay(d),s/veh	9.7	2.1	0.0	14.4	39.8	0.0
LnGrp LOS	A	A		B	D	
Approach Vol, veh/h		590	598		6	
Approach Delay, s/veh		6.9	14.4		39.8	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		36.0		6.3	12.7	23.3		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		39.0		9.0	10.0	23.0		
Max Q Clear Time (g_c+I1), s		3.7		2.1	6.4	14.1		
Green Ext Time (p_c), s		5.4		0.0	0.4	3.2		

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

11: Black River Rd (S-12) & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	335	196	524	14	5	921
Future Volume (vph)	335	196	524	14	5	921
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0	150	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.996			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1845	1837	0	1752	1568
Flt Permitted	0.192				0.950	
Satd. Flow (perm)	354	1845	1837	0	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			3			574
Link Speed (mph)		45	45		45	
Link Distance (ft)		2076	6634		964	
Travel Time (s)		31.5	100.5		14.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	372	218	582	16	6	1023
Shared Lane Traffic (%)						
Lane Group Flow (vph)	372	218	598	0	6	1023
Turn Type	pm+pt	NA	NA		Prot	Free
Protected Phases	5	2	6		4	
Permitted Phases	2					Free
Detector Phase	5	2	6		4	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	15.0	22.0	22.0		15.0	
Total Split (s)	16.0	45.0	29.0		15.0	
Total Split (%)	26.7%	75.0%	48.3%		25.0%	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	None	Min		None	
Act Effct Green (s)	36.0	41.3	19.7		5.9	44.1
Actuated g/C Ratio	0.82	0.94	0.45		0.13	1.00
v/c Ratio	0.61	0.13	0.73		0.03	0.65
Control Delay	11.2	1.4	18.2		20.6	2.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	11.2	1.4	18.2		20.6	2.1
LOS	B	A	B		C	A
Approach Delay		7.6	18.2		2.2	
Approach LOS		A	B		A	
Queue Length 50th (ft)	4	0	98		1	0
Queue Length 95th (ft)	#168	40	#340		11	0

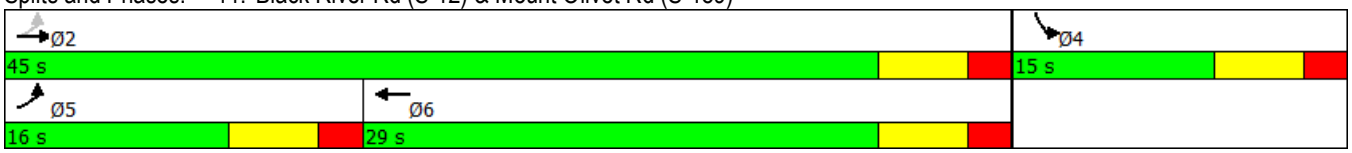
11: Black River Rd (S-12) & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Internal Link Dist (ft)		1996	6554		884	
Turn Bay Length (ft)					150	
Base Capacity (vph)	614	1699	982		366	1568
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.61	0.13	0.61		0.02	0.65

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 44.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 8.0 Intersection LOS: A
Intersection Capacity Utilization 66.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Black River Rd (S-12) & Mount Olivet Rd (S-189)



12: Black River Rd (S-12) & Cleveland School Rd (S-91)

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	172	500	65	51	68
Future Vol, veh/h	21	172	500	65	51	68
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	23	191	556	72	57	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	628	0	-	0	830	592
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	238	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	949	-	-	-	339	504
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	949	-	-	-	330	504
Mov Cap-2 Maneuver	-	-	-	-	330	-
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	777	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	949	-	-	-	411
HCM Lane V/C Ratio	0.025	-	-	-	0.322
HCM Control Delay (s)	8.9	0	-	-	17.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.4

12: Black River Rd (S-12) & Cleveland School Rd (S-91)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	21	172	500	65	51	68
Future Volume (vph)	21	172	500	65	51	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.985		0.923	
Flt Protected		0.995			0.979	
Satd. Flow (prot)	0	1835	1817	0	1667	0
Flt Permitted		0.995			0.979	
Satd. Flow (perm)	0	1835	1817	0	1667	0
Link Speed (mph)		55	55		45	
Link Distance (ft)		6634	979		2926	
Travel Time (s)		82.2	12.1		44.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	23	191	556	72	57	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	214	628	0	133	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 43.9% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	184	6	9	64	25	79
Future Vol, veh/h	184	6	9	64	25	79
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	204	7	10	71	28	88

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	81	0	-	0	462	46
Stage 1	-	-	-	-	46	-
Stage 2	-	-	-	-	416	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1510	-	-	-	556	1021
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	664	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1510	-	-	-	480	1021
Mov Cap-2 Maneuver	-	-	-	-	480	-
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	574	-

Approach	EB	WB	SB
HCM Control Delay, s	7.5	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1510	-	-	-	803
HCM Lane V/C Ratio	0.135	-	-	-	0.144
HCM Control Delay (s)	7.8	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.5

13: Cleveland School Rd (S-91) & Dr Humphries Rd

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	184	6	9	64	25	79
Future Volume (vph)	184	6	9	64	25	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.882		0.898	
Flt Protected		0.954			0.988	
Satd. Flow (prot)	0	1760	1627	0	1637	0
Flt Permitted		0.954			0.988	
Satd. Flow (perm)	0	1760	1627	0	1637	0
Link Speed (mph)		45	45		45	
Link Distance (ft)		2926	736		1210	
Travel Time (s)		44.3	11.2		18.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	204	7	10	71	28	88
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	211	81	0	116	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 30.1% ICU Level of Service A
Analysis Period (min) 15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1495	0	15	0	0	0	0	238	13	109	89	0
Future Volume (veh/h)	1495	0	15	0	0	0	0	238	13	109	89	0
Number	3	8	18				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900				0	1845	1900	1845	1845	0
Adj Flow Rate, veh/h	1661	0	0				0	264	0	121	99	0
Adj No. of Lanes	2	1	0				0	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	1759	952	0				0	505	0	294	505	0
Arrive On Green	0.52	0.00	0.00				0.00	0.27	0.00	0.27	0.27	0.00
Sat Flow, veh/h	3408	1845	0				0	1845	0	1100	1845	0
Grp Volume(v), veh/h	1661	0	0				0	264	0	121	99	0
Grp Sat Flow(s),veh/h/ln	1704	1845	0				0	1845	0	1100	1845	0
Q Serve(g_s), s	26.3	0.0	0.0				0.0	6.9	0.0	6.0	2.4	0.0
Cycle Q Clear(g_c), s	26.3	0.0	0.0				0.0	6.9	0.0	12.9	2.4	0.0
Prop In Lane	1.00		0.00				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	1759	952	0				0	505	0	294	505	0
V/C Ratio(X)	0.94	0.00	0.00				0.00	0.52	0.00	0.41	0.20	0.00
Avail Cap(c_a), veh/h	1788	968	0				0	581	0	339	581	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.1	0.0	0.0				0.0	17.6	0.0	23.1	15.9	0.0
Incr Delay (d2), s/veh	10.7	0.0	0.0				0.0	0.8	0.0	0.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.9	0.0	0.0				0.0	3.6	0.0	1.9	1.2	0.0
LnGrp Delay(d),s/veh	23.8	0.0	0.0				0.0	18.4	0.0	24.0	16.1	0.0
LnGrp LOS	C							B		C	B	
Approach Vol, veh/h		1661						264			220	
Approach Delay, s/veh		23.8						18.4			20.4	
Approach LOS		C						B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		21.7				21.7		35.5
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		18.0				18.0		30.0
Max Q Clear Time (g_c+I1), s		14.9				8.9		28.3
Green Ext Time (p_c), s		0.7				1.6		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	22.8
HCM 2010 LOS	C

14: Dr Humphries Rd & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1495	0	15	0	0	0	0	238	13	109	89	0
Future Volume (vph)	1495	0	15	0	0	0	0	238	13	109	89	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		200	0		0	0		100	200		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850						0.993				
Flt Protected	0.950									0.950		
Satd. Flow (prot)	3400	1568	0	0	0	0	0	1832	0	1752	1845	0
Flt Permitted	0.950									0.516		
Satd. Flow (perm)	3400	1568	0	0	0	0	0	1832	0	952	1845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		716						5				
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1291			592			1210			1247	
Travel Time (s)		19.6			9.0			18.3			18.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1661	0	17	0	0	0	0	264	14	121	99	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1661	17	0	0	0	0	0	278	0	121	99	0
Turn Type	Prot	NA						NA		Perm	NA	
Protected Phases	3	8						6			2	
Permitted Phases										2		
Detector Phase	3	8						6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	
Minimum Split (s)	11.0	24.0						24.0		24.0	24.0	
Total Split (s)	36.0	36.0						24.0		24.0	24.0	
Total Split (%)	60.0%	60.0%						40.0%		40.0%	40.0%	
Yellow Time (s)	4.0	4.0						4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0						0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0						6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None						Min		Min	Min	
Act Effct Green (s)	29.7	29.7						13.1		13.1	13.1	
Actuated g/C Ratio	0.54	0.54						0.24		0.24	0.24	
v/c Ratio	0.90	0.01						0.63		0.53	0.23	
Control Delay	21.8	0.0						25.2		27.5	17.8	
Queue Delay	0.0	0.0						0.0		0.0	0.0	
Total Delay	21.8	0.0						25.2		27.5	17.8	
LOS	C	A						C		C	B	
Approach Delay		21.5						25.2			23.1	
Approach LOS		C						C			C	
Queue Length 50th (ft)	225	0						80		35	26	
Queue Length 95th (ft)	#446	0						143		78	57	

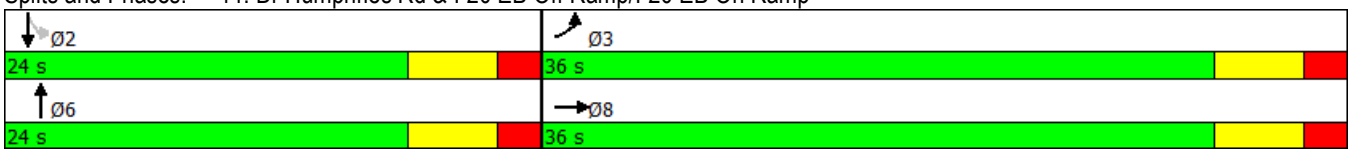
14: Dr Humphries Rd & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1211			512			1130			1167	
Turn Bay Length (ft)	400									200		
Base Capacity (vph)	1872	1185						608		314	609	
Starvation Cap Reductn	0	0						0		0	0	
Spillback Cap Reductn	0	0						0		0	0	
Storage Cap Reductn	0	0						0		0	0	
Reduced v/c Ratio	0.89	0.01						0.46		0.39	0.16	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 54.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 22.2 Intersection LOS: C
Intersection Capacity Utilization 77.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Dr Humphries Rd & I-20 EB Off Ramp/I-20 EB On Ramp



Intersection	
Int Delay, s/veh	16.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	25	1	267	62	1675	0	0	173	403
Future Vol, veh/h	0	0	0	25	1	267	62	1675	0	0	173	403
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	200	-	-	-	-	0
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	28	1	297	69	1861	0	0	192	448

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2191	2191	931	192	0	-	-	-	0
Stage 1	1999	1999	-	-	-	-	-	-	-
Stage 2	192	192	-	-	-	-	-	-	-
Critical Hdwy	6.645	6.545	6.945	4.145	-	-	-	-	-
Critical Hdwy Stg 1	5.845	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.445	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	2.2285	-	-	-	-	-
Pot Cap-1 Maneuver	43	45	~ 268	1374	-	0	0	-	0
Stage 1	91	103	-	-	-	0	0	-	0
Stage 2	837	739	-	-	-	0	0	-	0
Platoon blocked, %					-			-	
Mov Cap-1 Maneuver	41	0	~ 268	1374	-	-	-	-	-
Mov Cap-2 Maneuver	76	0	-	-	-	-	-	-	-
Stage 1	86	0	-	-	-	-	-	-	-
Stage 2	837	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	123.2	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT
Capacity (veh/h)	1374	-	294	-
HCM Lane V/C Ratio	0.05	-	1.107	-
HCM Control Delay (s)	7.8	-	123.2	-
HCM Lane LOS	A	-	F	-
HCM 95th %tile Q(veh)	0.2	-	13.2	-

Notes

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

15: Dr Humphries Rd & I-20 WB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	25	1	267	62	1675	0	0	173	403
Future Volume (vph)	0	0	0	25	1	267	62	1675	0	0	173	403
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		50	200		0	0		0
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt					0.877							0.850
Flt Protected					0.996		0.950					
Satd. Flow (prot)	0	0	0	0	1611	0	1752	3505	0	0	1845	1568
Flt Permitted					0.996		0.950					
Satd. Flow (perm)	0	0	0	0	1611	0	1752	3505	0	0	1845	1568
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		591			881			1247			820	
Travel Time (s)		9.0			13.3			18.9			12.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	28	1	297	69	1861	0	0	192	448
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	326	0	69	1861	0	0	192	448
Sign Control		Yield			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 77.0% ICU Level of Service D
Analysis Period (min) 15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	1	333	21	6	3	1468	470	7	0	225	158
Future Volume (vph)	61	1	333	21	6	3	1468	470	7	0	225	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0			6.0	
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00		0.97	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00			0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1752	1845	2760	1752	1762		3400	1840			1730	
Flt Permitted	0.75	1.00	1.00	0.76	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1385	1845	2760	1397	1762		3400	1840			1730	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	68	1	370	23	7	3	1631	522	8	0	250	176
RTOR Reduction (vph)	0	0	160	0	3	0	0	1	0	0	28	0
Lane Group Flow (vph)	68	1	210	23	7	0	1631	529	0	0	398	0
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Perm	NA	
Protected Phases		8	1		4		1	6			2	
Permitted Phases	8		8	4						2		
Actuated Green, G (s)	6.8	6.8	50.0	6.8	6.8		43.2	69.4			20.2	
Effective Green, g (s)	6.8	6.8	50.0	6.8	6.8		43.2	69.4			20.2	
Actuated g/C Ratio	0.08	0.08	0.57	0.08	0.08		0.49	0.79			0.23	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	106	142	1752	107	135		1665	1447			396	
v/s Ratio Prot		0.00	0.06		0.00		c0.48	0.29			c0.23	
v/s Ratio Perm	c0.05		0.02	0.02								
v/c Ratio	0.64	0.01	0.12	0.21	0.05		0.98	0.37			1.01	
Uniform Delay, d1	39.5	37.6	8.9	38.2	37.7		22.1	2.8			34.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	12.5	0.0	0.0	1.0	0.2		17.2	0.2			46.6	
Delay (s)	52.0	37.6	8.9	39.2	37.9		39.3	3.0			80.6	
Level of Service	D	D	A	D	D		D	A			F	
Approach Delay (s)		15.7			38.8			30.4			80.6	
Approach LOS		B			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

16: Dr Humphries Rd & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	1	333	21	6	3	1468	470	7	0	225	158
Future Volume (vph)	61	1	333	21	6	3	1468	470	7	0	225	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		1000	150		0	300		0	150		0
Storage Lanes	2		1	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.955			0.998			0.938	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1752	1845	2760	1752	1762	0	3400	1841	0	1845	1730	0
Flt Permitted	0.751			0.757			0.950					
Satd. Flow (perm)	1385	1845	2760	1396	1762	0	3400	1841	0	1845	1730	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			370		3			3			36	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1360			829			820			3375	
Travel Time (s)		20.6			12.6			12.4			51.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	68	1	370	23	7	3	1631	522	8	0	250	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	1	370	23	10	0	1631	530	0	0	426	0
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Perm	NA	
Protected Phases		8	1		4		1	6			2	
Permitted Phases	8		8	4						2		
Detector Phase	8	8	1	4	4		1	6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		1.0	1.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		15.0	22.0		22.0	22.0	
Total Split (s)	15.0	15.0	49.0	15.0	15.0		49.0	75.0		26.0	26.0	
Total Split (%)	16.7%	16.7%	54.4%	16.7%	16.7%		54.4%	83.3%		28.9%	28.9%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)	8.0	8.0	54.6	8.0	8.0		43.2	70.7			20.1	
Actuated g/C Ratio	0.09	0.09	0.63	0.09	0.09		0.50	0.81			0.23	
v/c Ratio	0.53	0.01	0.20	0.18	0.06		0.96	0.35			1.00	
Control Delay	54.3	37.0	1.0	40.7	32.6		38.1	3.8			76.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	54.3	37.0	1.0	40.7	32.6		38.1	3.8			76.3	
LOS	D	D	A	D	C		D	A			E	
Approach Delay		9.3			38.2			29.6			76.3	
Approach LOS		A			D			C			E	
Queue Length 50th (ft)	37	1	0	12	4		~464	77			~246	
Queue Length 95th (ft)	#81	5	15	36	19		#637	115			#430	

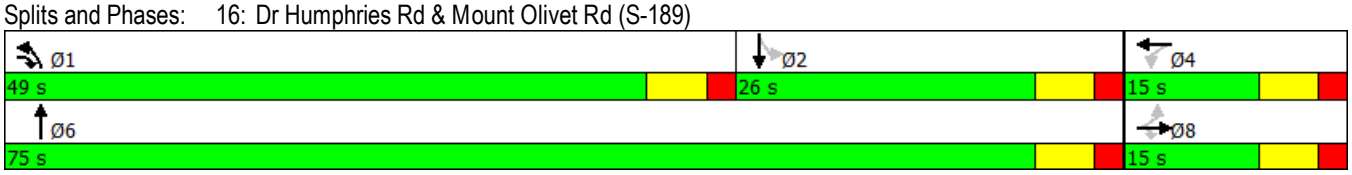
16: Dr Humphries Rd & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1280			749			740			3295	
Turn Bay Length (ft)	150		1000	150			300					
Base Capacity (vph)	144	192	1874	145	186		1693	1501			428	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.47	0.01	0.20	0.16	0.05		0.96	0.35			1.00	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 86.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 33.3 Intersection LOS: C
Intersection Capacity Utilization 88.4% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: Dr Humphries Rd & Mount Olivet Rd (S-189)



Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	10	218	45	0	48	164	10	0	62	206	77	0	20	95	6
Future Vol, veh/h	0	10	218	45	0	48	164	10	0	62	206	77	0	20	95	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	11	242	50	0	53	182	11	0	69	229	86	0	22	106	7
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15	13.8	18.1	11.6
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	4%	22%	17%
Vol Thru, %	60%	80%	74%	79%
Vol Right, %	22%	16%	5%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	345	273	222	121
LT Vol	62	10	48	20
Through Vol	206	218	164	95
RT Vol	77	45	10	6
Lane Flow Rate	383	303	247	134
Geometry Grp	1	1	1	1
Degree of Util (X)	0.624	0.506	0.425	0.242
Departure Headway (Hd)	5.859	6.003	6.198	6.479
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	617	601	580	553
Service Time	3.878	4.028	4.248	4.534
HCM Lane V/C Ratio	0.621	0.504	0.426	0.242
HCM Control Delay	18.1	15	13.8	11.6
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	4.3	2.9	2.1	0.9

17: Dr Humphries Rd/Hunting Inc Rd & Bishopville Hwy (S-34)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	117	125	87	246	22	93	65	20	10	201	63
Future Volume (vph)	20	117	125	87	246	22	93	65	20	10	201	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.936			0.992			0.985			0.969	
Flt Protected		0.996			0.988			0.975			0.998	
Satd. Flow (prot)	0	1720	0	0	1808	0	0	1772	0	0	1784	0
Flt Permitted		0.996			0.988			0.975			0.998	
Satd. Flow (perm)	0	1720	0	0	1808	0	0	1772	0	0	1784	0
Link Speed (mph)		55			55			45			45	
Link Distance (ft)		720			665			3061			733	
Travel Time (s)		8.9			8.2			46.4			11.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	22	130	139	97	273	24	103	72	22	11	223	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	291	0	0	394	0	0	197	0	0	304	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 72.1% ICU Level of Service C
Analysis Period (min) 15

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	478	161	106	637	91	62
Future Volume (veh/h)	478	161	106	637	91	62
Number	2	12	1	6	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	531	179	118	708	101	69
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1230	1172	560	1450	142	209
Arrive On Green	0.67	0.67	0.05	0.79	0.08	0.08
Sat Flow, veh/h	1845	1568	1757	1845	1757	1568
Grp Volume(v), veh/h	531	179	118	708	101	69
Grp Sat Flow(s),veh/h/ln	1845	1568	1757	1845	1757	1568
Q Serve(g_s), s	12.1	2.9	1.7	12.0	5.0	3.6
Cycle Q Clear(g_c), s	12.1	2.9	1.7	12.0	5.0	3.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1230	1172	560	1450	142	209
V/C Ratio(X)	0.43	0.15	0.21	0.49	0.71	0.33
Avail Cap(c_a), veh/h	1230	1172	643	1450	351	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.0	3.2	4.5	3.3	40.3	35.3
Incr Delay (d2), s/veh	0.9	0.2	0.2	1.2	6.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	1.7	0.8	6.4	2.7	1.6
LnGrp Delay(d),s/veh	8.0	3.5	4.7	4.5	46.8	36.3
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h	710			826	170	
Approach Delay, s/veh	6.8			4.6	42.5	
Approach LOS	A			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.7	66.0				76.7		13.3
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	9.0	45.0				60.0		18.0
Max Q Clear Time (g_c+I1), s	3.7	14.1				14.0		7.0
Green Ext Time (p_c), s	0.1	9.9				10.8		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	9.3
HCM 2010 LOS	A

29: Tech College/Shopping & Black River Rd (S-12)

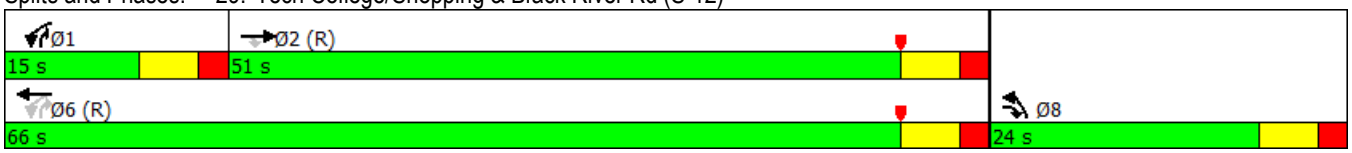
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	478	161	106	637	91	62
Future Volume (vph)	478	161	106	637	91	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	250		250	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1845	1568	1752	1845	1752	1568
Flt Permitted			0.351		0.950	
Satd. Flow (perm)	1845	1568	647	1845	1752	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		179				69
Link Speed (mph)	45			45	30	
Link Distance (ft)	1830			880	1149	
Travel Time (s)	27.7			13.3	26.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	531	179	118	708	101	69
Shared Lane Traffic (%)						
Lane Group Flow (vph)	531	179	118	708	101	69
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2	6			6
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	15.0	24.0	24.0	15.0
Total Split (s)	51.0	24.0	15.0	66.0	24.0	15.0
Total Split (%)	56.7%	26.7%	16.7%	73.3%	26.7%	16.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Max	None	None
Act Effct Green (s)	54.3	70.8	67.5	67.5	10.5	67.5
Actuated g/C Ratio	0.60	0.79	0.75	0.75	0.12	0.75
v/c Ratio	0.48	0.14	0.21	0.51	0.50	0.06
Control Delay	9.7	0.5	4.3	6.6	44.9	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	0.5	4.3	6.6	44.9	1.2
LOS	A	A	A	A	D	A
Approach Delay	7.4			6.3	27.1	
Approach LOS	A			A	C	
Queue Length 50th (ft)	256	0	15	132	55	0
Queue Length 95th (ft)	117	0	34	244	100	11

29: Tech College/Shopping & Black River Rd (S-12)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Internal Link Dist (ft)	1750			800	1069	
Turn Bay Length (ft)			250		250	
Base Capacity (vph)	1112	1386	595	1383	350	1193
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.13	0.20	0.51	0.29	0.06

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 20 (22%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 8.8	Intersection LOS: A
Intersection Capacity Utilization 51.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 29: Tech College/Shopping & Black River Rd (S-12)



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	527	568	1493	1291	1
Future Volume (veh/h)	2	527	568	1493	1291	1
Number	3	18	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	2	586	631	1659	1434	1
Adj No. of Lanes	1	2	1	2	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	158	1104	629	2769	1510	1
Arrive On Green	0.09	0.09	0.31	0.79	0.42	0.42
Sat Flow, veh/h	1757	2760	1757	3597	3686	3
Grp Volume(v), veh/h	2	586	631	1659	699	736
Grp Sat Flow(s),veh/h/ln	1757	1380	1757	1752	1752	1844
Q Serve(g_s), s	0.1	9.0	31.0	18.9	38.5	38.5
Cycle Q Clear(g_c), s	0.1	9.0	31.0	18.9	38.5	38.5
Prop In Lane	1.00	1.00	1.00			0.00
Lane Grp Cap(c), veh/h	158	1104	629	2769	736	775
V/C Ratio(X)	0.01	0.53	1.00	0.60	0.95	0.95
Avail Cap(c_a), veh/h	158	1104	629	2769	736	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.43	0.43	1.00	1.00
Uniform Delay (d), s/veh	41.5	22.9	29.0	4.2	28.0	28.0
Incr Delay (d2), s/veh	0.0	0.5	24.2	0.4	23.0	22.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.2	21.5	8.9	23.1	24.2
LnGrp Delay(d),s/veh	41.5	23.3	53.2	4.6	51.0	50.2
LnGrp LOS	D	C	F	A	D	D
Approach Vol, veh/h	588			2290	1435	
Approach Delay, s/veh	23.4			18.0	50.6	
Approach LOS	C			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	37.0	48.0				85.0		15.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	31.0	42.0				79.0		9.0
Max Q Clear Time (g_c+I1), s	33.0	40.5				20.9		11.0
Green Ext Time (p_c), s	0.0	1.5				44.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	29.6
HCM 2010 LOS	C

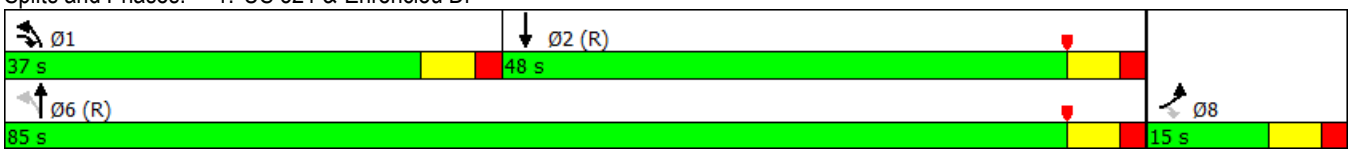
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	527	568	1493	1291	1
Future Volume (vph)	2	527	568	1493	1291	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	100	200	300			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	0.88	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1752	2760	1752	3505	3505	0
Flt Permitted	0.950		0.085			
Satd. Flow (perm)	1752	2760	157	3505	3505	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		18				
Link Speed (mph)	45			45	35	
Link Distance (ft)	743			3562	1732	
Travel Time (s)	11.3			54.0	33.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	2	586	631	1659	1434	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	586	631	1659	1435	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	8	1	1	6	2	
Permitted Phases		8	6			
Detector Phase	8	1	1	6	2	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	15.0	15.0	15.0	22.0	22.0	
Total Split (s)	15.0	37.0	37.0	85.0	48.0	
Total Split (%)	15.0%	37.0%	37.0%	85.0%	48.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	C-Min	C-Min	
Act Effct Green (s)	5.7	42.4	91.6	96.4	45.6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Actuated g/C Ratio	0.06	0.42	0.92	0.96	0.46	
v/c Ratio	0.02	0.50	0.81	0.49	0.90	
Control Delay	44.5	21.7	28.2	0.7	34.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.5	21.7	28.2	0.7	34.6	
LOS	D	C	C	A	C	
Approach Delay	21.8			8.3	34.6	
Approach LOS	C			A	C	
Queue Length 50th (ft)	1	149	228	0	420	
Queue Length 95th (ft)	9	187	m#447	m74	#626	
Internal Link Dist (ft)	663			3482	1652	
Turn Bay Length (ft)	100	200	300			
Base Capacity (vph)	157	1179	780	3377	1599	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.01	0.50	0.81	0.49	0.90	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 10 (10%), Referenced to phase 2:SBT and 6:NBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 18.9 Intersection LOS: B
Intersection Capacity Utilization 86.4% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: US 521 & Ehrenclou Dr



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	362	661	149	1369	377	569	922
Future Volume (veh/h)	362	661	149	1369	377	569	922
Number	7	14		6	16	5	2
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845		1845	1845	1845	1845
Adj Flow Rate, veh/h	402	734		1521	0	632	1024
Adj No. of Lanes	2	2		2	1	2	2
Peak Hour Factor	0.90	0.90		0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3		3	3	3	3
Cap, veh/h	525	1025		1573	945	740	2544
Arrive On Green	0.15	0.15		0.45	0.00	0.22	0.73
Sat Flow, veh/h	3408	2760		3597	1568	3408	3597
Grp Volume(v), veh/h	402	734		1521	0	632	1024
Grp Sat Flow(s),veh/h/ln	1704	1380		1752	1568	1704	1752
Q Serve(g_s), s	11.3	1.1		42.3	0.0	17.8	11.3
Cycle Q Clear(g_c), s	11.3	1.1		42.3	0.0	17.8	11.3
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	525	1025		1573	945	740	2544
V/C Ratio(X)	0.77	0.72		0.97	0.00	0.85	0.40
Avail Cap(c_a), veh/h	613	1096		1577	947	740	2544
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53		0.63	0.00	0.53	0.53
Uniform Delay (d), s/veh	40.6	26.9		26.8	0.0	37.6	5.3
Incr Delay (d2), s/veh	2.7	1.1		11.8	0.0	5.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	10.6		22.8	0.0	8.9	5.5
LnGrp Delay(d),s/veh	43.2	28.1		38.6	0.0	43.0	5.6
LnGrp LOS	D	C		D		D	A
Approach Vol, veh/h	1136			1521			1656
Approach Delay, s/veh	33.4			38.6			19.8
Approach LOS	C			D			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		78.6		21.4	27.7	50.9		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		43.0		18.0	19.0	45.0		
Max Q Clear Time (g_c+I1), s		13.3		13.3	19.8	44.3		
Green Ext Time (p_c), s		11.0		2.1	0.0	0.6		

Intersection Summary	
HCM 2010 Ctrl Delay	30.0
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.

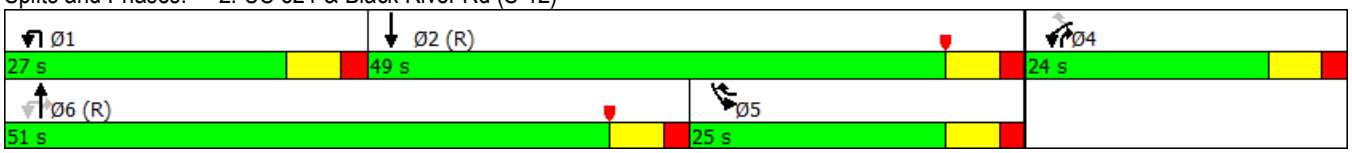
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	362	661	149	1369	377	569	922
Future Volume (vph)	362	661	149	1369	377	569	922
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%
Storage Length (ft)	300	300	200		450	300	
Storage Lanes	1	1	1		1	2	
Taper Length (ft)	100		100			100	
Lane Util. Factor	0.97	0.88	1.00	0.95	1.00	0.97	0.95
Ped Bike Factor							
Frt		0.850			0.850		
Flt Protected	0.950		0.950			0.950	
Satd. Flow (prot)	3400	2760	1752	3505	1568	3400	3505
Flt Permitted	0.950		0.124			0.950	
Satd. Flow (perm)	3400	2760	229	3505	1568	3400	3505
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		18			11		
Link Speed (mph)	45			45			45
Link Distance (ft)	1830			1085			3562
Travel Time (s)	27.7			16.4			54.0
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%			0%
Adj. Flow (vph)	402	734	166	1521	419	632	1024
Shared Lane Traffic (%)							
Lane Group Flow (vph)	402	734	166	1521	419	632	1024
Turn Type	Prot	pm+ov	pm+pt	NA	pm+ov	Prot	NA
Protected Phases	4	5	1	6	4	5	2
Permitted Phases		4	6		6		
Detector Phase	4	5	1	6	4	5	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	15.0	15.0	24.0	24.0	15.0	22.0
Total Split (s)	24.0	25.0	27.0	51.0	24.0	25.0	49.0
Total Split (%)	24.0%	25.0%	27.0%	51.0%	24.0%	25.0%	49.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lag	Lead	Lead		Lag	Lag
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	None	None	C-Min
Act Effct Green (s)	16.3	41.6	46.4	46.4	68.7	19.3	54.4

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.16	0.42	0.46	0.46	0.69	0.19	0.54
v/c Ratio	0.72	0.63	0.60	0.94	0.39	0.96	0.54
Control Delay	41.9	22.3	21.1	24.7	2.7	53.7	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	22.3	21.1	24.7	2.7	53.7	12.6
LOS	D	C	C	C	A	D	B
Approach Delay	29.3			20.0			28.3
Approach LOS	C			C			C
Queue Length 50th (ft)	112	172	42	430	36	191	125
Queue Length 95th (ft)	m164	m169	m78	#647	m43	m#274	m184
Internal Link Dist (ft)	1750			1005			3482
Turn Bay Length (ft)	300	300	200		450	300	
Base Capacity (vph)	612	1158	426	1626	1051	655	1907
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.63	0.39	0.94	0.40	0.96	0.54

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 30 (30%), Referenced to phase 2:SBT and 6:NBTU, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 25.0 Intersection LOS: C
Intersection Capacity Utilization 79.4% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: US 521 & Black River Rd (S-12)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	389	0	0	402	244	145	1263	142	232	1324
Future Volume (vph)	0	0	389	0	0	402	244	145	1263	142	232	1324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0			6.0		6.0	6.0	6.0	6.0	6.0
Lane Util. Factor			1.00			1.00		1.00	0.95	1.00	1.00	0.95
Frt			0.86			0.86		1.00	1.00	0.85	1.00	1.00
Flt Protected			1.00			1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)			1596			1596		1752	3505	1568	1752	3505
Flt Permitted			1.00			1.00		0.16	1.00	1.00	0.11	1.00
Satd. Flow (perm)			1596			1596		302	3505	1568	202	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	432	0	0	447	271	161	1403	158	258	1471
RTOR Reduction (vph)	0	0	10	0	0	266	0	0	0	67	0	0
Lane Group Flow (vph)	0	0	422	0	0	181	0	432	1403	91	258	1471
Turn Type			Perm			Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA
Protected Phases							5	5	2		1	6
Permitted Phases			2 4 5 8			1	2	2		2	6	
Actuated Green, G (s)			69.3			18.7		57.8	57.8	57.8	55.3	55.3
Effective Green, g (s)			69.3			18.7		57.8	57.8	57.8	55.3	55.3
Actuated g/C Ratio			0.69			0.19		0.58	0.58	0.58	0.55	0.55
Clearance Time (s)						6.0		6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)						3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)			1106			298		481	2025	906	401	1938
v/s Ratio Prot								c0.19	0.40		0.12	c0.42
v/s Ratio Perm			c0.26			0.11		c0.33		0.06	0.24	
v/c Ratio			0.38			0.61		0.90	0.69	0.10	0.64	0.76
Uniform Delay, d1			6.4			37.3		22.6	14.9	9.5	21.6	17.2
Progression Factor			1.00			1.00		0.57	0.39	0.00	0.95	0.76
Incremental Delay, d2			0.2			3.5		13.0	1.2	0.1	3.2	2.6
Delay (s)			6.6			40.8		25.8	7.0	0.1	23.8	15.7
Level of Service			A			D		C	A	A	C	B
Approach Delay (s)		6.6			40.8				10.5			15.6
Approach LOS		A			D				B			B

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	215
Future Volume (vph)	215
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	239
RTOR Reduction (vph)	62
Lane Group Flow (vph)	177
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	55.3
Effective Green, g (s)	55.3
Actuated g/C Ratio	0.55
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	867
v/s Ratio Prot	
v/s Ratio Perm	0.11
v/c Ratio	0.20
Uniform Delay, d1	11.3
Progression Factor	0.52
Incremental Delay, d2	0.5
Delay (s)	6.3
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	389	0	0	402	244	145	1263	142	232	1324
Future Volume (vph)	0	0	389	0	0	402	244	145	1263	142	232	1324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%				0%			0%
Storage Length (ft)	100		0	0		0		500		0	350	
Storage Lanes	0		1	0		1		1		1	1	
Taper Length (ft)	100			100				100			100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor												
Frt			0.865			0.865				0.850		
Flt Protected								0.950			0.950	
Satd. Flow (prot)	0	0	1596	0	0	1596	0	1752	3505	1568	1752	3505
Flt Permitted								0.164			0.109	
Satd. Flow (perm)	0	0	1596	0	0	1596	0	303	3505	1568	201	3505
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			33			327				158		
Link Speed (mph)		30			30				45			45
Link Distance (ft)		397			427				1137			1085
Travel Time (s)		9.0			9.7				17.2			16.4
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%				0%			0%
Adj. Flow (vph)	0	0	432	0	0	447	271	161	1403	158	258	1471
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	432	0	0	447	0	432	1403	158	258	1471
Turn Type			Perm			Perm	pm+pt	pm+pt	NA	Perm	pm+pt	NA
Protected Phases							5	5	2		1	6
Permitted Phases			2 4 5 8			1	2	2		2	6	
Detector Phase			2 4 5 8			1	5	5	2	2	1	6
Switch Phase												
Minimum Initial (s)						5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)						15.0	15.0	15.0	24.0	24.0	15.0	24.0
Total Split (s)						18.0	26.0	26.0	58.0	58.0	18.0	50.0
Total Split (%)						18.0%	26.0%	26.0%	58.0%	58.0%	18.0%	50.0%
Yellow Time (s)						4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)						2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)						0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)						6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode						None	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)			69.3			18.7		57.8	57.8	57.8	55.3	55.3

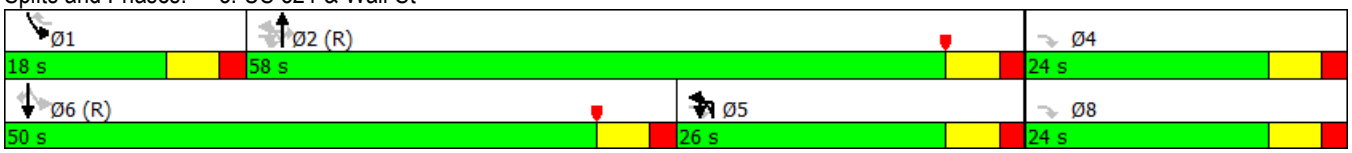
Lane Group	SBR	Ø4	Ø8
Lane Configurations			
Traffic Volume (vph)	215		
Future Volume (vph)	215		
Ideal Flow (vphpl)	1900		
Lane Width (ft)	12		
Grade (%)			
Storage Length (ft)	150		
Storage Lanes	1		
Taper Length (ft)			
Lane Util. Factor	1.00		
Ped Bike Factor			
Frt	0.850		
Flt Protected			
Satd. Flow (prot)	1568		
Flt Permitted			
Satd. Flow (perm)	1568		
Right Turn on Red	Yes		
Satd. Flow (RTOR)	139		
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Confl. Bikes (#/hr)			
Peak Hour Factor	0.90		
Growth Factor	100%		
Heavy Vehicles (%)	3%		
Bus Blockages (#/hr)	0		
Parking (#/hr)			
Mid-Block Traffic (%)			
Adj. Flow (vph)	239		
Shared Lane Traffic (%)			
Lane Group Flow (vph)	239		
Turn Type	Perm		
Protected Phases		4	8
Permitted Phases	6		
Detector Phase	6		
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	24.0	11.0	24.0
Total Split (s)	50.0	24.0	24.0
Total Split (%)	50.0%	24%	24%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		
Total Lost Time (s)	6.0		
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Recall Mode	C-Min	None	None
Act Effct Green (s)	55.3		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Actuated g/C Ratio			0.69			0.19		0.58	0.58	0.58	0.55	0.55
v/c Ratio			0.39			0.79		0.90	0.69	0.16	0.64	0.76
Control Delay			7.8			21.3		36.1	7.5	0.2	24.4	15.8
Queue Delay			0.0			0.0		0.0	0.0	0.0	0.0	0.0
Total Delay			7.8			21.3		36.1	7.5	0.2	24.4	15.8
LOS			A			C		D	A	A	C	B
Approach Delay		7.8			21.3				13.1			15.4
Approach LOS		A			C				B			B
Queue Length 50th (ft)			93			68		170	114	0	90	285
Queue Length 95th (ft)			177			180		m#299	m138	m0	168	425
Internal Link Dist (ft)		317			347				1057			1005
Turn Bay Length (ft)								500			350	
Base Capacity (vph)			1310			564		482	2024	972	401	1938
Starvation Cap Reductn			0			0		0	0	0	0	0
Spillback Cap Reductn			0			0		0	0	0	0	0
Storage Cap Reductn			0			0		0	0	0	0	0
Reduced v/c Ratio			0.33			0.79		0.90	0.69	0.16	0.64	0.76

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 88 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 14.3 Intersection LOS: B
Intersection Capacity Utilization 97.2% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 521 & Wall St



Lane Group	SBR	Ø4	Ø8
Actuated g/C Ratio	0.55		
v/c Ratio	0.26		
Control Delay	3.0		
Queue Delay	0.0		
Total Delay	3.0		
LOS	A		
Approach Delay			
Approach LOS			
Queue Length 50th (ft)	14		
Queue Length 95th (ft)	27		
Internal Link Dist (ft)			
Turn Bay Length (ft)	150		
Base Capacity (vph)	929		
Starvation Cap Reductn	0		
Spillback Cap Reductn	0		
Storage Cap Reductn	0		
Reduced v/c Ratio	0.26		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	37	0	0	547	7	1247	256	233	283	1400
Future Volume (vph)	0	0	37	0	0	547	7	1247	256	233	283	1400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0			6.0	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor			1.00			1.00	1.00	0.95	1.00		1.00	0.95
Frt			0.86			0.86	1.00	1.00	0.85		1.00	1.00
Flt Protected			1.00			1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)			1596			1596	1752	3505	1568		1752	3505
Flt Permitted			1.00			1.00	0.10	1.00	1.00		0.09	1.00
Satd. Flow (perm)			1596			1596	189	3505	1568		164	3505
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	41	0	0	608	8	1386	284	259	314	1556
RTOR Reduction (vph)	0	0	37	0	0	0	0	0	165	0	0	0
Lane Group Flow (vph)	0	0	4	0	0	608	8	1386	119	0	573	1556
Turn Type			Perm			Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases							5	2		1	1	6
Permitted Phases			4			1 2 6 8	2		2	6	6	
Actuated Green, G (s)			8.6			100.0	40.8	39.0	39.0		79.4	71.6
Effective Green, g (s)			8.6			100.0	40.8	39.0	39.0		79.4	71.6
Actuated g/C Ratio			0.09			1.00	0.41	0.39	0.39		0.79	0.72
Clearance Time (s)			6.0				6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)			3.0				3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			137			1596	105	1366	611		676	2509
v/s Ratio Prot							0.00	c0.40			c0.29	0.44
v/s Ratio Perm			0.00			c0.38	0.03		0.08		0.38	
v/c Ratio			0.03			0.38	0.08	1.01	0.19		0.85	0.62
Uniform Delay, d1			41.9			0.0	19.2	30.5	20.1		25.2	7.3
Progression Factor			1.00			1.00	0.75	0.75	0.39		1.04	0.39
Incremental Delay, d2			0.1			0.2	0.3	25.7	0.6		7.1	0.8
Delay (s)			41.9			0.2	14.6	48.6	8.4		33.3	3.7
Level of Service			D			A	B	D	A		C	A
Approach Delay (s)		41.9			0.2			41.6				11.6
Approach LOS		D			A			D				B

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	111.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	2
Future Volume (vph)	2
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1568
Flt Permitted	1.00
Satd. Flow (perm)	1568
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	2
RTOR Reduction (vph)	1
Lane Group Flow (vph)	1
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	71.6
Effective Green, g (s)	71.6
Actuated g/C Ratio	0.72
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1122
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.00
Uniform Delay, d1	4.0
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	4.0
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	37	0	0	547	7	1247	256	233	283	1400
Future Volume (vph)	0	0	37	0	0	547	7	1247	256	233	283	1400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	0		0	0		0	150		250		500	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	100			100			100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Ped Bike Factor												
Frt			0.865			0.865			0.850			
Flt Protected							0.950				0.950	
Satd. Flow (prot)	0	0	1596	0	0	1596	1752	3505	1568	0	1752	3505
Flt Permitted							0.103				0.089	
Satd. Flow (perm)	0	0	1596	0	0	1596	190	3505	1568	0	164	3505
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			182						271			
Link Speed (mph)		30			30			45				45
Link Distance (ft)		221			679			677				1137
Travel Time (s)		5.0			15.4			10.3				17.2
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	0	0	41	0	0	608	8	1386	284	259	314	1556
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	41	0	0	608	8	1386	284	0	573	1556
Turn Type			Perm			Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases							5	2		1	1	6
Permitted Phases			4			1 2 6 8	2		2	6	6	
Detector Phase			4			1 2 6 8	5	2	2	1	1	6
Switch Phase												
Minimum Initial (s)			5.0				5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)			15.0				15.0	22.0	22.0	15.0	15.0	22.0
Total Split (s)			15.0				15.0	49.0	49.0	36.0	36.0	70.0
Total Split (%)			15.0%				15.0%	49.0%	49.0%	36.0%	36.0%	70.0%
Yellow Time (s)			4.0				4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)			2.0				2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)			0.0				0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)			6.0				6.0	6.0	6.0		6.0	6.0
Lead/Lag							Lag	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode			None				None	C-Min	C-Min	None	None	C-Min
Act Effct Green (s)			8.6			100.0	48.8	43.8	43.8		79.4	76.4

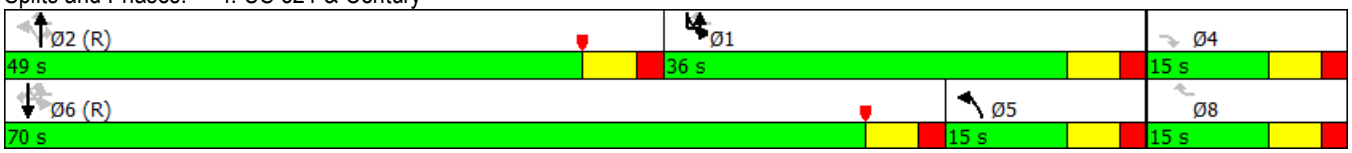
Lane Group	SBR	Ø8
Lane Configurations	↱	
Traffic Volume (vph)	2	
Future Volume (vph)	2	
Ideal Flow (vphpl)	1900	
Lane Width (ft)	12	
Grade (%)		
Storage Length (ft)	0	
Storage Lanes	1	
Taper Length (ft)		
Lane Util. Factor	1.00	
Ped Bike Factor		
Frt	0.850	
Flt Protected		
Satd. Flow (prot)	1568	
Flt Permitted		
Satd. Flow (perm)	1568	
Right Turn on Red	Yes	
Satd. Flow (RTOR)	98	
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor	0.90	
Growth Factor	100%	
Heavy Vehicles (%)	3%	
Bus Blockages (#/hr)	0	
Parking (#/hr)		
Mid-Block Traffic (%)		
Adj. Flow (vph)	2	
Shared Lane Traffic (%)		
Lane Group Flow (vph)	2	
Turn Type	Perm	
Protected Phases		8
Permitted Phases	6	
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	22.0	15.0
Total Split (s)	70.0	15.0
Total Split (%)	70.0%	15%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.0	
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	C-Min	None
Act Effct Green (s)	76.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Actuated g/C Ratio			0.09			1.00	0.49	0.44	0.44		0.79	0.76
v/c Ratio			0.14			0.38	0.04	0.90	0.34		0.95	0.58
Control Delay			0.9			0.7	5.9	28.3	2.0		53.0	3.1
Queue Delay			0.0			0.0	0.0	0.0	0.0		0.0	0.0
Total Delay			0.9			0.7	5.9	28.3	2.0		53.0	3.1
LOS			A			A	A	C	A		D	A
Approach Delay		0.9			0.7			23.7				16.5
Approach LOS		A			A			C				B
Queue Length 50th (ft)			0			0	1	362	8		321	12
Queue Length 95th (ft)			0			0	m2	m#472	m14		m#510	m194
Internal Link Dist (ft)		141			599			597				1057
Turn Bay Length (ft)							150		250		500	
Base Capacity (vph)			309			1551	237	1534	838		606	2677
Starvation Cap Reductn			0			0	0	0	0		0	0
Spillback Cap Reductn			0			0	0	0	0		0	0
Storage Cap Reductn			0			0	0	0	0		0	0
Reduced v/c Ratio			0.13			0.39	0.03	0.90	0.34		0.95	0.58

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 96 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 16.9 Intersection LOS: B
Intersection Capacity Utilization 111.9% ICU Level of Service H
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: US 521 & Century



Lane Group	SBR	Ø8
Actuated g/C Ratio	0.76	
v/c Ratio	0.00	
Control Delay	0.0	
Queue Delay	0.0	
Total Delay	0.0	
LOS	A	
Approach Delay		
Approach LOS		
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	m0	
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)	1221	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.00	

Intersection Summary

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	2	204	201	1301	0	0	756	680
Future Vol, veh/h	0	0	0	5	2	204	201	1301	0	0	756	680
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	0	300	-	-	-	-	200
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	6	2	227	223	1446	0	0	840	756

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2312	2732	723	840	0	-	-	-	0
Stage 1	1892	1892	-	-	-	-	-	-	-
Stage 2	420	840	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.56	6.96	4.16	-	-	-	-	-
Critical Hdwy Stg 1	5.86	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	2.23	-	-	-	-	-
Pot Cap-1 Maneuver	31	20	366	784	-	0	0	-	0
Stage 1	103	116	-	-	-	0	0	-	0
Stage 2	628	377	-	-	-	0	0	-	0
Platoon blocked, %					-			-	
Mov Cap-1 Maneuver	22	0	366	784	-	-	-	-	-
Mov Cap-2 Maneuver	22	0	-	-	-	-	-	-	-
Stage 1	74	0	-	-	-	-	-	-	-
Stage 2	628	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	36.6	1.5	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT
Capacity (veh/h)	784	-	22	366	-
HCM Lane V/C Ratio	0.285	-	0.354	0.619	-
HCM Control Delay (s)	11.4	-	240.4	29.6	-
HCM Lane LOS	B	-	F	D	-
HCM 95th %tile Q(veh)	1.2	-	1	4	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	787	3	252	0	0	0	0	688	9	7	204	544
Future Volume (veh/h)	787	3	252	0	0	0	0	688	9	7	204	544
Number	3	8	18				1	6	16		5	2
Initial Q (Qb), veh	0	0	0				0	0	0		0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1845	1845	1900				0	1845	1900		1845	1845
Adj Flow Rate, veh/h	876	0	0				0	764	0		227	604
Adj No. of Lanes	2	1	0				0	2	0		1	2
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90		0.90	0.90
Percent Heavy Veh, %	3	3	3				0	3	3		3	3
Cap, veh/h	1000	525	0				0	2087	0		407	2087
Arrive On Green	0.28	0.00	0.00				0.00	0.60	0.00		1.00	1.00
Sat Flow, veh/h	3514	1845	0				0	3689	0		693	3597
Grp Volume(v), veh/h	876	0	0				0	764	0		227	604
Grp Sat Flow(s),veh/h/ln	1757	1845	0				0	1752	0		693	1752
Q Serve(g_s), s	23.8	0.0	0.0				0.0	11.3	0.0		13.8	0.0
Cycle Q Clear(g_c), s	23.8	0.0	0.0				0.0	11.3	0.0		25.0	0.0
Prop In Lane	1.00		0.00				0.00		0.00		1.00	
Lane Grp Cap(c), veh/h	1000	525	0				0	2087	0		407	2087
V/C Ratio(X)	0.88	0.00	0.00				0.00	0.37	0.00		0.56	0.29
Avail Cap(c_a), veh/h	1300	683	0				0	2087	0		407	2087
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00		2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	0.00		1.00	1.00
Uniform Delay (d), s/veh	34.1	0.0	0.0				0.0	10.5	0.0		2.4	0.0
Incr Delay (d2), s/veh	5.7	0.0	0.0				0.0	0.5	0.0		5.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	0.0	0.0				0.0	5.6	0.0		3.1	0.1
LnGrp Delay(d),s/veh	39.8	0.0	0.0				0.0	11.0	0.0		7.8	0.4
LnGrp LOS	D							B			A	A
Approach Vol, veh/h		876						764				831
Approach Delay, s/veh		39.8						11.0				2.4
Approach LOS		D						B				A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		65.6				65.6		34.4
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		51.0				51.0		37.0
Max Q Clear Time (g_c+I1), s		27.0				13.3		25.8
Green Ext Time (p_c), s		11.7				14.3		2.7

Intersection Summary	
HCM 2010 Ctrl Delay	18.3
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Number	12
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Adj Sat Flow, veh/h/ln	0
Adj Flow Rate, veh/h	0
Adj No. of Lanes	0
Peak Hour Factor	0.90
Percent Heavy Veh, %	0
Cap, veh/h	0
Arrive On Green	0.00
Sat Flow, veh/h	0
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	0
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.00
Lane Grp Cap(c), veh/h	0
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	0
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer	

User approved ignoring U-Turning movement.

6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	787	3	252	0	0	0	0	688	9	7	204	544
Future Volume (vph)	787	3	252	0	0	0	0	688	9	7	204	544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	0		0	0		0	0		0		275	
Storage Lanes	1		0	0		0	0		0		1	
Taper Length (ft)	100			100			100				100	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Ped Bike Factor												
Frt		0.925						0.998				
Flt Protected	0.950	0.976									0.950	
Satd. Flow (prot)	1665	1582	0	0	0	0	0	3498	0	0	1752	3505
Flt Permitted	0.950	0.976									0.297	
Satd. Flow (perm)	1665	1582	0	0	0	0	0	3498	0	0	548	3505
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		57						2				
Link Speed (mph)		45			45			45				45
Link Distance (ft)		406			964			1214				707
Travel Time (s)		6.2			14.6			18.4				10.7
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	874	3	280	0	0	0	0	764	10	8	227	604
Shared Lane Traffic (%)	32%											
Lane Group Flow (vph)	594	563	0	0	0	0	0	774	0	0	235	604
Turn Type	Perm	NA						NA		Perm	Perm	NA
Protected Phases		8						6				2
Permitted Phases	8									2	2	
Detector Phase	8	8						6		2	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	5.0
Minimum Split (s)	15.0	15.0						22.0		22.0	22.0	22.0
Total Split (s)	43.0	43.0						57.0		57.0	57.0	57.0
Total Split (%)	43.0%	43.0%						57.0%		57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0						4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0						6.0			6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None						C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	38.0	38.0						50.0			50.0	50.0

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Grade (%)	
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.90
Growth Factor	100%
Heavy Vehicles (%)	3%
Bus Blockages (#/hr)	0
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	

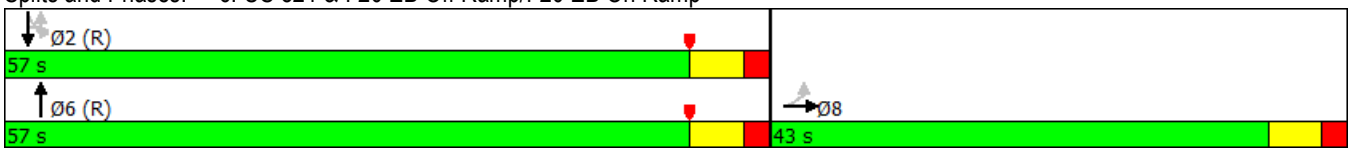
6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Actuated g/C Ratio	0.38	0.38						0.50			0.50	0.50
v/c Ratio	0.94	0.89						0.44			0.86	0.34
Control Delay	55.2	44.0						16.9			42.2	13.3
Queue Delay	0.0	0.0						0.0			0.0	0.0
Total Delay	55.2	44.0						16.9			42.2	13.3
LOS	E	D						B			D	B
Approach Delay		49.7						16.9				21.3
Approach LOS		D						B				C
Queue Length 50th (ft)	385	323						155			55	73
Queue Length 95th (ft)	#623	#547						202			#271	80
Internal Link Dist (ft)		326			884			1134				627
Turn Bay Length (ft)											275	
Base Capacity (vph)	633	637						1786			279	1789
Starvation Cap Reductn	0	0						0			0	0
Spillback Cap Reductn	0	0						0			0	0
Storage Cap Reductn	0	0						0			0	0
Reduced v/c Ratio	0.94	0.88						0.43			0.84	0.34

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 12 (12%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 32.0 Intersection LOS: C
Intersection Capacity Utilization 75.6% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: US 521 & I-20 EB Off Ramp/I-20 EB On Ramp



Lane Group	SBR
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

7: Black River Rd (S-12) & Tickle Hill Rd (S-403)

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	129	766	978	13	15	107
Future Vol, veh/h	129	766	978	13	15	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	143	851	1087	14	17	119

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1101	0	-	0	2232	1094
Stage 1	-	-	-	-	1094	-
Stage 2	-	-	-	-	1138	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	630	-	-	-	47	259
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	304	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	630	-	-	-	36	259
Mov Cap-2 Maneuver	-	-	-	-	36	-
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	235	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	47.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	630	-	-	-	36	259
HCM Lane V/C Ratio	0.228	-	-	-	0.463	0.459
HCM Control Delay (s)	12.4	-	-	-	172.4	30.2
HCM Lane LOS	B	-	-	-	F	D
HCM 95th %tile Q(veh)	0.9	-	-	-	1.6	2.3

8: Black River Rd (S-12) & Hermitage Farm Rd

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	821	933	0	1	3
Future Vol, veh/h	3	821	933	0	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	3	912	1037	0	1	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1037	0	-	0	1956	1037
Stage 1	-	-	-	-	1037	-
Stage 2	-	-	-	-	919	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	666	-	-	-	70	280
Stage 1	-	-	-	-	340	-
Stage 2	-	-	-	-	387	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	666	-	-	-	70	280
Mov Cap-2 Maneuver	-	-	-	-	70	-
Stage 1	-	-	-	-	340	-
Stage 2	-	-	-	-	385	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	28.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	666	-	-	-	160
HCM Lane V/C Ratio	0.005	-	-	-	0.028
HCM Control Delay (s)	10.4	-	-	-	28.1
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.1

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	667	38	320	708	8	123	0	965	1	0	36
Future Volume (veh/h)	41	667	38	320	708	8	123	0	965	1	0	36
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1900	1845	1900
Adj Flow Rate, veh/h	46	741	0	356	787	9	137	0	0	1	0	40
Adj No. of Lanes	1	1	1	2	1	0	1	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	427	920	782	447	1294	15	278	235	0	51	3	195
Arrive On Green	0.50	0.50	0.00	0.13	0.71	0.71	0.13	0.00	0.00	0.13	0.00	0.13
Sat Flow, veh/h	673	1845	1568	3408	1820	21	1348	1845	0	11	27	1532
Grp Volume(v), veh/h	46	741	0	356	0	796	137	0	0	41	0	0
Grp Sat Flow(s),veh/h/ln	673	1845	1568	1704	0	1841	1348	1845	0	1571	0	0
Q Serve(g_s), s	2.8	24.9	0.0	7.5	0.0	16.3	5.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	24.9	0.0	7.5	0.0	16.3	6.7	0.0	0.0	1.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.00	0.02		0.98
Lane Grp Cap(c), veh/h	427	920	782	447	0	1309	278	235	0	250	0	0
V/C Ratio(X)	0.11	0.81	0.00	0.80	0.00	0.61	0.49	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	501	1121	953	506	0	1541	1126	1395	0	1233	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.3	15.6	0.0	31.2	0.0	5.5	31.0	0.0	0.0	29.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	3.6	0.0	7.8	0.0	0.5	1.3	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	13.5	0.0	4.0	0.0	8.4	2.8	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	10.4	19.2	0.0	39.0	0.0	6.0	32.3	0.0	0.0	29.3	0.0	0.0
LnGrp LOS	B	B		D		A	C			C		
Approach Vol, veh/h		787			1152			137			41	
Approach Delay, s/veh		18.7			16.2			32.3			29.3	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	15.7	42.9		15.4		58.6		15.4
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	11.0	45.0		56.0		62.0		56.0
Max Q Clear Time (g_c+I1), s	9.5	26.9		3.7		18.3		8.7
Green Ext Time (p_c), s	0.2	10.0		0.7		14.9		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	667	38	320	708	8	123	0	965	1	0	36
Future Volume (vph)	41	667	38	320	708	8	123	0	965	1	0	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		325	300		0	0		0	100		0
Storage Lanes	1		1	1		0	1		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.998			0.850			0.868	
Flt Protected	0.950			0.950			0.950				0.999	
Satd. Flow (prot)	1752	1845	1568	3400	1841	0	1752	1568	0	0	1600	0
Flt Permitted	0.114			0.950			0.730				0.792	
Satd. Flow (perm)	210	1845	1568	3400	1841	0	1347	1568	0	0	1268	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126		1			264			76	
Link Speed (mph)		45			45			30			25	
Link Distance (ft)		5109			1082			741			274	
Travel Time (s)		77.4			16.4			16.8			7.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	46	741	42	356	787	9	137	0	1072	1	0	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	741	42	356	796	0	137	1072	0	0	41	0
Turn Type	Perm	NA	Free	Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		Free				8			4		
Detector Phase	2	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		22.0	22.0		15.0	15.0	
Total Split (s)	51.0	51.0		17.0	68.0		62.0	62.0		62.0	62.0	
Total Split (%)	39.2%	39.2%		13.1%	52.3%		47.7%	47.7%		47.7%	47.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Recall Mode	None	None		None	None		Min	Min		None	None	
Act Effct Green (s)	45.0	45.0	130.0	11.0	62.0		56.0	56.0			56.0	

9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.35	0.35	1.00	0.08	0.48		0.43	0.43			0.43	
v/c Ratio	0.64	1.16	0.03	1.24	0.91		0.24	1.30			0.07	
Control Delay	76.9	127.8	0.0	182.2	46.8		24.9	169.1			1.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	76.9	127.8	0.0	182.2	46.8		24.9	169.1			1.1	
LOS	E	F	A	F	D		C	F			A	
Approach Delay		118.5			88.6			152.8			1.1	
Approach LOS		F			F			F			A	
Queue Length 50th (ft)	32	~738	0	~191	603		72	~1025			0	
Queue Length 95th (ft)	#103	#980	0	#291	#871		120	#1288			5	
Internal Link Dist (ft)		5029			1002			661			194	
Turn Bay Length (ft)	150		325	300								
Base Capacity (vph)	72	638	1568	287	878		580	825			589	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.64	1.16	0.03	1.24	0.91		0.24	1.30			0.07	

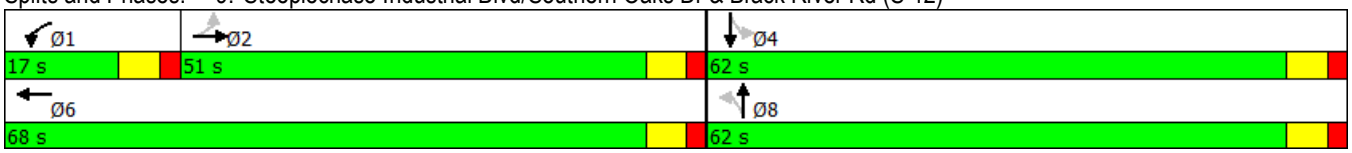
Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.30
Intersection Signal Delay: 119.2 Intersection LOS: F
Intersection Capacity Utilization 119.0% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Steeplechase Industrial Blvd/Southern Oaks Dr & Black River Rd (S-12)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	276	1411	779	71	110	172
Future Volume (veh/h)	276	1411	779	71	110	172
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	307	1568	866	79	122	191
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	497	2486	1841	1041	244	387
Arrive On Green	0.11	0.71	0.53	0.53	0.14	0.14
Sat Flow, veh/h	1757	3597	3597	1568	1757	1568
Grp Volume(v), veh/h	307	1568	866	79	122	191
Grp Sat Flow(s),veh/h/ln	1757	1752	1752	1568	1757	1568
Q Serve(g_s), s	5.7	18.6	12.3	1.4	5.1	8.3
Cycle Q Clear(g_c), s	5.7	18.6	12.3	1.4	5.1	8.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	497	2486	1841	1041	244	387
V/C Ratio(X)	0.62	0.63	0.47	0.08	0.50	0.49
Avail Cap(c_a), veh/h	930	3862	2353	1270	467	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.3	6.0	11.8	4.7	31.5	25.5
Incr Delay (d2), s/veh	1.3	0.3	0.2	0.0	1.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	8.8	5.9	0.9	2.6	7.4
LnGrp Delay(d),s/veh	9.6	6.3	12.0	4.7	33.1	26.5
LnGrp LOS	A	A	B	A	C	C
Approach Vol, veh/h		1875	945		313	
Approach Delay, s/veh		6.8	11.4		29.1	
Approach LOS		A	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		62.0		17.0	14.5	47.5		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		87.0		21.0	28.0	53.0		
Max Q Clear Time (g_c+I1), s		20.6		10.3	7.7	14.3		
Green Ext Time (p_c), s		35.4		0.7	0.8	25.9		

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

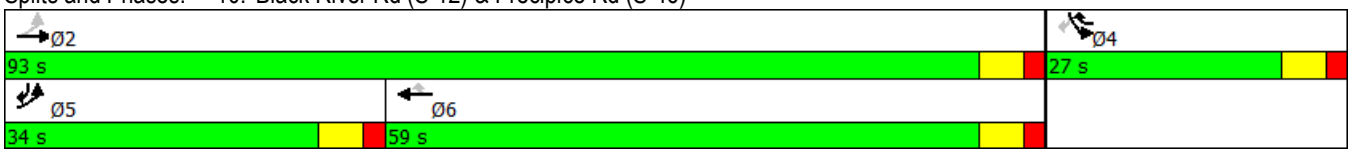
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	276	1411	779	71	110	172
Future Volume (vph)	276	1411	779	71	110	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	150			150	150	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Flt Permitted	0.169				0.950	
Satd. Flow (perm)	312	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				79		80
Link Speed (mph)		45	45		45	
Link Distance (ft)		3189	2076		512	
Travel Time (s)		48.3	31.5		7.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	307	1568	866	79	122	191
Shared Lane Traffic (%)						
Lane Group Flow (vph)	307	1568	866	79	122	191
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	5	2	6	4	4	5
Permitted Phases	2			6	4	4
Detector Phase	5	2	6	4	4	5
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	22.0	22.0	15.0	15.0	15.0
Total Split (s)	34.0	93.0	59.0	27.0	27.0	34.0
Total Split (%)	28.3%	77.5%	49.2%	22.5%	22.5%	28.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	None	Min	Min	Min	None
Act Effct Green (s)	43.6	43.6	23.5	40.2	10.5	30.6

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Actuated g/C Ratio	0.65	0.65	0.35	0.60	0.16	0.46
v/c Ratio	0.61	0.68	0.70	0.08	0.44	0.25
Control Delay	13.8	9.0	22.4	1.8	33.7	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	9.0	22.4	1.8	33.7	8.2
LOS	B	A	C	A	C	A
Approach Delay		9.8	20.7		18.1	
Approach LOS		A	C		B	
Queue Length 50th (ft)	42	168	149	0	44	24
Queue Length 95th (ft)	138	288	265	15	114	74
Internal Link Dist (ft)		3109	1996		432	
Turn Bay Length (ft)	150			150	150	
Base Capacity (vph)	834	3489	2853	1232	574	1105
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.45	0.30	0.06	0.21	0.17

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 66.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 13.9 — Intersection LOS: B
Intersection Capacity Utilization 57.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 10: Black River Rd (S-12) & Precipice Rd (S-46)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	863	617	394	3	14	446
Future Volume (veh/h)	863	617	394	3	14	446
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1845
Adj Flow Rate, veh/h	959	686	438	3	16	0
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	988	1537	487	3	33	29
Arrive On Green	0.49	0.83	0.27	0.27	0.02	0.00
Sat Flow, veh/h	1757	1845	1830	13	1757	1568
Grp Volume(v), veh/h	959	686	0	441	16	0
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1842	1757	1568
Q Serve(g_s), s	37.0	8.0	0.0	18.7	0.7	0.0
Cycle Q Clear(g_c), s	37.0	8.0	0.0	18.7	0.7	0.0
Prop In Lane	1.00			0.01	1.00	1.00
Lane Grp Cap(c), veh/h	988	1537	0	490	33	29
V/C Ratio(X)	0.97	0.45	0.00	0.90	0.49	0.00
Avail Cap(c_a), veh/h	1012	1573	0	501	195	174
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.2	1.8	0.0	28.6	39.3	0.0
Incr Delay (d2), s/veh	21.3	0.2	0.0	18.8	10.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.1	4.1	0.0	12.0	0.5	0.0
LnGrp Delay(d),s/veh	36.5	2.0	0.0	47.5	50.1	0.0
LnGrp LOS	D	A		D	D	
Approach Vol, veh/h		1645	441		16	
Approach Delay, s/veh		22.1	47.5		50.1	
Approach LOS		C	D		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		73.4		7.5	45.9	27.5		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		69.0		9.0	41.0	22.0		
Max Q Clear Time (g_c+I1), s		10.0		2.7	39.0	20.7		
Green Ext Time (p_c), s		8.6		0.0	0.9	0.9		

Intersection Summary	
HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C

11: Black River Rd (S-12) & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	863	617	394	3	14	446
Future Volume (vph)	863	617	394	3	14	446
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	150	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.999			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1845	1843	0	1752	1568
Flt Permitted	0.143				0.950	
Satd. Flow (perm)	264	1845	1843	0	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						496
Link Speed (mph)		45	45		45	
Link Distance (ft)		2076	6634		1200	
Travel Time (s)		31.5	100.5		18.2	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	959	686	438	3	16	496
Shared Lane Traffic (%)						
Lane Group Flow (vph)	959	686	441	0	16	496
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	5	2	6		4	4
Permitted Phases	2					
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	15.0	22.0	22.0		15.0	15.0
Total Split (s)	47.0	75.0	28.0		15.0	15.0
Total Split (%)	52.2%	83.3%	31.1%		16.7%	16.7%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	None	Min		None	None
Act Effct Green (s)	69.0	69.0	22.0		7.7	7.7

11: Black River Rd (S-12) & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Actuated g/C Ratio	0.78	0.78	0.25		0.09	0.09
v/c Ratio	1.07	0.48	0.97		0.11	0.84
Control Delay	73.4	4.9	69.7		38.7	18.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	73.4	4.9	69.7		38.7	18.4
LOS	E	A	E		D	B
Approach Delay		44.8	69.7		19.0	
Approach LOS		D	E		B	
Queue Length 50th (ft)	~544	99	241		8	0
Queue Length 95th (ft)	#808	169	#440		28	#145
Internal Link Dist (ft)		1996	6554		1120	
Turn Bay Length (ft)					150	
Base Capacity (vph)	893	1434	456		177	604
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	1.07	0.48	0.97		0.09	0.82

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 88.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 43.9 Intersection LOS: D
Intersection Capacity Utilization 87.9% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Black River Rd (S-12) & Mount Olivet Rd (S-189)

12: Black River Rd (S-12) & Cleveland School Rd (S-91)

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	537	375	29	118	26
Future Vol, veh/h	56	537	375	29	118	26
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	62	597	417	32	131	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	449	0	-	0	1154	433
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	721	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1106	-	-	-	217	621
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	480	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1106	-	-	-	199	621
Mov Cap-2 Maneuver	-	-	-	-	199	-
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	440	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	51.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1106	-	-	-	227
HCM Lane V/C Ratio	0.056	-	-	-	0.705
HCM Control Delay (s)	8.4	0	-	-	51.6
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	4.6

13: Cleveland School Rd (S-91) & Dr Humphries Rd

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	69	6	9	29	64	141
Future Vol, veh/h	69	6	9	29	64	141
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	77	7	10	32	71	157

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	42	0	-	0	186	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	160	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1561	-	-	-	801	1047
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	866	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1561	-	-	-	761	1047
Mov Cap-2 Maneuver	-	-	-	-	761	-
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	823	-

Approach	EB	WB	SB
HCM Control Delay, s	6.8	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1561	-	-	-	937
HCM Lane V/C Ratio	0.049	-	-	-	0.243
HCM Control Delay (s)	7.4	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1

14: Dr Humphries Rd & I-20 EB Off Ramp/I-20 EB On Ramp

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	509	1	55	0	0	0	0	75	22	253	143	0
Future Volume (veh/h)	509	1	55	0	0	0	0	75	22	253	143	0
Number	3	8	18				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900				0	1845	1900	1845	1845	0
Adj Flow Rate, veh/h	566	1	0				0	83	0	281	159	0
Adj No. of Lanes	2	1	0				0	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	898	486	0				0	645	0	646	645	0
Arrive On Green	0.26	0.26	0.00				0.00	0.35	0.00	0.35	0.35	0.00
Sat Flow, veh/h	3408	1845	0				0	1845	0	1297	1845	0
Grp Volume(v), veh/h	566	1	0				0	83	0	281	159	0
Grp Sat Flow(s),veh/h/ln	1704	1845	0				0	1845	0	1297	1845	0
Q Serve(g_s), s	4.5	0.0	0.0				0.0	1.0	0.0	5.8	1.9	0.0
Cycle Q Clear(g_c), s	4.5	0.0	0.0				0.0	1.0	0.0	6.8	1.9	0.0
Prop In Lane	1.00		0.00				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	898	486	0				0	645	0	646	645	0
V/C Ratio(X)	0.63	0.00	0.00				0.00	0.13	0.00	0.44	0.25	0.00
Avail Cap(c_a), veh/h	2088	1130	0				0	1725	0	1405	1725	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.1	8.4	0.0				0.0	6.9	0.0	9.2	7.2	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0				0.0	0.1	0.0	0.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0				0.0	0.5	0.0	2.1	1.0	0.0
LnGrp Delay(d),s/veh	10.8	8.4	0.0				0.0	7.0	0.0	9.6	7.4	0.0
LnGrp LOS	B	A						A		A	A	
Approach Vol, veh/h		567						83			440	
Approach Delay, s/veh		10.8						7.0			8.8	
Approach LOS		B						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		16.8				16.8		14.2
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		29.0				29.0		19.0
Max Q Clear Time (g_c+I1), s		8.8				3.0		6.5
Green Ext Time (p_c), s		2.0				2.1		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	9.7
HCM 2010 LOS	A

14: Dr Humphries Rd & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	509	1	55	0	0	0	0	75	22	253	143	0
Future Volume (vph)	509	1	55	0	0	0	0	75	22	253	143	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	400		200	0		0	0		100	200		0
Storage Lanes	1		1	0		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.852						0.970				
Flt Protected	0.950									0.950		
Satd. Flow (prot)	3400	1572	0	0	0	0	0	1789	0	1752	1845	0
Flt Permitted	0.950									0.688		
Satd. Flow (perm)	3400	1572	0	0	0	0	0	1789	0	1269	1845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61						24				
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1566			592			1210			1247	
Travel Time (s)		23.7			9.0			18.3			18.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	566	1	61	0	0	0	0	83	24	281	159	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	566	62	0	0	0	0	0	107	0	281	159	0
Turn Type	Prot	NA						NA		Perm	NA	
Protected Phases	3	8						6			2	
Permitted Phases										2		
Detector Phase	3	8						6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	
Minimum Split (s)	11.0	15.0						22.0		22.0	22.0	
Total Split (s)	25.0	25.0						35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%						58.3%		58.3%	58.3%	
Yellow Time (s)	4.0	4.0						4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0						2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0						0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0						6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None						Min		Min	Min	
Act Effct Green (s)	12.1	12.1						14.5		14.5	14.5	

14: Dr Humphries Rd & I-20 EB Off Ramp/I-20 EB On Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.31	0.31						0.37		0.37	0.37	
v/c Ratio	0.54	0.12						0.16		0.60	0.23	
Control Delay	14.2	5.0						7.5		16.3	9.7	
Queue Delay	0.0	0.0						0.0		0.0	0.0	
Total Delay	14.2	5.0						7.5		16.3	9.7	
LOS	B	A						A		B	A	
Approach Delay		13.3						7.5			13.9	
Approach LOS		B						A			B	
Queue Length 50th (ft)	47	0						10		43	21	
Queue Length 95th (ft)	113	20						38		120	60	
Internal Link Dist (ft)		1486			512			1130			1167	
Turn Bay Length (ft)	400									200		
Base Capacity (vph)	1739	834						1388		981	1426	
Starvation Cap Reductn	0	0						0		0	0	
Spillback Cap Reductn	0	0						0		0	0	
Storage Cap Reductn	0	0						0		0	0	
Reduced v/c Ratio	0.33	0.07						0.08		0.29	0.11	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 39.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 13.0 Intersection LOS: B
Intersection Capacity Utilization 105.5% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 14: Dr Humphries Rd & I-20 EB Off Ramp/I-20 EB On Ramp

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	14	0	118	20	562	0	0	384	1359
Future Vol, veh/h	0	0	0	14	0	118	20	562	0	0	384	1359
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Yield	Yield	Yield	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	200	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	16	0	131	22	624	0	0	427	1510

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1096	1096	312	427	0	-	-	-	0
Stage 1	669	669	-	-	-	-	-	-	-
Stage 2	427	427	-	-	-	-	-	-	-
Critical Hdwy	6.645	6.545	6.945	4.145	-	-	-	-	-
Critical Hdwy Stg 1	5.845	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.445	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	2.2285	-	-	-	-	-
Pot Cap-1 Maneuver	220	211	682	1124	-	0	0	-	0
Stage 1	469	453	-	-	-	0	0	-	0
Stage 2	655	582	-	-	-	0	0	-	0
Platoon blocked, %					-			-	
Mov Cap-1 Maneuver	216	0	682	1124	-	-	-	-	-
Mov Cap-2 Maneuver	338	0	-	-	-	-	-	-	-
Stage 1	460	0	-	-	-	-	-	-	-
Stage 2	655	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT
Capacity (veh/h)	1124	-	763	-
HCM Lane V/C Ratio	0.02	-	0.192	-
HCM Control Delay (s)	8.3	-	10.8	-
HCM Lane LOS	A	-	B	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	9	1318	7	6	0	470	201	13	2	417	77
Future Volume (veh/h)	150	9	1318	7	6	0	470	201	13	2	417	77
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	167	10	1464	8	7	0	522	223	14	2	463	86
Adj No. of Lanes	1	1	2	1	1	0	2	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	344	314	1022	170	314	0	682	1106	69	507	531	99
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.00	0.20	0.64	0.64	0.35	0.35	0.35
Sat Flow, veh/h	1389	1845	2760	354	1845	0	3408	1718	108	1127	1514	281
Grp Volume(v), veh/h	167	10	1464	8	7	0	522	0	237	2	0	549
Grp Sat Flow(s),veh/h/ln	1389	1845	1380	354	1845	0	1704	0	1826	1127	0	1795
Q Serve(g_s), s	7.4	0.3	11.0	1.2	0.2	0.0	9.3	0.0	3.4	0.1	0.0	18.5
Cycle Q Clear(g_c), s	7.6	0.3	11.0	1.5	0.2	0.0	9.3	0.0	3.4	0.1	0.0	18.5
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.06	1.00		0.16
Lane Grp Cap(c), veh/h	344	314	1022	170	314	0	682	0	1176	507	0	630
V/C Ratio(X)	0.49	0.03	1.43	0.05	0.02	0.00	0.77	0.00	0.20	0.00	0.00	0.87
Avail Cap(c_a), veh/h	344	314	1022	170	314	0	1319	0	1611	565	0	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	22.4	20.3	23.0	22.3	0.0	24.4	0.0	4.7	13.6	0.0	19.6
Incr Delay (d2), s/veh	1.1	0.0	200.1	0.1	0.0	0.0	1.8	0.0	0.1	0.0	0.0	10.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.2	37.5	0.1	0.1	0.0	4.5	0.0	1.7	0.0	0.0	10.9
LnGrp Delay(d),s/veh	26.5	22.4	220.4	23.1	22.3	0.0	26.2	0.0	4.8	13.6	0.0	29.9
LnGrp LOS	C	C	F	C	C		C		A	B		C
Approach Vol, veh/h		1641			15			759			551	
Approach Delay, s/veh		199.5			22.8			19.5			29.8	
Approach LOS		F			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	18.9	28.7		17.0		47.6		17.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s	25.0	26.0		11.0		57.0		11.0
Max Q Clear Time (g_c+I1), s	11.3	20.5		3.5		5.4		13.0
Green Ext Time (p_c), s	1.6	2.2		4.4		5.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	121.0
HCM 2010 LOS	F

16: Dr Humphries Rd & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	9	1318	7	6	0	470	201	13	2	417	77
Future Volume (vph)	150	9	1318	7	6	0	470	201	13	2	417	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		1000	150		0	300		0	150		0
Storage Lanes	2		1	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850					0.991			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	2760	1752	1845	0	3400	1828	0	1752	1802	0
Flt Permitted	0.753			0.751			0.950			0.611		
Satd. Flow (perm)	1389	1845	2760	1385	1845	0	3400	1828	0	1127	1802	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			295					10			12	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1360			829			820			3375	
Travel Time (s)		20.6			12.6			12.4			51.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	167	10	1464	8	7	0	522	223	14	2	463	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	10	1464	8	7	0	522	237	0	2	549	0
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Perm	NA	
Protected Phases		8	1		4		1	6			2	
Permitted Phases	8		8	4						2		
Detector Phase	8	8	1	4	4		1	6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		15.0	22.0		22.0	22.0	
Total Split (s)	17.0	17.0	31.0	17.0	17.0		31.0	63.0		32.0	32.0	
Total Split (%)	21.3%	21.3%	38.8%	21.3%	21.3%		38.8%	78.8%		40.0%	40.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)	11.0	11.0	41.7	11.0	11.0		24.7	56.0		25.3	25.3	

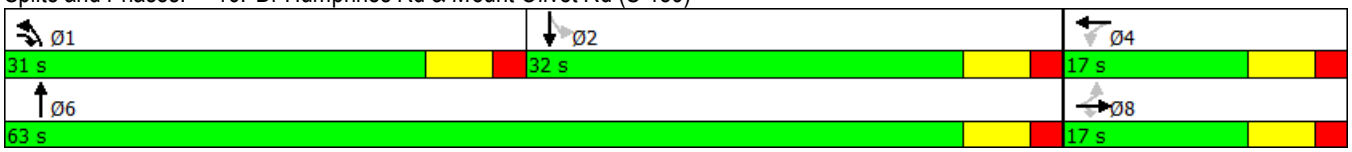
16: Dr Humphries Rd & Mount Olivet Rd (S-189)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.14	0.53	0.14	0.14		0.31	0.71		0.32	0.32	
v/c Ratio	0.87	0.04	0.92	0.04	0.03		0.49	0.18		0.01	0.94	
Control Delay	74.6	30.4	24.7	30.7	30.3		24.1	4.0		18.5	52.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	74.6	30.4	24.7	30.7	30.3		24.1	4.0		18.5	52.4	
LOS	E	C	C	C	C		C	A		B	D	
Approach Delay		29.8			30.5			17.8			52.2	
Approach LOS		C			C			B			D	
Queue Length 50th (ft)	83	4	300	4	3		108	31		1	257	
Queue Length 95th (ft)	#194	18	#498	16	14		153	52		5	#453	
Internal Link Dist (ft)		1280			749			740			3295	
Turn Bay Length (ft)	150		1000	150			300			150		
Base Capacity (vph)	193	256	1606	193	256		1076	1322		371	601	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.87	0.04	0.91	0.04	0.03		0.49	0.18		0.01	0.91	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 79
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 30.9 Intersection LOS: C
Intersection Capacity Utilization 91.9% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: Dr Humphries Rd & Mount Olivet Rd (S-189)



Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	10	218	45	0	48	164	10	0	62	206	77	0	20	95	6
Future Vol, veh/h	0	10	218	45	0	48	164	10	0	62	206	77	0	20	95	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	11	242	50	0	53	182	11	0	69	229	86	0	22	106	7
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15	13.8	18.1	11.6
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	4%	22%	17%
Vol Thru, %	60%	80%	74%	79%
Vol Right, %	22%	16%	5%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	345	273	222	121
LT Vol	62	10	48	20
Through Vol	206	218	164	95
RT Vol	77	45	10	6
Lane Flow Rate	383	303	247	134
Geometry Grp	1	1	1	1
Degree of Util (X)	0.624	0.506	0.425	0.242
Departure Headway (Hd)	5.859	6.003	6.198	6.479
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	617	601	580	553
Service Time	3.878	4.028	4.248	4.534
HCM Lane V/C Ratio	0.621	0.504	0.426	0.242
HCM Control Delay	18.1	15	13.8	11.6
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	4.3	2.9	2.1	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	641	265	239	846	274	254
Future Volume (veh/h)	641	265	239	846	274	254
Number	2	12	1	6	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	712	294	266	940	304	282
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	996	1150	362	1266	340	439
Arrive On Green	0.54	0.54	0.09	0.69	0.19	0.19
Sat Flow, veh/h	1845	1568	1757	1845	1757	1568
Grp Volume(v), veh/h	712	294	266	940	304	282
Grp Sat Flow(s),veh/h/ln	1845	1568	1757	1845	1757	1568
Q Serve(g_s), s	28.9	6.1	6.3	32.6	16.9	15.8
Cycle Q Clear(g_c), s	28.9	6.1	6.3	32.6	16.9	15.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	996	1150	362	1266	340	439
V/C Ratio(X)	0.71	0.26	0.73	0.74	0.89	0.64
Avail Cap(c_a), veh/h	996	1150	439	1266	369	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	4.4	16.5	10.0	39.3	31.6
Incr Delay (d2), s/veh	2.7	0.3	5.0	4.0	21.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.4	4.7	4.6	17.6	10.3	7.2
LnGrp Delay(d),s/veh	19.9	4.7	21.6	14.0	61.2	34.4
LnGrp LOS	B	A	C	B	E	C
Approach Vol, veh/h	1006			1206	586	
Approach Delay, s/veh	15.5			15.7	48.3	
Approach LOS	B			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.6	60.0				74.6		25.4
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	13.0	48.0				67.0		21.0
Max Q Clear Time (g_c+I1), s	8.3	30.9				34.6		18.9
Green Ext Time (p_c), s	0.3	11.1				16.4		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C

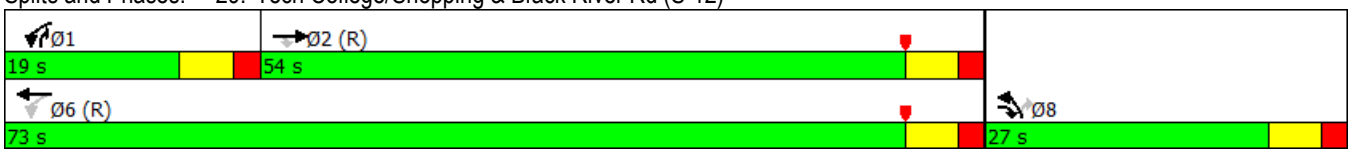
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	641	265	239	846	274	254
Future Volume (vph)	641	265	239	846	274	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	250		250	0
Storage Lanes		1	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1845	1568	1752	1845	1752	1568
Flt Permitted			0.172		0.950	
Satd. Flow (perm)	1845	1568	317	1845	1752	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		237				155
Link Speed (mph)	45			45	30	
Link Distance (ft)	1830			880	1149	
Travel Time (s)	27.7			13.3	26.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	712	294	266	940	304	282
Shared Lane Traffic (%)						
Lane Group Flow (vph)	712	294	266	940	304	282
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2	6			8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	11.0
Total Split (s)	54.0	27.0	19.0	73.0	27.0	19.0
Total Split (%)	54.0%	27.0%	19.0%	73.0%	27.0%	19.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Max	None	None
Act Effct Green (s)	50.8	76.8	68.1	68.1	19.9	37.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Actuated g/C Ratio	0.51	0.77	0.68	0.68	0.20	0.37
v/c Ratio	0.76	0.23	0.71	0.75	0.87	0.41
Control Delay	15.0	0.4	19.1	15.5	64.2	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	0.4	19.1	15.5	64.2	11.4
LOS	B	A	B	B	E	B
Approach Delay	10.7			16.3	38.8	
Approach LOS	B			B	D	
Queue Length 50th (ft)	149	0	59	359	186	53
Queue Length 95th (ft)	m180	m0	125	534	#326	117
Internal Link Dist (ft)	1750			800	1069	
Turn Bay Length (ft)			250		250	
Base Capacity (vph)	937	1273	402	1256	367	705
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.23	0.66	0.75	0.83	0.40

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 92 (92%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 19.0 Intersection LOS: B
Intersection Capacity Utilization 77.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 29: Tech College/Shopping & Black River Rd (S-12)



Appendix K Stakeholder Meeting Summaries

AECOM

Meeting Summary

Meeting name	**Meeting Date**
Stakeholders Meeting	July 19, 2017

Time	**Location**
9:00 AM (EST) 11:00 AM (EST) 2:00 PM (EST)	Kershaw County Economic Development Office 80 Campus Drive Camden, SC 29020

Project Name	**AECOM Project No.**
Black River Road Corridor Study	60544501

Attendees:
The following project team members were at each meeting, see below for stakeholder attendance at each meeting.
Michael Conley (Kershaw County)
Peggy McLean (Kershaw County)
New Planner (Kershaw County)
Patrick Tyndall (AECOM)
Ryan Eckenrode (AECOM)
Carey Barr (AECOM)
Kory Wilmot (AECOM)

The purpose of the meetings was to describe to stakeholders the purpose of the corridor study, provide background as to what led the County to conduct the study, present the study area and describe what the project team knows about existing conditions (traffic, land use, etc.) & and request the stakeholders provide relevant information they may know about the study area, as well as concerns/issues they would like to see addressed. The project team also provided a project schedule, with the final Corridor Study being delivered in December 2017.

The same power point presentation was presented at each meeting. Mr. Conley noted that the County wants to get everything they can out of the study, so that they can plan and make decisions efficiently for the long term, not just based on immediate needs or conditions.

<u>Feedback From Project Stakeholders</u>

9:00 AM Stakeholder Meeting

This meeting was attended by the following individuals:

Joe Floyd, City of Camden	Tom Couch, City of Camden
Danny Templar, Kershaw County	Eddie Rodelspenger, Kershaw County Schools
Ed Qualtrough, Central Carolina Technical College	Brian Motley, SCDOT
Ed Sawyer, SCDOT	Joey Riddle, SCDOT
Joey Rhoades, SCDOT	Ashley Johnson, SCDOT
Chris Kelly, SCDOT	Kyle Kelly, Santee-Lynches COG
Susan Landfried, Santee-Lynches COG	Michael Todd, SCDOT
Billy D. Smith, Kershaw County Schools	

Century Boulevard/CCTC/ATEC Access:

The existing access to the Central Carolina Technical College (CCTC) and Kershaw County School District's future Advanced Technical Education Center (ATEC) is on Century Boulevard from US 521. This intersection presents a serious issue, with a high number of severe accidents with injuries. The SCDOT has provided AECOM with accident data at the Century Blvd. /US 521 intersection.

Camden Police Chief noted they "life-flight" more people from accidents at the US 21/Century Blvd. intersection than any other location within City limits. He also noted that the police department keeps a detailed data base of all accidents & tickets worked/issued by the department. That information can be made available to the project team if requested.

School District representatives noted that they are pursuing a main entrance with a new location drive from Black River Road along an existing corridor through private property. The landowner is willing to donate a specific corridor through the property. The district has submitted plans to SCDOT for review and has received comments. The department has recommended that the intersection at Century Blvd be closed to left turns from Century Blvd. and a bulb-out for turn-around be provided north of the intersection. The SCDOT's recommendations also included realigning the proposed intersection of the new access at River Road to align with Tickle Hill Road or and existing drive.

Mr. Riddle of SCDOT noted that the safety improvement funds for safety improvements to the US 521/Century Boulevard intersection are no longer available.

Land Use

ATEC: Construction is expected to begin on the new ATEC campus in December 2017, opening in June 2019. The school district anticipates 500 students plus faculty and staff, both in the morning and afternoon sessions. The school district has 4 busses available to bus students to/from the district's schools, but some students will use their own vehicles (anticipate up to 350 vehicles between 8AM-9AM weekdays) to commute to/from the Campus.

CCTC: Construction is currently underway for phase two of the CCTC campus; this includes a larger additional classroom/lab building. The College expects at least 200 additional students per day when Phase 2 opens in January 2018, further increasing additional 300-400 students per day when the engineering graphics lab is moved to campus after January 2018.

Governor's Hill Industrial Park: Will be located on Dr. Humphries Rd. Timbering of the site will begin in late 2017; there is a spec. building ready to be constructed. The County would like to see as much truck traffic as possible directed to use Exit 101 at I-20 via Black River Road and Mt. Olivet Road, instead of using Exit 98, via Black River Road and US 521. Existing intersections would need to be improved to accommodate truck turning movements via Black River Road and Mr. Olivet Road. Mr. Sawyer of SCDOT noted that the developer of the Industrial Park should be required to make any necessary improvements to existing intersections [on state roads], that the SCDOT would not.

Equine Center: It was noted that the equine enter plans to expand their facilities within the existing property they currently own. Most traffic to the equine center is confined to weekends.

Bike & Pedestrian Issues: The Black River Road Corridor is identified as a bike and pedestrian corridor in the County's Bicycle, Pedestrian, and Greenways Plan, and providing a greenway along the Duke Power easement connecting to the City of Camden.

Constraints: There was some discussion to existing constraints to potential widened typical sections on Black River Road. One constraint as utilities, specifically existing power lines parallel to the roadway on both sides. Mr. Couch of City of Camden noted that the City owns the poles with the street lights and Duke/Progress Energy owns the other facilities and they do not co-locate on poles. Water & communications appurtenances were also noted in the field view.
Mulberry Plantation: There was discussion of the potential for future development. It was noted that the plantation itself is a Historic District; but that the surrounding property is owned by the same family/group and they have publicly stated they do not have an intention to sell or develop the land.

11:00 AM Stakeholder Meeting

This meeting was attended by the following individuals:

Jeffrey Graham, City of Camden	Ben Connell, Kershaw County
Mel Pearson, City of Camden	Donnie Wilson, Kershaw County Schools
Frank Morgan, Kershaw County Schools	John Burns, City of Camden
State Representative Laurie Funderburk	

Traffic in the Corridor

There was a discussion of traffic concerns within the study area, particularly at the US 521/Century Blvd. There were questions as to if there was crash data by type of vehicle at this intersection. Mr. Eckenrode stated that he would need to look more closely at the data that was provided. [It is possible that this type of data could be collected by the City of Camden Police Department and requested from them about incidents they worked].

Councilman Connell asked about the trend in traffic count data, noting he'd seen traffic counts for White Pond Road by SCDOT indicating a reduction in traffic volumes on that road, he questioned the validity. Mr. Eckenrode noted that there was a period of time, during the recession in particular, that as gas prices increased, traffic volumes declined overall, but in recent years they are increasing again. While we may see a reduction in overall volume from several years ago, the overall recent trend is increasing.

It was also noted that tractor-trailer and other large trucks park Century Blvd. when using the convenience store/gas station/McDonalds. There is a sign on the McDonalds/gas station property requesting that driver's park on Century Blvd.

Land Use

Councilman Graham noted that there are at least 15 other sites along US 521/Century Blvd. that are available for commercial development.

There was discussion regarding access to future commercial development along US 521 and if additional frontage road/other access management requirements would be made by SCDOT to limit the number of access points to US 521, and thus reduce conflict points for access to US 521.

The expectation is that the with the ATEC/CCTC campus opening will drive commercial development that caters to students/staff (fast food, convenience, etc.)

There are plans for a Hampton Inn to be located on the property across the street from the Holiday Inn Express on US 521. The Fox Run Apartment Complex on US 521 has room for an additional 50 units.

There is an expectation that there will also be more residential subdivisions within the study area, in the Black River Road Corridor, near the Precipice Road area in particular, the surrounding property is owned by a residential developer.

US 521 is the "gateway" to the City of Camden and the City would like to retain the historic look/feel to this gateway.

There was support for a Bide/Pedestrian/Greenway link from the Black River Road corridor (and particularly the CCTC/ATEC campuses to the City of Camden.

Rep. Funderburk noted that there is a plan for a Visitors Center near the Historic Camden site. She was under if this would be a part of the Camden/Kershaw Visitors center.

Mr. Burns of City of Camden Planning & Zoning noted that they have seen preliminary drawings for an industrial development on Black River Road on the east side of the Fox Run Apartments, with approximately 100 parking spaces, but no formal plan review submission yet.

There was discussion about separating truck traffic from other vehicular traffic on Black River Road, and methods to encourage truck traffic to use Exit 101 on I-20. Some two ideas voiced were:

- Creation of a new frontage road behind the industrial park (possibly extend Wall St.) parallel to I-20 to Mt. Olivet Road.
- Closing Century Boulevard at US 521 or relocating the intersection.

2:00 PM Stakeholder Meeting

This meeting was attended by the following individuals:

Josh Denton, Storage One
Richard Clark, Speaks Oil
John Paul Smith, JP Smith Builders

Concerns over the number of accidents at the intersection of US 521/Century Boulevard were expressed at this meeting.

Mr. Denton of Storage One {located at the intersection of US 521/Black River Road] noted speeding on US 521 is an issue. He often hears "tires screeching" outside his business and sometimes impacts from accidents. He also noted that patrons of the Shell gas station use his parking lot as a cut-through from Black River Road, to avoid the intersection with US 521.

Mr. Smith of JP Smith Builders noted that drivers often use the median crossover in front of his business for U-turns.

Mr. Clark of Speaks Oil noted that he's heard about the Hampton Inn coming to US 521 and had also heard that a Dunkin Donuts would be constructed near Mobile gas station on the east side of US 521.

Mr. Denton noted that he plans to expand his business at Storage One to include additional units as well as his new mobile/portable storage units.

This summary represents my understanding of the discussion during the stakeholder meetings. If you have any questions or edits to content please notify me within in 10 business days at charlene.cassidy@aecom.com

Prepared By: Charlene M. Cassidy, PE
7/24/2017

Distribution:
Project Members

Appendix L Public Meeting Materials

You're Invited

AECOM

BLACK RIVER ROAD | SOUTH CAROLINA
CORRIDOR STUDY
Kershaw County | City of Camden

Black River Road Corridor Study

Public Information Meeting

Thursday, October 26th

Location: Kershaw County Economic Development Office (located at Central Carolina Technical College Campus)
80 Campus Drive
Camden, SC 29020

Time: 5 - 7 pm

Contact:
Patrick Tyndall, AICP, Senior Environmental Planner
803.400.0019 / patrick.tyndall@aecom.com

BLACK RIVER ROAD | SOUTH CAROLINA
CORRIDOR STUDY
Kershaw County | City of Camden

Black River Corridor Study

Public Information Meeting

Sign In Sheet

Thursday, October 26, 2017

Name	Address
ED QUALLROUGH	506 N. GUIGNARD CCTC
Michael Todd	130 Milford Rd SCDOT
Brian Mutter	SCDOT
Dean Riddle	29 Hengst Dr. Camden SC
Kevin Scharf	801 Charlotte Thompson Schlad Camden SC
Don Alexander	1800 Huger St. Columbia SC 29201
Tom Couch	CITY OF CAMDEN
Ed Sawyer	SCDOT
Emily Thomas	7 Split Oak Ct. Camden
Brandon Thomas	"
Mel Pearson	City of Camden

BLACK RIVER ROAD | SOUTH CAROLINA
CORRIDOR STUDY
Kershaw County | City of Camden

Black River Corridor Study

Public Information Meeting

Sign In Sheet

Thursday, October 26, 2017

Name	Address
CAROL HAMLIN	SCDOT DISTRICT 1
Joe Floyd	816 W. DeKalb, Camden, S.C. 29020
Shawn Putnam	1000 Lyttleton St Camden
Vic Carpenter	Kershaw County
Jacinna Craig	City of Camden - Council
George Harkins	2671 Harbor View Rd, Camden
Russ VanPatten	county
BILLY D. SMITH	KERSHAW COUNTY SCHOOL DISTRICT
JOHN BURNS	CITY OF CAMDEN
Wayne Belger	Boykin
Janet C Hestyl	420 Seegars mill Camden
Alfred MacDonald	City of Camden
Stephen Smoak	City of Camden
Kyle Kelly	Santee-Lynches COG
Carrington Meadows	Santee-Lynches COG
Nancy Reading	Central Carolina

BLACK RIVER ROAD | SOUTH CAROLINA
CORRIDOR STUDY
Kershaw County | City of Camden

Black River Corridor Study

Public Information Meeting

Comment Sheet

Thursday, October 26, 2017
Kershaw County Black River Road Corridor Study

Name Joe Floyd (Police Chief)

Mailing Address 816 W. DeKalb St. Camden, S.C. 29020

Street City State Zip

Phone Number 803-572-1782

Comments: I agree with all of the proposals made.

Mail Comments by Nov. 9th to:

Kershaw COUNTY SOUTH CAROLINA

Heather Schmucker
Kershaw County Planning and Zoning
515 Walnut Street, Room 160
Camden, SC 29020

From: Heather Schmucker <heather.schmucker@kershaw.sc.gov>
Sent: Wednesday, November 08, 2017 8:58 AM
To: Tyndall, Patrick; Michael Conley
Subject: Fwd: Black River Road Corridor Study

Some feedback from the Black River Road Corridor meeting.....

Heather Schmucker

Kershaw County Planner
Planning & Zoning Department, Rm 160
515 Walnut St.
Camden, SC 29020
803.425.7233 x6
http://www.kershaw.sc.gov

---------- Forwarded message ----------
From: **Gmail** <chad.c.long@gmail.com>
Date: Tue, Nov 7, 2017 at 7:42 PM
Subject: Black River Road Corridor Study
To: heather.schmucker@kershaw.sc.gov

Ms. Schmucker,

Regarding any proposed short term and long term plans to improve the Black River Road Corridor (and the current study area), I strongly encourage the county to incorporate bicycle and pedestrian accommodations into any future designs. Bicycle/pedestrian facilities contribute to a community's quality of life which is an important consideration for business/industries who are looking to expand or locate to Kershaw County.

Regards,

Chad C. Long
1921 Forest Drive
Camden, SC 29020

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From: Heather Schmucker <heather.schmucker@kershaw.sc.gov>
Sent: Wednesday, November 08, 2017 8:59 AM
To: Tyndall, Patrick; Michael Conley
Subject: Fwd: Black River Corridor Comments

Feedback from the Black River Road Corridor meeting...

Heather Schmucker

Kershaw County Planner
Planning & Zoning Department, Rm 160
515 Walnut St.
Camden, SC 29020
803.425.7233 x6
http://www.kershaw.sc.gov

---------- Forwarded message ----------
From: **William Redfearn** <tykeredfearn@gmail.com>
Date: Wed, Nov 1, 2017 at 11:33 AM
Subject: Black River Corridor Comments
To: heather.schmucker@kershaw.sc.gov
Cc: Patrick Tyndall <patrick.tyndall@aecom.com>

Good Morning Heather,

I am submitting the following comments regarding the Black River Road Corridor Study. I am a user of this corridor because it is on my morning commute along US 521 southbound from downtown Camden to I-20 Westbound. In the morning, this is most likely the primary movement. I do not use I-20, Exit 98, in the afternoon because of the backup at the off ramp. Instead, I use I-20, Exit 92 which is not stop controlled at the off ramp. Below are my comments:

1) I support solutions without signals, especially the morning US 521 southbound through movement (See US 52 Monks Corner). Furthermore, as noted during the NEPA process for the Broad Street Road Diet, City of Camden residents are known to have issues with multi-phase signals such as Broad Street and DeKalb Street.

2) I support improvement of decision sight distance at all intersections. Median trees are blocking the view for US 521 SB left turn onto Black River Rd, and they probably block other movements as well.

3) I support improvement of wayfinding and visibility for businesses along this corridor. City of Camden sign restrictions create issues with non-local traffic. Slow and unpredictable drivers that exit I-20 cannot determine how to get to their preferred destination which causes conflict with through traffic. If the sign restrictions remain, I recommend a City administered signing program of wayfinding such as the blue signs on interstate ramps. Those who need signs could pay to be included. Regarding visibility, on the northbound side of US 521, vegetation is blocking the view from the road to the businesses which adds to the issue.

4) I support separate connections for pedestrians. I think the potential for pedestrians is high, but if the pedestrians are expected to use a sidewalk in this same corridor, people will choose to drive rather than walk. I believe that proper planning for these future developments would be to require developers to include pedestrian solutions outside of the highway corridor.

Tyke Redfearn
2312 Forest Dr
Camden, SC 29020

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under the SC Freedom of Information Act.

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Contact

Patrick Tyndall, AICP
Senior Environmental Planner
D 803-400-0019
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