Final Report

SEPTIMA CLARK PEDESTRIAN BRIDGE FEASIBILITY STUDY

Prepared for:

Berkeley-Charleston-Dorchester Council of Governments
at the request of SCDOT

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I. EXECUTIVE SUMMARY

This report documents the review of pedestrian safety, condition of the existing pedestrian bridge, and the feasibility of constructing a new pedestrian bridge over the Septima Clark Parkway at the intersection of Coming Street. The study also evaluates traffic and pedestrian flow along the parkway and neighborhoods that border the highway. The study was initiated by members of the community who expressed concern about pedestrian safety and the changing dynamics in the surrounding neighborhoods. Considerations taken into this study include:

- Review accident history to find possible trends at the location;
- Review condition of existing pedestrian bridge for improvements such as structural safety, lighting, and adequate access;
- Review of traffic signal and pedestrian signal timing;
- Site review to observe driver and pedestrian behavior;
- Review a speed study at the location to determine if speeding is a problem;
- Review of signing, pavement markings, and geometry of the intersection;
- Review of driver and pedestrian intersection sight distance; and
- Nighttime site review of lighting, and sign reflectivity.

Three locations were chosen as options for the construction of a new pedestrian bridge. Each of the options was evaluated and compared by the following equally weighted criteria:

- Travel time for pedestrian crossing,
- Distance from the study intersections,
- Right of way and easement requirements,
- Environmental and historical impacts,
- Safety and grade separation, and
- Construction cost.

Based on the findings, this study recommends that a combination of improving access, ramps, and signage rehabilitating the existing pedestrian bridge is the most feasible and cost effective option.

II. Background

The City of Charleston has made great strides in increasing the diversity of land uses with hopes of increasing the quality of life within the City. This shift in land use and demographics has resulted in an increase in bicycling and walking for transportation. The combination of bicycles and pedestrians in a heavily traveled roadway such as the Septima Clark Parkway can be hazardous, and this corridor has been the location of recent accidents, including some resulting in property damage and fatalities.

The safety within the Septima Clark Parkway, also known as the Crosstown and United States Highway 17, has continued to be of concern for residents living in the area and for drivers through the corridor. Letters of concern have been presented in **Appendix A**. While many improvements have been made in the corridor in conjunction with the drainage improvement projects by the City of Charleston, this report will examine the performance of those improvements and if the potential exists for additional improvements to enhance the safety of all users of the corridor.

A. Project Study Area

The project study area is a one-quarter mile segment of Septima Clark Parkway located between the intersections with Rutledge Avenue and Coming Street in downtown Charleston, SC, as shown on **Figure 1**. Septima Clark Parkway is a six-lane, median divided, east/west highway. Coming Street is a 2-lane, two-way, north/south road and Rutledge Avenue is a 2-lane, one-way southbound road. There is an existing pedestrian bridge that crosses Septima Clark Parkway approximately 300 feet east of Rutledge Avenue and 850 feet west of Coming Street; the northern and southern bridge entrances are located at Mitchell Playground and Todd Street, respectively.

This study also considers demographics of the neighborhoods around the project study area. The total observed area covers approximately 3.64 square miles along the Septima Clark Parkway /US Highway 17 (US 17) corridor; the census tract boundaries are shown on **Figure 2**. The area is generally residential with prominent neighborhoods including Hampton Park Terrace, Wagner Terrace, Harleston Village, Radcliffborough, and Cannonborough/Elliotborough, as shown on **Figure 3**. Major landmarks within the project study area are the Citadel Military College to the north, the College of Charleston to the south, and Mitchell Elementary which is located directly across the street from the northern bridge entrance and Mitchell Playground. The campus and hospital center of the Medical University of South Carolina (MUSC) and Roper Hospital are located to the southwest of the study area. This section of Septima Clark Parkway is designated as part of the South Carolina Heritage Corridor and the Gullah Geechee Cultural Heritage Corridor.

Figure 1 – Study Area

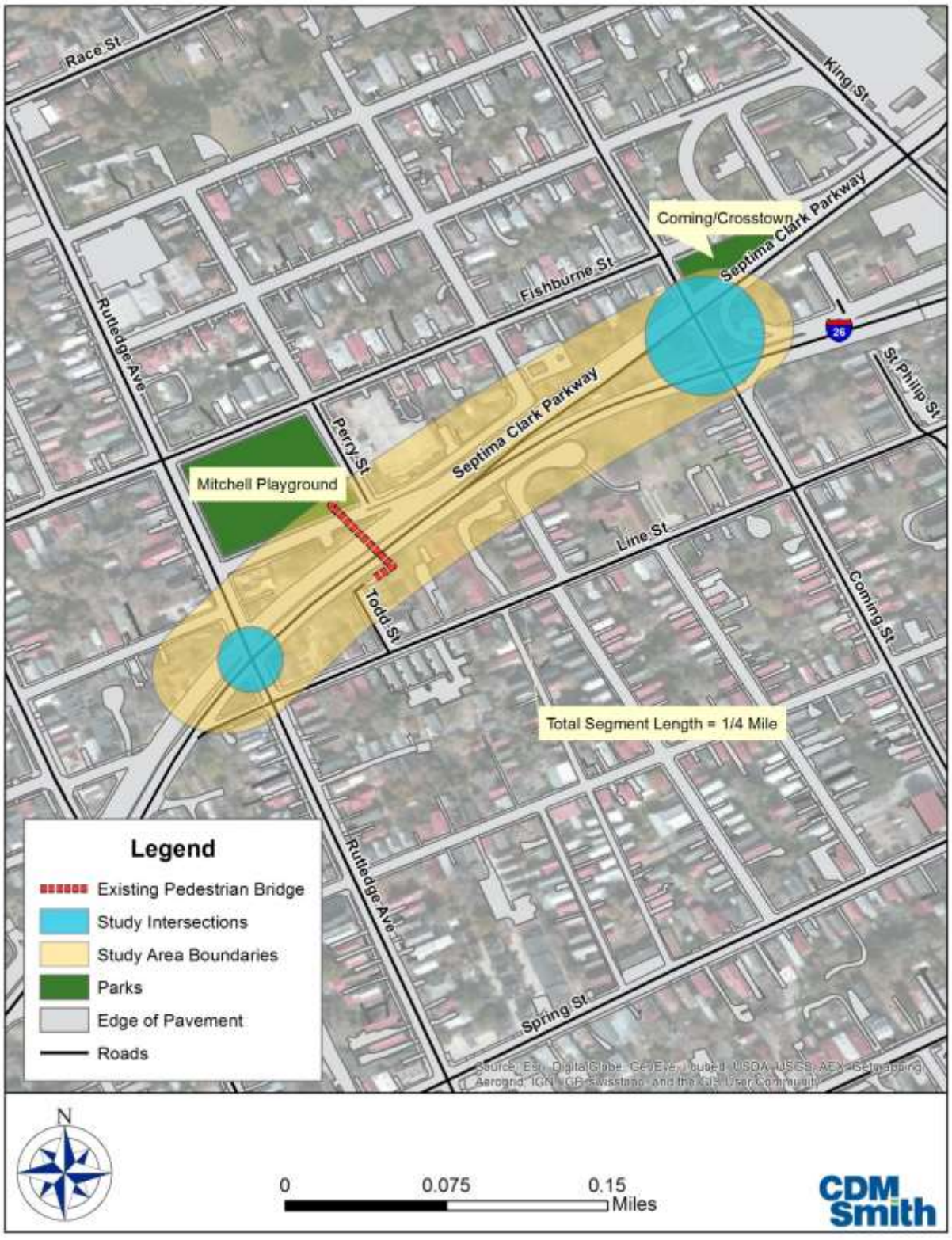
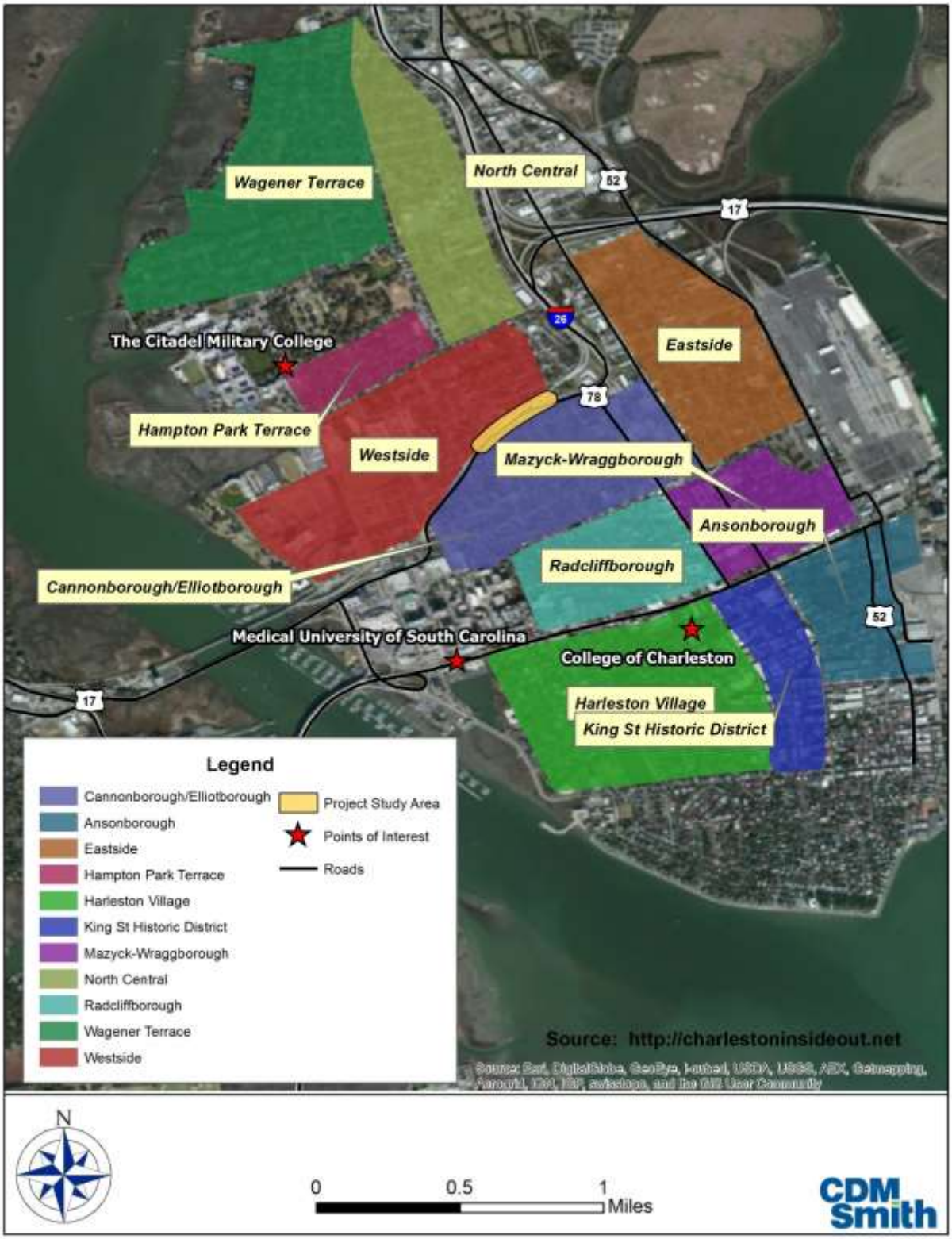


Figure 2 – Study Area Census Tract Boundaries

Figure 3 – Study Area Neighborhoods



III. Existing Conditions in the Corridor

A. Demographics

Population and household densities, expressed in terms of people living and households per square mile within a specified geographic area, along with employment trends are key factors to determine the types of transportation used within a community. Traffic volumes and choices of mode of travel are influenced by location, density, and a mixture of land uses. Connected sidewalks, attractive walking environments, and pedestrian crosswalks in compact settlements encourage Option modes of transportation, decrease reliance on existing transportation infrastructure, and give residents travel options and improve livability. **Table 1** lists the growth of the study area between 2000 and 2010 in comparison with the Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) region and the state of South Carolina.[1]

Table 1 – Population Growth

	2000	2010	Percent Change
Study Area	23,388	23,766	1.6%
BCDCOG	549,000	664,600	21.1%
South Carolina	4,012,012	4,625,364	15.3%

The 2010 study area population was 23,766, or 6,529 persons per square mile (2010 US Census). The study area grew by 0.16 percent from the 2000 population of 23,388. Almost half of the population, 46.8 percent, was between the ages of 15-25, which is significantly higher rate than the City of Charleston as a whole (19.7 percent). The College of Charleston and the Citadel Military College have student enrollments of over 11,000 and 3,000 students, respectively. Students that attend these colleges are the primary reason for the higher than average level of population ages 15-25.

The US Census defines group quarters as a place where people live or stay, in a group living arrangement that is owned or managed by an entity or organization providing housing and/or services for the residents. Group quarters include such places as college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories. In the study area, there were 5,150 people living in group quarters in 2010.

[1] http://www.dot.state.sc.us/Multimodal/pdf/tech_memo_part1.pdf

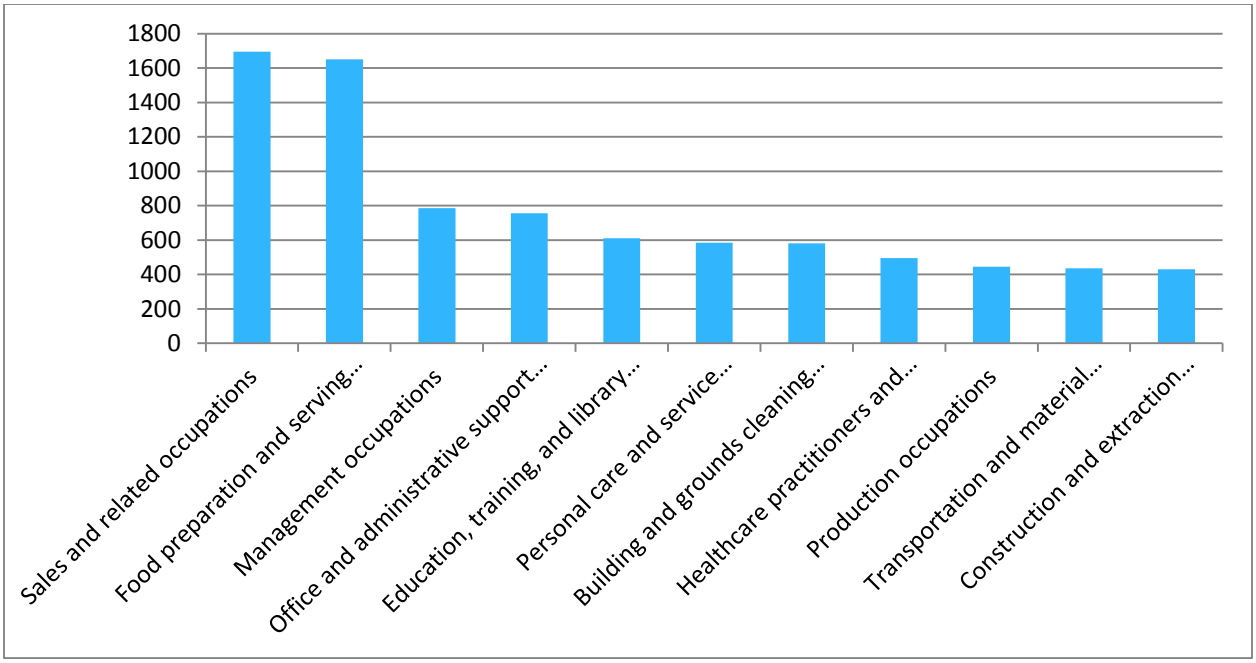
1. Housing

The total number of households in the study area in 2010 was 8,843, or 2,850 households per square mile. 43 percent of householders in the area are between ages 15 to 44.

2. Employment

Employment data, including mode of travel and commute time to work, for the study area is derived from the 2010 Transportation Planning Products (2010 CTPP). There are 10,530 employees within the study area; the top two employment sectors in the study area are sales related occupations followed closely by food preparation and serving related jobs, as shown in **Figure 4**.

Figure 4 – Top Ten Employment Sectors



3. Vehicle Availability

The total number of households with zero vehicle availability is 2,240 or approximately 25 percent of the total number households in the area. This displays that a significant portion of the study area walk, bike, or use public and alternate modes of transportation.

Based on the 2010 CTPP, approximately 60 percent of workers in the study area drove alone in a car, truck, or van as their means to work, as shown on **Figure 5**. Approximately 19 percent of workers walked to work, which is a significantly higher rate than the City of Charleston as a whole (three percent). In the Census tracts closest to the study area, tracts 10 and 53, 12 percent of workers walk to work. The CTPP data does not capture mode of travel for college students; however, field observations indicate a large number of students that live off campus walk or bicycle to school.

Two thirds of all workers in the study area traveled 19 minutes or less from home to work, as shown on **Figure 6**. Twenty minutes is the typical time it takes to walk one mile, which supports the high level of walking commuters and observed general pedestrian activity in the area.

Figure 5 – Mode of Travel to Work

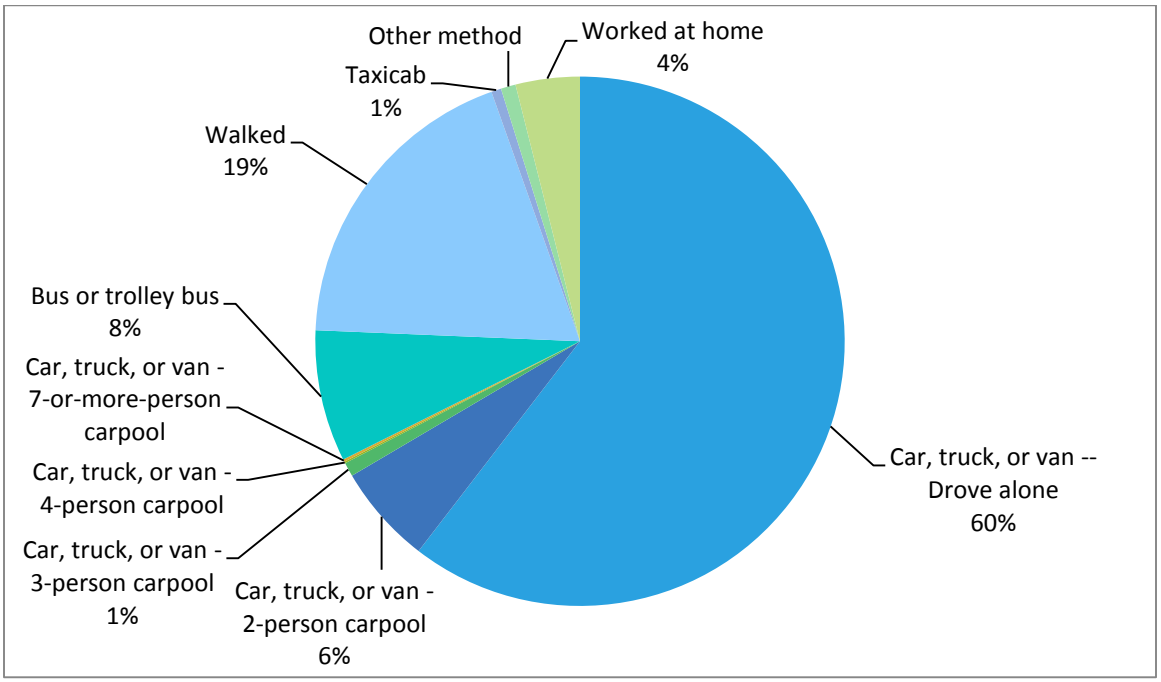
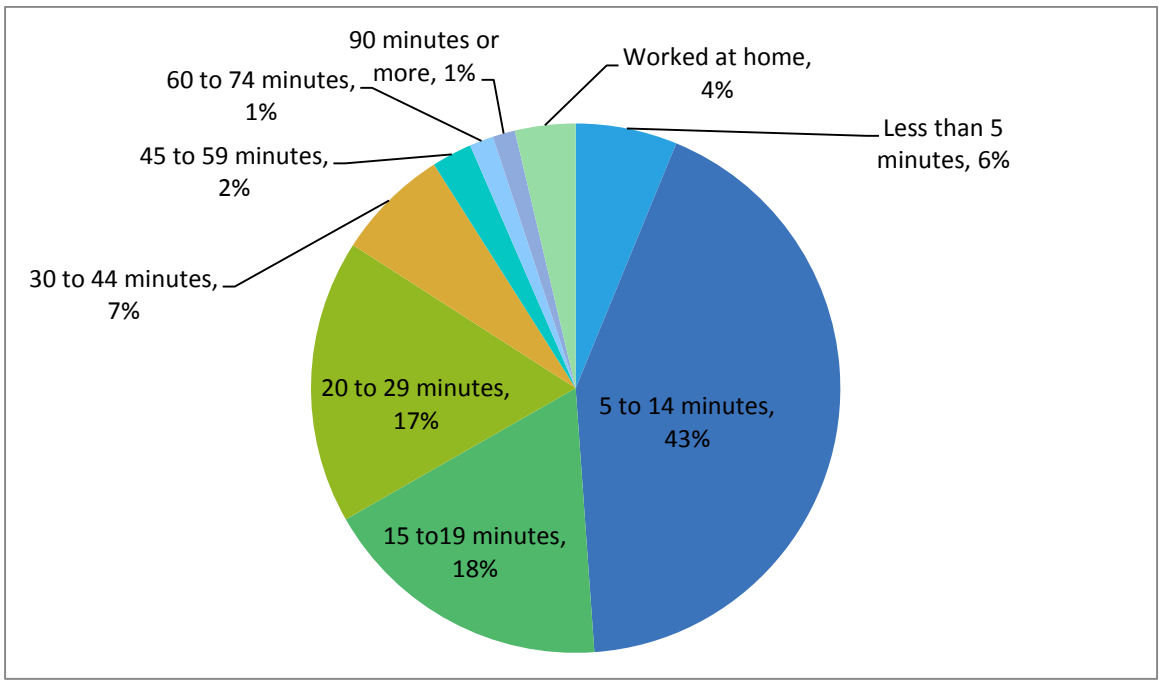


Figure 6 – Travel Time to Work



B. Traffic and Transportation

Septima Clark Parkway is a six-lane, median divided, east/west highway with a posted speed limit of 35 mph. Coming Street is a 2-lane, two-way, north/south road and Rutledge Avenue is a 2-lane, one-way southbound road. There is an existing pedestrian bridge that crosses Septima Clark Parkway approximately 300 feet east of Rutledge Avenue and 850 feet west of Coming Street; the northern and southern bridge entrances are located at Mitchell Playground and Todd Street, respectively.

The Coming Street/Septima Clark Parkway intersection is approximately one-quarter mile west of the US 17 and I-26 merger. At the intersection with Coming Street, Septima Clark Parkway includes an eastbound left-turn lane onto Coming Street and a westbound deceleration lane as US 17 merges from four to three lanes. Coming Street is a bidirectional two-lane street with on-street parking on both sides of the road. The Coming Street/Septima Clark Parkway intersection includes signalized pedestrian crosswalks across the north, south, and west legs. The north/south pedestrian crossing on the west leg of the intersection is approximately 200 feet long, including a 70 feet median that divides Septima Clark Parkway and serves as a refuge.

The Rutledge Avenue/Septima Clark Parkway intersection is located approximately one quarter mile west of Coming Street. At the intersection with Rutledge Avenue, Septima Clark Parkway has a total of six lanes. Rutledge Avenue is a one-way southbound road with two-lanes and on-street parking on both sides of the road. The Rutledge Avenue/Septima Clark Parkway intersection includes signalized pedestrian crosswalks across the north, south, east, and west legs. The north/south pedestrian crossing on the east and west legs of the intersection is approximately 100 feet.

The existing pedestrian bridge crosses Septima Clark Parkway approximately 300 feet east of Rutledge Avenue and 850 feet west of Coming Street; the northern and southern bridge entrances are located at Mitchell Playground and Todd Street, respectively. Section 4 provides further detail about the existing pedestrian bridge.

Public Transportation

The Charleston Area Regional Transportation Authority (CARTA) bus system provides public transportation in the study area. The bus stops are along CARTA routes 20, 21, and 201 as shown in **Figure 7**. CARTA Route 201 North Beltline is a loop route that has stops south of the Coming Street/Septima Clark Parkway along Line Street and offers weekday service from 7:00 AM – 8:00 PM. CARTA Route 21 is a north/south route that has stops at the intersection of Rutledge Avenue/Line Street. Route 21 operates weekday from 6:12 AM - 6:37 PM and Saturday from 9:12 AM – 6:37 PM. CARTA Route 20 is a north/south route with stops north of Coming Street/Septima Clark Parkway along King Street. Route 20 operates weekdays and Saturdays from 6:15 AM – 9:07 PM, and Sunday from 8:35 AM – 7:57 PM. There are six CARTA bus stops within one-quarter mile radius of the study area, as shown on **Figure 8.**

Figure 7 – CARTA Routes

Route 20

Route 21

Route 201

Figure 8 – CARTA Bus Stops

Table 2 lists the CARTA fare by type. Future investigation may be required to determine possible route alterations to better connect the study area with destinations including the College of Charleston and the Medical University of South Carolina (MUSC).

Table 2 – CARTA Fares

Fare Type	Fare
Cash Fare	$1.75 per ride (One-way fare)
CARTA Express	$3.00 per ride (One-way fare)
Flex Routes	$3.00 per ride (One-way fare)
Transfers	$0.30 (must be paid for and requested while boarding)

C. Safety

Traffic volumes, travelling speeds, and traffic signal timing are all significant in determining the safety for drivers and are important factors for pedestrian safety. Traffic volumes and signal timing affect intersection efficiency as well as pedestrian safety. Effective signal timing allows sufficient pedestrian crossing time in conjunction with alleviating vehicular traffic congestion. High travelling speeds can create unsafe conditions such as decreasing driver reaction time, increasing the amount of driver stopping distance, and increasing the likelihood of fatal crashes. According to the Berkley-Charleston-Dorchester Council of Governments (BCDCOG), Septima Clark Parkway has an Average Annualized Daily Traffic volume (AADT) of 61,800. [2]

In February 2014, a pedestrian safety study was initiated at the Coming Street/Septima Clark Parkway intersection to observe the various aspects of the intersection to determine if there were opportunities for improving pedestrian safety at the intersection. The study was initiated by the South Carolina Department of Transportation (SCDOT) due to three accidents at the intersection over a 14 month period, two of which were fatal. The study includes accident history, speed data, traffic signal timing data, and other potential recommendations for improvements.

1. Accident History

According to the City of Charleston's Police Department, there were 109 accidents at the Coming Street/Septima Clark Parkway intersection between January 1, 2012 and October 14, 2014; four of the accidents involved pedestrians, as listed in **Table 3**. During the same span, there were 49 accidents at the Rutledge Avenue/Septima Clark Parkway intersection; none of the accidents involved pedestrians. **Figure 9** displays the location and date of the two fatal accidents at Septima Clark Parkway/Coming Street.

Table 3 – Coming Street/Septima Clark Parkway Intersection Accident History

	Right Angle	Rear End	Side Swipe	Head On	Other	Left Turn	Pedestrian	Totals
2012	6	16	18	0	4	0	2	46
2013	3	16	12	0	3	1	0	35
2014	4	8	6	0	8	0	2	28
Total # of Accidents	**13**	**40**	**36**	**0**	**15**	**1**	**4**	**109**

[2] http://www.bcdcog.com/files/CharlestonCountySouthTC2012.pdf

Figure 9 – Fatal Accident Locations

On November 18, 2012 at approximately 2:25 a.m., a motor vehicle heading northbound on US 17 at the intersection of Coming Street struck two pedestrians attempting to cross the intersection. The two pedestrians were leaving a party on Sumter Street, crossing Septima Clark Parkway eastbound on Coming Street to return to their dorms at the College of Charleston. The surviving pedestrian stated that as they were crossing the street, they started to run as they were afraid of crosswalks. The investigating officer's report indicated that surviving pedestrian stated that she never saw the vehicle, but did see the headlights just before they were hit. The surviving pedestrian indicated that both she and the deceased were intoxicated. The toxicology report indicated the blood alcohol content of the deceased was 0.154%.

On January 13, 2014 at approximately 6:30 p.m., a motor vehicle heading northbound on Septima Clark Parkway at the intersection of Coming Street struck a pedestrian attempting to cross the intersection. According to the accident report, a jogger was running northbound parallel to Septima Clark to the intersection of Coming Street. The female jogger was running in place as she waited for the traffic signal to change to allow her to cross Septima Clark Parkway to go westbound on Coming Street. When the

traffic signal on Septima Clark Parkway changed from green to yellow, the female jogger stepped out into the lane of traffic where she was then struck by an automobile.

The drivers were not charged in either of the fatal pedestrian accidents.

2. Speed Study

Charleston Police Department Traffic Divisions conducted a Traffic Speed Study at Septima Clark Parkway on Thursday January 23, 2014 for 30 minutes between 6:15 p.m. and 6:45 p.m. The results from the speed study found that almost 47 percent of drivers were traveling at or below the speed limit and approximately 14 percent of drivers were traveling at least 6 mph over the posted speed limit of 35 mph. Of the 148 vehicles observed, the average speed was 35.5 mph, as shown on **Figure 10**. The highest speed recorded was 45 mph and the lowest was 24 mph.

3. Review of the Intersection

The City of Charleston has conducted several site visits at the Coming Street/Septima Clark Parkway intersection to observe driver and pedestrian behavior, traffic signal and pedestrian signal timings, and the flow of traffic to review the geometry of the intersection. All the traffic signal and pedestrian signal timings were reviewed to ensure proper operations and that adequate crossing time were in place. City staff found all traffic signal and the pedestrian signals to be operating correctly as programmed for the intersection.

The vehicular traffic at the Coming Street/Septima Clark Parkway intersection is controlled by 12-inch, LED, pre-timed traffic signals that are mounted on mast arm traffic signal poles. The pedestrian crosswalks are managed by LED countdown pedestrian signals. The investigation revealed that the installations of the traffic control devices at the intersection are in compliance with the federal Manual on Uniformed Traffic Control Devices (MUTCD) and that each intersection has the appropriate pedestrian signals installed. Additionally, all traffic control devices; markings, pedestrian crosswalks, and signage were found to be in compliance with the MUTCD.

In April 2014, SCDOT reviewed and approved the following recommendations from the City of Charleston:

- Installing R 10-2 "Cross Only On (Symbolic Walk Indication) Signal" signing at the intersection to direct pedestrians to the marked crosswalks
- Installing signing indicating a two stage crossing. Wording must be approved by SCDOT prior to installation.

Figure 11 and **Figure 12** display the installed R 10-2 sign and two stage crossing sign respectively.

Figure 10 – Traffic Speed Study

Charleston Police Department Traffic Division

Traffic Speed Study

Location	US-17N & Coming St Lane 4 Only
Date	Thu, January 23, 2014
Time	1815-1845
Duration	30 mins

Speed Breakdown		
Speed Limit	35	
High	48	
Low	24	
Average	35.52	
Limit or Less	69	46.62%
1-5 Over Limit	58	39.19%
6-10 Over Limit	17	11.49%
11-15 Over Limit	4	2.70%
16 or Greater	0	0.00%
Total Vehicles	148	

Actual Speeds				
36	40	34	39	34
40	39	36	38	36
38	39	34	37	41
36	42	33	29	38
37	37	35	37	38
39	34	34	30	38
42	30	35	34	32
37	40	32	32	37
26	44	32	35	40
40	32	31	35	35
42	31	31	32	34
44	32	30	36	40
48	32	34	37	42
44	26	36	36	25
34	28	41	39	38
36	28	40	45	41
38	29	47	34	32
32	24	37	39	31
31	38	41	38	30
36	33	38	36	39
35	38	36	46	44
25	36	33	34	30
25	36	42	34	25
42	33	26	38	39
40	32	28	40	36
34	29	30	42	29
36	27	37	30	33
35	36	37	38	43
36	36	35	33	
29	34	34	47	

Figure 11 – R 10-2 Crossing Sign

Figure 12 – Two Stage Crossing

In addition to signage at the intersection, the sight distance from the eastbound approach at the Coming Street/Septima Clark Parkway intersection was reviewed based on windshield surveys and aerial photography. There are street trees along the southern edge of the Septima Clark Parkway that are located in the recommended sight triangle clear zone, based on roadway design standards, and may impede a driver's ability to identify automobiles and/or pedestrians waiting at the intersection to cross northbound. We recommend a field survey and detailed sight distance evaluation to determine if the trees should be removed to improve sight distance at the intersection.

4. Traffic and Pedestrian Volume

24-hour pedestrian volumes were captured at Coming Street/Septima Clark Parkway and on the existing pedestrian bridge from 3:00 AM Thursday November 6 through 3:00 AM Saturday November 8, 2014. These times and days were chosen to capture pedestrian and traffic volumes during the peak hours, and during late night to early morning hours, 6:00 PM – 3:00 AM, in which the two fatal pedestrian accidents occurred within the study area. **Table 4** displays the am, mid-day, and pm peak hour pedestrian volumes captured on the pedestrian bridge. It should also be noted that the 3:00 PM – 4:00 PM recorded the highest use on Thursday November 6 and Friday November 7, with 19 and 23 pedestrians respectively. These counts may be a reflection of usage from students at Mitchell Elementary School which is located within the close proximity of the north access of the pedestrian bridge. At this location the bridge provides a safe crossing option for elementary age children as

opposed to crossing at grade at Coming Street/Septima Clark Parkway or Rutledge Avenue/Septima Clark Parkway.

Table 4 – Existing Pedestrian Bridge Peak Hour Volumes

	Peak AM Hour (7-9 AM)		Peak Mid-day Hour (1 – 3PM)		Peak PM Hour (4 – 6 PM)	
	Peak Hour	Pedestrians	Peak Hour	Pedestrians	Peak Hour	Pedestrians
11/6/2014	7:00 – 8:00 AM	15	1:00 – 2:00 PM	5	5:00 – 6:00 PM	13
11/7/2014	7:00 – 8:00 AM	16	2:00 – 3:00 PM	3	4:30 – 5:30 PM	8

Table 5 lists the am, mid-day, and pm peak hour pedestrian volumes captured at the intersection of Septima Clark Parkway/Coming Street. It should also be noted that the AM Peak, 8:15 AM – 9:15 AM, recorded the highest use on Thursday November 6 with 6 pedestrians. The AM Peak, 8:00 – 9:00 AM, and the Mid-day Peak, 1:15 – 2:15 PM, recorded the highest use on Friday November 7, with 4 pedestrians each. **Table 6** displays the overnight, 6:00 PM – 3:00 AM pedestrian volumes captured at Coming Street/Septima Clark Parkway and at the pedestrian bridge.

Table 5 –Coming Street/Septima Clark Parkway Peak Hour Pedestrian Volume

	Peak AM Hour (7-9 AM)		Peak Mid-day Hour (1 – 3PM)		Peak PM Hour (4 – 6 PM)	
	Peak Hour	Pedestrians	Peak Hour	Pedestrians	Peak Hour	Pedestrians
11/6/2014	8:15 – 9:15 AM	6	1:00 – 2:00 PM	1	4:00 – 5:00 PM	5
11/7/2014	8:00 – 9:00 AM	4	1:15 – 2:15 PM	4	4:00 – 5:00 PM	2

Table 6 – Overnight Pedestrian Volume

	Overnight Hours (6PM – 3AM)	
	Existing Pedestrian Bridge	Septima Clark Parkway/Coming St
11/6/2014	21	14
11/7/2014	24	17

These findings indicate that during all peak hours of operation, the existing pedestrian bridge has higher pedestrian use than the crosswalk at Septima Clark Parkway/Coming Street. It should be noted that it was found that overnight, between 7:00 PM – 3:00 AM, crossing on the bridge is significantly higher than at grade crossing at Septima Clark Parkway/Coming Street.

24-hour turning movement counts were captured at Septima Clark Parkway /Coming Street from 3:00 AM Thursday November 13 through 3:00 AM Saturday November 15, 2014. **Table 7** lists the peak hour turning movement volumes. It should also be noted that the overall peak hour for both 24 hour periods was between 4:30 – 5:30 PM.

Table 7 – Coming Street/Septima Clark ParkwayTurning Movement Volumes

Date	Peak Hour/ Start Time	Coming St to EB US 17 Northbound			US 17 Septima Clark Pkwy Westbound			Coming St to WB US 17 Northbound			US 17 Septima Clark Pkwy Eastbound		
		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
11/6/2014	AM (7:30 - 8:30 AM)	623	0	0	2	3,203	271	0	143	9	0	2,798	111
11/6/2014	Mid-day (2:00 - 3:00 PM)	487	0	0	1	2,199	120	0	140	37	0	2,392	103
11/6/2014	PM (4:30 - 5:30 PM)	893	0	0	3	2,910	172	0	166	41	0	2,966	77
11/7/2014	AM (7:15 - 8:15 AM)	619	0	0	2	3,204	245	0	145	15	0	2,754	127
11/7/2014	Mid-day (2:00 - 3:00 PM)	609	0	0	4	2,191	133	0	181	46	0	2,519	109
11/7/2014	PM (4:30 - 5:30 PM)	875	0	0	4	2,799	174	0	190	52	0	3,035	127

5. Summary of Safety

The intersection safety reviews conducted by the City of Charleston found that the fatal pedestrian collisions were not driver error and that majority of vehicles are not speeding on Septima Clark Parkway. The current roadway geometry, intersection design, and traffic and pedestrian signal operations are sufficient. The findings from the turning movement counts show that the peak hours for vehicle traffic and pedestrian crossings occur relatively at the same times between the hours of 4:30 PM – 5:30 PM. More detailed data of the traffic and pedestrian volume counts can be found in **Appendix D**.

IV. Options Analysis for Pedestrian Crossing

The purpose of the Option analysis is to provide a comparison of potential Options, identify benefits/costs, and to select a recommended Option. The goals of the Options are safe crossing, service pedestrians crossing at Coming Street and Rutledge Avenue, and to minimize cost. The three Options are:

- Rehabilitating the existing pedestrian bridge
- Improve the condition of at grade crossing
- Construction of a new pedestrian bridge

Recognize that Option recommendations are not mutually exclusive and may be combined to best fit the needs of improving safety in the study area.

A. Existing Bridge

A grade separated pedestrian structure allows for the uninterrupted flow of bicycle and pedestrian movement separate from vehicle traffic. Overpasses and underpasses must accommodate all persons, as required by the Americans with Disabilities Act (ADA). These measures include ramps or elevators. Extensive ramping accommodates wheelchairs and bicyclists, but results in long crossing distances and steep slopes that discourage use. Considerations for the construction of pedestrian bridges include:[3]

- Ample space is required on either side of the crossing to accommodate ramp structures without the need for tight curves in the ramp.
- Construction of a crossing at an area with existing development may require removal or relocation of existing buildings and/or right-of-way acquisition, which adds to the complexity and cost of project delivery.
- Most appropriate over high-volume, high-speed highways, railroad tracks, or natural barriers.
- People will not use the structure if a more direct route is available.
- Lighting, drainage, graffiti removal, and security
- Must be wheelchair accessible, which generally results in long ramps on either end of the overpass.
- AASHTO recommends a railing height of at least 42 inches.

[3] http://www.pedbikeinfo.org/planning/facilities_crossings_over-underpasses.cfm

The existing pedestrian bridge that spans Septima Clark Parkway was erected in 1975 to provide a safe connection across the highway. The bridge is located approximately 300 feet east of Rutledge Avenue and 850 feet west of Coming Street, as shown on **Figure 13**. The 170 feet long, 17 feet wide bridge crosses Septima Clark Parkway and Sheppard Street and has a vertical clearance of 17 feet 4 inches. The northern and southern bridge entrances are located at Mitchell Playground and Todd Street, respectively, as shown on **Figures 14** and **15**. The northern entrance provides ramp access from the sidewalks on Perry Street, and the southern entrance provides ramp access from sidewalks on Todd Street. Direct access to the Todd Street entrance is restricted from Septima Clark Parkway by a fence that stretches the entire one quarter mile segment along the highway. Southern access to this entrance is provided by Line Street.

Figure 13 – Existing Pedestrian Bridge

Figure 16 displays the existing pedestrian bridge and the approximate travel times. The distance and time to the pedestrian bridge from at grade crossing location is a key determination of use, in addition to safety. To cross from Coming Street/Septima Clark Parkway and from Rutledge Avenue/Septima Clark Parkway intersections using the existing bridge it takes approximately 12.1 minutes and 6.5 minutes respectively. The crossing times in this study were determined by using a moderate pedestrian walking speed of 3.5 feet per second. These travel times indicate using the pedestrian bridge may be undesirable and a number of pedestrians may elect to cross at grade.

Figure 14 – Mitchell Playground Pedestrian Bridge Access

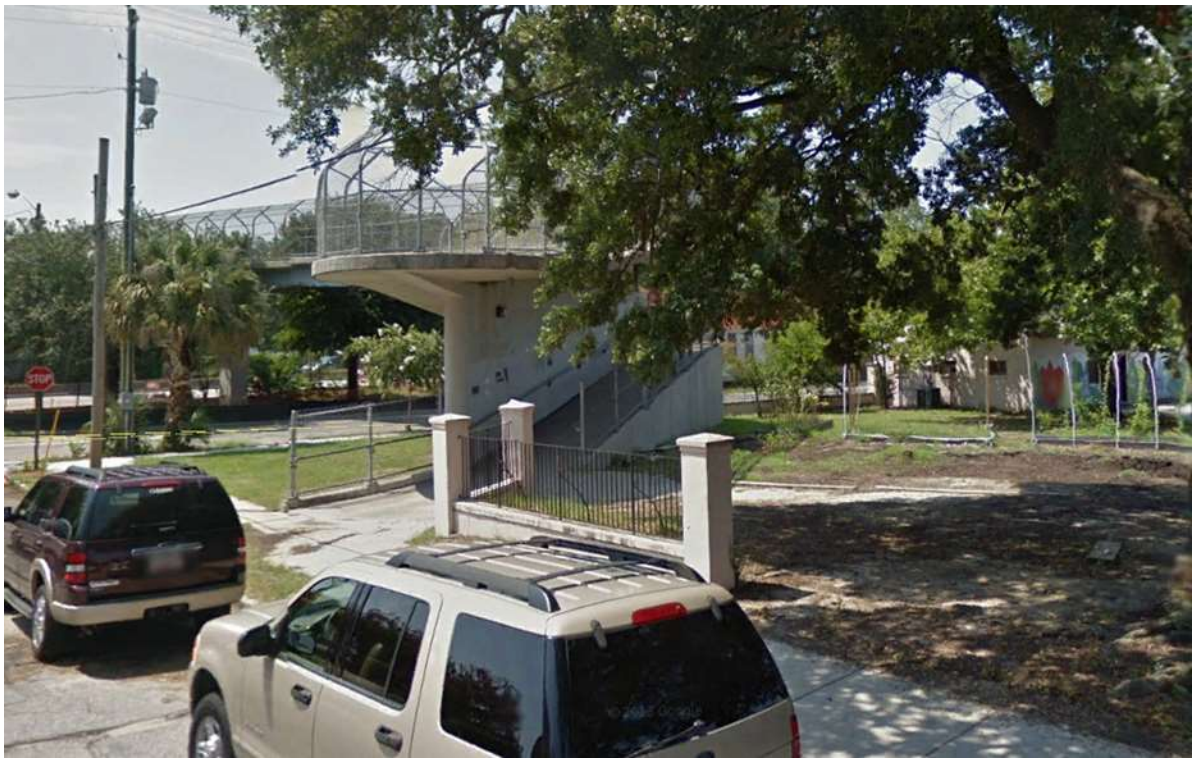


Figure 15 – Todd Street Pedestrian Bridge Access

Figure 16 – Existing Pedestrian Bridge Crossing

The 2010 Americans with Disabilities Act states that accessible routes including sidewalks, walking surfaces, doorways, ramps, curb ramps must have minimum width of 60 inches to provide sufficient passing space and a slope no steeper than 6 inches. [4] Sidewalks are generally present throughout the project study area, and provide adequate access to pedestrians using at grade crossing.

However, sidewalks on Line Street and Todd Street do not appear to provide adequate passing space and contain protruding objects which hinder proper pedestrian access. Unleveled sidewalks Line Street and Todd Street resulting from cracked and damaged pavement can be considered trip hazards to pedestrians. The ADA standard permits changes in level less than 0.25 in height. There is no direct access from the Septima Clark Parkway to the Todd Street ramp to the pedestrian bridge. This access is currently fenced, prohibiting pedestrians and bicyclists to cross directly mid-block across the Septima Clark Parkway to the Mitchell Playground. **Table 8** lists the parcels near the existing pedestrian bridge that may be affected or need acquisition for potential recommendations. **Table 8** lists preliminary recommendations for improving the existing pedestrian bridge.

Table 8 – Existing Bridge Recommendations Considered

Recommendations
Update ramp access to the existing bridge to meet current ADA requirements
Install additional wayfinding signage to inform pedestrians of existing pedestrian bridges.
Rehabilitation of the existing bridge : Beautification, paint, remove graffiti, etc.
Rehabilitation of existing sidewalks along Line St to Todd Street access to current bridge
Remove the portion of the fence on Septima Clark Parkway to allow pedestrians to access the existing pedestrian bridge at Todd Street.
Installation of blue light emergency phones at crosswalk access points or on pedestrian bridge. They provide a feeling of safety, provide emergency response.

[4] http://www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm

B. At Grade Improvements

At both signalized and unsignalized intersections, there is an implied (legal) crosswalk for pedestrians at each leg. The only time this is not true is when there is a sign clearly prohibiting pedestrians from crossing one or more of the legs. Marked crosswalks indicate optimal or preferred locations for pedestrians to cross and help designate right-of-way for motorists to yield to pedestrians. [5] The existing crosswalks are appropriately designed with pavement markings and have signage.

Considerations for pedestrian crosswalks include:

- Ideally, crosswalks should be used in conjunction with other measures, such as curb extensions, to improve the safety of a pedestrian crossing, particularly on multi-lane roads with average daily traffic (ADT) above about 10,000. A curb extension narrows the street by widening the sidewalk or landscaped parking area.
- Pedestrian controlled crossing timers. Currently, these are not available at the crosswalks.

1. Locations

Currently, Septima Clark Parkway at grade pedestrian crossings within the study area is provided at the Coming Street/Septima Clark Parkway and at Septima Clark Parkway/ Rutledge Avenue intersection. As shown on **Figure 17** and in **Table 9**, at grade crossing times and travel times at Coming Street/Septima Clark Parkway and at Rutledge Avenue/Septima Clark Parkway are approximately 2.1 minutes and 1.6 minutes respectively. The total at grade crossing times includes the walking time and a maximum one minute delay at the pedestrian crossing signal. It takes approximately 10.1 minutes for pedestrians to walk between Coming Street/Septima Clark Parkway and Rutledge Avenue/Septima Clark Parkway using the at grade pedestrian crossings. It is approximately 5.6 minutes between Coming Street and Rutledge Avenue using the at grade sidewalk along eastbound

[5] http://www.pedbikeinfo.org/planning/facilities_crossings_crosswalks.cfm

Septima Clark Parkway. **Table 10** list preliminary recommendations for improving at grade pedestrian safety.

Figure 17 – At Grade Pedestrian Crossing Time

Table 9 – At Grade Pedestrian Crossing Time

Intersection	Total Crossing Distance (ft.)	Travel Time	Existing Signal Timing
Rutledge Avenue/Septima Clark Parkway	125	1.6 minutes	25 seconds
Coming Street/Septima Clark Parkway	225	2.1 minutes	36 seconds (18 seconds for each stage)
Between Coming Street/Septima Clark Parkway and Rutledge Avenue/ Septima Clark Parkway (using sidewalk)	1,180	5.6	
Between Coming Street/Septima Clark Parkway and Rutledge Avenue/ Septima Clark Parkway (using crosswalk)	1,700	10.1	

Table 10 – At Grade Recommendations Considered

Recommendations
Installation of Raised Crosswalks at Septima Clark Parkway/Coming Street.
Increase pedestrian signal timing to provide adequate crossing time for pedestrians.
Develop safety educational tools for drivers and pedestrians.
Upgrade existing pedestrian crossing with audible countdown and indication when pedestrian signal is green.
Encourage community walk-assist programs for elderly and increased awareness of crossing safety.
Improve sight distance for drivers approaching the intersection.

C. New Pedestrian Bridge

The primary parameters used when developing possible bridge Options were feasibility, proximity to the existing study intersections, available access, and Right of Way (R.O.W.). The profile for each Option should meet the current American Association of State Highway and Transportation Officials (AASHTO) design guidelines below:

- Minimum clear width of bridge: ..... 14'-0"
- Minimum clear width of ramps: ..... 12'-0"
- Maximum slope: 1:12
- Minimum vertical clearance to Roadways or Pedestrian Walkways: ..... 14'-0"

Three preliminary locations were evaluated for getting a potential, new pedestrian bridge. **Figure 18** displays the general location in respect to the existing pedestrian bridge and the intersections Septima Clark Parkway/ Coming Street and Rutledge Avenue/Septima Clark Parkway.

1. Option 1

Option 1 provides an access point to the south at the Ashe Avenue circle and a north access point at Sheppard Street/South Tracy Street. This option would be located east of the existing overhead sign for I-26/US-17. **Figure 19** displays a view of eastbound Septima Clark Parkway from the existing pedestrian bridge. The property east of Ashe Avenue is utilized by Calvary Church and already has sidewalks which can provide ramp access. Sheppard Street/South Tracy Street have existing sidewalks that can provide access to the bridge ramp. This option would be similar to the existing bridge in crossing length. **Table 11** lists the advantages and concerns of Option 1.

Table 11 – Bridge Option 1

Advantages	Concerns
• Short bridge span • Access points can connect to existing sidewalk • Centrally located between Rutledge Avenue and Coming Street	• Close to the existing pedestrian bridge • May be a visual obstruction for traffic on Septima Clark Parkway • Conflict with existing utilities • May require property acquisition

2. Option 2

Option 2 is located at the east leg of Coming Street/Septima Clark Parkway intersection. This option crosses over westbound Septima Clark Parkway exit to King Street. **Table 12** lists the advantages and concerns of Option 2. **Figure 20** displays the east leg of Coming Street/Septima Clark Parkway intersection at the location of proposed Option 2.

Table 12 – Bridge Option 2

Advantages	Concerns
• Direct access at Coming Street/Septima Clark Parkway crossing • Eliminate the need to make at grade pedestrian crossing at Septima Clark Parkway/Coming Street • Access points can connect to existing sidewalks	• Long bridge span • May be a visual obstruction for traffic on Septima Clark Parkway • Conflict with existing utilities • May require property acquisition • Bridge would not adequately service pedestrians from Rutledge Avenue • Pedestrians may still use at grade crossing for convenience and shorter crossing time

3. Option 3

Option 3 is located at the west leg of Coming Street/Septima Clark Parkway intersection. This option will provide direct access points at the north and south legs of the intersection. **Table 13** lists the advantages and concerns of Option 3.

Table 13 – Bridge Option 3

Advantages	Concerns
• Direct access at Coming Street/Septima Clark Parkway crossing • Eliminate the need to make at grade pedestrian crossing at Septima Clark Parkway/Coming Street • Access points can connect to existing sidewalk	• Long bridge span • May be a visual obstruction for traffic on Septima Clark Parkway • Existing utilities and need relocating • Signal mast arm on north leg is located near proposed location • May require property acquisition • Bridge would not adequately service pedestrians from Rutledge Avenue • Pedestrians may still use at grade crossing for convenience and shorter crossing time

Figure 18 – Pedestrian Bridge Option

Figure 19 – Coming Street from Existing Bridge

Figure 20 – East Leg of Septima Clark Parkway/ Coming Street

4. Design Considerations

Land Use

The land use around the area of the existing pedestrian bridge and the bridge options are primarily residential with light mix use including schools, and small businesses. **Figure 21** displays the properties and buildings near the study area. Additional parcel information can be found in **Appendix B.**[6] A detailed analysis of land use and zoning is appropriate if any proposed action would result in a significant change in land use or would substantially affect regulations or policies governing land use. Notable properties near the study area include Mitchell Elementary School, which is located in the proximity of the existing pedestrian bridge, and Calvary Church which is in the close proximity of Option 1.

Environmental Screening

A preliminary review of environmental resources was conducted for the project study area. A complete review will need to be performed during the preliminary engineering phase of any selected Option to ensure compliance with National Environmental Policy Act (NEPA) standards. **Table 14** lists resources within the project limits. **Table 15** lists the environmental considerations for the existing pedestrian bridge and for each the three proposed options.

[6] http://sc-charleston-county.governmax.com/svc/default.asp?sid=73747BDD2B5946B6A939A12DE1D5261D

Figure 21 – Existing Buildings Near Alternatives

Table 14 – Environmental Considerations

Resource	Present	Not Present	Unknown
Wetlands		X	
Floodplain	X		
Archeological/Historic	X		
Threatened or Endangered Species			X
Wild or Scenic Rivers		X	
Section 4(f) Lands			X
Special/Hazardous Waste			X
Lust Site (Leaky Underground Storage Tanks)		X	
CERCLIS Site (1 mile)		X	
Noise and Vibration			X

Table 15 – Environmental Considerations for Bridge Options

	Floodplain	Historic Property
Existing Bridge	X	X
Option 1	X	
Option 2		
Option 3		

Figure 22 displays environmental considerations including the surrounding locations which are classified as historic property, floodplains, underground storage tanks, in the study area. Mitchell Playground and the north access of the existing pedestrian bridge are located within historic property, while none of the three proposed Options will affect property that is classified as historic.

As shown in the figure, Option 1 is located near a classified flood plain classified “Zone AE”. Zone AE are areas that have a 1% probability of flooding every year (also known as the "100-year floodplain"), and where predicted flood water elevations above mean sea level have been established. Properties in Zone AE are considered to be at high risk of flooding under the National Flood Insurance Program (NFIP). Flood insurance is required for all properties in Zone AE that have federally-backed mortgages. Construction in these areas must meet local floodplain zoning ordinance requirements, including evidence that principle structures are above the Base Flood Elevation (BFE) as shown on the adopted FIRM maps.[7] Based on the available environmental information regarding the project area, Option 2 and Option 3 would not involve special considerations beyond typical compliance with environmental regulations.

[7] https://www.fema.gov/floodplain-management/flood-zones

Figure 22 – Environmental Considerations

D. Analysis of Options

This section provides a description, benefit/cost analysis, and cost estimate of the three Options and recommended improvements. Options are evaluated and scored based on criteria established.

1. Locations

Table 16 displays the approximate travel time and distance of each bridge option from Coming Street/Septima Clark Parkway and from Rutledge Avenue/Septima Clark Parkway. Of the proposed options, Option 3 has the shortest travel time at approximately 2.6 minutes.

Table 16 – Bridge Options Crossing Time

Option	Origin Intersection	Length of Bridge (ft.)	Total Travel Distance (ft.)	Travel Time (min)
At Grade Crosswalk	Rutledge	~	125	**1.6**
	Coming	~	225	**2.1**
Existing (using bridge)	Rutledge	170	1,370	**12.1**
	Coming	170	2,550	**10.1**
Option 1	Rutledge	125	2,390	**11.4**
	Coming	125	1,895	**9.0**
Option 2	Rutledge	300	3,095	**14.7**
	Coming	300	545	**2.6**
Option 3	Rutledge	220	3,015	**14.0**
	Coming	220	540	**2.6**

2. Cost Estimates

Table 17 lists preliminary cost estimates for the three options. As listed, Option 1 would be the least expensive at approximately $821,000. Option 2 has the highest total structural cost at $1,149,000. A more detailed analysis of the preliminary cost can be found in **Appendix C**. The estimates were formed under the assumptions:

- Due to the topography of the area and the requirement to meet ADA standards, the ramps to access the main span(s) are assumed the same cost for each alternate. Property constraints for each alternate will affect the costs of each alternate, but the ramp costs will be relatively similar.
- A truss cost of $1,600 per ft. has been used for spans less than 125 ft. An increase in cost has been applied for longer spans due to increased member sizes required for the longer spans.
- Property acquisition costs are not included.
- Utility relocation costs are not included.
- Temporary traffic impact costs during construction are not included.

- Minimum space required for each ramp is approximately 85 ft. x 15 ft. This will allow for enough ramp to obtain an 18 ft. clearance over Septima Clark Parkway.

Table 17 – Cost of Bridge Options

	Truss Length	Truss Costs	Ramp Costs	Foundations	Extra Columns	Total Structural Cost
Option 1	125 ft.	$200,000	$500,000	$121,000	$0	$821,000
Option 2	275 ft.	$528,000	$500,000	$121,000	$0	$1,149,000
	300 ft.	$480,000	$500,000	$176,000	$50,000	$1,206,000
Option 3	225 ft.	$396,000	$500,000	$121,000	$0	$1,017,000
	220 ft.	$352,000	$500,000	$176,000	$50,000	$1,078,000

An evaluation matrix was developed to compare the options to one another and narrow them down to one for further refinement. The matrix shown below in **Table 18** ranks the criteria from 1 to 5, with 1 indicating minimal impact, 2 indicates minor impact, 3 indicates moderate, 4 indicates significant impact and 5 as a severe impact for the criteria on the feasibility of the concept. The option that has the lowest score is ranked as the best option.

Each of the options was evaluated and compared by the following equally weighted criteria:

- Travel Time
- Distance from the study intersections
- R.O.W. / Easement Requirements
- Environmental/Historical Impacts.
- Safety/ Grade Separation
- Construction Cost

Table 18 – Options Rankings

Option	Travel Time	Distance from Coming Street	Distance from Rutledge Avenue	R.O.W / Easement Requirements	Environmental/ Historical Impacts	Safety/ Grade Separation	Construction Cost	Total	Ranking
Option 1	5	3	3	3	4	1	3	22	3
Option 2	4	1	5	4	2	1	5	22	2
Option 3	4	1	5	4	2	1	4	21	1

After evaluation, Option 3 ranked the highest of the three new bridge options. Option 3 and Option 2 ranked very close on almost every category, but Option 2 has a higher cost of construction which made it a slightly less attractive choice. Option 1 has the longest combined travel times between the intersections of Septima Clark Parkway/ Coming Street and Rutledge Avenue/Septima Clark Parkway along with the higher environmental impacts due to being located near a classified flood plain. **Figure 23** displays examples of a pedestrian bridge similar to Option 3 constructed in Alcoa, Tennessee that spans 225 feet. The final overall cost for the Alcoa Pedestrian Bridge was approximately $1,727,000 excluding the cost of R.O.W.

Figure 23 – Alcoa Panoramic View

3. Requirements for Construction.

Construction cost for a new pedestrian bridge may vary depending on the affected R.O.W. required for staging and construction of the bridge Option 3. Temporary requirements for construction of a new bridge may include R.O.W for staging, and for the actual construction. Permanent requirements for the construction of a new bridge may include any R.O.W. or property that is required for construction of the bridge.

Temporary Requirements

Construction of a new pedestrian bridge may require the temporary use, or acquisition of property for staging, and for construction. An example of an option to minimize construction cost is to use an offsite staging area where the construction contractor stores equipment and material brings, and only brings materials temporarily needed to the actual construction site. Construction R.O.W may also be minimized by either utilizing the existing median at Septima Clark Parkway/ Coming Street or the median at Septima Clark Parkway/King Street exit for staging construction and storing materials. Both of these alternatives may be used to minimize construction cost, and have reduced the amount of R.O.W needed for the construction of a proposed bridge.

Permanent Requirements

The construction of a new pedestrian bridge may require the acquisition of R.O.W**. Table 19** lists the most recent appraised value for the individual parcels in the vicinity of bridge Option 3 that are around or may require some level of acquisition for siting and construction.[8] The amount of R.O.W needed may vary depending on the bridge footprint and siting requirements for construction.

[8] http://sc-charleston-county.governmax.com/svc/default.asp?sid=8C111A5C866F417D9253F54F6FECC2EF

Table 19 – Parcels Appraised Value

ID #	PARCEL ID	Appraisal Date	Total Appraised Value
17	4600404002	2014	$215,999
*18,28,29,33	4600404086	2014	$649,000
19	4600403088	2014	$151,900
20	4600403086	2014	$269,800
21	4600403085	2014	$196,800
25	4600801047	2014	$203,500
27	4600404003	2014	$216,000
30	4600403087	2014	$400,000
31	4600801046	2014	$309,000
32	4600801045	2014	$179,000
*Indicates one parcel containing multiple buildings			

V. RECOMMENDATIONS

The analysis indicates building a new pedestrian bridge comes at a financial cost and is not required for safe passage across the study intersection. The existing pedestrian bridge is used by the community and provides a safe crossing alternative to at grade crossing at the Coming Street/Septima Clark Parkway and Rutledge Avenue/Septima Clark Parkway. In addition, the construction of a new pedestrian bridge will not guarantee reduction of pedestrians within the at grade crossing. It has been shown that pedestrians have a tendency to use at grade crossing if it is the most direct route available.

It is recommended that a combination of rehabilitating the existing pedestrian bridge and improving the existing at grade conditions be implemented. Rehabilitation by performing measures of beautification, improving access, and increasing signing and wayfinding may increase pedestrian use of the existing bridge by making it appear safer and more attractive. The following lists a series of recommended improvements to support the overall safety of the intersection for both vehicular and non-vehicular users of the intersection.

A. Existing Bridge Recommendations

1. ADA Compliance

It is recommended to update the ramp access of the existing bridge to meet the following 2010 ADA requirements:

- Maximum 1:12 slope ratio for access ramps
- Minimum 5' x 5' Flat, unobstructed area at the top and bottom of the ramp.
- Minimum 36 inches of clear space across the wheelchair ramp.
- Minimum Turn Platform size of 5' x 5'.
- Handrails that are between 34" and 38" in height on both sides of the wheelchair ramps.
- Maximum run of 30 feet of wheelchair ramp before a rest or turn platform.

To construct new ramps for the existing pedestrian bridge that meet ADA requirement, it is estimated to cost approximately $500,000 excluding cost for R.O.W. and demolition of the existing ramp structures. Detailed cost estimates can be found in **Appendix C**. **Table 20** lists the parcels near the existing pedestrian bridge that may be affected or need acquisition for potential recommendations.

Table 20 - Parcels near existing bridge

ID#	PARCEL ID	Appraisal Date	Total Appraised Value
2	4600801010	2014	52,000
34	4600801013	2014	100,800
35	4600801016	2014	181,000
36	4600801014	2014	156,300
37	4600801015	2014	145,000
38	4600801018	2014	184,000

2. Beautification

The existing pedestrian bridge Restoration and beautification of the existing bridge may encourage use and improve safety of pedestrians and roadway users. Restoration includes:

- Pressure washing, removing rust and damaged paint
- Applying primer paint where necessary
- Painting all of the structural steel
- Painting all of the exposed steel accessories to the bridge spans (e.g., stairways, ladders, catwalks, handrails, towers, doorways and utility pipes and junction boxes). Not included will be the bridge deck grating and any utility that is galvanized, asbestos-wrapped, or otherwise not painted in its existing condition.
- Matching the existing paint colors

3. Safety Equipment

Installation of safety equipment, such as blue lighted emergency stations, may increase user safety and security around the approached to the existing pedestrian bridge, particularly during evening hours.

4. Wayfinding

Wayfinding signs can provide important information that can increase use of the existing pedestrian bridge and improve safety. **Figure 24** and **Figure 25** display examples of way finding signs.[9] By making pedestrians aware in advance of the bridge, there is a greater chance that they will choose the bridge as an option for crossing. Wayfinding/informational signs can range from $530 to $2,150.[10] **Figure 26** displays proposed locations for way finding signs within the study area. Wayfinding signs at these locations can help increase pedestrian awareness of the existing bridge in advance of at grade crossings at Septima Clark Parkway/Coming St and at Rutledge Avenue/Septima Clark Parkway.

[9] http://www.beavertonoregon.gov/images/pages/N1271/Signage.jpg
[10] http://katana.hsrc.unc.edu/cms/downloads/Countermeasure%20Costs_Report_Nov2013.pdf

Figure 24 – Wayfinding Signs

Figure 25 – Pedestrian Bridge Wayfinding Signs

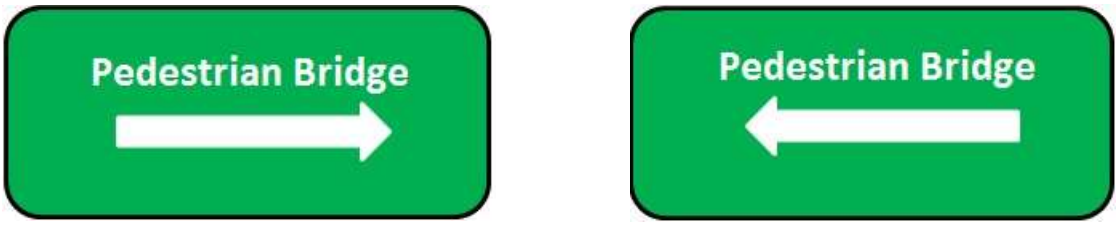


Figure 26 – Wayfinding Locations

B. Additional Recommendations

1. Access to pedestrian facilities

Both the FHWA and the Institute of Transportation (ITE), recommend a minimum width of five feet for a sidewalk or walkway, which allows two people to pass comfortably or to walk side-by –side. Wider sidewalks, preferably at least 6 feet, should be installed near schools, at transit stops, or anywhere high concentrations of pedestrians exist. Sidewalks on Line Street and Todd Street do not appear to provide adequate passing space and contain protruding objects which hinder proper pedestrian access. Damaged and cracked pavement also may cause a tripping hazard for pedestrians. Sidewalk costs can vary greatly, depending on the type of material, the scale, and whether it is part of a broader construction project. A concrete five-foot sidewalk is approximately $32 per linear foot on average, but can range from $2 to $400. Using paving materials other than concrete can alter the cost substantially. [11]

2. Public Transportation

Due to the lack of transit service in the Coming Street corridor, combined with the demographic profile of this community, it is recommended that consideration be given to including Coming Street in CARTA routes serving the Crosstown community. The employment profile and vehicle ownership in this

[11] http://www.pedbikeinfo.org/planning/facilities_ped_sidewalks.cfm

community suggests that this is a transit supportive community. Evening routes providing safe travel for employees in the food service industry, students, and elderly may improve local mobility.

3. Crossing Safety

It is recommended that the pedestrian timing at the Coming Street/Septima Clark Parkway intersection be increased to allow for additional crossing time. As observed in the field, pedestrians often run to cross the road in time with the light. The two stage crossing is appropriate, but additional time would improve the safety for pedestrians. A crossing safety awareness campaign would also benefit the community by educating users of the sidewalks of proper observance of signage, signals and traffic operations.

4. Sight Distance Improvements

There are street trees along the southern edge of the Septima Clark Parkway that are located in the recommended sight triangle clear zone, based on roadway design standards, and may impede a driver's ability to identify automobiles and/or pedestrians waiting at the intersection to cross northbound. These recommendations are based only upon windshield surveys and aerial photography. It is recommended that a field survey and detailed sight distance evaluation be conducted to determine if the trees or other landscaping should be modified to improve sight distance at the intersection.

5. Traffic Calming Devices

The existing signing, traffic and pedestrian signals, and pavement markings have been considered adequate by the City of Charleston, but additional safety and traffic calming devices may be useful in improving the safety for drivers and pedestrians. Traffic calming can include the use of physical and visual cues to encourage motorists to drive more slowly. If done well, traffic calming can reduces traffic speeds and the number and severity of crashes. [12]

Figure 27 displays an existing traffic calming sign on eastbound Septima Clark Parkway. The overhead "Prepare to Stop" traffic signal sign is a visual cue to slow driver's speed approaching the intersection of Septima Clark Parkway/Coming Street. As shown in the figure, during night conditions, the sign has low visibility. It is recommended that the sign be upgraded or replaced to increase visibility and to improve driver awareness of the intersection ahead.

As shown in **Figure 28** and **Figure 29** the R10-23 "Crosswalk, Stop on Red" sign is used for additional emphasis to alert drivers to stop before the crosswalk and allow pedestrians to cross the roadway safely. As stated by the MUTCD, the R10-23 "Crosswalk, Stop on Red" sign is only to be used in conjunction with actuated pedestrian hybrid beacons that are coordinated with a signalized intersection.[13] **Figure 30** displays examples and phasing sequence for pedestrian hybrid beacons.

[12] http://www.pedbikeinfo.org/planning/facilities.cfm
[13] http://mutcd.fhwa.dot.gov/htm/2009/part2/part2b.htm#figure2B27

Figure 27 – Overhead "Prepare to Stop" Sign

Existing signage at night.

Figure 28 – "Crosswalk, Stop on Red" Sign with Flashing Beacon

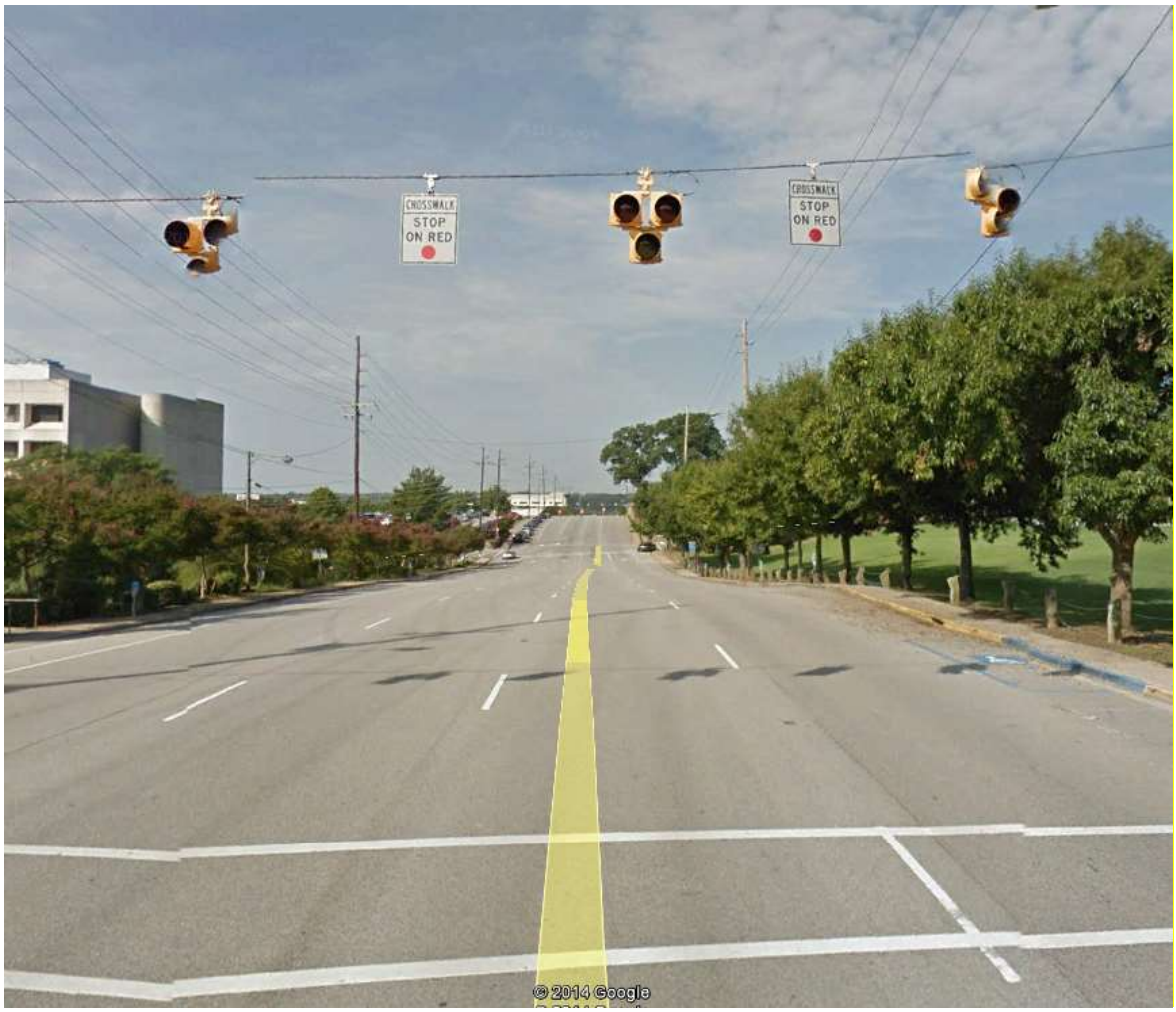
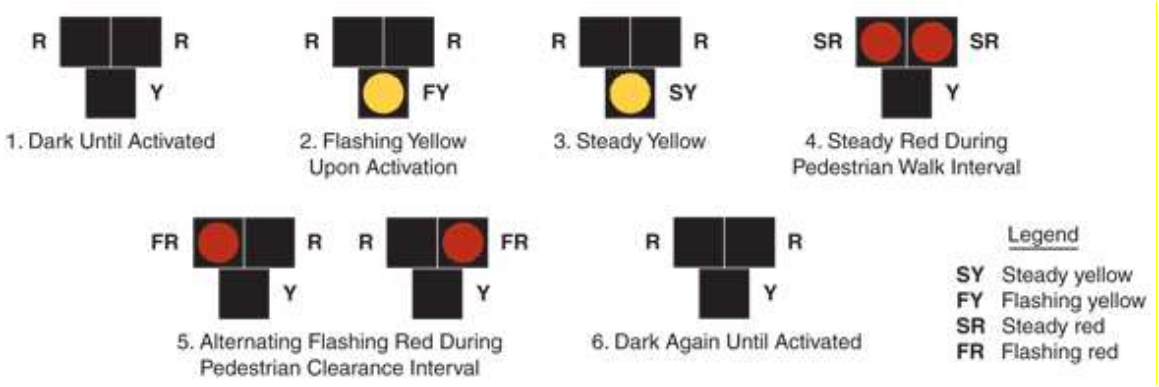


Figure 29 – R10-23 "Crosswalk, Stop on Red" Traffic Signal Sign

Figure 30 – Pedestrian Hybrid Beacon



C. New Pedestrian Bridge at Coming Street/Septima Clark Parkway

While the existing intersection is to be considered acceptable in terms of geometric design for pedestrian safety and not in need of a grade separated pedestrian bridge, the introduction of a pedestrian bridge would support safe passage of pedestrians across the wide intersection. The existing pedestrian bridge does attract pedestrians despite its location on an indirect path across the Septima Clark Parkway. This suggests that there are pedestrians interested in this type of grade separated walkway.

Should community leaders agree that this type of transportation asset be pursued, additional analysis would be required. Specifically, bridge location would need to be refined based upon utility and right of way impacts. The construction of the bridge would cost in the range of $1m - $1.5m without utility or right of way included. Those costs range widely based upon planned improvements to the drainage system in the corridor, existing and proposed utility infrastructure in the intersection and property values in the intersection.

VI. SUMMARY

The goal of this study was to improve pedestrian safety at the intersections of Coming Street/Septima Clark Parkway and Rutledge Avenue/Septima Clark Parkway. The selected options have been compared to identify the best option for pedestrian safety, feasibility, and benefits/costs.

Based on the findings, this study recommends that a combination of improving at grade access and signage rehabilitating the existing pedestrian bridge is the most feasible and cost effective option. Should the community decide a grade separated pedestrian bridge is most appropriate, additional analysis of right of way impacts and utility coordination will be required to determine a more accurate project cost. Those impacts will be the result of a preferred bridge design and location.

APPENDIX A: LETTERS OF CONCERN

Representative Wendell G. Gilliard
House of Representatives
State of South Carolina
District No. 111- Charleston County
Committee: Medical, Military, Public and Municipal Affairs

August 13, 2014

Mr. Ron Patton
Director of Planning
South Carolina Department of Transportation
Post Office Box 191
Columbia, South Carolina 29202-0191

Dear Mr. Patton:

I appreciate you taking the time to meet with me earlier this week regarding the Crosstown Study. I am writing to request that you consider lowering the speed limit on Coming Street and the Crosstown Intersection. Also, I believe the installation of some active traffic cameras would deter and help capture people that speed. The cameras would help reduce vehicle collisions by changing a driver's behavior because they know the cameras are present and monitoring their driving habits. The injuries and fatalities could decrease along with the tax burden to communities for emergency services and other costs tied to possible traffic collisions. The cameras could help bring the speeders to justice.

Thank you for your time and consideration in this matter. I look forward to hearing from you soon.

Sincerely,

Wendell G. Gilliard

Wendell G. Gilliard

WGG/sfj

P.O. Box 31641 Charleston, SC 29417 843-209-3123 www.wendellgilliard.org

SCDOT
South Carolina
Department of Transportation

Beaufort County
Berkeley County
Charleston County
Colleton County
Dorchester County
Jasper County

April 3, 2014

Mr. Hernan E. Peña, Jr.
Director - City of Charleston Traffic & Transportation Dept.
180 Lockwood Boulevard, Suite C
Charleston, South Carolina 29403

RE: US-17 (Crosstown) at Coming Street (S-10-553)

Dear Mr. Peña:

Thank you for your letter and study regarding the pedestrian activity at US-17 and Coming Street.

Both District and Headquarters Traffic Engineering Staff have reviewed the provided information and agree the intersection is MUTCD compliant in its current condition. In reviewing the proposed upgrades contained in the City's study we would offer the following responses:

- With regard to louvers, this is not a typical practice for pedestrian concerns and would not be recommended.
- We concur with your recommendation to install R10-2 Signing since it would be beneficial in directing pedestrians to marked crosswalks.
- We do not concur with the additional marking of R10-2 on the pavement as this could be distracting to pedestrians and it is not standard practice.
- Advanced Pedestrian Warning Signs (W11-2) are not recommended as they are intended for areas where crossings are not at intersections. Drivers should understand that pedestrians will be crossing at intersections, especially signalized intersections with distinct crosswalk markings.
- We concur in concept with signing indicating a two stage crossing, wording for the signing must be approved by SCDOT prior to installation if you should pursue this measure.

Again, thank you for your interest in highway safety and for initiating this study. Should you have any further questions, please feel free to contact our Traffic Engineering office at 843-740-1665.

Sincerely,

Robert T. Clark
District Engineering Administrator

ec: Tony Sheppard, State Traffic Engineer
File: D6/Charleston

District Six Engineering
6355 Fain Boulevard
North Charleston, SC 29406-4989

Phone: (843) 740-1665
Fax: (843) 740-1663

AN EQUAL OPPORTUNITY/
AFFIRMATIVE ACTION EMPLOYER

Kimberly Ryan
1256 Mill Point Road
Charleston, SC 29412
October 1, 2014

Mayor Joe P. Riley
City of Charleston
P.O. Box 652
Charleston, SC 29402

Dear Mayor Joe P. Riley:

I am a voting member of the City of Charleston, and recent graduate from the Master of Environmental Studies program at the Graduate School of the University of Charleston. I am writing to express my concern regarding the intersection of Septima Clark Parkway (Crosstown) and Coming Street.

This evening while heading northwest on Coming Street, I witnessed a young girl nearly die when attempting to cross the Crosstown on a green light. This was due to an SUV driving on the Crosstown, and passing through the intersection at high speed immediately after that signal had turned red.

The less than 2 second delay between signal switches at this intersection is *severely* unsafe. Drivers frequently attempt to "beat" the light in order to make it onto I-26 West, and result in driving through the red signal without slowing.

Tonight was not the first experience I have had witnessing how dangerous this intersection is to both pedestrians and vehicles. A close friend of mine recently lost his young girlfriend when she was murdered by a vehicle slamming into her body at this same intersection.

I cannot press to you enough how extremely important it is that this signal delay be lengthened to protect your community members. This is a discussion about saving the lives of your community members, and I sincerely hope you can take quick action to correct this issue before more lives are lost.

Sincerely,
Kimberly Ryan

MEMORANDUM

TO:	Nathan Umberger, Assistant District Traffic Engineer, District Six
FROM:	Tony S. Sheppard, Director of Traffic Engineering TSC
DATE:	March 25, 2014
RE:	City of Charleston Pedestrian Study Intersection of US 17 and Coming Street (S-10-553)

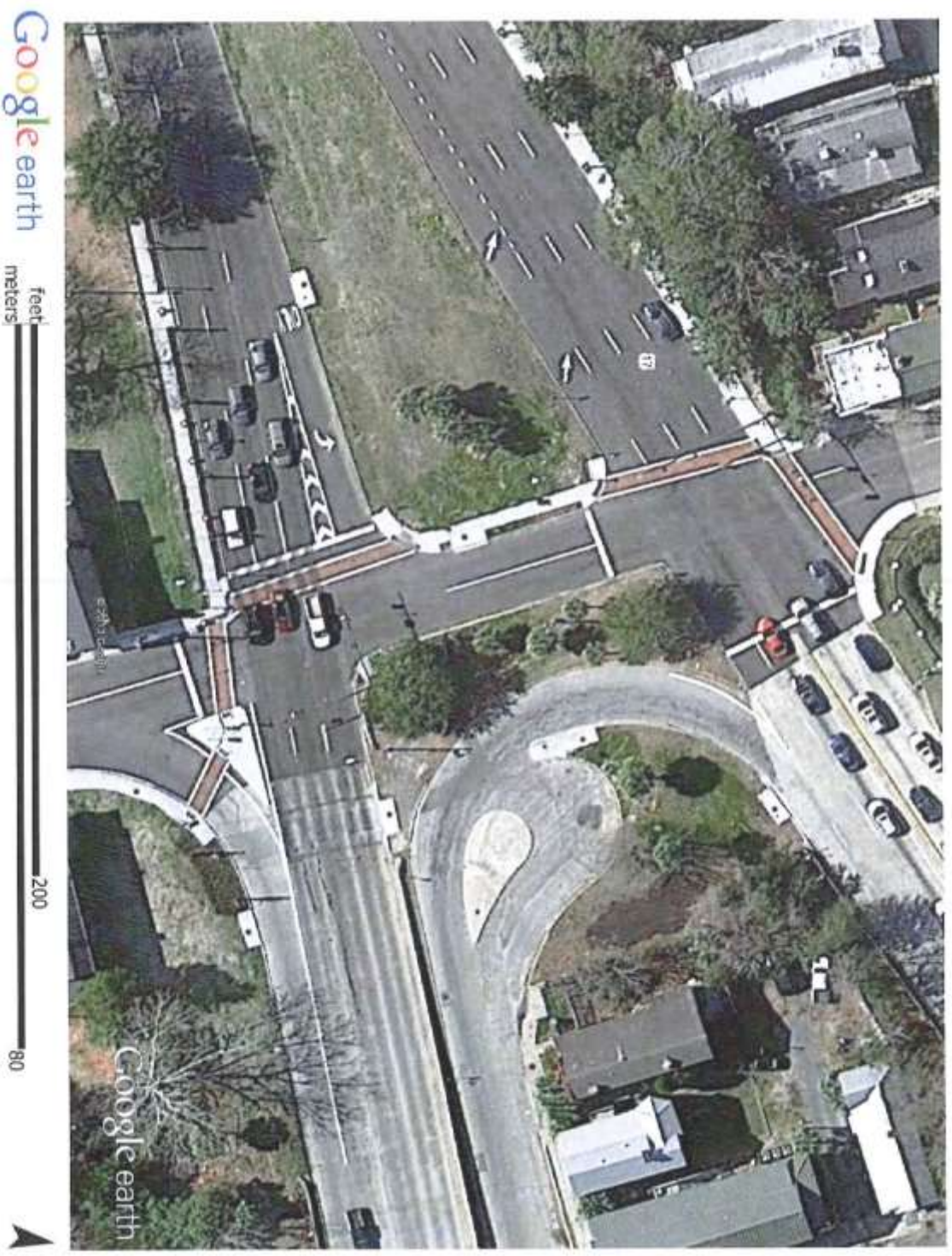
Engineers from my office have completed a review of the subject pedestrian safety study from the City of Charleston. After finishing the review on this study, the subject intersection is currently in compliance with the MUTCD. The City of Charleston is interested in upgrading the pedestrian facilities to help increase the intersection safety. Here are a few comments and concerns with the city's recommendations:

- Installing louvers at this intersection is assumed to be intended to block the view of the signal head to pedestrian traffic to force them to pay attention to the pedestrian heads. This is not a practice that is used and would not be recommended at this location.
- Installing R10-2 signs at the intersection would be beneficial to let the pedestrian traffic know that the intersection is intended to only be crossed at the marked crosswalks. This would further emphasize compliance with the pedestrian signal at this location.
- Installing R10-2 sign as a pavement marking would not be recommended. This is not a standard marking and would distract pedestrians from looking at the vehicles in the roadway.
- Installing W11-2 signs would also not be recommended. W11-2 signs are not used for intersection crosswalks and drivers understand that pedestrians cross at intersections. Signal Ahead (W3-3) warning signs exist at this intersection and adding the additional signs may confuse motorists.
- Additional signage for letting pedestrians know that this intersection would operate as a two stage crossing would be considered at this location. The wording on this sign would have to be approved before installation can occur.

In addition to these comments on the recommendations presented by the City of Charleston, using a "dummy" push button is not recommended. Adding additional actuation to the signal may be considered if a pedestrian count is conducted and deemed appropriate.

If you have any questions on these comments or would like to discuss the subject matter further, feel free to contact me.

TSS:prb
File: TE/CJR
P:\TE-ADM\Bernasconi, Pattie\Pattie\Operations\Joey Rhoades\2014\City of Charleston Pedestrian Study.docx


Google earth
feet
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200
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Google earth

SCDOT
South Carolina
Department of Transportation

Beaufort County
Berkeley County
Charleston County
Colleton County
Dorchester County
Jasper County

MEMORANDUM

To: Tony Sheppard, State Traffic Engineer

From: Nathan Umberger, Asst. District Traffic Engineer

Date: March 6, 2014

Re: City of Charleston Pedestrian Study
Intersection of US-17 and Coming Street (S-10-553)

I have received the attached pedestrian safety study from the City of Charleston requesting a review by SCDOT Staff based on recent events. Note that the City of Charleston is responsible for the Engineering & Maintenance of this location per signal maintenance agreement. After reviewing the recommendations of the study I would offer the following comments:

- I agree that all recommendations are reasonable with the exception of an advanced pedestrian warning sign (#4). As the intersection is under the control of the signal with standard crossing times, this does not seem to be an appropriate application of W11-2. In my opinion, the pedestrian warning sign are intended for uncontrolled or other non-signalized pedestrian crosswalks to alert motorists of a varying or unexpected condition rather than of one that is standard. This also may be somewhat distracting to motorists from the signal and cause confusion if they seek to find a separate crosswalk from that which is under signal control.
- In response to #5, while they are not required based on the nature and spacing of the intersection, signs to indicate a two stage crossing may have a positive effect on overall safety.
- The City may wish to consider adding actuation or potentially "dummy" push buttons to increase pedestrian interaction with the signal.

I am requesting Headquarters staff also review the City's submittal and to please advise if you have additional comments or concerns with the City's recommendations.

Please contact me either in office at 843-746-6719 or by cell at 843-834-9039 if we can discuss any details further or if there is additional information that the City should provide.

District Six Engineering
6355 Fain Boulevard
North Charleston, SC 29406-4989

Phone: (843) 740-1665
Fax: (843) 740-1663

AN EQUAL OPPORTUNITY/
AFFIRMATIVE ACTION EMPLOYER

JOSEPH P. RILEY, JR.
MAYOR

City of Charleston

South Carolina

Department of Traffic & Transportation

HERNAN E. PEÑA, JR.
DIRECTOR

February 4, 2014

Mr. Robert Clark
District Engineering Administrator
South Carolina Department of Transportation
6355 Fain Boulevard
North Charleston, SC 29406

Dear Robert:

During the past year there have been two pedestrian fatalities reported at the intersection of U.S. 17 (Crosstown) and Coming Street. Due to the unusual circumstances of having two fatalities within the same intersection in a short period of time, our department has started an assessment of the various aspects of this intersection in order to determine if there are any opportunities for improving pedestrian safety at the intersection. We are currently gathering data regarding the accident history at the intersection, speed data, traffic signal timing data, discussing the accidents with the police officers that supervised these unfortunate events, as well as reviewing comments from the public. As such, we would like to request that the South Carolina Department of Transportation also review the intersection of the Crosstown and Coming Street with the purpose to identify any improvements that may enhance pedestrian safety at this location. Perhaps SCDOT could consider including this intersection in its Low Cost Safety Improvement Review Program (if it is not too late) to make sure that all elements of this intersection are considered and evaluated thoroughly. Robert Somerville from our office is leading the evaluation of the intersection for our department.

180 Lockwood Boulevard, Suite C • Charleston, S.C. 29403-5121 • Tel: (843) 973-7288 • Fax: (843) 722-5956

Mr. Robert Clark
February 4, 2014
Page 2

Thanks in advance for any cooperation that you can provide us in this matter.

Sincerely,

Hernan E. Pena, Jr.
Director

HEP, JR.:jc

cc: Robert Somerville
Michael Mathis
Troy Mitchell
Nathan Umberger

Nathan –
Pls review and discuss w/ me

JOSEPH P. RILEY, JR.
MAYOR

City of Charleston

South Carolina

Department of Traffic & Transportation

HERNAN E. PEÑA, JR.
DIRECTOR

February 21, 2014

Mr. Robert Clark
District Engineering Administrator
South Carolina Department of Transportation
6355 Fain Boulevard
North Charleston, SC 29406

Dear Robert:

As a follow up to my letter dated February 4, 2014 in reference to pedestrian fatalities at the intersection of U.S. Hwy 17 and Coming Street, we have completed our investigation and we are providing a summary report for your review.

We look forward to your response and comments.

Sincerely,

Hernan E. Peña, Jr.
Director

HEP, Jr.:jc

Enclosures

180 Lockwood Boulevard, Suite C • Charleston, S.C. 29403-5121 • Tel: (843) 973-7288 • Fax: (843) 722-5956

U.S. Hwy 17 (Septima Clark Parkway) at Coming Street OUTLINE

The purpose of this investigation is to evaluate the intersection of U.S. Hwy 17 at Coming Street due to two fatal pedestrian accidents that have occurred within a 14 month period. This summary provides information on how the accidents occurred, a review of the accident history at the intersection, review of traffic signal and pedestrian signal timings, potential recommendations for improvements and meetings with SCDOT to further discuss intersection.

REVIEW OF ACCIDENTS WITH FATALITIES

Fatality #1:

On November 18, 2012 at approximately 2:25 a.m., a motor vehicle heading northbound on U.S. Hwy 17 at the intersection of Coming Street struck two pedestrians attempting to cross the intersection. According to the accident report, the two pedestrians were leaving a party at a friend's house on Sumter Street, crossing U.S. Hwy 17 eastbound on Coming Street to return to their dorms at the College of Charleston. According to the investigating officer, the surviving pedestrian stated that as they were crossing the street, they started to run as they were afraid of crosswalks. The surviving pedestrian then saw headlights and something hit her foot. She fell forward and when she got up she saw her friend lying in the middle of the street. The investigating officer's report indicated that the surviving pedestrian stated she never saw the vehicle, but did see the head lights just before they were hit. The investigating officer asked if she looked at the traffic signal before crossing the intersection and she stated that she did not, and only looked to see if vehicles were approaching. The surviving pedestrian was then asked if she thought the vehicle was speeding and she said it was not. The driver of the vehicle stated he was proceeding to enter the intersection heading to the interstate with the green light and a person hit the right front of his car. When asked how fast he believed he was traveling, he thought it was less than 40 miles per hour. The surviving pedestrian indicated that both she and the deceased were intoxicated from drinking at the party. The toxicology report indicated the blood alcohol content of the deceased was at 0.154% at the time of death. This is almost double the legal limit.

Fatality #2:

On January 13, 2014 at approximately 6:30 p.m., a motor vehicle heading northbound on U.S. Hwy 17 at the intersection of Coming Street struck a pedestrian attempting to cross the intersection. According to the accident report, a female jogger was running northbound parallel to Septima Clark to the intersection of Coming Street. The female jogger was running in place as she waited for the traffic signal to change to allow her to cross U.S. Hwy 17 to go westbound on Coming Street. When the traffic signal on U.S. Hwy 17 changed from green to yellow, the female jogger immediately stepped out into the lane of traffic without waiting for the pedestrian signal to be activated, getting struck by an automobile. According to the report, there was a witness at the intersection of U.S. Hwy 17 and Coming Street that confirmed that the jogger stepped out into the traffic when the signal turned yellow and the motor vehicle did not have time to stop.

ACCIDENT HISTORY

The Department of Traffic and Transportation reviewed the 2 year accident history for the intersection of U.S. Hwy 17 at Coming Street.

Date of Summary: Created: 2/6/2014 Range: 01/01/2012 - 01/13/2014
Location: U.S. Hwy 17 (Septima Clark Parkway) at Coming Street (S-553)

	Right Angle	Rear End	Side Swipe	Head On	Other	Left Turn	Pedestrian	Totals
2014	0	0	0	0	0	0	1	1
2013	3	16	12	0	3	1	0	35
2012	6	16	18	0	4	0	2	46
Totals	9	32	30	0	7	1	3	

Total # of Accidents:	82

*Accident data provided by the City of Charleston's Police Department
*2 pedestrian accidents in 2012. One was a fatality dated 11/18/12. The other pedestrian accident was not a fatality. It occurred 10/25/12 and the pedestrian was not at the crosswalk. The pedestrian was at fault for crossing in the roadway.

The review of the accident history specifically for the pedestrian accidents reported between 2012 and February 2014 indicates that the three pedestrian accidents that occurred at the intersection were caused by actions taken by the pedestrians and police records indicate that the pedestrian was at fault in each of the three cases. The reports indicate that the drivers were not charged in either of the three incidents involving the pedestrian accidents.

REVIEW OF THE INTERSECTION

After the January 13, 2014 accident, the City of Charleston conducted several site visits to observe driver and pedestrian behavior, traffic signal and pedestrian signal timings, and the flow of traffic to include the geometry of the intersection.

All the traffic signal and pedestrian signal timings were reviewed to ensure proper operations and that adequate crossing times were in place. Traffic and Transportation personnel found all traffic signal and the pedestrian signals to be operating correctly as programmed for the intersection.

Sgt. Matthew T. Wojslawowicz, Special Unit Major Accident Investigation Team, with Charleston Police Department conducted a 30 minute radar speed study on January 23, 2014 from 6:15 p.m. 6:45 p.m. Of the 148 vehicles observed, the average speed was 35.52 miles per hour. The highest speed recorded was 45 miles per hour and the lowest was 24 miles per hour.

Sgt. Wojslawowicz reported that while at the accident scene (January 13, 2014) he watched the pedestrian signals for 30 minutes to confirm these were operating correctly.

EXISTING CONDITIONS

U.S. Hwy 17 is an eight (8) lane highway divided by a 70 plus foot earth median. The South Carolina State Code 56-5-490 states in the event such intersecting highway also includes two roadways thirty feet or more apart, every crossing of two roadways of such highway shall be regarded as a separate intersection.

The vehicular traffic at the intersection of U.S. Hwy 17 and Coming Street is managed by 12 inch LED pre-timed traffic signals that are mounted on mast arm traffic signal poles. The pedestrian crosswalks are managed by LED countdown pedestrian signals. The investigation revealed that the installation of the traffic control devices at the intersection are in compliance with the federal Manual on Uniformed Traffic Control Devices (MUTCD).

The City of Charleston Traffic and Transportation personnel consulted with SCDOT staff regarding the operation of the intersection of U.S. Hwy 17 and Coming Street, specifically to the issue of whether or not signage was required as alluded to in the MUTCD Section 4E-06-16 that references "signage shall be provided to notify pedestrians to cross only to the median to wait the next walking person signal indication". SCDOT staff indicated that according to South Carolina State Code 56-5-490 (as referenced above) each intersection is treated differently and as such, no signage is required. Each intersection has the appropriate pedestrian signals installed.

RECOMMENDATIONS

Pedestrian Crossing – U.S. 17 North at Coming Street

The investigation of the intersection and the pedestrian fatalities that have occurred at the intersection of U.S. Hwy 17 and Coming Street found that the pedestrians were at fault in each and every case. Additionally, all the elements associated with the intersection in terms of traffic control devices, markings, pedestrian crosswalks, and signage were found to be in compliance with the MUTCD. While it has been determined that the intersection as designed does not require any additional improvements, it is the City's desire to supplement the traffic control devices at the intersection of U.S. Hwy 17 and Coming Street to provide further information to pedestrians in an attempt to encourage pedestrians to obey the traffic control devices at the intersection, to use the crosswalks that are provided, and to emphasize the importance of obeying the traffic control devices at the intersection. Based on that, we would present the following suggestions for consideration by the South Carolina Department of Transportation.

- Installation of geometrically programmed traffic signal louvers for the vehicular signals on U.S. Hwy 17 northbound at the intersection with Coming Street. These lovers will control pedestrian and motorists visibility of the vehicular signals while at the intersection.

- Installation of R10-2 "CROSS ONLY ON (Symbolic Walk Indication) SIGNAL" signs at each corner with designated pedestrian crossing.

- Installation of "CROSS ONLY ON (Symbolic Walk Indication) SIGNAL" pavement markings on northwest and southwest corners of the intersection. These markings would be installed on the sidewalk and similar to the "USE CROSSWALK" marking shown on the attached image.

- Installation of W11-2 Advanced Pedestrian Warning signs with supplemental W16-9P "AHEAD" signs on the right hand shoulder of U.S. Hwy 17 North approximately 300' prior to the intersection of Coming Street to alert motorists of the pedestrian crossing.

- Even though signage is not required for pedestrians crossing the two separated intersections based on South Carolina State Code 56-5-490, we would ask SCDOT to consider if signs would be appropriate (either at the corners or on the median) to provide information to pedestrians such that the crossing of U.S. Hwy 17 (Septima Clark Parkway) is to be done in two stages.

Charleston Police Department Traffic Division

Traffic Speed Study

Location	US-17N & Coming St Lane 4 Only
Date	Thu, January 23, 2014
Time	1815-1845
Duration	30 mins

Speed Breakdown		
Speed Limit	35	
High	48	
Low	24	
Average	35.52	
Limit or Less	69	46.62%
1-5 Over Limit	58	39.19%
6-10 Over Limit	17	11.49%
11-15 Over Limit	4	2.70%
16 or Greater	0	0.00%
Total Vehicles	148	

Actual Speeds				
36	40	34	39	34
40	39	36	38	36
38	39	34	37	41
36	42	33	29	38
37	37	35	37	38
39	34	34	30	38
42	30	35	34	32
37	40	32	32	37
26	44	32	35	40
40	32	31	35	35
42	31	31	32	34
44	32	30	36	40
48	32	34	37	42
44	26	36	36	25
34	28	41	39	38
36	28	40	45	41
38	29	47	34	32
32	24	37	39	31
31	38	41	38	30
36	33	38	36	39
35	38	36	46	44
25	36	33	34	30
25	36	42	34	25
42	33	26	38	39
40	32	28	40	36
34	29	30	42	29
36	27	37	30	33
35	36	37	38	43
36	36	35	33	
29	34	34	47	


USE
CROSSWALK

R10-2

SIGNAL ACCESSORIES
Geometrically Programmed Louver

pelco
PELCO PRODUCTS, INC

①

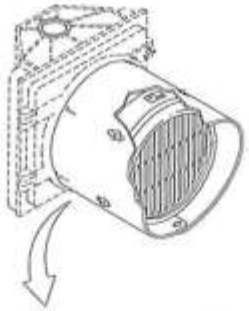
Haircell Finish

Arrow Shield Option

OPTIONS
VIEW CUT-OFF: 7°, 8°, 9°, 11°, 13°, 15°, 23½°, 43°
ARROW SHIELD: None 0° ↑ Up 90° → Right 180° ↓ Down 270° ← Left

ITEM	DESCRIPTION	PART NO.
①	GPL, Geometrically Programmed Louver, 12" w/o Visor	GL-1001
②	GPL, Geometrically Programmed Louver, 12" w/ Visor	GL-1010
③	INSTALLATION KIT, w/o Screw Gun, Includes visor marking template & sleeve, staedtler pen, adjustment tool, 1/4" & 5/16" shock cord assys. & small tool box	GL-2001
④	INSTALLATION KIT, w/ Screw Gun, Includes visor marking template & sleeve, staedtler pen, adjustment tool, 1/4" & 5/16" shock cord assys., cordless Makita screw gun w/ 5/16" magnetic socket, battery charger & large tool box	GL-2002
5	ADJUSTMENT TOOL, GPL w/ Depth Gauge	GL-1002

②



OPTIONS
VIEW CUT-OFF: 7°, 8°, 9°, 11°, 13°, 15°, 23½°, 43°
TUNNEL VISOR: w/o Clips w/ Universal Clips US Traffic (Poly) Clips US Traffic (Alum) Clips
PAINT

Notes:

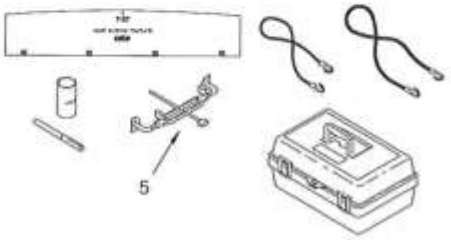
1. All assemblies are supplied standard with stainless steel fasteners.
2. Universal clips fit Eagle, Econolite, TCT, Mark IV, and McCain signals.
3. Please specify options when ordering.

Universal Clip Option

US Traffic (Poly) Clip Option

US Traffic (Alum) Clip Option

③



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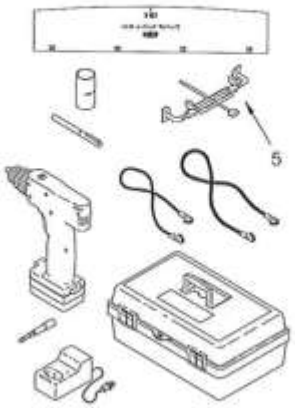


320 W. 18th St., Edmond OK 73013 • 405-340-3434 • FAX: 405-340-3435 • E-mail: pelco@pelcoinc.com • www.pelcoinc.com

ORIGINAL

SOUTH CAROLINA TRAFFIC COLLISION REPORT FORM TR-310 (Rev. 01/2001)

D.P.S. USE ONLY | Page # 1 Of 2 | # Of Units: 3 | Amended - Attach Copy of Original Report / Corrected | Notified: 0240 | Arrived: 0300

Date	Time	County	Collision Location (Rt. # / Name)	Dir.	In City or Town of
11-18-2012	0230	10	2 US Primary — SEPTIMA P. CALRK EXPRESSWAY (1 Main)		CHARLESTON

Lane # / Dir.: # 4, Of 8, N — Distance Offset: 0 Feet, Direction: S
Base Intersection (Rt. # / Name): COMING ST — 4 Secondary, 0 Main
Second Intersection (Rt. # / Name): S TRACY ST — 4 Secondary, 0 Main

Unit 1	
C-187729	Driver/Pedestrian's Full Name: WOODALL-JOHN MARK
Sex / Race	M / W
Street / R.F.D.	1406 CHIMNEY SWIFT LN
Birth Date	01/06/1987
City, State, & Zip	HANAHAN, SC 29687
State / Driver's License #	SC / 011677928
Insurance Company	STATE FARM
Year / Body / Vehicle Make	2001 / SUV / JEEP
VIN #	1J4FF48551L597081
State / Year / License Plate #	SC / 2012 / BYH942
Owner's D.L. #	UNK
Home Telephone	(843) 709-6475
Owner's Full Name	WOODHALL-MARK WILLIAM
Street / R.F.D.	1406 CHIMNEY SWIFT LN
Contributed To Collision	No
City, State, & Zip	HANAHAN, SC 29687
Estimated Speed / Speed Limit	35 / 35
Towed By	JENNINGS

Unit 2	
C-187730	Driver/Pedestrian's Full Name: BOWER-ELIZA (NMN)
Sex / Race	F / W
Street / R.F.D.	317 E MELROSE AVE
Birth Date	11/26/1992
City, State, & Zip	BALTIMORE, MD 21212
Home Telephone	(410) 402-3961
Bus. Telephone	(410) 435-6611
Contributed To Collision	Yes
Estimated Speed / Speed Limit	0 / 0

Unit 3	
C-187731	Driver/Pedestrian's Full Name: ELLEDGE-HANNAH-ROSE M
Sex / Race	F / W
Street / R.F.D.	106 ST PHILIP ST
Birth Date	08/24/1991
City, State, & Zip	CHARLESTON, SC 29403
Contributed To Collision	Yes
Estimated Speed / Speed Limit	0 / 0

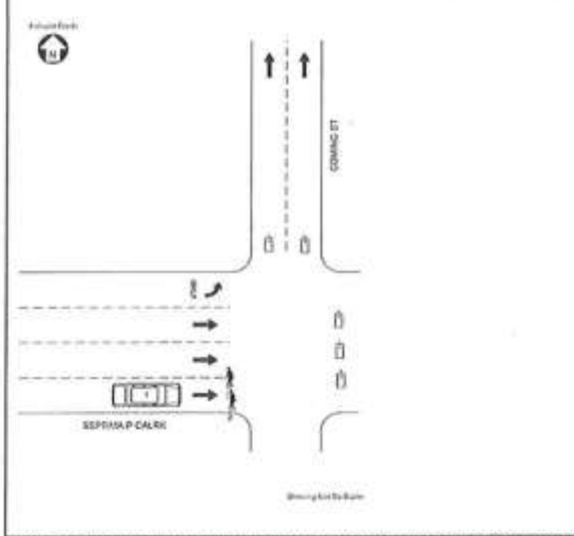
Dir. of Travel: Unit 1: N — Unit 2: E — Unit 3: E

Unit 1 Dam.	Unit 2 Dam.	Unit 3 Dam.	Prop. Dam. 1	Prop. Dam. 2
$ 1,000.00	$ 0.00	$ 0.00	$	$

Property Owner/Witness: BENNETT-CANDYCE (NMN)
Address: 223 DURAND ST - A
State: SC Zip: 29715 Phone: 8035543331

Photo: N — Describe What Happened (Refer to Units by Number):

Units 2 and 3 were crossing the street in the crosswalk. Unit 1 was traveling in lane 4. Unit 1 had a green light and proceeded to pass through the intersection. Unit 1 then struck Units 2 and 3.
END



NOTICE - THE TR-310 IS FOR STATISTICAL REPORTING PURPOSES ONLY AND IS A REFLECTION OF THE OFFICER'S BEST KNOWLEDGE, OPINION, AND BELIEF COVERING THE COLLISION BUT NO WARRANT IS MADE AS TO THE FACTUAL ACCURACY THEREOF.

Investigating Officer's Name	Rank	Badge #	Code	Date	Reviewer's Name	Rank	Internal Agency Code
WINTERS, JARED M.	SPO	1415	0100100	11-19-2012	WOJSLAWOWICZ,	SGT	1218692

Unit	Date of Birth	Sex	Race	INJ	Seat	R/SD	A.B.D.	Eject	LAI	Tran	Name	Street Address	Zip Code
1	01/06/1987	M	W	2	01	13	4	1	1	2	Driver Unit #1	1406 CHIMNEY SWIFT LN HANAHAN, SC	29687
2	11/26/1992	F	W	1	20		7	7	4	1	BOWER-ELIZA (NMN)	317 E MELROSE AVE BALTIMORE, MD	21212
3	08/24/1991	F	W	4	20		7	7	4	1	ELLEDGE-HANNAH-ROSE	106 ST PHILIP ST CHARLESTON, SC	29403

Race: A - Asian/Pacific Islander; B - African American; I - Alaskan Native or American Indian; W - Caucasian; O - Other; U - Unk.

a) Injury Status: 0 - Not Injured; 1 - Possible; 2 - Non-Incapacitating; 3 - Incapacitating; 4 - Fatal

b) Motorcycle Only — Head Injury: 1-Yes 2-No

Seating Loc.: 01 02 03 / 04 05 06 / 07 08 09

20- Pedestrian; 30- Trailing Unit; 40-Bus or Van (4th row or Higher); 50- Other Enclosed Area (nonlaiming); 51- Other Unenclosed Area (nonlaiming); 60-Sleeper of Cab; 70- Riding on Unit Exterior; 80- Lap; 99- Unk./NA

Restraint/Safety Device: 00- None Used; 11- Shoulder Belt Only; 12- Lap Belt Only; 13- Shoulder & Lap Belt; 21- Child Safety Seat; 88- Other; 99- Unk.

Air Bag Deployment / Switch: a) 1-Deployed Front 2-Deployed Side 3-Deployed Both 4-Not Deployed 7-Not Applicable 9-Deployment Unk; b) 1-Switch in On Position 2-Switch in Off Position 3-No Switch 9-Unknown

Ejection: 1 - Not Ejected; 2 - Part. Ejected; 3 - Tot. Ejected; 7 - Not App.; 9 - Unk.

Location After Impact: 1- Not Trapped; 2- Extricated (Mechanical Means); 3- Freed (non-mech.); 4- Not Applicable; 9- Unknown

a) Transported to Medical Facility: 1- Yes; 2- No; 3- Unknown

b) By: 1- EMS; 2- Police; 8- Other; 9- Unk.

Pedestrian, Motor/Pedalcycle Only: 31- Helmet; 51- Reflective Clothing; 41- Protective Pads; 61- Lighting

Sequence of Events

Mail Orig. TR-310 to: Office of Financial Responsibility, PO Box 1498, Columbia, SC 29216

Non-Collision: 04- Equipment Failure; 01- Cargo/Equip Loss or Shift; 02- Cross Median/Center Line; 03- Downhill Runaway; 05- Fire/Explosion; 06- Immersion; 07- Jackknife; 08- Overturn/Rollover; 09- Ran off Road Left; 10- Ran off Road Right; 11- Separation of Units; 12- Spill; 18- Other Non-collision; 19- Unk. Non-collision

Collision: Not Fixed: 20- Animal (Deer Only); 21- Animal (All Other); 22- Motor Veh. (In Transport); 23- Motor Veh. (Stopped); 24- Motor Veh. (Other Roadway); 25- Motor Veh. (Parked); 26- Pedalcycle; 27- Pedestrian; 28- Railway Veh.; 29- Work Zone Maint. Equip.; 38- Other Movable Object; 39- Unk. Movable Object

Collision: Fixed Object: 40- Bridge Overhead Structure; 41- Bridge Parapet End; 42- Bridge Pier or Abutment; 43- Bridge Rail; 44- Culvert; 45- Curb; 46- Ditch; 47- Embankment; 48- Equipment; 49- Fence; 50- Guardrail End; 51- Guardrail Face; 52- Highway Traffic Sign Post; 53- Impact Attenuator/Crash Cushion; 54- Light/Luminaire Support; 55- Mail Box; 56- Median Barrier; 57- Overhead Sign Support; 58- Other (Post, Pole, Support, Etc.); 59- Other (Wall, Building, Tunnel, Etc.); 60- Tree; 61- Utility Pole; 62- Work Zone Maint. Equipment; 68- Other; 69- Unk.

Event 1	Event 2	Event 3	Event 4	Modifier	1st Harmful
27	27			27	27
22				22	
22				22	

Manner of Collision (Struck Veh.): 00- Not Coll. W/ Motor Veh.; 10- Rear End; 20- Head On; 30- Rear-to-Rear; 41- Angle; 42- Angle; 43- Angle; 50- Sideswipe Same Dir.; 60- Sideswipe Opposite Dir.; 70- Backed Into; 99- Unknown

1st / Most Deformed Area: 1st Deformed: 1 2 21 21; Most Deformed: 1 2 21 21

21- Pedestrian; 01- None; 92- Rollover; 93- Total; 94- Under Carriage; 95- Other; 99- Unk.

Vehicle Type: 01- Automobile; 12- Pickup Truck; 13- Truck Tractor; 14- Other Truck; 15- Full Size Van; 16- Mini Van; 17- Sport Utility; 25- Motorcycle; 26- Other Motorbike; 27- Pedalcycle; 28- Animal Drawn Veh.; 39- Animal (Ridden); 41- Pedestrian; 51- Train; 61- School Bus; 62- Passenger Bus; 69- Other; 99- Unk. (Hit and Run Only)

Alcohol / Drug Test Given: 1- Given - Known Results; 2- Given - Unusable; 3- Given - Pending; 4- None; 5- Refused

Special Use Only: 1 2 3 4 5 6 7

Vehicle Use Code: 01- Personal; 02- Driver Training; 03- Construction/Maint.; 04- Ambulance; 05- Military; 06- Transport Passengers; 07- Transport Property; 08- Farm Use; 09- Wrecker or Tow; 10- Police; 11- Government; 12- Fire Fighting; 13- Logging; 18- Other; 41- Pedestrian

Test Type: 1- Breath (Alc Only); 2- Blood; 3- Urine; 4- Serum; 8- Other

Underride/Override: 1- Under- Compartment Intrusion; 2- Under- No Intrusion; 3- Under- Unknown; 4- Over- MV in Transport; 5- Over- Other Vehicle; 6- None; 9- Unk.

Vehicle Attachment: 1- None; 2- Mobile Home; 3- Semi-Trailer; 4- Utility Trailer; 5- Farm Trailer; 6- Trailer w/ Boat; 7- Camper Trailer; 8- Towed Motor Vehicle; 9- Petroleum Tanker; A- Lowboy Trailer; B- Autocarrier Trailer; C- Other Tanker; D- Flat Bed; E- Twin Trailers; F- Other

Drug Results: 1- Amphetamines; 2- Cocaine; 3- Marijuana; 4- Opiates; 5- PCP; 8- Other

Extent of Deformity: 1 2 3 9

Alc Test Results: A1- A2- A3-

Trafficway: 1- Two-way, Not Divided; 2- Two-way, Divided, Unprotected Median; 3- Two-way, Divided, Barrier; 4- One-Way; 8- Other

A: 1- Gore; 2- Island; 3- Median; 4- Roadside; 5- Roadway; 6- Shoulder; 7- Sidewalk; 8- Unk.; 9- Outside Trafficway

B: X-walk; 1st Harmful Event Loc.

Action Prior to Impact (Vehicle): 01- Backing; 02- Changing Lanes; 03- Entering Traffic Lane; 04- Leaving Traffic Lane; 05- Making U-Turn; 06- Movements Essentially Straight Ahead; 07- Overtaking/Passing; 08- Parked; 09- Slowing or Stopped in Traffic; 10- Turning Left; 11- Turning Right; 88- Other; 99- Unk.

(Non-motorist): 21- Approaching/Leaving Vehicle; 22- Entering/Crossing Location; 23- Playing/Working on Vehicle; 24- Pushing Vehicle; 25- Standing; 26- Walking, Playing, Cycling; 27- Working

Road Character: 1- Straight - Level; 2- Straight - On Grade; 3- Straight - Hillcrest; 4- Curve - Level; 5- Curve - On Grade; 6- Curve - Hillcrest

Road Surface Condition: 1- Dry; 2- Wet; 3- Snow; 4- Slush; 5- Ice; 6- Contaminate; 7- Water (Standing, etc.); 8- Other; 9- Unk.

Traffic Control Type: 01- Stop and Go Light; 02- Flashing Traffic Signal; 11- RR (X-bucks, Lights & Gates); 12- RR (X bucks & Lights); 13- RR (X-bucks Only); 21- Officer or Flagman; 22- Oncoming Emergency Vehicle; 31- Pavement Markins (only); 41- Stop Sign; 42- School Zone Sign; 43- Yield Sign; 44- Work Zone; 45- Other Warning Signs; 51- Flashing Beacon; 98- None; 99- Unk.

Weather Condition: 1- Clear (no adverse conditions); 2- Rain; 3- Cloudy; 4- Sleet, Hail; 5- Snow; 6- Fog, Smog, Smoke; 7- Blowing Sand, Oil, Dirt or Snow; 8- Severe Crosswinds; 9- Unk.

Light Condition: 1- Daylight; 2- Dawn; 3- Dusk; 4- Dark (Lighting Unspecified); 5- Dark (Street Lamp Lit); 6- Dark (Street Lamp Not Lit); 7- Dark (No lights)

School Bus Involved: 1- Yes, Directly; 2- Yes, Indirectly; 3- No; 9- Unk.

Work Zone: 1- Yes 2- No

Work Zone Location: 1- Before 1st Sign; 2- Advanced Warning Area; 3- Transition Area; 4- Activity Area; 5- Termination Area

Work Zone Type: 1- Shoulder/Median Work; 2- Lane Shift/Crossover; 3- Intermittent/Moving Work; 4- Lane Closure; 8- Other; 9- Unk.

Workers Present: 1- Yes 2- No

Junction Type: 01- Crossover; 02- Driveway; 03- Five/More Points; 04- Four-way Intersection; 05- Railway Grade Crossing; 07- Shared Use Paths or Trail; 08- T-Intersection; 09- Traffic Circle; 12- Y-Intersection; 13- Nonjunction; 99- Unk.

Primary Contributing Factors — Driver: 01- Disregarded Signs, Signals, Etc.; 02- Distracted/Inattention; 03- Driving Too Fast for Conditions; 04- Exceeded Authorized Speed Limit; 05- Failed to Yield Right of Way; 06- Ran off Road; 07- Fatigued/Asleep; 08- Followed Too Closely; 09- Made an Improper Turn; 10- Medical Related; 12- Aggressive Operation of Vehicle; 13- Over-correcting/Over-steering; 14- Swerving to Avoiding Object; 15- Wrong Side or Wrong Way; 16- Under the Influence; 17- Vision Obscured (Within Unit); 18- Improper Lane Usage/Change; 28- Other Improper Action; 29- Unk.

Roadway: 30- Debris; 31- Non-highway Work; 32- Obstruction in Roadway; 33- Road Surface Condition (i.e., Wet); 34- Rut, Holes, Bumps; 35- Shoulders (None, Low, Soft, High); 36- Traffic Control Device (i.e., Missing); 37- Work Zone (Constr./Maint./Utility); 38- Worn, Travel-Polished Surface; 48- Other; 49- Unk.

Non-Motorist: 50- Inattentive; 51- Lying &/or Illegally in Roadway; 52- Failure to Yield R. of W.; 53- Not Visible (Dark Clothing); 54- Disregard Signs, Signals, Etc.; 55- Improper Crossing; 56- Darting; 57- Wrong Side of Road; 58- Other; 59- Unk.

Environmental: 60- Animal in Road; 61- Glare; 62- Obstruction; 63- Weather Cond.; 68- Other; 69- Unk.

Vehicle Defect: 70- Brakes; 71- Steering; 72- Power Plant; 73- Tires/Wheels; 74- Lights; 75- Signals; 76- Windows/Shield; 77- Restraint System; 78- Truck Coupling; 79- Cargo; 80- Fuel System; 88- Other; 99- Unk.

ORIGINAL

D.P.S. USE ONLY | Page # 1 Of 2 | **SOUTH CAROLINA TRAFFIC COLLISION REPORT FORM** TR-310 (Rev. 01/2001) | # Of Units 2 | X Amended - Attach Copy of Original Report / Corrected | Notified 1830 | Arrived 1837

Date 01-13-2014 | Time 1830 | County 10 | 1- Interstate, (2) US Primary, 3- SC Primary, 4- Secondary, 5- County | O n | Collision Location (Rt. # / Name) HWY 17 | (1) Main, 2-Alternate, 5-Spur, 6-Connector, 7-Business | Miles: | Dir. N E S W | In / ~~Near~~ City or Town of: CHARLESTON

Lane # / Dir. # 4 Of 8 (N) E S W | Distance Offset 3 Miles Feet | Direction N E S (W) | 1- Interstate, 2- US Primary, 3- SC Primary, (4) Secondary, 5- County, 6- Other | From | Base Intersection (Rt. # / Name) COMING ST | (1) Main, 2-Alternate, 5-Spur, 6-Connection, 7-Business, 9-Other | ARMU code | MP/Grid

R.R. Id. | From N E S W | Ramp Only 1 - Entrance 2 - Exit | To N (E) S W | 1- Interstate, 2- US Primary, 3- SC Primary, (4) Secondary, 5- County, 6- Other | Toward | Second Intersection (Rt. # / Name) RUTLEDGE AVE | (1) Main, 2-Alternate, 5-Spur, 6-Connection, 7-Business, 9-Other | Latitude 32 47 42.0 | Longitude 79 56 43.6

Unit 1 — Q-016768

Driver/[redacted]'s Full Name: MUCKENFUSS-WESTLEY QUINN
Sex M | Race W | Street / R.F.D. 1823 S MAYFLOWER DR
Birth Date 02/18/1987 | City, State, & Zip CHARLESTON, SC 294123911
State SC | Driver's License # 011660336 | Insurance Company ALLSTATE
Year 2004 | Body PK | Vehicle Make NISSAN | VIN # 1N6AA07A64N539602
State SC | Year 2014 | License Plate # AWS903 | Owner's D.L. # 011660336
Home Telephone (843) 412-3814 | Owner's Full Name MUCKENFUSS-WESTLEY QUINN
Bus. Telephone (843) 814-4343 | Street / R.F.D. 1823 S MAYFLOWER DR
Contributed To Collision Yes (No) | City, State, & Zip CHARLESTON, SC 294123911
Estimated Speed 35 | Speed Limit 35 | C.D.L. Req: Yes (No) | T/B S Req: Yes (No) | Alc/Drg info (see back): Yes (No) | Summons # | Code | Summons # | Code | Towed By

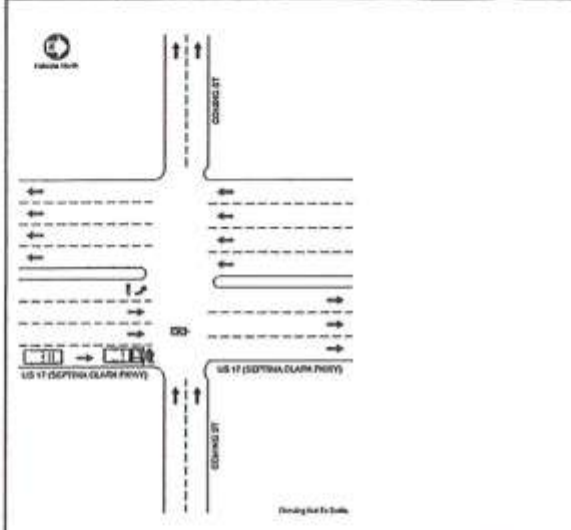
Unit 2 — Q-016769

[redacted]/Pedestrian's Full Name: RANZ-LINDSEY TAYLOR
Sex F | Race W | Street / R.F.D. 600 HALLMARK DR
Birth Date 06/19/1992 | City, State, & Zip GOOSE CREEK, SC 29445
State SC | Driver's License # 101671291 | Insurance Company
Year | Body | Vehicle Make | Serial Number
State | Year | License Plate # | Owner's D.L. #
Home Telephone | Owner's Full Name
Bus. Telephone | Street / R.F.D.
Contributed To Collision (Yes) No | City, State, & Zip
Estimated Speed 0 | Speed Limit 0 | C.D.L. Req: Yes (No) | T/B S Req: Yes (No) | Alc/Drg info (see back): Yes (No) | Summons # | Code | Summons # | Code | Towed By

Q-016770

Driver/Pedestrian's Full Name
Unit # | Sex | Race | Street / R.F.D.
Birth Date | City, State, & Zip
State | Driver's License # | Insurance Company
Year | Body | Vehicle Make | VIN #
State | Year | License Plate # | Owner's D.L. #
Home Telephone | Owner's Full Name
Bus. Telephone | Street / R.F.D.
Contributed To Collision Yes No | City, State, & Zip
Estimated Speed | Speed Limit | C.D.L. Req: Yes No | T/B S Req: Yes No | Alc/Drg info (see back): Yes No | Summons # | Code | Summons # | Code | Towed By

Dir. of Travel: Unit 1: (N) S E W | Unit 2: N S E (W) | Unit 3: N S E W



Unit 1 Dam.	Unit 2 Dam.	Unit 3 Dam.	Prop. Dam. 1	Prop. Dam. 2
$ 3,500.00	$ 0.00	$	$	$

[redacted]/Witness: IBARRA-ALVARO (NMN) | Property Owner/Witness
Address: 92 FISHBURNE ST - B | Address
State SC | Zip 29403 | Phone 5124977138 | State | Zip | Phone

Photo: Y (N) | Describe What Happened (Refer to Units by Number)

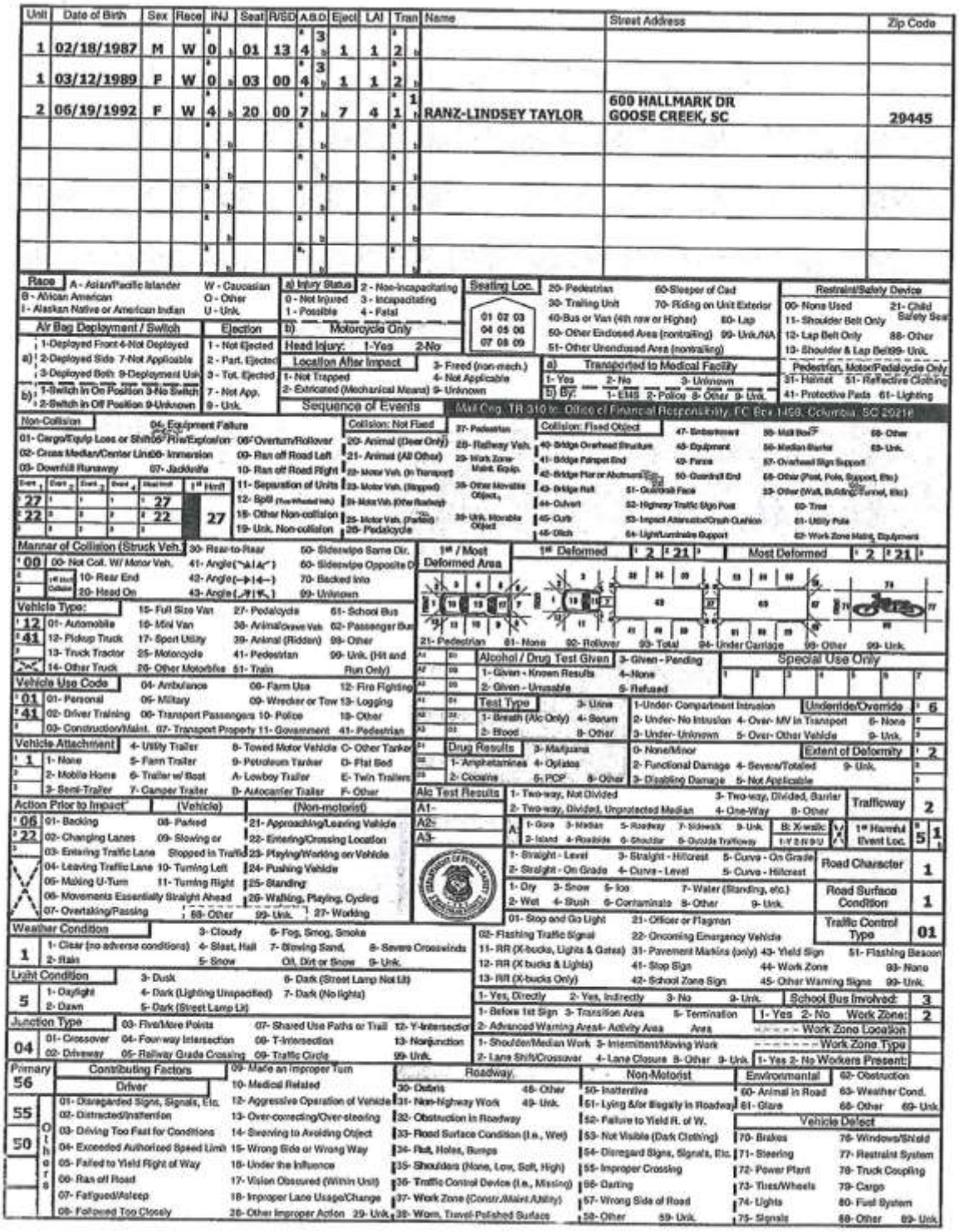
Unit 1 was traveling northbound on US17 in lane 4. Unit 2 was attempting to walk across US17. Unit 2 walked in front of Unit 1 causing Unit 1 to strike Unit 2.

Injury for Unit#2 was changed to fatal.
GPS coordinates were added.[01/16/2014 15:18, SEABOLTD, 15312, CPD]

Unit#1 first name changed to Westley[01/17/2014 09:57, SEABOLTD, 15312, CPD]
END

STATED THE FACTS ... FOR STATISTICAL REPORTING PURPOSES ONLY AND IS A REFLECTION OF THE OFFICER'S BEST ... OPINION, AND ... COVERING THE COLLISION BUT NO WARRANTY IS MADE AS TO THE FACTUAL ACCURACY THEREOF.

Investigating Officer's Name GARRISON, SHANE C. | Rank SPO | Badge # 1726 | Code 0100100 | Date 01-13-2014 | Reviewer's Name MILLS, HARRY L. | Rank SG | ...nal Agency Code 1400642



Unit	Date of Birth	Sex	Race	INJ	Seat	R/SD	A.B.D.	Ejecl	LAI	Tran	Name	Street Address	Zip Code
1	02/18/1987	M	W	0	01	13	4	1	1	2			
1	03/12/1989	F	W	0	03	00	4	1	1	2			
2	06/19/1992	F	W	4	20	00	7	7	4	1	RANZ-LINDSEY TAYLOR	600 HALLMARK DR GOOSE CREEK, SC	29445

Race: A - Asian/Pacific Islander; B - African American; I - Alaskan Native or American Indian; W - Caucasian; O - Other; U - Unk.

a) Injury Status: 0 - Not Injured; 1 - Possible; 2 - Non-Incapacitating; 3 - Incapacitating; 4 - Fatal

Seating Loc.: 01 02 03 / 04 05 06 / 07 08 09; 20- Pedestrian; 30- Trailing Unit; 40-Bus or Van (4th row or Higher); 50- Other Enclosed Area (nontrailing); 51- Other Unenclosed Area (nontrailing); 60-Sleeper of Cab; 70- Riding on Unit Exterior; 80- Lap; 99- Unk./NA

Restraint/Safety Device: 00- None Used; 11- Shoulder Belt Only; 12- Lap Belt Only; 13- Shoulder & Lap Belt; 21- Child Safety Seat; 88- Other; 99- Unk.

Air Bag Deployment / Switch: a) 1-Deployed Front 4-Not Deployed; 2-Deployed Side 7-Not Applicable; 3-Deployed Both 9-Deployment Unk. b) 1-Switch In On Position 3-No Switch; 2-Switch In Off Position 9-Unknown

Ejection: 1 - Not Ejected; 2 - Part. Ejected; 3 - Tot. Ejected; 7 - Not App.; 9 - Unk.

b) Motorcycle Only — Head Injury: 1-Yes 2-No

Location After Impact: 1- Not Trapped; 2- Extricated (Mechanical Means); 3- Freed (non-mech.); 4- Not Applicable; 9- Unknown

a) Transported to Medical Facility: 1- Yes; 2- No; 3- Unknown. b) By: 1- EMS; 2- Police; 8- Other; 9- Unk.

Pedestrian, Motor/Pedalcycle Only: 31- Helmet; 41- Protective Pads; 51- Reflective Clothing; 61- Lighting

Sequence of Events

Non-Collision: 04- Equipment Failure; 01- Cargo/Equip Loss or Shift; 05- Fire/Explosion; 06- Overturn/Rollover; 02- Cross Median/Center Line; 06- Immersion; 09- Ran off Road Left; 03- Downhill Runaway; 07- Jackknife; 10- Ran off Road Right

Collision: Not Fixed: 20- Animal (Deer Only); 21- Animal (All Other); 22- Motor Veh. (In Transport); 23- Motor Veh. (Stopped); 24- Motor Veh. (Other Railway); 25- Motor Veh. (Parked); 26- Pedalcycle; 27- Pedestrian; 28- Railway Veh.; 29- Work Zone Maint. Equip.; 30- Other Movable Object; 39- Unk. Movable Object

Collision: Fixed Object: 40- Bridge Overhead Structure; 41- Bridge Pillar/Pier End; 42- Bridge Pier or Abutment; 43- Bridge Rail; 44- Culvert; 45- Curb; 46- Ditch; 47- Embankment; 48- Equipment; 49- Fence; 50- Guardrail End; 51- Guardrail Face; 52- Highway Traffic Sign Post; 53- Impact Attenuator/Crash Cushion; 54- Light/Luminaire Support; 55- Mail Box; 56- Median Barrier; 57- Overhead Sign Support; 58- Other (Post, Pole, Support, Etc); 59- Other (Wall, Building, Tunnel, Etc); 60- Tree; 61- Utility Pole; 62- Work Zone Maint. Equipment; 69- Other; 99- Unk.

Event 1: 27; Event 2: 22; 1st Hrmf: 27

Manner of Collision (Struck Veh.): 00- Not Coll. W/ Motor Veh.; 10- Rear End; 20- Head On; 30- Rear-to-Rear; 41- Angle; 42- Angle; 43- Angle; 50- Sideswipe Same Dir.; 60- Sideswipe Opposite Dir.; 70- Backed Into; 99- Unknown

1st / Most Deformed Area: 1st Deformed: 2, 21; Most Deformed: 2, 21

21- Pedestrian; 01- None; 02- Rollover; 03- Total; 04- Under Carriage; 09- Other; 99- Unk.

Vehicle Type: 12; 41; 01- Automobile; 10- Mini Van; 12- Pickup Truck; 17- Sport Utility; 13- Truck Tractor; 25- Motorcycle; 14- Other Truck; 26- Other Motorbike; 15- Full Size Van; 19- Mini Van; 27- Pedalcycle; 28- Transit Bus; 39- Animal (Ridden); 41- Pedestrian; 51- Train; 61- School Bus; 62- Passenger Bus; 99- Other; 99- Unk. (Hit and Run Only)

Alcohol / Drug Test Given: 1- Given - Known Results; 2- Given - Unusable; 3- Given - Pending; 4- None; 5- Refused

Special Use Only

Vehicle Use Code: 01; 41; 01- Personal; 02- Driver Training; 03- Construction/Maint.; 04- Ambulance; 06- Military; 07- Transport Property; 08- Farm Use; 09- Wrecker or Tow; 10- Police; 11- Government; 12- Fire Fighting; 13- Logging; 19- Other; 41- Pedestrian

Test Type: 1- Breath (Alc Only); 2- Blood; 3- Urine; 4- Serum; 8- Other

1- Under- Compartment Intrusion; 2- Under- No Intrusion; 3- Under- Unknown; 4- Over- MV in Transport; 5- Over- Other Vehicle; 6- None; 9- Unk.

Underride/Override: 6

Vehicle Attachment: 1; 1- None; 2- Mobile Home; 3- Semi-Trailer; 4- Utility Trailer; 5- Farm Trailer; 6- Trailer w/ Boat; 7- Camper Trailer; 8- Towed Motor Vehicle; 9- Petroleum Tanker; A- Lowboy Trailer; B- Autocarrier Trailer; C- Other Tanker; D- Flat Bed; E- Twin Trailers; F- Other

Drug Results: 1- Amphetamines; 2- Cocaine; 3- Marijuana; 4- Opiates; 5- PCP; 8- Other; 0- None/Minor

Extent of Deformity: 2

1- Functional Damage; 2- Disabling Damage; 3- Severe/Totaled; 4- Not Applicable; 9- Unk.

Action Prior to Impact: 06; 22; 01- Backing; 02- Changing Lanes; 03- Entering Traffic Lane; 04- Leaving Traffic Lane; 05- Making U-Turn; 06- Movements Essentially Straight Ahead; 07- Overtaking/Passing; 08- Parked; 09- Slowing or Stopped in Traffic; 10- Turning Left; 11- Turning Right; 88- Other; 99- Unk.

(Vehicle) / (Non-motorist): 21- Approaching/Leaving Vehicle; 22- Entering/Crossing Location; 23- Playing/Working on Vehicle; 24- Pushing Vehicle; 25- Standing; 26- Walking, Playing, Cycling; 27- Working

Alc Test Results: A1-; A2-; A3-

Trafficway: 2; 1- Two-way, Not Divided; 2- Two-way, Divided, Unprotected Median; 3- Two-way, Divided, Barrier; 4- One-Way; 8- Other

A: 1- Gore; 2- Island; 3- Median; 4- Roadside; 5- Roadway; 6- Shoulder; 7- Sidewalk; 8- Ditch; 9- Unk.

B: X-walk; 1- Y; 2- N; 9- U

V: 1st Harmful Event Loc: 5 1

Road Character: 1; 1- Straight - Level; 2- Straight - On Grade; 3- Straight - Hillcrest; 4- Curve - Level; 5- Curve - On Grade; 6- Curve - Hillcrest

Road Surface Condition: 1; 1- Dry; 2- Wet; 3- Snow; 4- Slush; 5- Ice; 6- Contaminate; 7- Water (Standing, etc.); 8- Other; 9- Unk.

Traffic Control Type: 01; 01- Stop and Go Light; 02- Flashing Traffic Signal; 11- RR (X-bucks, Lights & Gates); 12- RR (X bucks & Lights); 13- RR (X-bucks Only); 21- Officer or Flagman; 22- Oncoming Emergency Vehicle; 31- Pavement Markins (only); 41- Stop Sign; 42- School Zone Sign; 43- Yield Sign; 44- Work Zone; 45- Other Warning Signs; 51- Flashing Beacon; 99- None; 99- Unk.

Weather Condition: 1; 1- Clear (no adverse conditions); 2- Rain; 3- Cloudy; 4- Sleet, Hail; 5- Snow; 6- Fog, Smog, Smoke; 7- Blowing Sand, Oil, Dirt or Snow; 8- Severe Crosswinds; 9- Unk.

Light Condition: 5; 1- Daylight; 2- Dawn; 3- Dusk; 4- Dark (Lighting Unspecified); 5- Dark (Street Lamp Lit); 6- Dark (Street Lamp Not Lit); 7- Dark (No lights)

1- Yes, Directly; 2- Yes, Indirectly; 3- No; 9- Unk.

School Bus Involved: 3

Junction Type: 04; 01- Crossover; 02- Driveway; 03- Five/More Points; 04- Four-way Intersection; 05- Railway Grade Crossing; 07- Shared Use Paths or Trail; 08- T-Intersection; 09- Traffic Circle; 12- Y-Intersection; 13- Nonjunction; 99- Unk.

1- Before 1st Sign; 2- Advanced Warning Area; 3- Transition Area; 4- Activity Area; 5- Termination Area

1- Yes 2- No Work Zone: 2

Work Zone Location

1- Shoulder/Median Work; 2- Lane Shift/Crossover; 3- Intermittent/Moving Work; 4- Lane Closure; 8- Other; 9- Unk.

Work Zone Type

1- Yes 2- No Workers Present:

Primary: 56; 55; 50

Contributing Factors — Driver: 01- Disregarded Signs, Signals, Etc.; 02- Distracted/Inattention; 03- Driving Too Fast for Conditions; 04- Exceeded Authorized Speed Limit; 05- Failed to Yield Right of Way; 06- Ran off Road; 07- Fatigued/Asleep; 08- Followed Too Closely; 09- Made an Improper Turn; 10- Medical Related; 12- Aggressive Operation of Vehicle; 13- Over-correcting/Over-steering; 14- Swerving to Avoiding Object; 15- Wrong Side or Wrong Way; 16- Under the Influence; 17- Vision Obscured (Within Unit); 18- Improper Lane Usage/Change; 28- Other Improper Action; 29- Unk.

Roadway: 30- Debris; 31- Non-highway Work; 32- Obstruction in Roadway; 33- Road Surface Condition (i.e., Wet); 34- Rut, Holes, Bumps; 35- Shoulders (None, Low, Soft, High); 36- Traffic Control Device (i.e., Missing); 37- Work Zone (Constr./Maint./Utility); 38- Worn, Travel-Polished Surface; 48- Other; 49- Unk.

Non-Motorist: 50- Inattentive; 51- Lying &/or Illegally in Roadway; 52- Failure to Yield R. of W.; 53- Not Visible (Dark Clothing); 54- Disregard Signs, Signals, Etc.; 55- Improper Crossing; 56- Darting; 57- Wrong Side of Road; 58- Other; 59- Unk.

Environmental: 60- Animal in Road; 61- Glare; 62- Obstruction; 63- Weather Cond.; 68- Other; 69- Unk.

Vehicle Defect: 70- Brakes; 71- Steering; 72- Power Plant; 73- Tires/Wheels; 74- Lights; 75- Signals; 76- Windows/Shield; 77- Restraint System; 78- Truck Coupling; 79- Cargo; 80- Fuel System; 89- Other; 99- Unk.

Mail FR-10 to: Office of Financial Responsibility
SC Department of Public Safety
PO Box 1498, Columbia, SC 29216

SOUTH CAROLINA DEPARTMENT OF PUBLIC SAFETY
FR-10 (REV. 01/01)
NOTICE OF REQUIREMENT

Date	Time	County	Collision Location (Ft. # / Name)	Miles: Dir.	In / Near City or Town of:
01-13-2014	1830	10	HWY 17		CHARLESTON

1- Interstate 4- Secondary 2- US Primary 5- County 3- SC Primary
On: (1) Main 6-Connector 2-Alternate 7-Business 5-Spur
Dir.: N E S W

To Vehicle Owner/ Operator

Failure to comply could result in appropriate action under 56-10-270 and 56-10-20 of the 1976 code of laws of S.C. as amended, if vehicle subject to registration in S.C., and upon conviction thereof, the Department must suspend your driving and/or registration privileges until all compliances have been met under the above sections of law.

Q-016768

Driver/Pedestrian's Full Name: MUCKENFUSS-WESTLEY QUINN

Unit #	Sex	Race	Street / R.F.D.
1	M	W	1823 S MAYFLOWER DR

Birth Date: 02/18/1987 — City, State, & Zip: CHARLESTON, SC 294123911

State	Driver's License #	Insurance Company
SC	011660336	ALLSTATE

Year	Body	Vehicle Make	VIN #
2004	PK	NISSAN	1N6AA07A64N539602

State	Year	License Plate #	Owner's D.L. #
SC	2014	AWS903	011660336

Home Telephone: (843) 412-3814 — Owner's Full Name: MUCKENFUSS-WESTLEY QUINN
Bus. Telephone: (843) 814-4343 — Street / R.F.D.: 1823 S MAYFLOWER DR
Contributed To Collision: Yes (No) — City, State, & Zip: CHARLESTON, SC 294123911

Q-016769

Driver/Pedestrian's Full Name: RANZ-LINDSEY TAYLOR

Unit #	Sex	Race	Street / R.F.D.
2	F	W	600 HALLMARK DR

Birth Date: 06/19/1992 — City, State, & Zip: GOOSE CREEK, SC 29445

State	Driver's License #	Insurance Company
SC	101671291	

Year	Body	Vehicle Make	Serial Number

State	Year	License Plate #	Owner's D.L. #

Home Telephone: — Owner's Full Name:
Bus. Telephone: — Street / R.F.D.:
Contributed To Collision: (Yes) No — City, State, & Zip:

Q-016770

Driver/Pedestrian's Full Name:

Unit #	Sex	Race	Street / R.F.D.

Birth Date: — City, State, & Zip:

State	Driver's License #	Insurance Company

Year	Body	Vehicle Make	VIN #

State	Year	License Plate #	Owner's D.L. #

Home Telephone: — Owner's Full Name:
Bus. Telephone: — Street / R.F.D.:
Contributed To Collision: Yes No — City, State, & Zip:

All Units Insurance Information
(To be completed by Insurance Company)

Accident Insurance Information for Unit # 1
Company Name: ALLSTATE — Area Code/Phone Number: (843) 795-4200
Agency Name: ALLSTATE — Policy Number: 963930655

Accident Insurance Information for Unit # 2
Company Name: — Area Code/Phone Number: ( )
Agency Name: — Policy Number:

Accident Insurance Information for Unit #
Company Name: — Area Code/Phone Number: ( )
Agency Name: — Policy Number:

Insurance Information

Notice of Requirement Accepted — Signature — Y N Refused to Affix Signature? — Y N Vehicle Subject to Registration in SC?

To Be Completed By Insurance Agency, Broker, Or Other Company Representative

Reference to Unit #: _____, I hereby affirm that to the best of my knowledge the vehicle described above was insured by the below stated insurance company on the date of the collision.

The information as contained herein is based solely upon my knowledge and belief as a representative of the above insurance company and no warranty of liability is implied into the above mentioned insurance as I have listed herein.

Insurance Company: — Policy #: — Signature: — Title:
Beginning Date: — Ending Date: — Policy Holder: — NAIC# (Assigned by S.C. Dept. of Ins.): — Bus. Telephone: ( )

Notice: Failure to have this form completed by your insurance broker, agent, or representative and returned to the South Carolina Department of Public Safety within 15 days may result in suspension of your driving and/or registration privileges.

If any of the below are applicable, disregard the above portion.

- ☐ Check here if a Form SR-23, Fleet Policy of 25 or more vehicles is on file with the Department covering the vehicle.
- ☐ Check here if a certificate of self-insurance has been issued by the Department covering the vehicle and indicated the certificate number: SI - _____
- ☐ Check here if liability insurance was not in effect to comply with South Carolina statutory requirements.

Signature: — Date:

Form FR-10 Not Issued: Section 56-10-270 56-10-520
No FR-10 Issued to Operator/Owner of Unit #: _____
Summons Issued to:
For operating or allowing the operation of an uninsured vehicle — Summons Number: — Sign:

Investigating Officer's Name	Rank	Badge #	Code	Date	Reviewer's Name	Rank	Final Agency Code
GARRISON, SHANE C.	SPO	1726	0100100	01-13-2014	MILLS, HARRY L.	SGT	1400642

APPENDIX B: NUMBERED PROPERTIES

ID # (Figure 21)	PARCEL ID	Owner	Deed Date
1	4600404070	Marsh Willie L Jr	5/27/1982
2	4600801010	Equifunding Inc.	3/30/2009
3	4600801031	Schandall William	5/3/2000
4	4600403079	Wright Celestine	12/27/1996
5	4600403080	Fitzpatrick Amy	7/26/2013
6	4600403072	Grace McDowell	1/1/1971
7	4600403074	Janie White	1/27/1979
8	4600403078	Anthony K Tolbert , Shirly H Graham	4/30/2001
9	4600403077	Miriam Smith	6/12/2012
10	4600801030	Mabel Walker	10/16/1989
11	4600403070	Delores Greene	6/30/1999
12	4600403071	Lynn R Mitchell	6/6/2003
13	4600403065	Mitchell School City Board of	1/1/1900
14	4600801028	72 Ashe St LLC	3/11/2004
15	4600404071	Leahy Living Trust , ETAL	3/28/2006
16	4600801027	Laura E Stevens, Johnny L Stevens	7/17/2007
17	4600404002	James Alice Grant	1/15/1973
18	4600404086	Low Country Marketing Group LLC	11/22/2000
19	4600403088	Taylor Samuel	1/25/1996
20	4600403086	Bell Ernest	5/4/1998
21	4600403085	Lincoln T Gertrude	10/28/1992
22	4600403089	Alonzo Haynes, ETAL	1/15/1999
23	4600403090	Earl Haynes , ETAL	5/2/2006
24	4600801036	Calvary Protestant Episcopal Church	1/1/1900
25	4600801047	Eva H Hopkins	1/1/1961
26	4600801027	Laura E Stevens , Johnny L Stevens	7/7/2007
27	4600404003	Ali M Chinisaz	8/14/2014
28	4600404086	Low Country Marketing Group LLC	11/22/2000
29	4600404086	Low Country Marketing Group LLC	11/22/2000
30	4600403087	Matthew B Hellier	1/3/2014
31	4600801046	Raymond Venning Jr	2/4/1987
32	4600801045	Robert H Bruner, Sharon R Bruner	4/14/2000
33	4600404086	Low Country Marketing Group LLC	11/22/2000
34	4600801013	Albertha Green	6/10/1998
35	4600801016	Harriett Cochran	5/26/1999
36	4600801014	Andrea Verlaque	3/1/2005
37	4600801015	Mohammad Rashid	9/13/2012
38	4600801018	William Mueller	5/9/2008

APPENDIX C: OPTIONS COST ESTIMATES

CDM Smith

Project: Septima Clark Pedestrian Bridge Study
Project No:
Design By: A. Cook **Date:** 11/13/2014
Checked By: W. Joiner **Date:** 11/13/2014

Cost Estimates

Assumptions

1) Due to the topography of the area and the requirement to meet ADA standards, the ramps to access the main span(s) are assumed the same cost for each alternate. Property constraints for each alternate will affect the costs of each alternate, but the ramp costs will be relatively the same.

2) A truss cost of $1,600 per ft has been used for spans less than 125 ft. An increase in cost has been applied for longer spans due to increased member sizes required for the longer spans.

3) Property acquisition costs are not included.

4) Utility relocation costs are not included. Potential utility conflicts based on limited information we have available are listed below. More conflicts than listed are possible.

5) Minimum space required for each ramp is approximately 85 ft x 15 ft. This will allow for enough ramp to obtain an 18 ft clearance over Septima Clark Parkway.

Alternate 1

Truss Length = 125 ft
1 Truss

Truss Costs = $ 200,000.00
Ramp Costs = $ 500,000.00
Foundations = $ 121,000.00

Total Structural Costs = $ 821,000.00

South end has plenty of space for the ramp. North end appears to have room for the ramp, but is close to some houses. South end has overhead electrical conflicts.

Alternate 2 (Single Span)

Truss Length = 275 ft
1 Truss

Truss Costs = $ 528,000.00
Ramp Costs = $ 500,000.00
Foundations = $ 121,000.00

Total Structural Costs = $ 1,149,000.00

Both ends have plenty of space for ramps, but depending on the South ramp configuration, it could be close to a house. South end has storm drain conflicts.

Alternate 2 (Multiple Spans)

Truss Length =	300 ft	Truss Costs =	$ 480,000.00
3	Trusses	Ramp Costs =	$ 500,000.00
		Extra Columns =	$ 50,000.00
		Foundations =	$ 176,000.00
		Total Structural Costs =	$ 1,206,000.00

Both ends have plenty of space for ramps, but depending on the South ramp configuration, it could be close to a house. South end has storm drain conflicts. Center supports have underground power and storm drain conflicts.

Alternate 3 (Single Span)

Truss Length =	225 ft	Truss Costs =	$ 396,000.00
1	Truss	Ramp Costs =	$ 500,000.00
		Foundations =	$ 121,000.00
		Total Structural Costs =	$ 1,017,000.00

North end might have space for the ramp without impacting houses, but much of the back yards will be taken. South end ramp has room, but will be close to a house. South end has overhead electrical conflicts.

Alternate 3 (Multiple Spans)

Truss Length =	220 ft	Truss Costs =	$ 352,000.00
3	Trusses	Ramp Costs =	$ 500,000.00
		Extra Columns =	$ 50,000.00
		Foundations =	$ 176,000.00
		Total Structural Costs =	$ 1,078,000.00

North end might have space for the ramp without impacting houses, but much of the back yards will be taken. South end ramp has room, but will be close to a house. South end has overhead electrical conflicts. Center supports have underground power and storm drain conflicts.

APPENDIX D: PEDESTRIAN AND TRAFFIC COUNTS

Study Name	**US17 NB Septima Clark Pkwy at Coming St**
Dates	**3:00 AM 11/06/2014 - 3:00 AM 11/07/2014**
Count Type	**48 Hr Pedestrians & Bicyicle Counts**
Conducted by	**Palmetto Traffic Group, LLC**

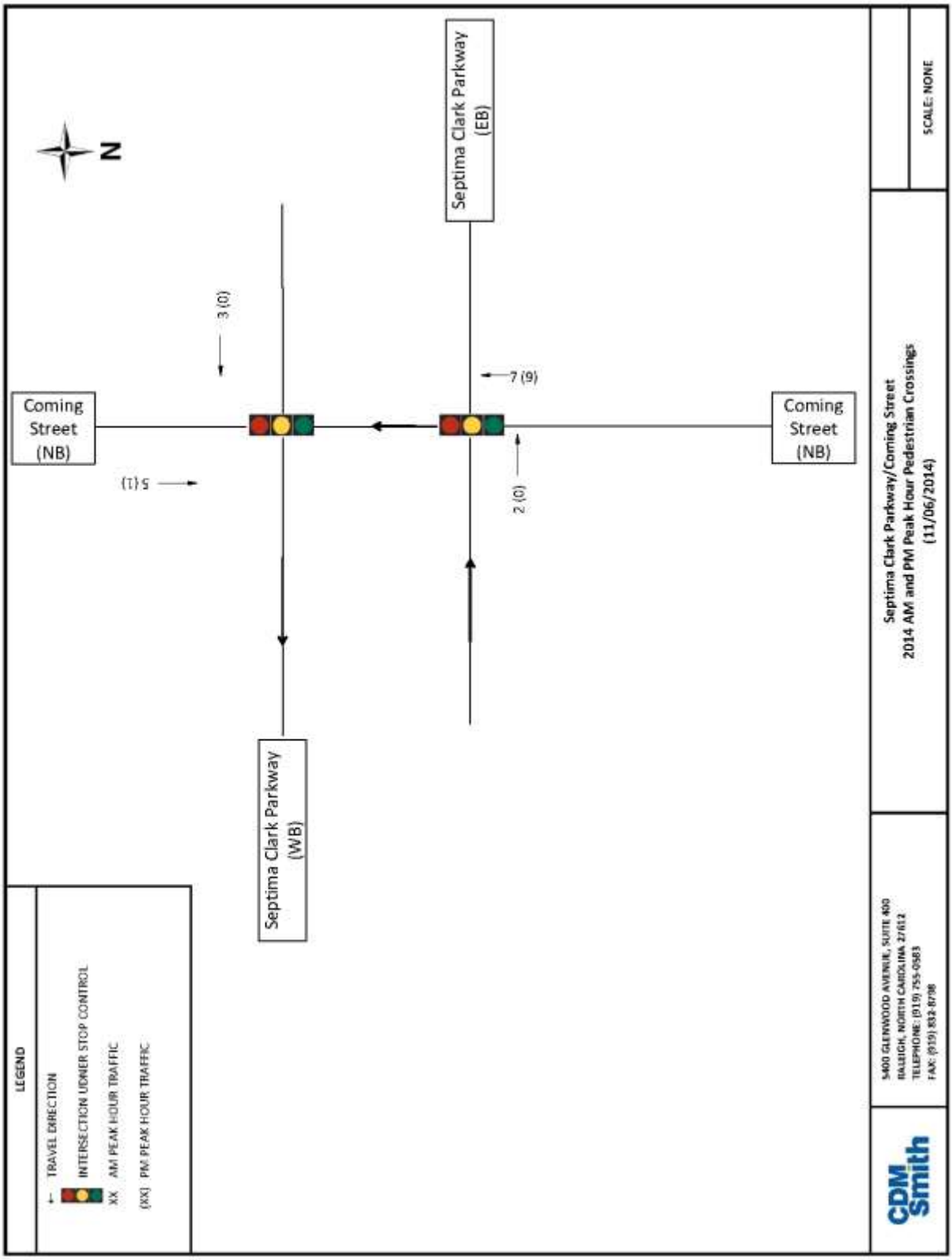
Start Time	Coming St Northbound		Coming St Southbound		US 17 Septima Clark Eastbound		US 17 Septima Clark Westbound	
	Ped	*Bike*	*Ped*	*Bike*	*Ped*	*Bike*	*Ped*	*Bike*
3:00 AM	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0
4:00 AM	1	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0
5:30 AM	1	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	2	0	0	0	0	0	0
6:45 AM	0	0	1	1	0	0	0	0
7:00 AM	0	1	0	0	0	0	0	0
7:15 AM	0	0	0	2	0	0	0	0
7:30 AM	2	0	1	0	0	0	1	0
7:45 AM	0	0	0	1	0	1	3	0
8:00 AM	2	1	2	1	0	0	1	0
8:15 AM	1	0	1	0	2	0	2	0
8:30 AM	0	0	0	1	0	0	0	0
8:45 AM	3	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	1	1	0	0	0	0	0
9:30 AM	1	0	0	0	0	0	0	0
9:45 AM	0	0	2	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0
10:15 AM	0	0	1	0	0	0	0	0
10:30 AM	1	0	0	1	1	0	0	0
10:45 AM	0	0	1	0	0	0	0	0
11:00 AM	1	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0

11:30 AM	0	1	0	0	0	0	0	0
11:45 AM	2	0	2	0	0	0	0	0
12:00 PM	0	1	0	0	0	1	0	0
12:15 PM	0	1	0	0	0	0	0	0
12:30 PM	1	0	0	2	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0
1:00 PM	1	0	0	1	0	0	0	0
1:15 PM	0	0	0	0	0	1	0	0
1:30 PM	0	0	0	0	0	0	0	0
1:45 PM	0	1	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	1	0	1	0
2:30 PM	1	0	0	0	2	0	0	0
2:45 PM	0	0	0	0	0	0	0	0
3:00 PM	1	0	0	0	0	0	0	0
3:15 PM	0	1	0	0	0	0	0	0
3:30 PM	2	0	0	0	0	0	0	0
3:45 PM	4	0	0	0	0	0	0	0
4:00 PM	5	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	3	0	0	1	0	0	0	0
5:00 PM	1	0	0	0	0	0	0	0
5:15 PM	0	1	0	1	0	0	0	0
5:30 PM	1	0	0	0	0	0	0	0
5:45 PM	3	0	0	0	0	0	0	0
6:00 PM	0	0	0	1	0	0	0	0
6:15 PM	1	2	0	0	3	0	0	0
6:30 PM	0	3	0	0	1	0	0	0
6:45 PM	0	1	1	3	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0
7:15 PM	0	0	1	0	0	0	0	0
7:30 PM	1	0	0	0	0	1	0	0
7:45 PM	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0
8:30 PM	1	0	0	0	0	2	1	0
8:45 PM	2	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0
9:30 PM	1	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0
10:30 PM	1	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0

11:00 PM	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0
11:30 PM	0	0	1	1	0	0	0	0
11:45 PM	0	1	0	0	0	0	0	0
12:00 AM	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0
5:00 AM	1	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0
5:45 AM	1	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	1	0	0	0
6:30 AM	0	0	1	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	2	1	0	0	0	0
7:15 AM	2	0	0	0	0	0	1	0
7:30 AM	1	2	1	1	0	0	0	0
7:45 AM	0	1	0	3	0	0	0	0
8:00 AM	3	0	1	1	0	1	0	0
8:15 AM	0	1	1	0	0	0	0	0
8:30 AM	2	0	1	2	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	1	2	2	0	0	0	0	0
9:15 AM	2	0	0	0	0	0	1	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	2	0	0
10:00 AM	0	0	0	0	0	0	0	0
10:15 AM	1	1	0	0	0	0	0	0

10:30 AM	0	0	0	0	0	0	0	0
10:45 AM	0	0	1	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0
11:30 AM	1	0	0	0	0	0	0	0
11:45 AM	0	0	0	1	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	1	0	0
12:30 PM	0	0	0	2	0	0	0	0
12:45 PM	1	1	0	0	0	0	0	0
1:00 PM	2	0	0	0	1	0	0	0
1:15 PM	3	0	1	0	0	0	0	0
1:30 PM	1	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0
2:00 PM	2	0	0	0	0	0	0	0
2:15 PM	0	1	0	0	0	0	0	0
2:30 PM	1	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0
3:00 PM	1	1	0	0	0	0	0	0
3:15 PM	2	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	3	0	0	0	0	0	0	0
4:00 PM	2	0	0	0	0	1	0	0
4:15 PM	1	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	2	0	0	0
5:00 PM	0	0	0	0	1	0	0	0
5:15 PM	1	0	1	0	0	0	0	0
5:30 PM	1	0	2	0	0	0	0	0
5:45 PM	2	2	1	1	0	0	0	0
6:00 PM	1	0	0	0	0	0	0	0
6:15 PM	0	1	0	2	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0
6:45 PM	0	0	3	0	0	0	0	0
7:00 PM	1	0	0	3	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0
7:30 PM	0	0	1	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	1	0
8:00 PM	0	0	0	0	0	0	3	0
8:15 PM	1	0	0	0	0	0	0	0
8:30 PM	2	0	0	0	0	0	0	0
8:45 PM	1	1	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0
9:30 PM	0	0	1	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0

10:00 PM	1	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0
10:30 PM	0	0	2	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0
11:15 PM	1	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0
12:00 AM	0	0	0	0	1	0	0	0
12:15 AM	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0
12:45 AM	1	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0
Total	**93**	**32**	**37**	**34**	**16**	**11**	**15**	**1**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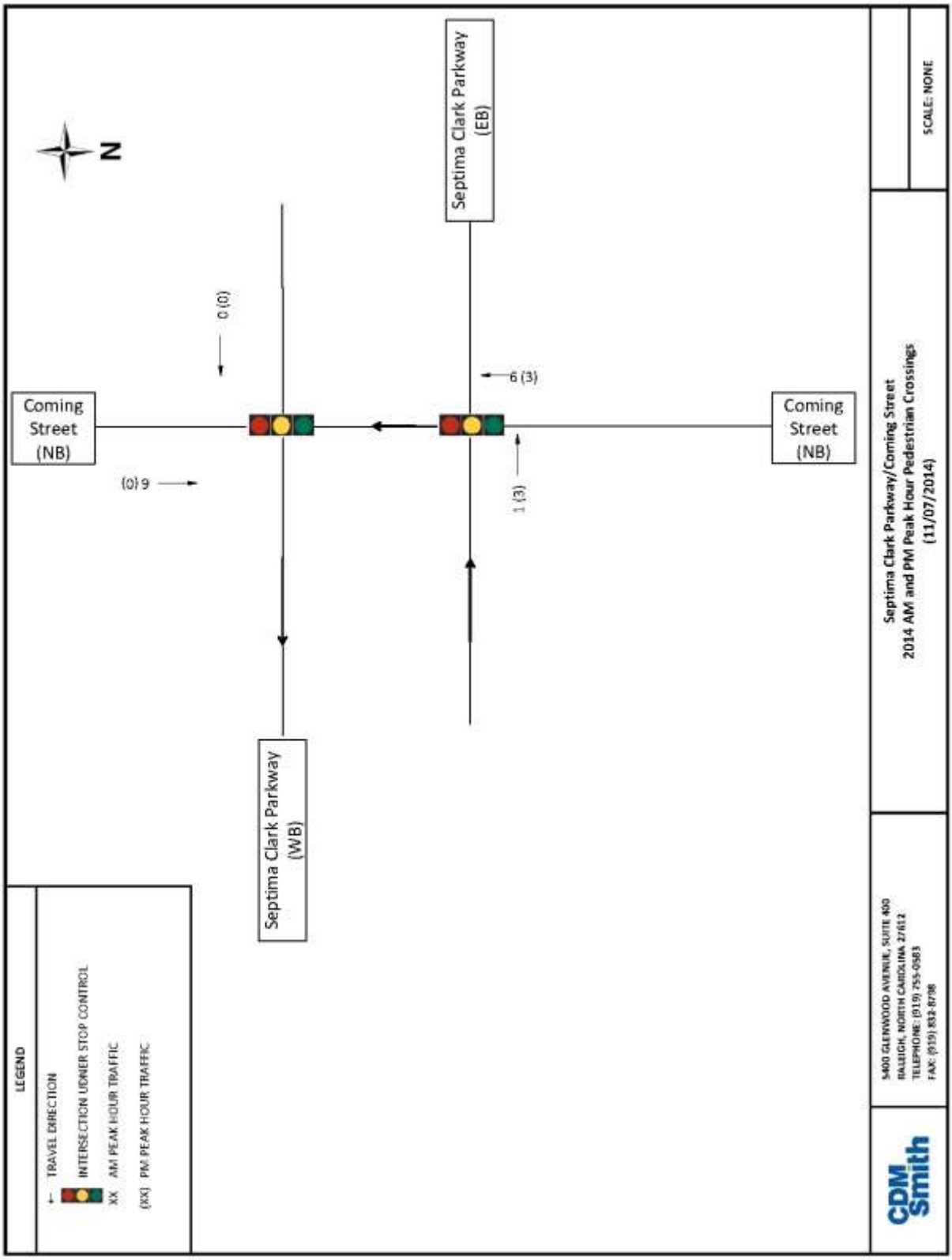
Septima Clark Parkway (WB)
Coming Street (NB)
Coming Street (NB)
3 (0)
7 (9)
5 (1)
2 (0)
LEGEND
TRAVEL DIRECTION
INTERSECTION UDNER STOP CONTROL
XX AM PEAK HOUR TRAFFIC
(XX) PM PEAK HOUR TRAFFIC
Septima Clark Parkway/Coming Street
2014 AM and PM Peak Hour Pedestrian Crossings
(11/06/2014)
SCALE: NONE
5400 GLENWOOD AVENUE, SUITE 400
RALEIGH, NORTH CAROLINA 27612
TELEPHONE: (919) 755-0583
FAX: (919) 832-8798
CDM Smith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Septima Clark Parkway (EB)
Septima Clark Parkway (WB)
Coming Street (NB)
Coming Street (NB)
0 (0)
6 (3)
(0) 9
1 (3)
LEGEND
TRAVEL DIRECTION
INTERSECTION UDNER STOP CONTROL
XX AM PEAK HOUR TRAFFIC
(XX) PM PEAK HOUR TRAFFIC
Septima Clark Parkway/Coming Street
2014 AM and PM Peak Hour Pedestrian Crossings
(11/07/2014)
SCALE: NONE
5400 GLENWOOD AVENUE, SUITE 400
RALEIGH, NORTH CAROLINA 27612
TELEPHONE: (919) 755-0583
FAX: (919) 832-8798
CDM Smith

Study Name	**US17 NB Septima Clark Pkwy Pedestrian Bridge**
Dates	**3:00 AM 11/06/2014 - 3:00 AM 11/07/2014**
Count Type	**48 Hr Pedestrian Bridge Counts**
Conducted by	**Palmetto Traffic Group, LLC**

Start Time	Pedestrian Bridge Northbound	Pedestrian Bridge Southbound
3:00 AM	0	0
3:15 AM	0	0
3:30 AM	0	0
3:45 AM	0	0
4:00 AM	0	0
4:15 AM	0	0
4:30 AM	0	0
4:45 AM	0	0
5:00 AM	0	0
5:15 AM	0	0
5:30 AM	0	0
5:45 AM	0	0
6:00 AM	0	0
6:15 AM	0	0
6:30 AM	0	0
6:45 AM	0	1
7:00 AM	0	1
7:15 AM	0	3
7:30 AM	1	6
7:45 AM	1	3
8:00 AM	1	0
8:15 AM	1	0
8:30 AM	0	0
8:45 AM	1	1
9:00 AM	1	0
9:15 AM	0	1
9:30 AM	0	0
9:45 AM	1	0
10:00 AM	0	0
10:15 AM	1	0
10:30 AM	0	2
10:45 AM	0	0
11:00 AM	0	1
11:15 AM	2	0
11:30 AM	0	0
11:45 AM	1	0

12:00 PM	0	0
12:15 PM	1	0
12:30 PM	0	0
12:45 PM	0	0
1:00 PM	0	2
1:15 PM	0	0
1:30 PM	0	0
1:45 PM	1	2
2:00 PM	0	0
2:15 PM	0	0
2:30 PM	0	1
2:45 PM	1	0
3:00 PM	6	1
3:15 PM	4	0
3:30 PM	3	0
3:45 PM	4	1
4:00 PM	0	2
4:15 PM	2	0
4:30 PM	2	1
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5:00 PM	0	0
5:15 PM	0	0
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5:45 PM	6	6
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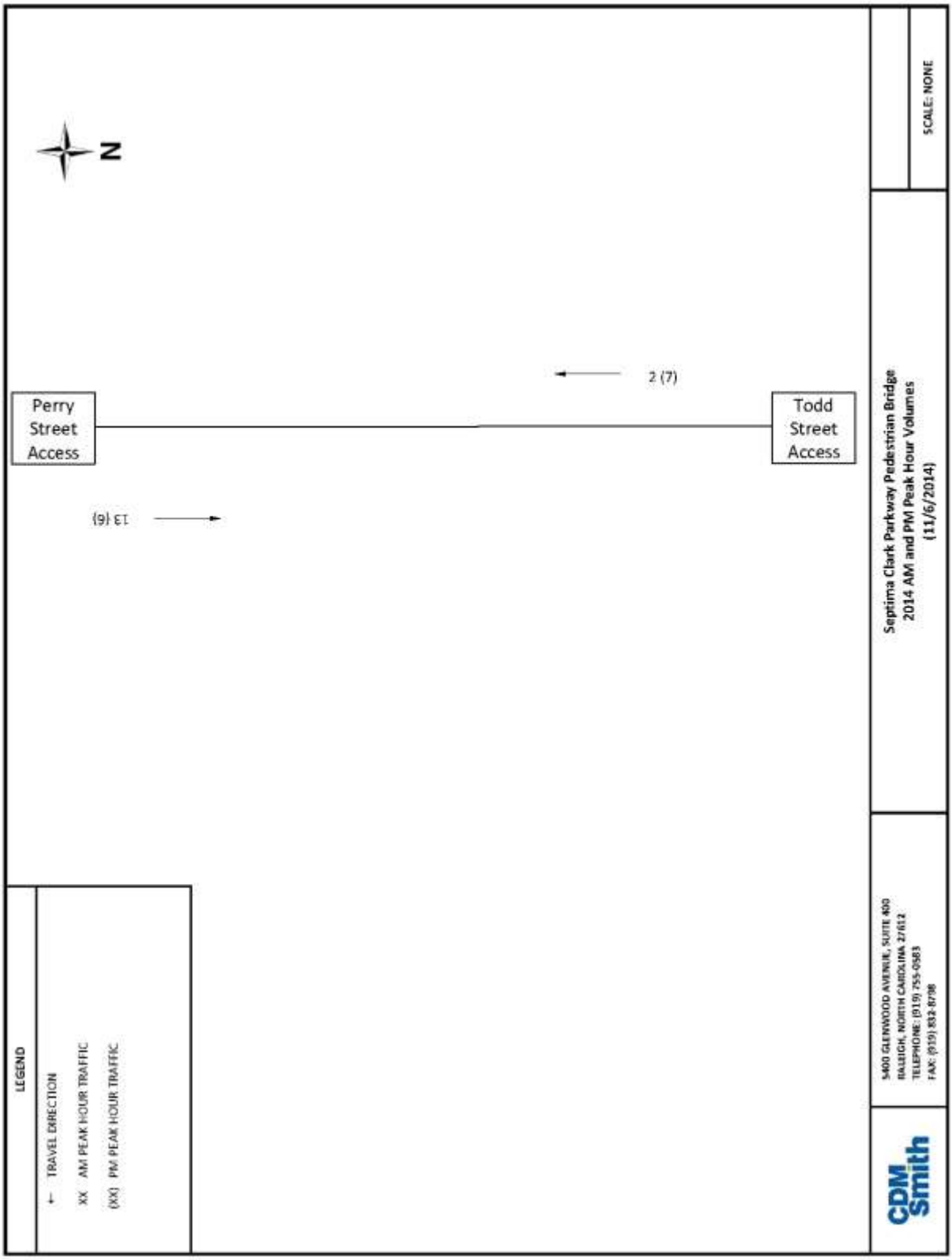
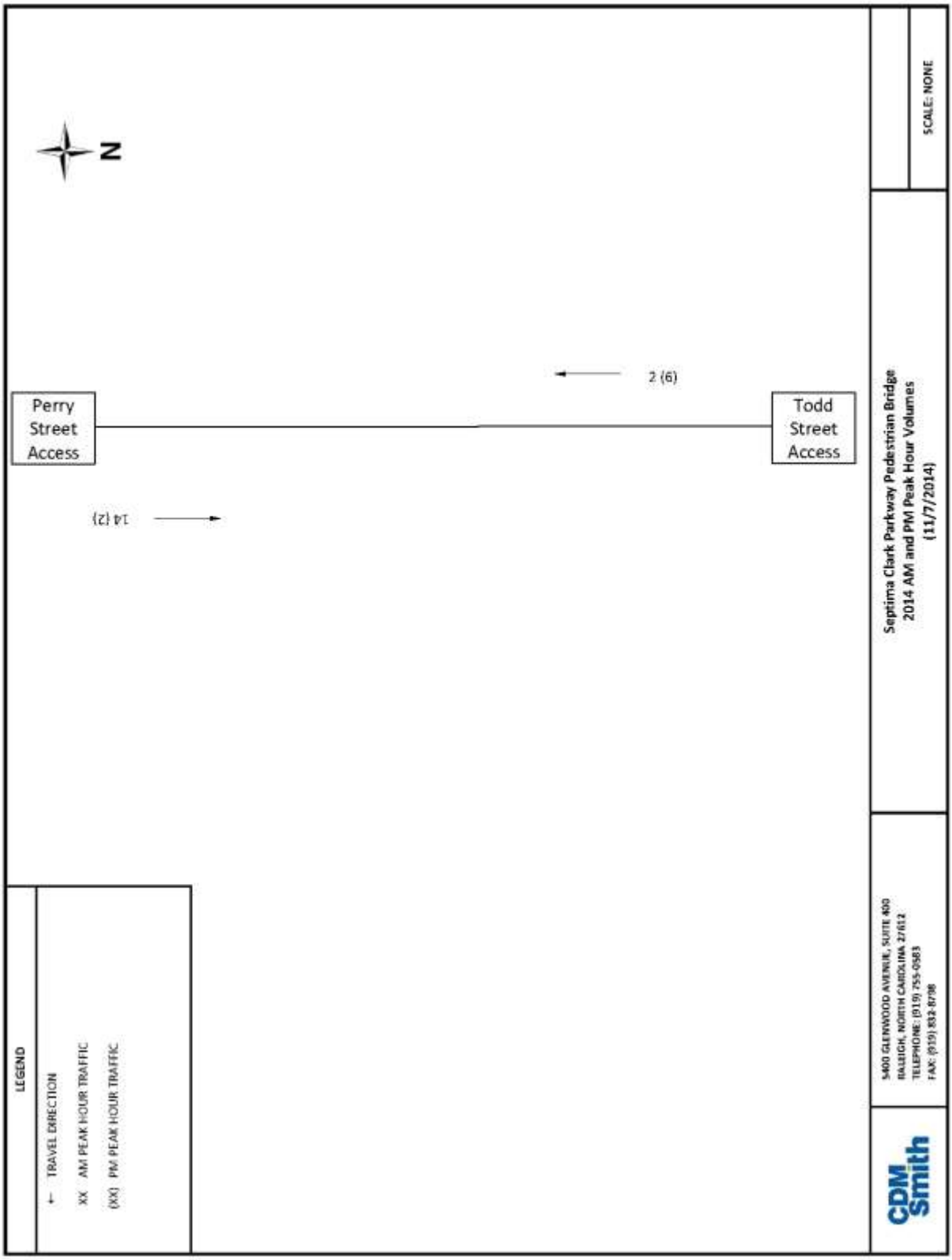
6:15 PM	0	0
6:30 PM	0	0
6:45 PM	3	0
7:00 PM	0	0
7:15 PM	0	0
7:30 PM	1	0
7:45 PM	0	2
8:00 PM	2	0
8:15 PM	0	0
8:30 PM	0	2
8:45 PM	0	0
9:00 PM	2	0
9:15 PM	0	2
9:30 PM	0	0
9:45 PM	2	0
10:00 PM	0	0
10:15 PM	0	0
10:30 PM	0	0
10:45 PM	1	0
11:00 PM	0	2
11:15 PM	2	0
11:30 PM	0	0
11:45 PM	0	0

12:00 AM	0	0
12:15 AM	0	0
12:30 AM	0	0
12:45 AM	0	0
1:00 AM	0	0
1:15 AM	0	0
1:30 AM	0	0
1:45 AM	0	0
2:00 AM	0	0
2:15 AM	0	0
2:30 AM	0	0
2:45 AM	0	0
3:00 AM	0	0
3:15 AM	0	0
3:30 AM	0	0
3:45 AM	0	0
4:00 AM	0	0
4:15 AM	0	0
4:30 AM	0	0
4:45 AM	0	0
5:00 AM	1	0
5:15 AM	0	0
5:30 AM	0	0
5:45 AM	0	0
6:00 AM	0	0
6:15 AM	0	0
6:30 AM	0	0
6:45 AM	0	1
7:00 AM	0	2
7:15 AM	1	3
7:30 AM	0	4
7:45 AM	1	5
8:00 AM	1	0
8:15 AM	1	0
8:30 AM	1	0
8:45 AM	0	0
9:00 AM	0	0
9:15 AM	1	0
9:30 AM	0	0
9:45 AM	2	0
10:00 AM	0	0
10:15 AM	0	0
10:30 AM	0	0
10:45 AM	0	0
11:00 AM	0	0
11:15 AM	0	1
11:30 AM	0	0
11:45 AM	0	0

12:00 PM	0	0
12:15 PM	0	3
12:30 PM	3	0
12:45 PM	0	0
1:00 PM	1	0
1:15 PM	0	0
1:30 PM	1	0
1:45 PM	0	0
2:00 PM	0	0
2:15 PM	0	0
2:30 PM	0	0
2:45 PM	0	3
3:00 PM	4	0
3:15 PM	1	0
3:30 PM	4	2
3:45 PM	9	3
4:00 PM	0	0
4:15 PM	0	0
4:30 PM	1	0
4:45 PM	3	1
5:00 PM	0	1
5:15 PM	2	0
5:30 PM	0	0
5:45 PM	0	0
6:00 PM	2	0
6:15 PM	2	1
6:30 PM	0	0
6:45 PM	0	0
7:00 PM	0	0
7:15 PM	0	2
7:30 PM	1	1
7:45 PM	0	0
8:00 PM	0	1
8:15 PM	0	1
8:30 PM	0	0
8:45 PM	0	0
9:00 PM	0	0
9:15 PM	0	0
9:30 PM	0	0
9:45 PM	0	0
10:00 PM	0	0
10:15 PM	0	5
10:30 PM	0	0
10:45 PM	0	0
11:00 PM	0	1
11:15 PM	0	0
11:30 PM	0	0
11:45 PM	0	0

12:00 AM	0	3
12:15 AM	1	0
12:30 AM	3	0
12:45 AM	0	0
1:00 AM	0	0
1:15 AM	0	0
1:30 AM	0	0
1:45 AM	0	0
2:00 AM	0	0
2:15 AM	0	0
2:30 AM	0	0
2:45 AM	0	0
3:00 AM	0	0
Total	**102**	**87**


N
2 (7)
Perry Street Access
Todd Street Access
13 (6)
Septima Clark Parkway Pedestrian Bridge
2014 AM and PM Peak Hour Volumes
(11/6/2014)
SCALE: NONE
LEGEND
TRAVEL DIRECTION
XX AM PEAK HOUR TRAFFIC
(XX) PM PEAK HOUR TRAFFIC
CDM Smith
5400 GLENWOOD AVENUE, SUITE 400
RALEIGH, NORTH CAROLINA 27612
TELEPHONE: (919) 755-0583
FAX: (919) 832-8798


N
2 (6)
Perry Street Access
Todd Street Access
14 (2)
Septima Clark Parkway Pedestrian Bridge
2014 AM and PM Peak Hour Volumes
(11/7/2014)
SCALE: NONE
LEGEND
TRAVEL DIRECTION
XX AM PEAK HOUR TRAFFIC
(XX) PM PEAK HOUR TRAFFIC
5400 GLENWOOD AVENUE, SUITE 400
RALEIGH, NORTH CAROLINA 27612
TELEPHONE: (919) 755-0583
FAX: (919) 832-8798
CDM Smith

Study Name US17 NB Septima Clark Pk
Dates 3:00 AM 11/13/2014 - 3:00
Count Type 48 Hour Turning Movement

Conducted by Palmetto Traffic Group, LL

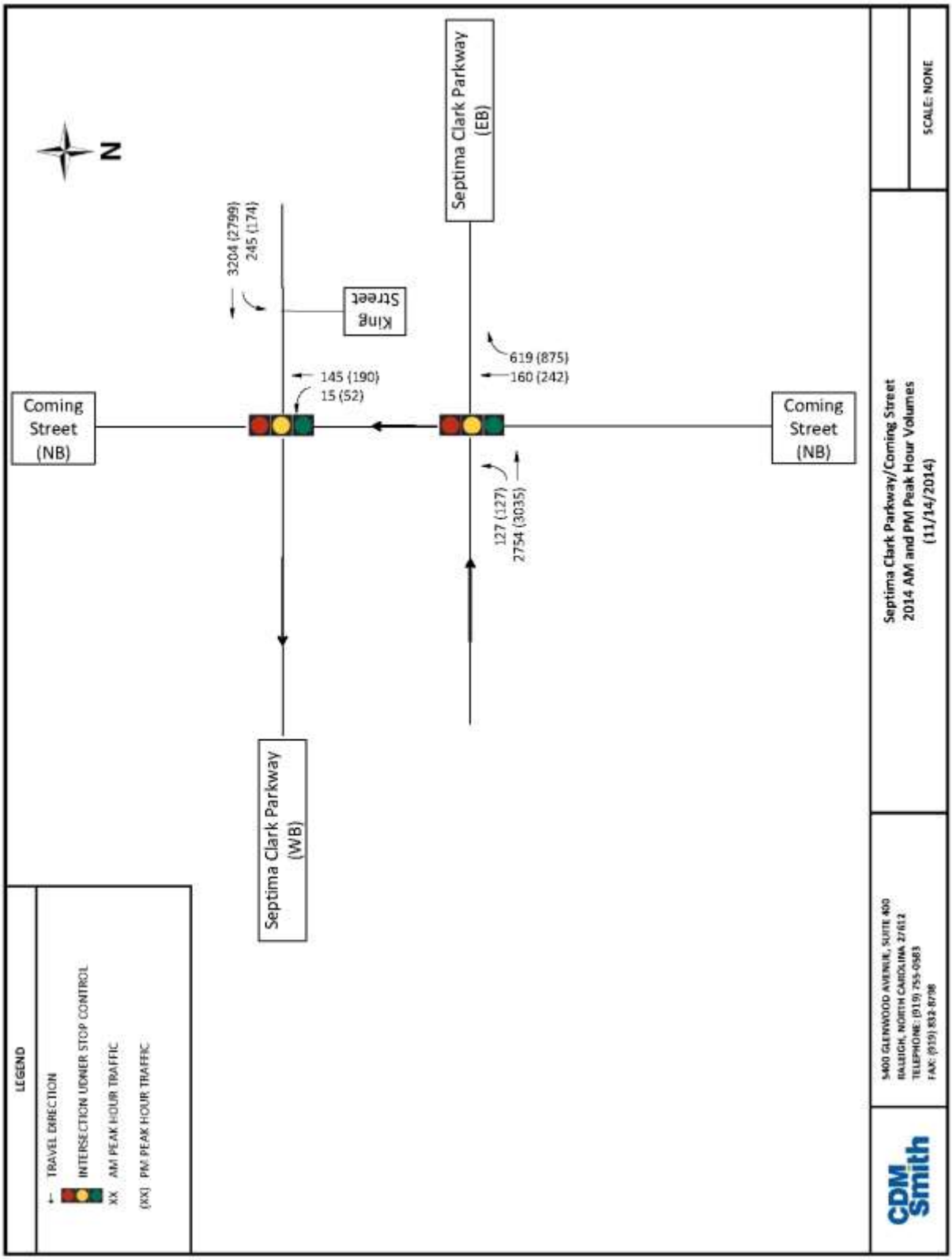
	Coming St to EB US 17 Northbound			US 17 Septima Clark Pkwy Westbound			Coming St to WB US17 Northbound			US 17 NB Septima Clark Pkwy Eastbound		
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
3:00 AM	5	0	0	0	19	4	0	1	2	0	10	0
3:15 AM	2	0	0	2	19	1	0	3	2	0	11	1
3:30 AM	1	0	0	0	28	1	0	1	2	0	20	0
3:45 AM	5	0	0	0	28	1	0	1	1	0	21	0
4:00 AM	2	0	0	0	13	0	0	0	0	0	23	1
4:15 AM	3	0	0	0	27	0	0	0	0	0	32	0
4:30 AM	1	0	0	0	30	4	0	0	1	0	50	1
4:45 AM	6	0	0	0	72	0	0	1	0	0	50	1
5:00 AM	10	0	0	0	74	1	0	5	0	0	67	2
5:15 AM	9	0	0	0	111	5	0	2	2	0	92	2
5:30 AM	13	0	0	0	177	7	0	1	4	0	159	3
5:45 AM	19	0	0	0	265	9	0	9	0	0	180	1
6:00 AM	33	0	0	0	272	14	0	5	0	0	205	6
6:15 AM	26	0	0	1	478	29	0	5	2	0	352	9
6:30 AM	50	0	0	1	573	57	0	10	4	0	454	6
6:45 AM	54	0	0	0	563	40	0	22	4	0	531	21
7:00 AM	83	0	0	0	785	59	0	17	6	0	562	22
7:15 AM	108	0	0	0	760	57	0	31	2	0	627	29
7:30 AM	171	0	0	0	764	72	0	44	2	0	732	46
7:45 AM	189	0	0	0	812	83	0	48	1	0	725	26
8:00 AM	141	0	0	0	796	52	0	29	1	0	677	21
8:15 AM	122	0	0	2	831	64	0	22	5	0	664	18
8:30 AM	105	0	0	0	682	55	0	28	0	0	634	20
8:45 AM	97	0	0	2	706	41	0	20	1	0	591	18
9:00 AM	70	0	0	1	520	50	0	31	13	0	555	11
9:15 AM	82	0	0	0	536	39	0	17	5	0	495	15
9:30 AM	91	0	0	1	502	59	0	27	9	0	494	20
9:45 AM	62	0	0	1	495	26	0	30	19	0	465	30
10:00 AM	77	0	0	2	480	32	0	18	3	0	433	18
10:15 AM	64	0	0	0	499	41	0	20	9	0	521	18
10:30 AM	70	0	0	1	485	33	0	22	7	0	436	16
10:45 AM	94	0	0	0	477	32	0	28	4	0	496	19

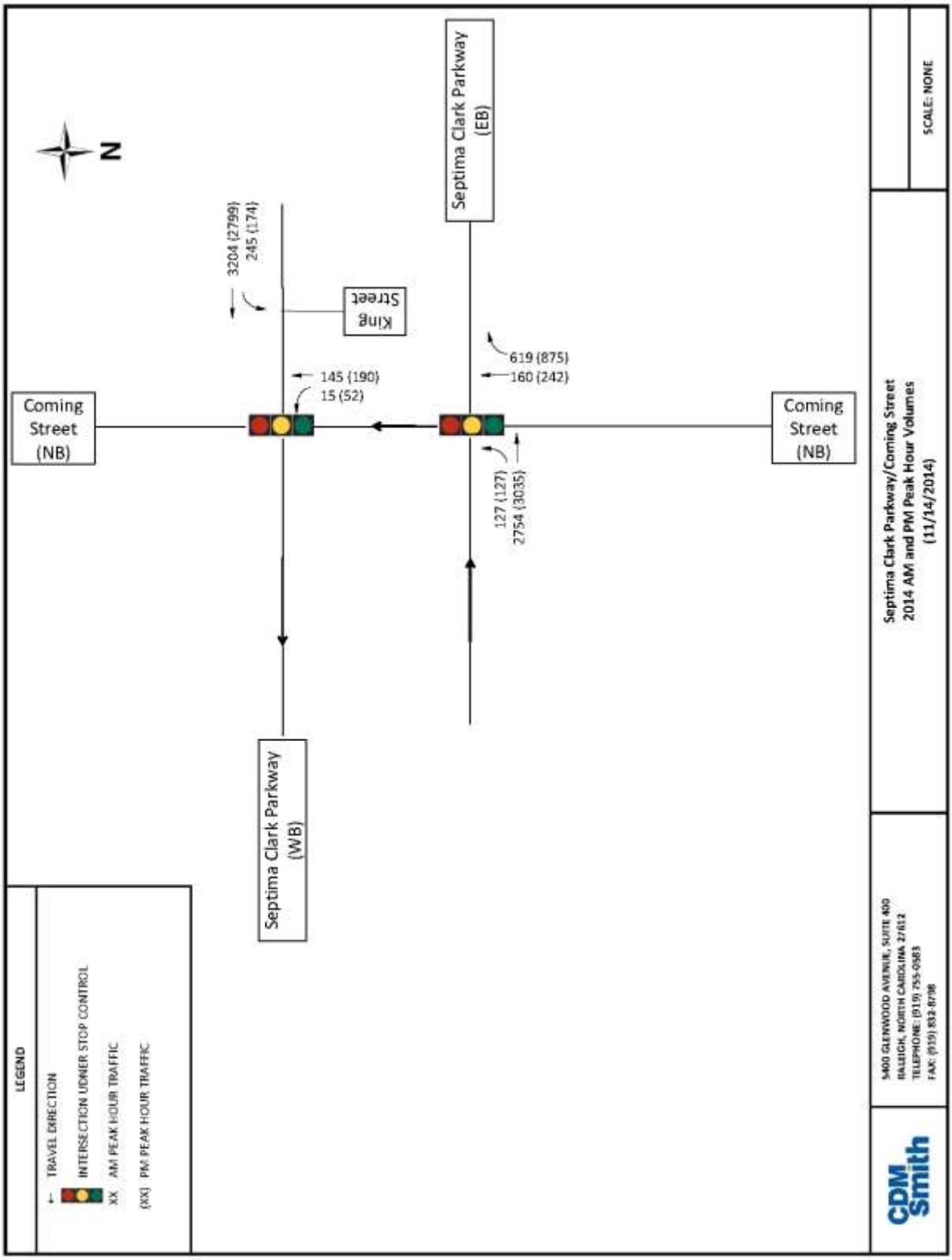
11:00 AM	101	0	0	0	501	29	0	23	8	0	479	16
11:15 AM	108	0	0	1	446	37	0	37	8	0	479	19
11:30 AM	77	0	0	1	484	37	0	36	10	0	466	20
11:45 AM	110	0	0	1	495	28	0	46	9	0	513	24
12:00 PM	99	0	0	0	495	24	0	39	7	0	524	18
12:15 PM	127	0	0	0	477	29	0	22	21	0	504	14
12:30 PM	115	0	0	0	480	29	0	36	18	0	540	21
12:45 PM	117	0	0	0	513	37	0	32	8	0	475	29
1:00 PM	108	0	0	0	469	27	0	43	4	0	492	21
1:15 PM	117	0	0	0	508	42	0	26	10	0	494	20
1:30 PM	120	0	0	0	523	28	0	32	11	0	486	15
1:45 PM	108	0	0	2	477	32	0	37	8	0	605	20
2:00 PM	115	0	0	0	504	31	0	26	7	0	549	23
2:15 PM	114	0	0	0	512	29	0	36	10	0	601	33
2:30 PM	126	0	0	0	605	29	0	33	9	0	596	28
2:45 PM	132	0	0	1	578	31	0	45	11	0	646	19
3:00 PM	141	0	0	2	669	40	0	49	7	0	620	22
3:15 PM	174	0	0	0	554	29	0	28	12	0	717	19
3:30 PM	176	0	0	0	620	37	0	43	23	0	746	16
3:45 PM	176	0	0	2	636	31	0	50	2	0	679	27
4:00 PM	201	0	0	1	586	35	0	37	9	0	810	23
4:15 PM	222	0	0	1	673	43	0	43	9	0	791	24
4:30 PM	230	0	0	1	655	39	0	43	12	0	799	16
4:45 PM	229	0	0	2	732	44	0	34	6	0	812	17
5:00 PM	203	0	0	0	765	41	0	37	2	0	660	20
5:15 PM	231	0	0	0	758	48	0	52	21	0	695	24
5:30 PM	252	0	0	0	692	41	0	43	12	0	686	22
5:45 PM	180	0	0	0	697	42	0	41	9	0	765	28
6:00 PM	148	0	0	2	681	28	0	47	3	0	527	23
6:15 PM	135	0	0	2	595	48	0	41	12	0	513	20
6:30 PM	128	0	0	0	577	36	0	42	9	0	431	20
6:45 PM	105	0	0	3	433	30	0	41	7	0	387	16
7:00 PM	97	0	0	2	351	16	0	40	7	0	340	24
7:15 PM	103	0	0	0	332	17	0	33	3	0	360	15
7:30 PM	98	0	0	0	344	20	0	33	8	0	373	12
7:45 PM	74	0	0	0	291	18	0	34	4	0	366	8
8:00 PM	64	0	0	3	310	23	0	24	6	0	292	16
8:15 PM	53	0	0	6	265	15	0	37	5	0	251	10
8:30 PM	54	0	0	1	281	20	0	24	2	0	247	10
8:45 PM	52	0	0	3	242	14	0	25	6	0	215	16
9:00 PM	53	0	0	2	240	19	0	20	2	0	213	12
9:15 PM	45	0	0	1	268	13	0	22	5	0	205	14
9:30 PM	42	0	0	2	208	15	0	20	3	0	141	13
9:45 PM	37	0	0	0	174	10	0	22	3	0	126	19
10:00 PM	31	0	0	3	190	12	0	21	5	0	128	3
10:15 PM	44	0	0	1	167	11	0	10	7	0	131	7
10:30 PM	31	0	0	0	177	11	0	12	3	0	104	6

10:45 PM	32	0	0	2	145	8	0	13	0	0	103	2
11:00 PM	46	0	0	3	99	11	0	15	1	0	124	9
11:15 PM	29	0	0	0	92	10	0	15	6	0	120	8
11:30 PM	32	0	0	2	94	11	0	15	1	0	111	12
11:45 PM	30	0	0	0	71	9	0	8	1	0	87	6
12:00 AM	22	0	0	0	61	8	0	4	1	0	83	4
12:15 AM	14	0	0	1	55	7	0	15	4	0	72	2
12:30 AM	14	0	0	2	54	3	0	5	2	0	29	2
12:45 AM	15	0	0	0	34	7	0	11	2	0	36	1
1:00 AM	5	0	0	0	28	4	0	2	1	0	32	4
1:15 AM	9	0	0	0	29	3	0	4	1	0	33	0
1:30 AM	3	0	0	0	30	3	0	3	0	0	33	2
1:45 AM	8	0	0	0	18	1	0	8	1	0	37	1
2:00 AM	8	0	0	1	23	1	0	2	1	0	15	1
2:15 AM	10	0	0	0	19	1	0	2	0	0	38	0
2:30 AM	8	0	0	0	24	1	0	1	0	0	35	1
2:45 AM	3	0	0	1	27	1	0	2	1	0	24	2
3:00 AM	9	0	0	0	15	3	0	6	3	0	14	3
3:15 AM	2	0	0	0	16	1	0	4	1	0	22	1
3:30 AM	2	0	0	0	22	1	0	3	0	0	21	0
3:45 AM	7	0	0	0	29	1	0	1	3	0	32	0
4:00 AM	7	0	0	0	17	2	0	0	0	0	36	4
4:15 AM	3	0	0	0	25	0	0	3	0	0	33	0
4:30 AM	11	0	0	0	34	1	0	0	0	0	54	1
4:45 AM	10	0	0	0	57	2	0	1	1	0	57	0
5:00 AM	7	0	0	0	62	0	0	4	0	0	58	2
5:15 AM	8	0	0	0	95	5	0	4	2	0	86	3
5:30 AM	15	0	0	0	179	4	0	4	1	0	139	3
5:45 AM	22	0	0	1	237	14	0	6	0	0	172	7
6:00 AM	31	0	0	0	262	13	0	2	0	0	193	3
6:15 AM	16	0	0	0	413	30	0	5	0	0	308	7
6:30 AM	47	0	0	0	630	51	0	9	4	0	419	9
6:45 AM	44	0	0	0	597	47	0	22	4	0	466	14
7:00 AM	70	0	0	0	753	61	0	16	3	0	533	20
7:15 AM	93	0	0	0	819	65	0	34	3	0	595	29
7:30 AM	178	0	0	1	816	55	0	29	2	0	718	39
7:45 AM	195	0	0	1	807	64	0	53	5	0	786	37
8:00 AM	153	0	0	0	762	61	0	29	5	0	655	22
8:15 AM	108	0	0	0	706	43	0	34	11	0	650	8
8:30 AM	93	0	0	0	675	46	0	25	4	0	612	17
8:45 AM	100	0	0	0	558	48	0	22	6	0	542	22
9:00 AM	80	0	0	0	493	51	0	29	7	0	485	18
9:15 AM	85	0	0	0	540	50	0	30	16	0	533	19
9:30 AM	94	0	0	0	466	44	0	39	5	0	607	16
9:45 AM	78	0	0	2	576	35	0	27	13	0	502	14
10:00 AM	80	0	0	1	500	30	0	50	10	0	485	21
10:15 AM	80	0	0	0	529	43	0	16	8	0	563	28

10:30 AM	88	0	0	1	477	46	0	22	9	0	485	12
10:45 AM	96	0	0	2	532	30	0	35	11	0	523	24
11:00 AM	76	0	0	2	439	34	0	21	7	0	464	14
11:15 AM	115	0	0	0	451	23	0	34	9	0	608	25
11:30 AM	108	0	0	2	535	36	0	24	5	0	527	25
11:45 AM	112	0	0	0	513	26	0	35	12	0	555	20
12:00 PM	128	0	0	0	532	25	0	35	6	0	518	21
12:15 PM	108	0	0	1	537	33	0	33	5	0	567	20
12:30 PM	103	0	0	0	512	43	0	42	23	0	611	22
12:45 PM	125	0	0	1	535	25	0	42	11	0	531	29
1:00 PM	173	0	0	2	501	26	0	46	15	0	623	23
1:15 PM	153	0	0	2	551	34	0	30	15	0	548	21
1:30 PM	127	0	0	1	492	22	0	36	11	0	610	29
1:45 PM	126	0	0	1	489	46	0	27	12	0	622	25
2:00 PM	155	0	0	2	538	26	0	21	13	0	596	25
2:15 PM	142	0	0	0	554	31	0	48	14	0	641	37
2:30 PM	167	0	0	1	558	26	0	47	5	0	633	19
2:45 PM	145	0	0	1	541	50	0	65	14	0	649	28
3:00 PM	187	0	0	2	600	40	0	49	8	0	686	27
3:15 PM	205	0	0	1	624	32	0	47	13	0	745	27
3:30 PM	233	0	0	4	668	51	0	44	14	0	807	23
3:45 PM	241	0	0	0	640	49	0	38	13	0	752	23
4:00 PM	232	0	0	0	646	31	0	50	18	0	736	20
4:15 PM	223	0	0	0	679	31	0	47	17	0	743	22
4:30 PM	226	0	0	2	654	41	0	44	13	0	783	28
4:45 PM	201	0	0	1	677	38	0	49	7	0	765	39
5:00 PM	233	0	0	0	682	37	0	48	17	0	798	30
5:15 PM	215	0	0	1	786	58	0	49	15	0	689	30
5:30 PM	173	0	0	8	660	30	0	55	10	0	613	20
5:45 PM	162	0	0	1	613	36	0	49	13	0	574	18
6:00 PM	146	0	0	4	626	40	0	46	15	0	516	15
6:15 PM	106	0	0	2	582	36	0	40	8	0	550	26
6:30 PM	109	0	0	0	606	46	0	36	11	0	455	22
6:45 PM	93	0	0	4	495	25	0	46	7	0	493	30
7:00 PM	82	0	0	3	407	25	0	31	6	0	355	18
7:15 PM	88	0	0	0	384	35	0	42	5	0	414	18
7:30 PM	76	0	0	1	376	21	0	26	9	0	393	18
7:45 PM	74	0	0	3	283	29	0	40	6	0	364	22
8:00 PM	75	0	0	1	286	26	0	26	10	0	269	24
8:15 PM	63	0	0	0	268	28	0	25	4	0	258	14
8:30 PM	57	0	0	0	248	21	0	19	7	0	222	16
8:45 PM	47	0	0	1	226	19	0	19	8	0	240	11
9:00 PM	50	0	0	2	231	22	0	19	6	0	206	14
9:15 PM	71	0	0	1	267	26	0	21	6	0	220	15
9:30 PM	48	0	0	0	241	16	0	19	4	0	219	16
9:45 PM	63	0	0	2	244	20	0	19	7	0	250	10
10:00 PM	65	0	0	0	215	21	0	19	2	0	231	9

10:15 PM	66	0	0	2	189	20	0	22	2	0	238	22
10:30 PM	53	0	0	2	230	17	0	14	4	0	293	11
10:45 PM	63	0	0	1	181	16	0	13	4	0	330	8
11:00 PM	64	0	0	0	161	14	0	24	8	0	268	14
11:15 PM	56	0	0	1	131	12	0	23	4	0	221	11
11:30 PM	42	0	0	1	121	14	0	16	4	0	181	8
11:45 PM	40	0	0	1	118	12	0	7	6	0	131	11
12:00 AM	34	0	0	2	70	12	0	18	5	0	129	3
12:15 AM	23	0	0	1	87	4	0	15	4	0	97	8
12:30 AM	26	0	0	1	74	8	0	19	4	0	89	5
12:45 AM	26	0	0	0	52	9	0	13	6	0	82	1
1:00 AM	29	0	0	0	37	7	0	11	1	0	54	2
1:15 AM	29	0	0	0	60	11	0	9	4	0	64	3
1:30 AM	27	0	0	0	52	6	0	13	1	0	45	4
1:45 AM	25	0	0	1	46	5	0	12	3	0	62	3
2:00 AM	21	0	0	0	54	5	0	6	1	0	53	1
2:15 AM	17	0	0	0	34	7	0	11	0	0	45	0
2:30 AM	14	0	0	0	28	1	0	8	1	0	36	5
2:45 AM	12	0	0	0	23	2	0	7	1	0	38	2
3:00 AM	1	0	0	0	2	0	0	0	0	0	7	0
Total:	**16,243**	**-**	**-**	**154**	**72,653**	**4,967**	**-**	**4,693**	**1,173**	**-**	**72,451**	**2,833**


N
Septima Clark Parkway (EB)
Septima Clark Parkway (WB)
King Street
Coming Street (NB)
Coming Street (NB)
3204 (2799)
245 (174)
145 (190)
15 (52)
619 (875)
160 (242)
127 (127)
2754 (3035)
LEGEND
TRAVEL DIRECTION
INTERSECTION UNDER STOP CONTROL
XX AM PEAK HOUR TRAFFIC
(XX) PM PEAK HOUR TRAFFIC
Septima Clark Parkway/Coming Street
2014 AM and PM Peak Hour Volumes
(11/14/2014)
SCALE: NONE
5400 GLENWOOD AVENUE, SUITE 400
RALEIGH, NORTH CAROLINA 27612
TELEPHONE: (919) 755-0583
FAX: (919) 832-8798
CDM Smith


N
Septima Clark Parkway (EB)
Septima Clark Parkway (WB)
King Street
Coming Street (NB)
Coming Street (NB)
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245 (174)
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LEGEND
TRAVEL DIRECTION
INTERSECTION UNDER STOP CONTROL
XX AM PEAK HOUR TRAFFIC
(XX) PM PEAK HOUR TRAFFIC
Septima Clark Parkway/Coming Street
2014 AM and PM Peak Hour Volumes
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