



## COUNTY COUNCIL OF BEAUFORT COUNTY

### Community Development Department

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### PLANNING COMMISSION

Monday, August 7, 2017

6:00 p.m.

Council Chambers, Administration Building  
100 Ribaut Road, Beaufort, South Carolina

In accordance with South Carolina Code of Laws, 1976, Section 30-4-80(d), as amended, all local media were duly notified of the time, date, place and agenda of this meeting.

1. COMMISSIONER'S WORKSHOP – 5:30 P.M.  
Planning Office, Room 115, County Administration Building
  2. REGULAR MEETING – 6:00 P.M.  
Council Chambers
  3. CALL TO ORDER – 6:00 P.M.
  4. PLEDGE OF ALLEGIANCE
  5. REVIEW OF MEETING MINUTES FOR JULY 6, 2017 ([backup](#))
  6. CHAIRMAN'S REPORT
  7. PUBLIC COMMENT ON NON-AGENDA ITEMS
  8. LADY'S ISLAND CORRIDOR STUDY ([backup](#))
  9. NEW/OTHER BUSINESS:
    - A. New/Other Business
    - B. Next Scheduled Meetings:
      - Special Planning Commission Meeting: Tuesday, August 15, 2017. at 5:30 p.m. in Executive Conference Room, County Administration Building, 100 Ribaut Road, Beaufort, South Carolina
      - Next Scheduled Regular Planning Commission Meeting: Thursday, September 7, 2017, at 6:00 p.m. at 6:00 p.m. in Council Chambers, County Administration Building, 100 Ribaut Road, Beaufort, South Carolina
- C. ADJOURNMENT





COUNTY COUNCIL OF BEAUFORT COUNTY  
**BEAUFORT COUNTY PLANNING DIVISION**  
BEAUFORT COUNTY GOVERNMENT ROBERT SMALLS COMPLEX  
ADMINISTRATION BUILDING, 100 RIBAUT ROAD  
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The regular meeting of the Beaufort County Planning Commission (hereinafter "Commission") was held on Monday, July 6, 2017, in County Council Chambers, the Beaufort County Administration Building at 100 Ribaut Road, Beaufort, South Carolina.

**Members Present:**

Mr. Robert Semmler, Chairman      Mr. Randolph Stewart, Vice-Chairman      Ms. Diane Chmelik  
Ms. Caroline Fermin              Mr. Jason Hincer                              Mr. Harold Mitchell  
Mr. Ed Pappas

**Member Absent:** Mr. Marque Fireall and Mr. Eric Walsnovich

**Staff Present:**

Mr. Anthony Criscitiello, Planning Director  
Ms. Barbara Childs, Administrative Assistant to the Planning Director

**CALL TO ORDER:** Chairman Robert Semmler called the meeting to order at approximately 6:05 p.m.

**PLEDGE OF ALLEGIANCE:** Mr. Semmler led those assembled in the Council Chambers with the pledge of allegiance to the flag of the United States of America.

**CHAIRMAN'S REPORT:** Mr. Semmler commented on his 4<sup>th</sup> of July celebration and the fireworks display at the Marine Corps Recruit Depot Parris Island.

**REVIEW OF MEETING MINUTES:** The Commissioners reviewed the June 5, 2017 minutes.  
**Motion:** Mr. Ed Pappas made the motion, and Mr. Harold Mitchell seconded the motion, **to accept the minutes, as written.** The motion **carried (FOR: Hincer, Mitchell, Pappas, Semmler, and; ABSTAIN: Chmelik, Fermin, and Stewart; ABSENT: Fireall and Walsnovich).**

**PUBLIC COMMENT on non-agenda items:** None were received.

**STREET NAME CHANGE FROM BENS RUN TO LAKE VISTA DRIVE (ON LADY'S ISLAND OFF SUNSET OAKS DRIVE IN THE PLEASANT POINT SUBDIVISION); OWNER/APPLICANT: EXCEL COASTAL, LLC / JEN TU CHING; CONTACT/AGENT: CHARLES HWANG / DAVID YOUMANS**

Mr. Criscitiello briefed the Commission on the street name change. He stated that the lots are adjacent to a water feature, hence the proposed name of Lake Vista Drive. The road surface is architectural brick. There is a possibility that the owner may make the lots larger, thereby reducing the total number of lots so a rezoning or master plan amendment may possibly occur. The 33 lots that touch Ben's Run are undeveloped/vacant and owned by one owner. Since the applicant is the owner of all the lots, written notification to property owners was not sent by the Planning staff. Staff recommended approval of the street name change.

**Discussion included** having viewed the area of the properties; having contacted various individuals including the realtor of the properties, the president of the Pleasant Point Plantation property owners association (POA), and the applicant's contact Mr. Charles Hwang (*Mr. Semmler read an email that*

*indicated Ben's Run referred to a young boy who had cancer and a 10K run fundraiser to raise awareness and funds for cancer research. Mr. Semmler noted that the fundraiser continues and one of the organizers asked for the street sign, but there was no street sign posted. The email also indicated that the POA had no objections to the name change. Mr. Semmler indicated that the applicant's contact stated the name change was to attract buyers to the lots.); querying whether the Ben's Run name could be placed on another street in the neighborhood; and querying whether development had been approved (Mr. Criscitiello noted that the lots were fully approved and awaiting development.).*

**Applicant's Comments:** None were received.

**Public Comment:** None were received.

**Motion:** Mr. Jason Hincer made a motion, and Ms. Carolyn Fermin seconded the motion, **to approve the street name change from Ben's Run to Lake Vista Drive (on Lady's Island, off Sunset Oaks Drive in the Pleasant Point Plantation subdivision).** No further discussion occurred. The motion carried (**FOR: Chmelik, Fermin, Hincer, Mitchell, Pappas, Semmler, and Stewart; ABSENT: Fireall and Walsnovich).**

**TEXT AMENDMENTS TO THE COMMUNITY DEVELOPMENT CODE, DIVISION A.2 (LADY'S ISLAND COMMUNITY PRESERVATION DISTRICT--LICP) OF APPENDIX A, COMMUNITY PRESERVATION DISTRICT: TABLE A.2.40.A (LAND USES) AND SECTION A.2.50 (CONDITIONAL AND SPECIAL USE STANDARDS) TO PERMIT COMMUNITY RESIDENCES (E.G. DORMS, CONVENTS, ASSISTED LIVING FACILITIES, TEMPORARY SHELTERS) AS A SPECIAL USE SUBJECT TO ADDITIONAL STANDARDS; APPLICANT: JADE EASTRIDGE**

Mr. Criscitiello briefed the Commission on the text amendments. The Planning staff asked the Lady's Island Community Preservation (LICP) Committee for their recommendation on the text amendments. Since the text amendments were a change to the intent (see Section A.2.40 of the Community Development Code) of the LICP District, the LICP Committee felt making the use a Special Use would be acceptable since additional review by the Zoning Board of Appeals (ZBOA) would be required. Mr. Criscitiello then explained the ZBOA process. The Housing Chapter of the Comprehensive Plan notes that more infill development is needed for elderly residents, especially assisted living and continuing care facilities in urbanized areas of the County. The proposed 9.5-acre assisted living project meets a community need. Staff established additional conditions for the Special Use to include: a minimum site area of 5.0 acres, a maximum height of 35 feet, adjoining buffers and setbacks of 50 feet for LICP Districts and 20 feet for all other districts, 50 feet for local/collector; and Community Residences being limited to sites within one and one-half mile from the centerline of the intersection of Sea Island Parkway (US 21) and Sam's Point Road/Lady's Island Drive. The Metropolitan Planning Commission forwarded no comment since there was not a quorum.

**Applicant's Comments:**

1. Mr. Greg Baisch with Ward Edwards Engineering noted that he and the applicant met several times with staff and the LICP Committee. Generally, the LICP Committee accepted the revisions of the project after the applicant addressed the site area and setbacks in order to be sensitive of the area. The staff's addition as a special use and additional requirements would open other properties to the use and allow the public to see site-specific details as a Special Use. *(Commission discussion included noting that this is the first time the public hears about this proposal and asking for additional information from the applicant; concerns with temporary shelters being included in the text amendment; Mr. Criscitiello noting that the staff added the use to accommodate the community; noting that County-wide temporary shelters are kept private to provide privacy to individuals in the*

*shelter; Mr. Criscitiello noted that the staff must have the ability to address such uses across the population spectrum; clarification on the text amendment covering the LICP District, and reiterating that the amendment was not site/parcel specific.)*

2. Mr. Eric Sauers, partner with CR Senior Living LLC, stated that his project was a 60,000 square foot/66-room facility, with 60-65 employees, about 20-25 employees per shift. His company has 3 sites in Greenville, SC, that have been in operation for 4 years; there is one near Spartanburg, SC, and another at Little River, SC. The site (on Lady's Island) is large enough for nice landscaping appeal; he anticipates 80-90 residents. He stated he would place his mother in the facility. He said the bathrooms are spa-like, and there are interior lights with an atrium in the center of the facility. The facility is large enough to support this smaller market. He believes Beaufort is a little gem. He believes his company will add to the community.
3. Mr. Baisch noted the start of the parcel is where Dore Drive connects Lady's Island Drive to Meridian Road. The parcel has frontage off Lady's Island Drive and Meridian Road. The lot could accommodate 27 homes, the proposed use (as an assisted living facility) would decrease the traffic impact. There is an existing dirt road that the property owner will improve, but the majority of the traffic would be centered off Lady's Island Drive. There are sidewalks on Lady's Island Drive for people to interact with the property. The building will be single-storied. The current zoning only allows the use in a TCP (Traditional Community Plan). The property owner considered annexing into the City of Beaufort but the connection with other parcels did not occur. *(Commission discussion included noting that the property involves heirs property, noting that the area has transportation issues along Sea Island Parkway, concern with property egress/ingress, concern with how this property interacts with the proposed Lady's Island Plan; noting the intent to maintain Polk Road and giving easement to adjoining property owners, and querying the definition of a buffer for public information.)* Mr. Baisch noted the undisturbed buffers were to the east and north on the property--all other buffers must be rebuilt since the majority of the site had been timbered by the former owner. There are no wetlands on the property per the National Wetland Inventory map. He noted that stormwater issues were addressed. He stated that the buffers and setbacks are such that the building can be 50 feet off the road. *(Mr. Criscitiello noted that the Staff Review Team (SRT) would deal with details of the development when the project is submitted for permitting.)* The building will have a Beaufort facade/coastal look.

**Public Comment:** None were received.

Mr. Criscitiello noted that posting and review will occur at the staff level with the SRT. He explained the Special Use process involving the Zoning Board of Appeals and its level of review.

Further discussion included concern with the grouping of uses such as dorms and convents, along with assisted living facilities; and supporting the additional standards that added another layer of review.

**Motion:** Mr. Jason Hincer made a motion, and Ms. Carolyn Fermin seconded the motion, **to forward to County Council with a recommendation of approval of the Text Amendments to the Community Development Code, Division A.2 (Lady's Island Community Preservation District--LICP) of Appendix A, Community Preservation District: Table A.2.40.A (Land Uses) and Section A.2.50 (Conditional and Special Use Standards) to permit Community Residences (e.g. dorms, convents, assisted living facilities, temporary shelters) as a Special Use subject to additional standards.** No further discussion occurred. The motion **carried (FOR: Chmelik, Fermin, Hincer, Mitchell, Pappas, Semmler, and Stewart; ABSENT: Fireall and Walsnovich).**

**TEXT AMENDMENT TO THE COMMUNITY DEVELOPMENT CODE: APPENDIX A. COMMUNITY PRESERVATION DISTRICT, DIVISION A.13 MAY RIVER COMMUNITY PRESERVATION DISTRICT (MRCP), SECTION A.13.80.G. DESIGN STANDARDS/FENCING (TO ALLOW WOODEN PRIVACY FENCING); APPLICANT: LORETTA E. WELLS, AGENT: RUSSELL P. PATTERSON**

Mr. Semmler noted that this text amendment was deferred by the applicant. He stated another avenue was being considered/researched by the applicant's agent. The text amendment would have allowed wooden privacy fencing throughout the May River Community Preservation District. Discussion occurred regarding the location of the existing fence,

**NEW BUSINESS:** Mining Standards--Mr. Ed Pappas asked the results of Mr. Semmler's conversation with Councilman York Glover. Mr. Semmler believes more must be done before bring to the Planning Commission. Mr. Criscitiello noted that mining requirements are Special Uses. He noted another example of mining (Ernest Mine) where numerous concerns have been voiced by citizens, including fencing, depth of slopes, etc.

Mr. Semmler suggests that the Commissioners either attend or watch on television the Zoning Board of Appeals (ZBOA), for Commission information.

**OTHER BUSINESS: Next Planning Commission Meetings:**

1. The next scheduled regular Planning Commission meeting is Monday, August 7, 2017, at 6:00 p.m. in the County Council Chambers, 100 Ribaut Road, Beaufort, SC.
2. The Special Planning Commission meeting scheduled for July 11, 2017 is cancelled.

**ADJOURNMENT: Motion:** Ms. Caroline Fermin made the motion, and Mr. Ed Pappas seconded the motion, **to adjourn the meeting.** The motion **carried (FOR: Chmelik, Fermin, Hincer, Mitchell, Pappas, Semmler, and Stewart; ABSENT: Fireall and Walsnovich).** Mr. Semmler adjourned the meeting at approximately 7:04 p.m.

**SUBMITTED BY:**

\_\_\_\_\_  
Barbara Childs, Administrative Assistant to the Planning Director

\_\_\_\_\_  
Robert Semmler, Beaufort County Planning Commission Chairman

**APPROVED: August 7, 2017**

*Note: The video link of the July 6, 2017, Planning Commission meeting is:  
[http://beaufort.granicus.com/MediaPlayer.php?view\\_id=3&clip\\_id=3315](http://beaufort.granicus.com/MediaPlayer.php?view_id=3&clip_id=3315)*



## MEMORANDUM

**To:** Beaufort County Planning Commission  
**From:** Anthony Criscitiello, Beaufort County Community Development Director  
**Subject:** Lady's Island Corridor Study  
**Date:** July 31, 2017

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### A. BACKGROUND:

**Case No.** MISC 2017-09  
**Applicant:** Community Development Staff

**B. SUMMARY OF REQUEST:** In 2016, the City of Beaufort contracted with Stantec and Ward Edwards Engineering to conduct a transportation study primarily along the Sea Island Parkway between the Woods Memorial Bridge and Chowan Creek, and along Lady's Island Drive and Sam's Point Road from Rue Du Bois to Miller Drive. The purpose of the Lady's Island Corridor Study was to address concerns about future traffic resulting from recent development (e.g. Walmart, Harris Teeter, etc.) on Lady's Island. The primary aim of the Study was to:

- Improve traffic congestion and reduce delays;
- Improve safety; and
- Enhance bicycle and pedestrian accommodations.

The Study makes projections for future traffic volumes for the year 2038 based on projected growth for that time period. The Study recommends the following 9 projects to address future traffic congestion:

<b>Project</b>	<b>Cost</b>
1. SC 802 Sam's Point Road Turn Lane	\$ 761,188
2. Hazel Farm Road and Gay Drive (S-7-497)	\$ 2,983,756
3. New Lady's Island Middle School Access	\$ 1,482,880
4. Sunset Blvd. (S-7-186 and Miller Drive West (S-7-187)	\$ 4,842,155
5. Beaufort High School Access Realignment	\$ 1,792,274
6. Sea Island Pkwy. (US 21 Bus.) and SC 802 Mainline Improvements	\$ 10,755,744
7. Meadowbrook Drive Extension	\$ 776,500
8. Mayfair Court Extension	\$ 449,630
9. US 21 Airport Area and Frontage Road	\$ 4,980,303
<b>Total</b>	<b>\$ 28,824,430</b>

A copy of the Lady's Island Corridor Study is attached to this report. Appendices A through F, which contain the technical data to support the Study, are available for review at the Beaufort County Community Development Office.

The Study was recommended for adoption by the Metropolitan Planning Commission on July 18, 2017, and subsequently adopted by Beaufort City Council by resolution on July 25, 2017.

**C. ANALYSIS:** The Beaufort County Traffic Engineering Department reviewed the Lady's Island Corridor Study (see attached memo).

**D. STAFF RECOMMENDATION:**

After review of the Lady's Island Corridor Study, staff recommends the Planning Commission forward the Study to County Council to be adopted by resolution. Staff further recommends that upon adoption of the study, the Transportation and Priority Investment Chapters of the Beaufort County Comprehensive Plan be amended to include the study's recommendations and to identify funding sources for improvement projects.

**F. METROPOLITAN PLANNING COMMISSION RECOMMENDATION:**

The Metropolitan Planning Commission met on July 18, 2017. Commissioners in attendance were Joe DeVito (Chairman), Judy Alling, Caroline Fermin, Bill Harris, Tim Rentz, and Robert Semmler.

The Commissioners heard a presentation from Mr. Brett Gillis of Stantec who did the Study. The Study covers Highway 21/Sea Island Parkway from Woods Memorial Bridge to Chowan Creek. Mr. Gillis indicated that there were two public meetings. Feedback from the public included 48% concerns with traffic, 28% various unrelated concerns, and 8% each of trees/flora and drainage concerns. The national and Lady's Island traffic volumes increased in 2014, after having leveled off from 2007. The Study's 20-year traffic projections included all known proposed developments such as Walmart, Taco Bell, Harris Teeter, Village at Oyster Bluff, Whitehall Plantation, Marina Village, Crystal Lake, etc. Several scenarios were considered including grade separated interchange, road widening, and new bridge accesses, but all were deemed too costly. The Study recommends turn lane improvements at the Highway 21 and Sam's Point Road intersection and connectivity through secondary roads with street lights at Sunset Boulevard and Highway 21, Miller Road and Sam's Point Road, Gay Drive and Highway 21, and Hazel Farm Road and Highway 802. Other recommended improvements include traffic calming, landscaped islands, all-way stop control, mini-roundabouts, streetscape improvements, raised medians, new school accesses for Lady's Island Middle School and Beaufort High School, and a lighted intersection at the Walmart intersection. The Study has nine phases of improvements that can be combined in various combinations, depending on funding availability.

Discussion by the Commissioners included concerns for autonomous cars, widening the road through the Walmart intersection, SCDOT not approving 10-foot wide lanes and traffic calming measures recommended in the Study, and including bike lanes or widening sidewalks for bike traffic.

Public Comment: Mr. Chuck Newton of the Sea Island Coalition indicated the Coalition supports the Study, but is opposed to new road construction. He encouraged that the Commission find a solution to the traffic problem on Lady's Island. He urged the government entities to work together to fund the Study.

Mr. Robert McFee, County Facilities & Construction Engineering Director, in answer to Commissioner Semmler's question regarding the County's budget process, noted that funding would be found through various sources for the Study.

**Motion:** Mr. Tim Rentz made the motion, and Ms. Judy Alling seconded the motion, to recommend approval of the Lady's Island Corridor Study to the Beaufort County Planning Commission/County Council and City of Beaufort Council. The motion passed (FOR: DeVito, Alling, Fermin, Harris, Rentz, and Semmler).

**G. ATTACHMENT:**


- Copy of the Lady's Island Corridor Study Summary
- Memo from Beaufort County Traffic Engineering Department





COUNTY COUNCIL OF BEAUFORT COUNTY  
BEAUFORT COUNTY TRAFFIC & TRANSPORTATION  
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## MEMORANDUM

**TO:** Tony Criscitiello  
**FROM:** Colin Kinton   
**DATE:** July 20, 2017  
**Subject:** Lady's Island Corridor Study

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Traffic Engineering has reviewed the findings and recommendations presented in the Lady's Island Corridor Study dated May 19, 2017 and prepared by Stantec.

The corridor study comprehensively reviewed existing roadway network conditions, planned projects, and projected growth for Lady's Island. The recommendations presented identify a number of projects to improve traffic flow and safety without negatively impacting the character of the island, while attempting to minimize impacts to private property. Recommendations include a multi-modal, complete street vision for the Lady's Island transportation network.

The Traffic Engineering Department recommends approval of this study by the Beaufort County Planning commission with the recommendation presented to be included in the County's Comprehensive Plan.

# Lady's Island Corridor Study

## BEAUFORT, SC



BEAUFORT  
SOUTH CAROLINA



May 19, 2017

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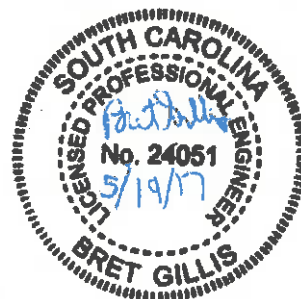
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## 1.0 Introduction

The purpose of the Lady's Island Corridor Study is to determine the most effective means of implementing the following improvements on Lady's Island:

- Improve congestion and reduce delays
- Improve safety
- Enhance bicycle and pedestrian accommodations

This traffic study intends to determine these means while maintaining the character of the area and enhancing the corridors with streetscape elements and lighting. Originally the study was focused on the two main corridors, US 21 Business / US 21 Sea Island Parkway and US 21 Lady's Island Drive / SC 802 Sams Point Road. In order to meet its stated goals, the scope was expanded to include several side streets as identified in this report.

The main intersection where these two corridors intersect is beginning to reach full capacity today in the AM and PM peak hours. With several developments underway, the intersection will likely exceed capacity by 2020. Long queues are expected to develop in the future, blocking access for side streets and driveways. Further to the east, a new Walmart development is under construction on US 21 Sea Island Parkway. Residential side streets in this area already have difficulties making left turns onto US 21. Future increases in the US 21 traffic volumes will increase the side street delays.

Traffic counts collected in 2016 show US 21 Business Sea Island Parkway has reached an ADT of 21,660 vehicles per day (vpd), while US 21 Lady's Island Drive has reached 26,000 vpd. These busy corridors are beginning to outgrow their existing two-way left-turn lanes. Raised medians, where feasible, can reduce right angle conflicts and potentially reduce right angle crashes.

This report documents the data collected, analyses performed, and conceptual improvements planned for the area. Concept plans have also been developed. They are provided separately.

## 2.0 Existing Conditions

### 2.1 PROJECT LOCATION

The project study area is approximately a total of 4.4 miles along US 21 Business Sea Island Parkway, SC 802 Sams Point Road, US 21 Lady's Island Drive, and US 21 Sea Island Parkway in Lady's Island. The study area along Sea Island Parkway begins at the Wood's Memorial Bridge and extends to the Chowan Creek Bridge. The study area along Sams Point Road begins at Miller Drive and extends to the intersection of Sea Island Parkway. The study area along Lady's Island Drive begins at the intersection of Sea Island Parkway and extends to Rue Du Bois. The study area is essentially divided into two distinct study sub areas by the natural marsh along Sea Island Parkway. The sub area to the west of the marsh includes the main US 21 Business/SC 802 Intersection and numerous commercial developments. The sub area to the east of the marsh includes the airport, the Walmart development, and the remainder of the study area to the Chowan Creek Bridge. Figure 2.1 below shows the project study area.



Figure 2.1 – Project Study Area

## 2.2 EXISTING ROADWAYS

**US 21 Business/US 21 (Sea Island Parkway)** is currently a three-lane roadway at the Wood's Memorial Bridge which widens out to a five-lane road near Youmans Drive. At the marsh, the roadway narrows to four lanes and at airport circle narrows down to a three-lane road. The 3.3 mile section of US 21 Business has a speed limit of 40 miles per hour (mph) from Wood's Memorial Bridge to near Lost Island Road, 50 mph from near Lost Island Road to a location near Hudson Drive, and 55 mph from near Hudson Drive to the study limit at Chowan Creek Bridge. The 2015 Annual Average Daily Traffic (AADT) for US 21B between Meridian Road and US 21 is 19,500 vehicles per day (vpd) and between US 21 and Chowan Creek Bluff is 17,800 vpd.

**US 21 (Ladys Island Drive)** is currently a five-lane roadway within the study limits. The 0.6 mile section of US 21 has a speed limit of 45 miles per hour (mph) from the intersection at US 21 Business to just north of Hazel Farm Road. From Hazel Farm Road to the southern study limit, the speed limit is 55 mph. The 2015 Annual Average Daily Traffic (AADT) for US 21 between US 21 Business and Meridian Road is 20,600 vehicles per day (vpd).

**SC 802 (Sams Point Road)** is currently a five-lane roadway within the study limits. The 0.5 mile section of US 21 has a speed limit of 45 miles per hour (mph) and the 2015 Annual Average Daily Traffic (AADT) for SC 802 between US 21 and Robin Drive is 20,000 vehicles per day (vpd) and between Robin Drive and Brickyard Point Road is 20,200 vpd.

**Meridian Road** The posted speed limit is 35 mph and the 2015 AADT is 2,000 vpd.

**S-7-186 Sunset Boulevard** The posted speed limit is 35 mph and the 2015 AADT is 3,000 vpd.

**Youmans Drive** The posted speed limit is 30 mph and the 2015 AADT is 900 vpd.

**Sams Point Way** The posted speed limit is 45 mph and the 2015 AADT is 2,600 vpd.

**S-7-187 Miller Drive West** The posted speed limit is 30 mph and the 2015 AADT is 1,450 vpd.

Several other roadways are included in this study and are listed on the following page.

The following roadways are all two-lane roadways with unknown AADTs that intersect US 21 Business, US 21, and SC 802 in the study area:

- ***Geechie Road***
- ***S-7-537 (Ferry Drive)***
- ***Cougar Drive***
- ***Airport Circle***
- ***Eustis Landing Road***
- ***Hazel Farm Road***
- ***Professional Village Circle***
- ***S-7-497 (Gay Drive)***
- ***Lost Island Road***
- ***Old Distant Island Road***
- ***Ashland Park Road***
- ***Rue Du Bois***

### **2.3 COUNT DATA**

48-hour tube count data was collected just west of SC 802 and US 21 on US 21B and just south of US 21B on US 21, which is located near the center of the project limits, on September 7, 2016. Based on the tube count data, it was determined that the peak hours were 7:15 AM – 8:15 AM and 4:30 PM – 5:30 PM. Turning movement counts were conducted during these two peak hours at 20 locations along the corridor. Figure 2.2 on the following page shows the count locations. Count data is shown in Appendix A. The 2016 counts showed noticeable increases from SCDOT's 2015 count data. They showed 21,660 vehicles per day (vpd) for the US 21 Business Sea Island Parkway west of SC 802 and 26,000 vpd for US 21 Lady's Island Drive south of Sea Island Parkway. Seasonal impacts were also considered, with Saturday summer counts collected. The counts conducted in the summer considered 24-hour counts just west of SC 802 and US 21 on US 21B and just south of US 21B on US 21 and turning movement counts at the intersections of Sea Island Parkway & Professional Village Circle, Sea Island Parkway & Sams Point Road/Lady's Island Drive, Sea Island Parkway & Sams Point Way, Sea Island Parkway & Ferry Road, Sams Point Road & Sams Point Way, and Lady's Island Drive & Ferry Drive. The data showed that the weekday volumes during September were consistently higher than the Saturday summer traffic collected, thus the seasonal data was omitted in the final reporting herein for simplicity.





Figure 2.2 – Turning Movement Count Data Map

## 2.4 CRASH DATA

Crash data within the study area was obtained from the Department of Public Safety. Four years of data were obtained from January 1, 2012 to December 31, 2015. In total, there were 541 crashes in 4 years with two crashes involving at least one fatality and 180 crashes involving at least one injury. A summary of the crash data is provided below in Table 2.1.

Table 2.1 – Summary of Crash Data within Project Limits

Crashes by Injury Class	
Fatal Crashes	2
Injury Crashes	180
PDO Crashes	359
<b>Total Crashes</b>	<b>541</b>

Crashes by Manner of Collision	
Rear End	246
Angle	177
Sideswipe	41
Other	77
<b>Total Crashes</b>	<b>541</b>

Figure 2.3 below and Figure 2.4 on the following page are examples of the types of collisions experienced within the study limits. The segment shown in Figure 2.3 experiences a higher rate of rear-end collisions compared to the other types of collisions due to the stop and go congestion that is experienced in this area. Figure 2.4 shows the second most frequent type of collision in the study area, right angle collisions. At driveway locations and unsignalized intersections, angled collisions are experienced more frequently because of turning vehicles along high volume roads.



**Figure 2.3 – Rear End Collisions Along Sea Island Parkway**



**Figure 2.4 – Angled Collisions on Sea Island Parkway Just West of SC 802**

### 3.0 Projected Conditions

#### 3.1 GROWTH RATES

Historic tube counts collected by SCDOT from 2008 – 2015 and tube counts collected by Stantec in 2016 along US 21 Business Sea Island Parkway and US 21 Lady's Island Drive show that the traffic volumes are increasing at a rate of 1.54% compounded annually over the past ten years. Table 3.1 shows AADTs and growth rates for the study area.

**Table 3.1 – Lady's Island Area AADT and Growth Rates**

Location	US 21 B (West of Sunset Blvd)	US 21 Lady's Island Dr (South of Sea Island Pkwy)	Average		
Station	137	221			
Year	2006	18,900	21,000	20,450	
	2007	18,400	19,700	19,550	
	2008	18,500	19,700	18,650	
	2009	17,100	19,700	18,400	
	2010	17,400	20,000	18,700	
	2011	17,100	20,000	18,550	
	2012	18,200	18,300	17,250	
	2013	15,500	18,600	17,550	
	2014	16,400	18,400	17,400	
	2015	19,500	20,800	20,050	
	2016	21,660	26,800	23,630	
Rates	2-Year	16.04%	20.66%	18.48%	17.03%
	3-Year	10.42%	10.26%	11.93%	10.73%
	4-Year	6.43%	10.52%	9.64%	8.41%
	5-Year	5.33%	6.00%	6.66%	5.14%
	6-Year	4.06%	6.00%	4.57%	4.12%
	7-Year	3.61%	4.57%	4.22%	3.76%
	8-Year	2.54%	4.00%	3.30%	2.97%
	9-Year	1.29%	3.55%	2.43%	2.22%
	10-Year	0.88%	2.38%	1.85%	1.54%
				LINEAR	EXPONENTIAL

#### 3.2 FUTURE VOLUMES

The year 2038 is selected as the Design Year for this study, to give a reasonable long term view of the corridors. Considering the local roads along with US 21 and US 21 Business, a growth rate of 1.0% compounded annually is used to project future traffic volumes. This 1.0% growth rate is used for each intersection turning movement count along the corridor.

### 3.3 DEVELOPMENTS AND TRIP GENERATION

In an effort to project accurate future traffic, current proposed developments were incorporated in the future volume development as vested traffic. The proposed developments included were Walmart, Taco Bell, Harris Teeter, The Village at Oyster Bluff, Marina Village, Lady's Island Shopping Center redevelopment, and White Hall Plantation. The proposed developments' new trips were determined based off completed Traffic Impact Analyses (TIA) and the ITE's Trip Generation Manual, 9th Edition. The projected traffic was distributed throughout the study area according to the TIAs and existing volumes. These trips are shown in Appendix B.

## 4.0 Concept Development

### 4.1 NO BUILD ALTERNATE

As with any project, there is a "do nothing" option where you consider leaving the project in the current conditions for comparison to the proposed conditions. With no improvements to the study area in Lady's Island, traffic congestion will continue to compound each year.

### 4.2 BUILD CONCEPT

The proposed concept plan is provided separately. It includes the following elements:

**Greater Street Connectivity.** Seven new connections are shown to provide alternate routes for relief of congested intersections and safer means for difficult turning movements. These connections include:

1. Enhanced access on Miller Drive West and Sunset Boulevard to avoid the congested main US 21 / SC 802 intersection
2. Paving of Hazel Farm Road and enhanced access on Gay Drive to avoid the congested main intersection
3. Relocation of the Beaufort High School access road to align with Sunset Boulevard
4. Additional access for Lady's Island Middle School, to align with Gay Drive
5. Extension of Mayfair Court to Miller Street
6. Extension of Meadowbrook Drive to Dow Road
7. New frontage road to provide better access for Lost Island Road and Little Creek Road

Each of these connections provide their own individual benefits. The first two connections will provide congestion relief from the main US 21 / SC 801 intersection, which is expected to otherwise develop major queues and delays over time. Relocation of the Beaufort High School access road allows the existing traffic signal to be relocated to Sunset Boulevard, providing better access for Sunset Boulevard. The Lady's Island Shopping Center would be redeveloped separately by others to accommodate this new access road. The additional access for Lady's Island Middle School will allow it to use the new traffic signal at Gay Drive, providing safer access onto US 21. Extending Mayfair Court will allow its residents access to the new Miller Drive signal on SC 802 Sams Point Road. Extending Meadowbrook Drive to Dow Road will provide access for Tidewatch Business Center and other properties to the new Gay Drive signal. Lastly, the new

frontage road will allow Lost Island Road and Little Creek Road residents direct access to the new Walmart traffic signal. This will make access onto US 21 safer for them.

**Traffic Signal Improvements.** New traffic signals are shown at the following locations:

- US 21 Business Sea Island Parkway and Sunset Boulevard / Beaufort High School (relocation from current Beaufort High School access)
- SC 802 Sams Point Road and Miller Drive
- US 21 Lady's Island Drive and Hazel Farm Road
- US 21 Sea Island Parkway and Gay Drive

The five traffic signals in this area are to be interconnected to improve vehicular progression and reduce rear end collisions.

**Improvements to the Main Intersection of US 21 and SC 802.** Limited space is available to widen this congested intersection. However, there are two additions that can be implemented. As part of the Harris Teeter development, a new right turn lane will be constructed for the US 21 Sea Island Parkway eastbound approach. The concept plan for this study shows a new right turn lane for the SC 802 southbound approach. It will allow the southbound approach to have two through lanes and a dedicated right turn lane. This will be especially beneficial for the morning peak, where very heavy right turn volumes occur.

**Extension of the US 21 Sea Island Parkway Eastbound Outside Through Lane.** The outside through lane currently tapers down just prior to Lost Island Road. This creates a rear end crash potential for eastbound drivers turning right onto Little Creek Road and Lost Island Road. With the planned Walmart development, extending this outside through lane past the commercial area would provide both congestion and safety benefits. Along with this extension, the westbound right turns onto the two Walmart site driveways will be converted to through-right lanes. This will provide congestion relief for westbound traffic, particularly in the morning peak.

**Raised Medians for Access Management and Safety Improvements.** The medians are shown in the concept plan for parts of US 21 Business Sea Island Parkway, US 21 Sea Island Parkway, SC 802 Sams Point Road, and US 21 Lady's Island Drive. Careful consideration is given to alternate routes associated with the medians. For example, a new driveway onto the newly signaled Hazel Farm Road is shown for Sea Island Presbyterian Church and Mayfair Court is extended to provide alternate access. Also, the three-lane segment of US 21 Business Sea Island Parkway

does not include a raised median, as it would be too tight to accommodate any u-turn movements.

**Traffic Calming Elements.** With Sunset Boulevard, Miller Drive, and Gay Drive being designed as alternate routes to relieve the main intersection, it will be important to preserve their residential character. A previous study of Sunset Boulevard and Miller Drive by SCDOT found that those two streets did not meet policy criteria for traffic calming due to speed limits and functional class. Based on public input and the proposed connectivity, this study recognizes there will at least be a need for regulating flows. In the concept plan, these streets are designed to provide traffic flows that are largely uninterrupted, yet at low speeds. The intent is for these streets to flow freely, but at speeds that are safe for residents and pedestrians. The traffic calming elements include groups of landscaped areas along their shoulders that alternate with median chicanes. Also included are 25 mph speed limit postings. Combined, these elements should make drivers feel compelled to drive at a more consistent, slow speed. Lastly, roundabouts are included to avoid delays that would result from stop control and to better regulate traffic flows. The Hazel Farm Road / Gay Drive roundabout has the added benefit of accommodating street geometry needs without displacing any properties.

**Enhanced Bicycle and Pedestrian Accommodations.** Sidewalks already exist along both major routes and all approaches except for SC 802 Sams Point Road have dedicated bicycle lanes. However, the City of Beaufort wishes to enhance bicycle and pedestrian accommodations, pursuant to its Civic Master Plan. The concept plan shows the sidewalks to be widened, with multi-use paths on SC 802 to account for the lack of dedicated bicycle lanes. Side streets Sunset Boulevard, Miller Drive West, and Gay Drive also feature sidewalk/path enhancements.

**Corridor Enhancements.** Landscaping, irrigation, and lighting are planned to enhance the main corridors, as well as Sunset Boulevard, Miller Drive West, Gay Drive, and the Beaufort High School access road. These elements should significantly enhance the area.

#### 4.3 OTHER ALTERNATES CONSIDERED

Other design alternates were originally considered under this study. Among them included:

**Widening of US 21 Business / US 21 Sea Island Parkway and/or US 21 Lady's Island Drive / SC 802 Sams Point Road.** With commercial buildings, parking lots and large oak trees close to the



existing through lanes, no feasible options existed for widening the main corridors. Impacts would have been very significant, so this alternate was omitted from selection.

**Hazel Farm Road Extension.** Extension through the undeveloped area between Gay Drive and Meadowbrook Drive was considered in lieu of using Gay Drive. This would have routed traffic away from residential streets. However, it would have also incurred significantly higher property impacts and resulted in poor land use, with essentially unusable acreage along its length.

**Omitting the US 21 Sea Island Parkway Eastbound Through Lane Extension.** Omitting this extension was considered because of the wetland impacts it will require. However, it was determined that the safety benefits outweighed the wetland impacts. The congestion relief it offers is also warranted.

**Maintaining the Existing Beaufort High School Traffic Signal.** This alternate was considered in case relocating the traffic signal should be disallowed. A right turn acceleration lane from Sunset Boulevard onto US 21 Business westbound could accommodate heavy AM traffic flows in that direction. However, right of way impacts would be significant. It would also not accommodate the much needed left turn from US 21 Business onto Sunset Boulevard.

**Other Traffic Signal Locations.** Several other intersections were considered for traffic signals. Among them included US 21 Lady's Island Drive at Ferry Drive, US 21 Lady's Island Drive at Rue Du Bois, US 21 Sea Island Parkway at Sams Point Way, US 21 Sea Island Parkway at Ferry Road, and SC 802 Sams Point Road at Sams Point Way. None of these intersections were deemed feasible for signal installation, due to low side street volumes, close proximity to other existing signals, and potential queueing issues.

## 5.0 Operations Analysis

The No Build Alternate and the Build Concept were compared for intersection delays. Detailed Synchro analyses were performed for each study area intersection. Using the existing and projected traffic volumes, intersection analyses were conducted for the study area intersections considering 2020 No Build conditions, 2038 No Build conditions, and 2038 Build conditions. This analysis was conducted using the Transportation Research Board's *Highway Capacity Manual 2000 (HCM 2000)* methodologies of the *Synchro*, Version 9 software for intersection analysis.

Intersection level of service (LOS) grades range from LOS A to LOS F, which are directly related to the level of control delay at the intersection and characterize the operational conditions of the intersection traffic flow. LOS A operations typically represent ideal, free-flow conditions where vehicles experience little to no delays, and LOS F operations typically represent poor, forced-flow (bumper-to-bumper) conditions with high vehicular delays, and are generally considered undesirable. Table 5.1 summarizes the *HCM 2010* control delay thresholds associated with each LOS grade for unsignalized and signalized intersections.

**Table 5.1 – HCM 2010 LOS Criteria for Unsignalized and Signalized Intersections**

Unsignalized Intersections		Signalized Intersections	
LOS	Control Delay Per Vehicle (seconds)	LOS	Control Delay Per Vehicle (seconds)
A	≤ 10	A	≤ 10
B	> 10 and ≤ 15	B	> 10 and ≤ 20
C	> 15 and ≤ 25	C	> 20 and ≤ 35
D	> 25 and ≤ 35	D	> 35 and ≤ 55
E	> 35 and ≤ 50	E	> 55 and ≤ 80
F	> 50	F	> 80

### 5.1 INTERSECTION LEVEL OF SERVICE AND DELAY RESULTS

An Analysis of the 2016 Existing, 2038 No Build, and 2038 Build conditions was conducted. Intersection levels of service (LOS) results for the AM Peak Hour are shown in Table 5.2 for each of the analysis scenarios and Table 5.4 for the PM Peak Hour. It should be noted that the overall intersection LOS and delay shown in bold is for signalized intersections. All other LOS and delays are for stop controlled side street approaches. Also, the "+" in the table symbolizes that there

are no turning volumes at the intersection. The results highlighted in green represent a letter grade improvement in the 2038 Build LOS for the alternate, whereas the results highlighted in red represent a letter grade worse.

Analysis of the 2016 Existing peak hour shows one approach operates at LOS F, one approach at LOS E, seven approaches/intersections at LOS D, and eleven approaches/intersections at LOS C or better. Overall, the corridor has moderate delays. Analysis of the 2038 No Build AM and PM peak hours shows that the corridor will experience high delays in the future if no improvements are implemented. Analysis of the 2038 Build Conditions shows marked improvement over the No Build conditions. Out of 23 intersections in the 2038 AM Peak Hour Build scenario, 1 intersection got worse than the 2038 AM Peak Hour No Build scenario, 17 intersections improved (green), and 5 intersections remain at the same letter grade LOS. Out of 23 intersections in the 2038 PM Peak Hour Build scenario, 1 intersection got worse than the 2038 PM peak hour No Build scenario, 16 intersections improved (green), and 6 intersections remain at the same letter grade LOS. The intersection with decreased LOS in the Build scenarios is US 21 Business at the High School driveway. Here, the traffic signal has been relocated to Sunset Boulevard and side street volumes are expected to be very low. A very small number of vehicles are expected to experience the reduced LOS shown. The delay reported is only for the worst case minor street and is not the delay experienced by Sea Island Parkway. The 2016 Existing results are shown in Appendix C, the 2038 No Build results are shown in Appendix D, and the 2038 Build results are shown in Appendix E.

The mini roundabouts were analyzed using *Sidra* software. Based on the projected future 2038 Peak Hour Build volumes, the roundabouts are expected to operate at an LOS A in both the AM and PM peak hour. The results are shown for the AM Peak in Table 5.3 on the following page and are shown for the PM Peak in Table 5.5 on page 17. The *Sidra* results are shown in Appendix F. With the intersection of Sunset Boulevard and Miller Drive being an existing intersection, future 2038 delays are also shown for two scenarios without the roundabout: (1) existing stop control conditions (stopping on the Miller Drive approach only) and (2) all way stop control implemented. The results show the roundabout option to provide significantly lower delays. Meanwhile, Hazel Farm Road and Gay Drive would essentially be a new intersection. The roundabout is needed at this intersection to provide roadway geometry that avoids displacing properties.

**Table 5.2 – AM Peak Intersection LOS and Delay Results**

Intersection	2016 No Build Peak Hour		2038 No Build Peak Hour		2038 Build Peak Hour	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
US 21 B (Sea Island Pky) & Meridian Rd	C	23.0 (NB)	F	110.7 (NB)	F	110.7 (NB)
US 21 B (Sea Island Pky) & Beaufort High School	<b>C</b>	<b>21.9</b>	<b>D</b>	<b>40.4</b>	F	98.1
US 21 B (Sea Island Pky) & Sunset Blvd	E	43.6 (SB)	F	N.A. (NB)	<b>E</b>	<b>59.0</b>
US 21 B (Sea Island Pky) & Youmans Dr	C	22.8 (SB)	E	47.8 (NB)	<b>C</b>	24.0 (SB)
US 21 B (Sea Island Pky) & Professional Village Cr	C	22.2 (SB)	F	96.2 (SB)	<b>D</b>	25.7 (SB)
US 21 (Sea Island Pky) & SC 802 (Sams Point Rd)	<b>D</b>	<b>54.9</b>	<b>F</b>	<b>147.9</b>	<b>D</b>	<b>42.2</b>
US 21 (Sea Island Pky) & Sams Point Way	C	17.2 (SB)	F	449.7 (NB)	<b>C</b>	20.2 (NB)
US 21 (Sea Island Pky) & Ferry Rd	D	31.3 (SB)	F	217.9 (SB)	<b>C</b>	21.8 (SB)
US 21 (Sea Island Pky) & Gay Dr	B	14.7 (NB)	D	25.4 (NB)	<b>B</b>	<b>16.9</b>
US 21 (Sea Island Pky) & Cougar Dr	F	62.2 (NB)	F	N.A. (SB)	-	+
US 21 (Sea Island Pky) & Lost Island Rd	B	14.5 (NB)	C	22.0 (NB)	<b>B</b>	12.4 (NB)
US 21 (Sea Island Pky) & Airport Circle	C	19.3 (SB)	<b>B</b>	<b>17.3</b>	<b>B</b>	<b>16.5</b>
US 21 (Sea Island Pky) & Old Distant Island Rd	C	20.9 (NB)	F	224.7 (NB)	F	224.7 (NB)
US 21 (Sea Island Pky) & Eustis Landing Road/Chowan Creek Bluff	<b>C</b>	<b>21.1</b>	<b>E</b>	<b>59.4</b>	<b>E</b>	<b>59.4</b>
US 21 (Lady's Island Drive) & Rue Du Bois	C	24.9 (EB)	F	74.9 (EB)	<b>E</b>	37.0 (EB)
US 21 (Lady's Island Drive) & Hazel Farm Rd	C	17.3 (WB)	D	26.4 (WB)	<b>E</b>	<b>14.3</b>
US 21 (Lady's Island Drive) & Ferry Dr	D	34.5 (WB)	F	284.4 (WB)	<b>C</b>	22.6 (WB)
SC 802 (Sams Point Road) & Sams Point Way	B	13.7 (WB)	C	22.9 (WB)	<b>C</b>	18.0 (WB)
SC 802 (Sams Point Road) & Ashland Park Rd	C	23.0 (EB)	E	43.6 (EB)	<b>C</b>	18.8 (EB)
SC 802 (Sams Point Road) & Miller Rd	D	33.8 (EB)	F	142.8 (EB)	<b>D</b>	<b>35.8</b>
US 21 B (Sea Island Pky) & Taco Bell	-	+	C	22.4 (NB)	<b>B</b>	12.5 (NB)
US 21 B (Sea Island Pky) & Walmart#3	-	+	E	45.5 (SB)	<b>C</b>	24.4 (SB)
US 21 B (Sea Island Pky) & Walmart#4	-	+	E	37.1 (SB)	<b>C</b>	16.9 (SB)

**Table 5.3 – 2038 Build Intersection Alternatives AM Peak Hour LOS and Delay Results Comparison**

AM Peak Hour LOS and Delay	Existing Stop Control		All Way Stop Control		Roundabout	
	2038 Build		2038 Build		2038 Build	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Sunset Boulevard & Miller Drive	D	27.5 (Westbound)	E	36.0 (Westbound)	A	9.6
Hazel Farm Road & Gay Drive	-	-	-	-	A	8.3

**Table 5.4 – PM Peak Intersection LOS and Delay Results**

Intersection	2016 No Build Peak Hour		2038 No Build Peak Hour		2038 Build Peak Hour	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
US 21 B (Sea Island Pky) & Meridian Rd	D	28.2 (NB)	F	855.8 (SB)	F	855.8 (SB)
US 21 B (Sea Island Pky) & Beaufort High School	<b>C</b>	<b>20.8</b>	<b>D</b>	<b>45.0</b>	<b>E</b>	46.6 (SB)
US 21 B (Sea Island Pky) & Sunset Blvd	C	19.7 (SB)	F	N.A. (SB)	<b>D</b>	<b>52.6</b>
US 21 B (Sea Island Pky) & Youmans Dr	D	32.9 (SB)	F	N.A. (SB)	<b>F</b>	N.A. (SB)
US 21 B (Sea Island Pky) & Professional Village Cr	C	24.4 (SB)	F	223.9 (SB)	<b>D</b>	53.0 (SB)
US 21 (Sea Island Pky) & SC 802 (Sams Point Rd)	<b>D</b>	<b>53.9</b>	<b>F</b>	<b>153.9</b>	<b>D</b>	<b>69.6</b>
US 21 (Sea Island Pky) & Sams Point Way	C	15.9 (NB)	F	2667.8 (NB)	<b>D</b>	25.8 (NB)
US 21 (Sea Island Pky) & Ferry Rd	C	21.9 (SB)	F	126.1 (SB)	<b>D</b>	34.4 (SB)
US 21 (Sea Island Pky) & Gay Dr	C	20.1 (NB)	F	51.8 (NB)	<b>C</b>	<b>21.6</b>
US 21 (Sea Island Pky) & Cougar Dr	D	34.4 (NB)	F	325.5 (NB)	<b>D</b>	+
US 21 (Sea Island Pky) & Lost Island Rd	C	19.7 (NB)	F	55.0 (NB)	<b>D</b>	17.3 (NB)
US 21 (Sea Island Pky) & Airport Circle	B	13.3 (SB)	<b>D</b>	<b>46.6</b>	<b>C</b>	<b>24.0</b>
US 21 (Sea Island Pky) & Old Distant Island Rd	C	17.2 (NB)	D	32.6 (NB)	D	32.6 (NB)
US 21 (Sea Island Pky) & Eustis Landing Road/Chowan Creek Bluff	<b>C</b>	<b>20.1</b>	<b>E</b>	<b>75.7</b>	<b>E</b>	<b>75.7</b>
US 21 (Lady's Island Drive) & Rue Du Bois	D	25.0 (WB)	F	89.6 (WB)	F	81.4 (WB)
US 21 (Lady's Island Drive) & Hazel Farm Rd	D	27.1 (WB)	F	57.2 (WB)	<b>D</b>	<b>14.1</b>
US 21 (Lady's Island Drive) & Ferry Dr	F	53.0 (WB)	F	744.2 (WB)	<b>D</b>	24.7 (WB)
SC 802 (Sams Point Road) & Sams Point Way	D	30.5 (WB)	F	287.5 (WB)	<b>F</b>	125.0 (WB)
SC 802 (Sams Point Road) & Ashland Park Rd	C	18.1 (EB)	E	35.3 (EB)	<b>C</b>	16.8 (EB)
SC 802 (Sams Point Road) & Miller Rd	E	40.5 (WB)	F	183.8 (WB)	<b>C</b>	<b>25.7</b>
US 21 B (Sea Island Pky) & Taco Bell	-	+	F	53.0 (NB)	<b>D</b>	17.0 (NB)
US 21 B (Sea Island Pky) & Walmart#3	-	+	F	N.A. (SB)	<b>C</b>	17.9 (SB)
US 21 B (Sea Island Pky) & Walmart#4	-	+	C	21.1 (SB)	<b>D</b>	13.4 (SB)

**Table 5.5 – 2038 Build Intersection Alternatives PM Peak Hour LOS and Delay Results Comparison**

PM Peak Hour LOS and Delay	Existing Stop Control		All Way Stop Control		Roundabout	
	2038 Build		2038 Build		2038 Build	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Sunset Boulevard & Miller Drive	C	19.5 (Westbound)	C	20.3 (Northbound)	A	8.6
Hazel Farm Road & Gay Drive	-	-	-	-	A	8.2

## 5.2 NEW TRAFFIC SIGNALS

The 2038 Build Concept includes recommendations regarding traffic signals along the corridors. Three new traffic signals are recommended: one at the intersections of Sams Point Road and Miller Drive, one at Sea Island Parkway and Gay Drive, and one at Lady's Island Drive and Hazel Farm Road. One traffic signal on US 21 Sea Island Parkway is recommended to be relocated from the current Beaufort High School Access Road intersection to the Sunset Boulevard intersection to accommodate Sunset Boulevard traffic. The high school's main entrance will be relocated to align with Sunset Drive and the new signal. These signals will facilitate traffic in the future to utilize the alternative routes proposed in the concept plan. They are currently scoped to include mast arms to match the streetscape enhancements.

Based on a review of the proposed traffic signals, the AM and PM peak hours whose volumes were counted are expected to meet the *Manual of Uniform Traffic Control Devices'* (MUTCD's) one-hour, four-hour, and eight-hour warrants. Hours beyond the AM and PM peaks have not been counted. Based on anticipated traffic patterns, the four-hour warrant is likely to be met at all signals. Some intersections may meet the eight-hour warrant; however, this is difficult to predict.

Currently there are no funds for improvements. By the time any construction can occur, key developments identified, such as Walmart, Harris Teeter, etc., will likely be completed. Thus volumes will be lower than the 2038 turning movement counts projected, but not significantly lower. This study anticipates that by the time these signals can be funded and installed with roadway improvements, they will be warranted. Additional signal warrant analysis may be warranted during the design phase. Like this study, it would need to account for the latent turning movement demand that will exist but not necessarily show up in the volume counts due to difficulties in making these turns without a traffic signal.

## 6.0 Phases for Improvements

This study recognizes that the improvements will need to be constructed in phases, as individual projects. For planning and budgeting purposes, this study separates the proposed improvements into nine distinct improvement projects. These individual projects are listed below. The pages that follow provide descriptions for each project, with opinions of probable costs.

1. SC 802 Sams Point Road Right Turn Lane
2. Hazel Farm Road and S-7-497 Gay Drive
3. New Lady's Island Middle School Access
4. S-7-186 Sunset Boulevard and S-7-187 Miller Drive West
5. Beaufort High School Access Realignment
6. US 21 Business, US 21, and SC 802 Mainline Improvements
7. Meadowbrook Drive Extension
8. Mayfair Court Extension
9. US 21 Airport Area and Frontage Road

Each individual project provides its own specific benefits. Normally, the projects would be prioritized based on order of need. For Lady's Island, prioritization of these projects will depend somewhat on availability. For example, the Beaufort High School Access Realignment will require redevelopment of the adjacent shopping center.

It is not possible to precisely delineate the limits of each individual project because the elements of each project will depend partially on what elements have already been completed. In other words, the individual projects are somewhat interdependent of each other. For example, Hazel Farm Road and S-7-497 Gay Drive improvements will require turn lane / median improvements to Sea Island Parkway and Lady's Island Drive. The extent of those improvements will depend on whether the Hazel Farm / Gay Drive improvements begin first or the Sea Island Parkway and Lady's Island Drive improvements begin first. So the limits and costs for each individual project will likely change over time based on scheduling, but the overall totals should not change significantly.

## 6.1 SC 802 SAMS POINT ROAD TURN LANE

This project would include addition of the right turn lane at SC 802 (Sams Point Road) and US 21 Business. The dedicated right turn lane would open the existing right turn lane for conversion to a thru lane at the signal. This would benefit the intersection by providing relief for the heavy morning peak right turn movement and capacity for the through movement. The right turn is a good candidate for initial construction and can proceed the other projects. Upgrading the US 21 / SC 802 traffic signal to include mast arms would also be accomplished with this project.





SC 802 SAMS POINT TURN LANE					
SECTION	ITEM	QUANTITY	UNIT	UNIT PRICE	NET PRICE
1031000	MOBILIZATION	1.000	LS	\$30,000.00	\$30,000.00
2027000	REM. & DISP. OF EXISTING CONC.	10.000	CY	\$29.00	\$290.00
2031200	SITE EXCAVATION	1.000	LS	\$65,000.00	\$65,000.00
3100310	HOT MIX ASPHALT BASE COURSE - TYPE A	180.000	TON	\$85.00	\$15,300.00
4011004	LIQUID ASPHALT BINDER PG64-22	25.000	TON	\$750.00	\$18,750.00
4013200	MILLING EXISTING ASPHALT PAVEMENT 2.0"	1,098.000	SY	\$19.00	\$20,862.00
4020320	HOT MIX ASPHALT INTERMEDIATE COURSE TYPE B	60.000	TON	\$90.00	\$5,400.00
4030320	HOT MIX ASPHALT SURFACE COURSE TYPE B	170.000	TON	\$105.00	\$17,850.00
7203210	CONCRETE CURB AND GUTTER(2'-0") VERTICAL FACE	580.000	LF	\$21.00	\$12,180.00
7204100	CONCRETE SIDEWALK(4" UNIFORM)	598.000	SY	\$54.00	\$32,292.00
7209000	PEDESTRIAN RAMP CONSTRUCTION	50.000	SY	\$170.00	\$8,500.00
	TRAFFIC CONTROL	1.000	LS	\$35,000.00	\$35,000.00
	PAVEMENT MARKINGS	1.000	LS	\$10,000.00	\$10,000.00
	EROSION CONTROL	1.000	LS	\$12,000.00	\$12,000.00
	DRAINAGE	1.000	LS	\$80,400.00	\$80,400.00
	TRAFFIC SIGNAL UPGRADES WITH MAST ARMS	1.000	LS	\$140,000.00	\$140,000.00
CONSTRUCTION COST=					\$503,824.00
PRELIMINARY ENGINEERING =					\$55,000.00
REIMBURSABLE UTILITY RELOCATION=					\$40,000.00
PERMITTING=					\$500.00
CONSTRUCTION OVERSIGHT=					\$35,000.00
SUBTOTAL =					\$634,324.00
CONTINGENCIES AT 20% =					\$126,864.80
<b>TOTAL PROJECT COST =</b>					<b>\$761,188.80</b>
<b>NOTES:</b>					
1. PROJECT COST EXCLUDES COSTS FOR OBTAINING RIGHT OF WAY AND PERMISSIONS/EASEMENTS.					
2. COSTS FOR REIMBURSABLE UTILITY RELOCATIONS AND PERMITTING ARE HIGHLY CONCEPTUAL. THEY ARE PROVIDED FOR PLANNING PURPOSES ONLY.					
3. ALL COSTS ARE IN 2017 DOLLARS.					

## 6.2 HAZEL FARM ROAD AND S-7-497 GAY DRIVE

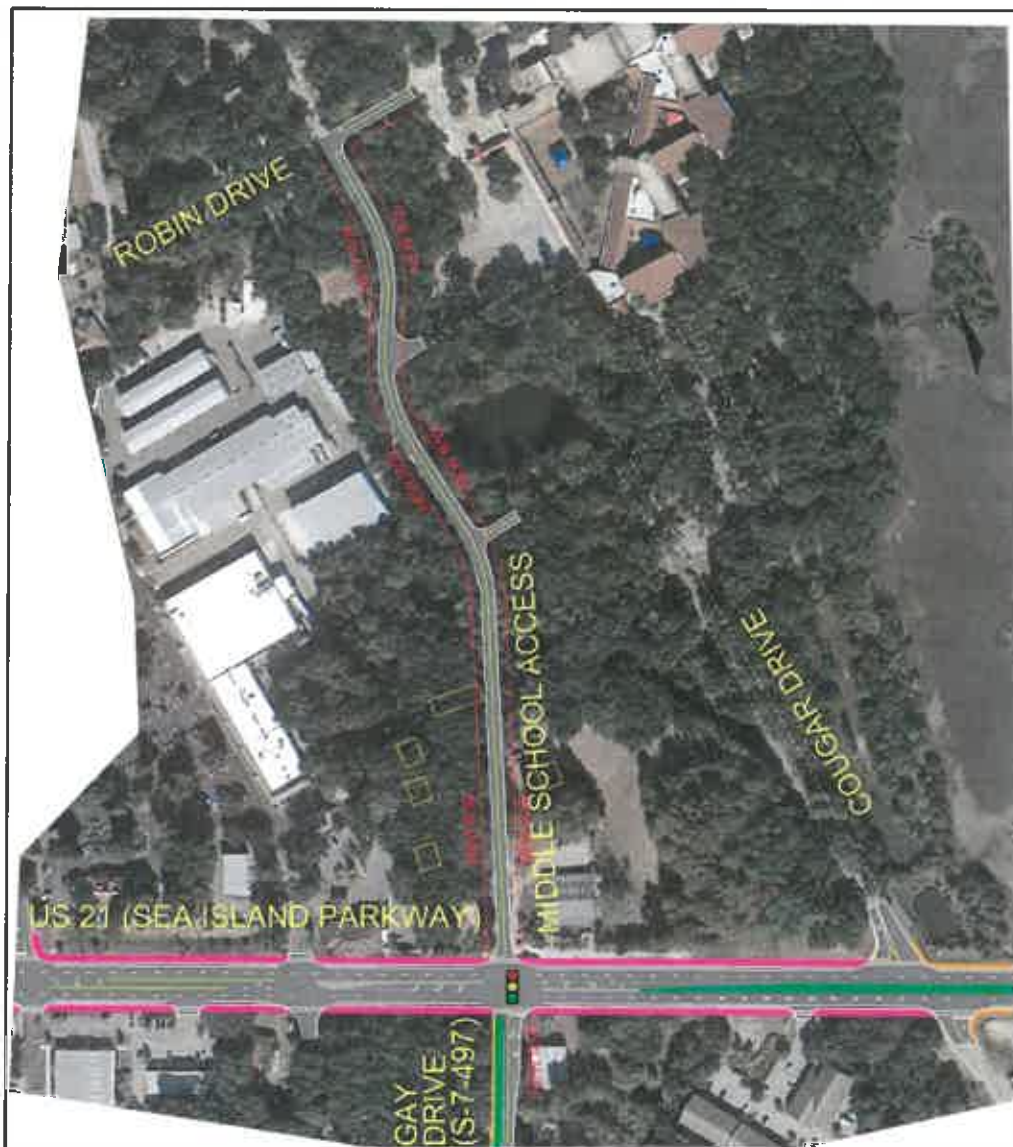
The Hazel Farm Road and S-7-497 Gay Drive project would include paving of Hazel Farm Road, improvements to Gay Drive, construction of the roundabout, installation of new traffic signals at each end, and signal interconnection with the US 21 / SC 802 signal. Upgrading these roads would provide beneficial street connectivity, increased pedestrian and bike safety, and congestion relief for the main intersection. With new signal implementation, this project is interdependent with improvements to mainline SC 802/US 21 Bus (Sea Island Parkway) and alignment of the new Lady's Island Middle School Access project. Addition of tune lanes, realignment of the middle school access, and median work to provide access management is needed at the connection of Hazel Farm at SC 802 and Gay Drive at US 21 Bus (Sea Island Parkway) to provide the full benefit of the signal interconnection.



HAZEL FARM ROAD AND S-7-497 GAY DRIVE					
SECTION	ITEM	QUANTITY	UNIT	UNIT PRICE	NET PRICE
1031000	MOBILIZATION	1.000	LS	\$120,000.00	\$120,000.00
2025000	REM.&DISP.OF EXIST ASPH. PVMT.	1,335.000	SY	\$35.00	\$46,725.00
2031200	SITE EXCAVATION (INCLUDING DET. POND)	1.000	LS	\$450,000.00	\$450,000.00
3100310	HOT MIX ASPHALT BASE COURSE - TYPE A	1,170.000	TON	\$85.00	\$99,450.00
4011004	LIQUID ASPHALT BINDER PG64-22	175.000	TON	\$750.00	\$131,250.00
4013200	MILLING EXISTING ASPHALT PAVEMENT 2.0"	1,122.222	SY	\$19.00	\$21,322.22
4020320	HOT MIX ASPHALT INTERMEDIATE COURSE TYPE B	585.000	TON	\$90.00	\$52,650.00
4030320	HOT MIX ASPHALT SURFACE COURSE TYPE B	1,652.208	TON	\$105.00	\$173,481.88
5019010	STAINED CONCRETE PAVEMENT (8" UNIFORM)	192.111	SY	\$130.00	\$24,974.44
7201000	CONCRETE CURB (9" X 15")	230.000	LF	\$27.00	\$6,210.00
7203210	CONCRETE CURB AND GUTTER(2'-0") VERTICAL FACE	310.000	LF	\$29.00	\$8,990.00
7204100	CONCRETE SIDEWALK(4" UNIFORM)	1,092.000	SY	\$54.00	\$58,968.00
7209000	PEDESTRIAN RAMP CONSTRUCTION	175.000	SY	\$170.00	\$29,750.00
	TRAFFIC CONTROL	1.000	LS	\$150,000.00	\$150,000.00
	PAVEMENT MARKINGS AND SIGNING	1.000	LS	\$75,000.00	\$75,000.00
	TWO TRAFFIC SIGNAL WITH MAST ARMS	1.000	LS	\$280,000.00	\$280,000.00
	TRAFFIC SIGNAL INTERCONNECT	1.000	LS	\$45,000.00	\$45,000.00
	EROSION CONTROL	1.000	LS	\$80,000.00	\$80,000.00
	DRAINAGE	1.000	LS	\$94,000.00	\$94,000.00
	LANDSCAPING	1.000	LS	\$23,192.50	\$23,192.50
	IRRIGATION	1.000	LS	\$75,000.00	\$75,000.00
	CONSTRUCTION COST=				\$2,045,964.04
	PRELIMINARY ENGINEERING =				\$250,000.00
	REIMBURSABLE UTILITY RELOCATION=				\$50,000.00
	PERMITTING=				\$500.00
	CONSTRUCTION OVERSIGHT=				\$140,000.00
	SUBTOTAL =				\$2,486,464.04
	CONTINGENCIES AT 20% =				\$497,292.81
	<b>TOTAL PROJECT COST =</b>				<b>\$2,983,756.85</b>
<b>NOTES:</b>					
1. PROJECT COST EXCLUDES COSTS FOR OBTAINING RIGHT OF WAY AND PERMISSIONS/EASEMENTS.					
2. COSTS FOR REIMBURSABLE UTILITY RELOCATIONS AND PERMITTING ARE HIGHLY CONCEPTUAL. THEY ARE PROVIDED FOR PLANNING PURPOSES ONLY.					
3. ALL COSTS ARE IN 2017 DOLLARS.					

### 6.3 NEW LADY'S ISLAND MIDDLE SCHOOL ACCESS

The new Lady's Island Middle School Access project includes realigning the main entrance road to the middle school with Gay Drive and tie-ins to the middle school driveways, existing Cougar Drive, and Robin Drive. Cougar Drive would become right in right out. The benefits of this configuration include safer access to US 21 and street connectivity with the surrounding neighborhood near Robin drive. This project is dependent on improvements to the medians on mainline US 21 Bus (Sea Island Parkway) and signalization with the Gay Drive Project.



NEW LADY'S ISLAND MIDDLE SCHOOL ACCESS					
SECTION	ITEM	QUANTITY	UNIT	UNIT PRICE	NET PRICE
1031000	MOBILIZATION	1.000	LS	\$75,000.00	\$75,000.00
2031200	SITE EXCAVATION	1.000	LS	\$245,000.00	\$245,000.00
3100310	HOT MIX ASPHALT BASE COURSE - TYPE A	680.000	TON	\$85.00	\$57,800.00
4011004	LIQUID ASPHALT BINDER PG64-22	80.000	TON	\$750.00	\$60,000.00
4013200	MILLING EXISTING ASPHALT PAVEMENT 2.0"	333.333	SY	\$19.00	\$6,333.33
4020320	HOT MIX ASPHALT INTERMEDIATE COURSE TYPE B	340.000	TON	\$90.00	\$30,600.00
4030320	HOT MIX ASPHALT SURFACE COURSE TYPE B	500.000	TON	\$105.00	\$52,500.00
7203210	CONCRETE CURB AND GUTTER(2'-0") VERTICAL FACE	1,500.000	LF	\$29.00	\$43,500.00
	TRAFFIC CONTROL	1.000	LS	\$75,000.00	\$75,000.00
	PAVEMENT MARKINGS	1.000	LS	\$50,000.00	\$50,000.00
	EROSION CONTROL	1.000	LS	\$75,000.00	\$75,000.00
	DRAINAGE	1.000	LS	\$260,000.00	\$260,000.00
CONSTRUCTION COST=					\$1,030,733.33
PRELIMINARY ENGINEERING =					\$110,000.00
REIMBURSABLE UTILITY RELOCATION=					\$20,000.00
PERMITTING=					\$5,000.00
CONSTRUCTION OVERSIGHT=					\$70,000.00
SUBTOTAL =					\$1,235,733.33
CONTINGENCIES AT 20% =					\$247,146.67
<b>TOTAL PROJECT COST =</b>					<b>\$1,482,880.00</b>
<b>NOTES:</b>					
1. PROJECT COST EXCLUDES COSTS FOR OBTAINING RIGHT OF WAY AND PERMISSIONS/EASEMENTS.					
2. COSTS FOR REIMBURSABLE UTILITY RELOCATIONS AND PERMITTING ARE HIGHLY CONCEPTUAL. THEY ARE PROVIDED FOR PLANNING PURPOSES ONLY.					
3. ALL COSTS ARE IN 2017 DOLLARS.					

#### 6.4 S-7-186 SUNSET BOULEVARD AND S-7-187 MILLER DRIVE WEST

S-7-186 Sunset Boulevard and S-7-187 Miller Drive West includes improvements to both streets, traffic calming, installation of a new traffic signal at the Miller Drive West intersection with SC 802, and signal interconnection with the US 21 / SC 802 signal. This would increase pedestrian safety on Sunset Boulevard and Miller Drive and provide congestion relief for the main US 21 / SC 801 intersection. These improvements are interdependent with the US 21 / SC 802 mainline project and the Beaufort High School Access Realignment.



S-7-186 SUNSET BOULEVARD AND S-7-187 MILLER DRIVE WEST					
SECTION	ITEM	QUANTITY	UNIT	UNIT PRICE	NET PRICE
1031000	MOBILIZATION	1.000	LS	\$120,000.00	\$120,000.00
2025000	REM.&DISP.OF EXIST ASPH. PVMT.	1,115.000	SY	\$35.00	\$39,025.00
2031200	SITE EXCAVATION	1.000	LS	\$250,000.00	\$250,000.00
3100310	HOT MIX ASPHALT BASE COURSE - TYPE A	350.000	TON	\$85.00	\$29,750.00
4011004	LIQUID ASPHALT BINDER PG64-22	160.000	TON	\$750.00	\$120,000.00
4013200	MILLING EXISTING ASPHALT PAVEMENT 2.0"	6,000.000	SY	\$19.00	\$114,000.00
4020320	HOT MIX ASPHALT INTERMEDIATE COURSE TYPE B	175.000	TON	\$90.00	\$15,750.00
4030320	HOT MIX ASPHALT SURFACE COURSE TYPE B	2,524.736	TON	\$105.00	\$265,097.29
5019010	STAINED CONCRETE PAVEMENT (8" UNIFORM)	199.222	SY	\$130.00	\$25,898.89
7201000	CONCRETE CURB (9" X 15")	690.000	LF	\$27.00	\$18,630.00
7203210	CONCRETE CURB AND GUTTER(2'-0") VERTICAL FACE	6,282.000	LF	\$29.00	\$182,178.00
7204100	CONCRETE SIDEWALK(4" UNIFORM)	5,219.444	SY	\$54.00	\$281,850.00
7206000	CONCRETE MEDIAN	0.000	SY	\$105.00	\$0.00
7209000	PEDESTRIAN RAMP CONSTRUCTION	150.000	SY	\$170.00	\$25,500.00
	TRAFFIC CONTROL	1.000	LS	\$180,000.00	\$180,000.00
	PAVEMENT MARKINGS	1.000	LS	\$95,000.00	\$95,000.00
	TRAFFIC SIGNAL WITH MAST ARMS	1.000	LS	\$140,000.00	\$140,000.00
	TRAFFIC SIGNAL INTERCONNECT	1.000	LS	\$72,000.00	\$72,000.00
	EROSION CONTROL	1.000	LS	\$125,000.00	\$125,000.00
	DRAINAGE	1.000	LS	\$355,000.00	\$355,000.00
	LANDSCAPING	1.000	LS	\$51,450.00	\$51,450.00
	IRRIGATION	1.000	LS	\$100,000.00	\$100,000.00
	LIGHTING	1.000	LS	\$784,000.00	\$784,000.00
	CONSTRUCTION COST=				\$3,390,129.18
	PRELIMINARY ENGINEERING =				\$370,000.00
	REIMBURSABLE UTILITY RELOCATION=				\$100,000.00
	PERMITTING=				\$5,000.00
	CONSTRUCTION OVERSIGHT=				\$170,000.00
	SUBTOTAL =				\$4,035,129.18
	CONTINGENCIES AT 20% =				\$807,025.84
	<b>TOTAL PROJECT COST =</b>				<b>\$4,842,155.02</b>
<b>NOTES:</b>					
1. PROJECT COST EXCLUDES COSTS FOR OBTAINING RIGHT OF WAY AND PERMISSIONS/EASEMENTS.					
2. COSTS FOR REIMBURSABLE UTILITY RELOCATIONS AND PERMITTING ARE HIGHLY CONCEPTUAL. THEY ARE PROVIDED FOR PLANNING PURPOSES ONLY.					
3. ALL COSTS ARE IN 2017 DOLLARS.					

## 6.5 BEAUFORT HIGH SCHOOL ACCESS REALIGNMENT

Beaufort High School Access includes realignment of the access road, tie-ins to the existing access and to the Lady's Island Shopping Center redevelopment, relocation of the existing traffic signal, and signal interconnection with the US 21 / SC 802 signal. This project improves the connection to US 21 with an alignment of Sunset Boulevard. Some sections are dependent upon coordination with property owners. For example, the Beaufort High School Access Realignment is dependent upon coordination with Lady's Island Shopping Center redevelopment. It requires relocation of the existing traffic signal. It could precede the Sunset Boulevard / Miller Drive West improvements, or otherwise the Sunset / Miller improvements would just not experience its full benefits until the signal was relocated.





BEAUFORT HIGH SCHOOL ACCESS REALIGNMENT					
SECTION	ITEM	QUANTITY	UNIT	UNIT PRICE	NET PRICE
1031000	MOBILIZATION	1.000	LS	\$75,000.00	\$75,000.00
2025000	REM.&DISP.OF EXIST ASPH. PVMT.	2,225.000	SY	\$35.00	\$77,875.00
2031200	SITE EXCAVATION	1.000	LS	\$225,000.00	\$225,000.00
3100310	HOT MIX ASPHALT BASE COURSE - TYPE A	135.000	TON	\$85.00	\$11,475.00
4011004	LIQUID ASPHALT BINDER PG64-22	55.000	TON	\$750.00	\$41,250.00
4013200	MILLING EXISTING ASPHALT PAVEMENT 2.0"	555.556	SY	\$19.00	\$10,555.56
4020320	HOT MIX ASPHALT INTERMEDIATE COURSE TYPE B	70.000	TON	\$90.00	\$6,300.00
4030320	HOT MIX ASPHALT SURFACE COURSE TYPE B	833.583	TON	\$105.00	\$87,526.25
7203210	CONCRETE CURB AND GUTTER(2'-0") VERTICAL FACE	2,290.000	LF	\$21.00	\$48,090.00
7204100	CONCRETE SIDEWALK(4" UNIFORM)	1,532.222	SY	\$54.00	\$82,740.00
7209000	PEDESTRIAN RAMP CONSTRUCTION	75.000	SY	\$170.00	\$12,750.00
	TRAFFIC CONTROL	1.000	LS	\$130,000.00	\$130,000.00
	PAVEMENT MARKINGS AND SIGNING	1.000	LS	\$35,000.00	\$35,000.00
	TRAFFIC SIGNAL WITH MAST ARMS	1.000	LS	\$140,000.00	\$140,000.00
	TRAFFIC SIGNAL INTERCONNECT	1.000	LS	\$65,000.00	\$65,000.00
	EROSION CONTROL	1.000	LS	\$45,000.00	\$45,000.00
	DRAINAGE	1.000	LS	\$180,000.00	\$180,000.00
CONSTRUCTION COST=					\$1,273,561.81
PRELIMINARY ENGINEERING =					\$95,000.00
REIMBURSABLE UTILITY RELOCATION=					\$50,000.00
PERMITTING=					\$5,000.00
CONSTRUCTION OVERSIGHT=					\$70,000.00
SUBTOTAL =					\$1,493,561.81
CONTINGENCIES AT 20% =					\$298,712.36
<b>TOTAL PROJECT COST =</b>					<b>\$1,792,274.17</b>
<b>NOTES:</b>					
1. PROJECT COST EXCLUDES COSTS FOR OBTAINING RIGHT OF WAY AND PERMISSIONS/EASEMENTS.					
2. COSTS FOR REIMBURSABLE UTILITY RELOCATIONS AND PERMITTING ARE HIGHLY CONCEPTUAL. THEY ARE PROVIDED FOR PLANNING PURPOSES ONLY.					
3. ALL COSTS ARE IN 2017 DOLLARS.					

#### 6.6 US 21 BUSINESS, US 21, AND SC 802 MAINLINE IMPROVEMENTS

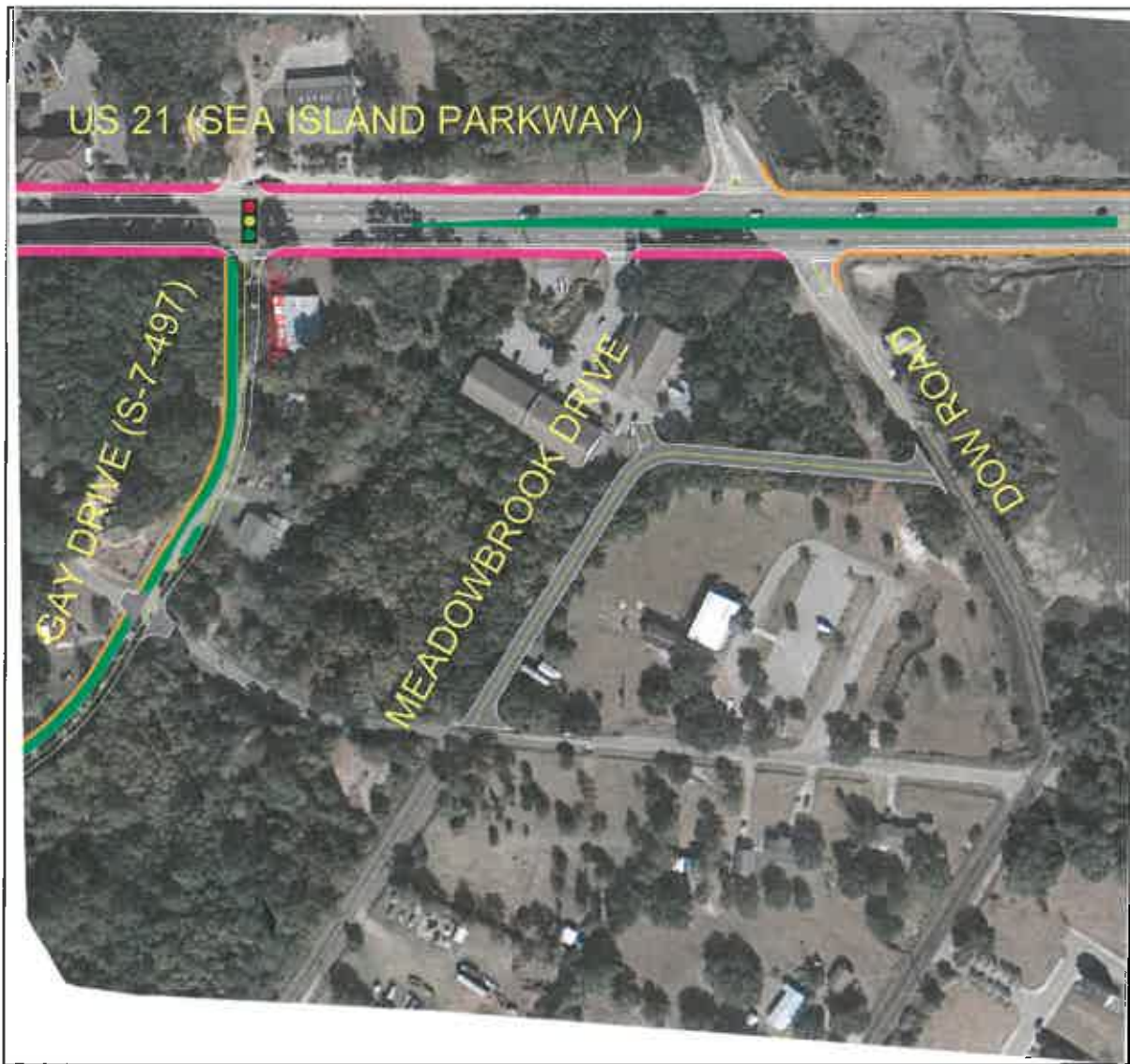
US 21 Business, US 21, and SC 802 Mainline includes all improvements to both corridors as shown below and on sheet 1 of the concept plan. The improvements include medians for access management, grass buffers and multi-use paths, lighting, and landscaping. These improvements would create a complete streets feel to the corridor and benefits include enhancing bicycle and pedestrian accommodations, safety, and improved vehicular progression. The full benefit of this project is interdependent with completion of the other projects.



US 21 BUSINESS, US 21, AND SC 802 MAINLINE IMPROVEMENTS					
SECTION	ITEM	QUANTITY	UNIT	UNIT PRICE	NET PRICE
1031000	MOBILIZATION	1.000	LS	\$225,000.00	\$225,000.00
2027000	REM. & DISP. OF EXISTING CONC.	10.000	CY	\$29.00	\$290.00
2031200	SITE EXCAVATION	1.000	LS	\$325,000.00	\$325,000.00
3100310	HOT MIX ASPHALT BASE COURSE - TYPE A	190.000	TON	\$85.00	\$16,150.00
4011004	LIQUID ASPHALT BINDER PG64-22	685.000	TON	\$750.00	\$513,750.00
4013200	MILLING EXISTING ASPHALT PAVEMENT 2.0"	126,069.191	SY	\$7.50	\$945,518.93
4020320	HOT MIX ASPHALT INTERMEDIATE COURSE TYPE B	65.000	TON	\$90.00	\$5,850.00
4030320	HOT MIX ASPHALT SURFACE COURSE TYPE B	12,675.000	TON	\$105.00	\$1,330,875.00
7203210	CONCRETE CURB AND GUTTER(2'-0") VERTICAL FACE	3,182.000	LF	\$29.00	\$92,278.00
7204100	CONCRETE SIDEWALK(4" UNIFORM)	26,263.111	SY	\$54.00	\$1,418,208.00
7206000	CONCRETE MEDIAN	1,734.333	SY	\$105.00	\$182,105.00
7209000	PEDESTRIAN RAMP CONSTRUCTION	2,500.000	SY	\$170.00	\$425,000.00
	TRAFFIC CONTROL	1.000	LS	\$250,000.00	\$250,000.00
	PAVEMENT MARKINGS AND SIGNING	1.000	LS	\$125,000.00	\$125,000.00
	EROSION CONTROL	1.000	LS	\$225,000.00	\$225,000.00
	DRAINAGE	1.000	LS	\$110,000.00	\$110,000.00
	LANDSCAPING	1.000	LS	\$289,762.50	\$289,762.50
	IRRIGATION	1.000	LS	\$160,000.00	\$160,000.00
	RETAINING WALLS	1.000	LS	\$100,000.00	\$100,000.00
	LIGHTING	1.000	LS	\$1,300,000.00	\$1,300,000.00
				CONSTRUCTION COST=	\$8,039,787.43
				PRELIMINARY ENGINEERING =	\$600,000.00
				REIMBURSABLE UTILITY RELOCATION=	\$100,000.00
				PERMITTING=	\$20,000.00
				CONSTRUCTION OVERSIGHT=	\$220,000.00
				SUBTOTAL =	\$8,979,787.43
				CONTINGENCIES AT 20% =	\$1,795,957.49
				<b>TOTAL PROJECT COST =</b>	<b>\$10,775,744.92</b>
<b>NOTES:</b>					
1. PROJECT COST EXCLUDES COSTS FOR OBTAINING RIGHT OF WAY AND PERMISSIONS/EASEMENTS.					
2. COSTS FOR REIMBURSABLE UTILITY RELOCATIONS AND PERMITTING ARE HIGHLY CONCEPTUAL. THEY ARE PROVIDED FOR PLANNING PURPOSES ONLY.					
3. ALL COSTS ARE IN 2017 DOLLARS.					

### 6.7 MEADOWBROOK DRIVE EXTENTION

Extension of Meadowbrook Drive to Dow Road involves roadway work in existing right of way. The extension would increase roadway connectivity with access to the proposed signal at Gay Drive. This will be beneficial when Dow Road becomes right-in right-out. The Meadowbrook Drive Extension is not dependent on other projects, but its benefits would not be fully realized without US 21 Sea Island Parkway and Gay Drive improvements.



MEADOWBROOK DRIVE EXTENSION					
SECTION	ITEM	QUANTITY	UNIT	UNIT PRICE	NET PRICE
1031000	MOBILIZATION	1.000	LS	\$75,000.00	\$75,000.00
2031200	SITE EXCAVATION	1.000	LS	\$165,000.00	\$165,000.00
3100310	HOT MIX ASPHALT BASE COURSE - TYPE A	500.000	TON	\$85.00	\$42,500.00
4011004	LIQUID ASPHALT BINDER PG64-22	50.000	TON	\$750.00	\$37,500.00
4013200	MILLING EXISTING ASPHALT PAVEMENT 2.0"	333.333	SY	\$19.00	\$6,333.33
4020320	HOT MIX ASPHALT INTERMEDIATE COURSE TYPE B	250.000	TON	\$90.00	\$22,500.00
4030320	HOT MIX ASPHALT SURFACE COURSE TYPE B	250.000	TON	\$105.00	\$26,250.00
	TRAFFIC CONTROL	1.000	LS	\$12,000.00	\$12,000.00
	PAVEMENT MARKINGS AND SIGNING	1.000	LS	\$50,000.00	\$50,000.00
	EROSION CONTROL	1.000	LS	\$50,000.00	\$50,000.00
CONSTRUCTION COST=					\$487,083.33
PRELIMINARY ENGINEERING =					\$65,000.00
REIMBURSABLE UTILITY RELOCATION=					\$20,000.00
PERMITTING=					\$40,000.00
CONSTRUCTION OVERSIGHT=					\$35,000.00
SUBTOTAL =					\$647,083.33
CONTINGENCIES AT 20% =					\$129,416.67
<b>TOTAL PROJECT COST =</b>					<b>\$776,500.00</b>
<b>NOTES:</b>					
1. PROJECT COST EXCLUDES COSTS FOR OBTAINING RIGHT OF WAY AND PERMISSIONS/EASEMENTS.					
2. COSTS FOR REIMBURSABLE UTILITY RELOCATIONS AND PERMITTING ARE HIGHLY CONCEPTUAL. THEY ARE PROVIDED FOR PLANNING PURPOSES ONLY.					
3. ALL COSTS ARE IN 2017 DOLLARS.					

### 6.8 MAYFAIR COURT EXTENSION

Extension of Mayfair Court to William Street involves a new roadway connection and is dependent upon coordination with property owners. The Mayfair Court Extension is warranted before or during improvements to SC 802 Sams Point Road are made, as a median will be installed on SC 802. The Mayfair Court Extension may be combined with the mainline improvements. This benefits roadway connectivity and traffic progression on mainline SC 802 (Sams Point Road).



MAYFAIR COURT EXTENSION					
SECTION	ITEM	QUANTITY	UNIT	UNIT PRICE	NET PRICE
1031000	MOBILIZATION	1.000	LS	\$25,000.00	\$25,000.00
2031200	SITE EXCAVATION	1.000	LS	\$125,000.00	\$125,000.00
3100310	HOT MIX ASPHALT BASE COURSE - TYPE A	160.000	TON	\$85.00	\$13,600.00
4011004	LIQUID ASPHALT BINDER PG64-22	20.000	TON	\$750.00	\$15,000.00
4013200	MILLING EXISTING ASPHALT PAVEMENT 2.0"	435.111	SY	\$19.00	\$8,267.11
4020320	HOT MIX ASPHALT INTERMEDIATE COURSE TYPE B	80.000	TON	\$90.00	\$7,200.00
4030320	HOT MIX ASPHALT SURFACE COURSE TYPE B	125.000	TON	\$105.00	\$13,125.00
	TRAFFIC CONTROL	1.000	LS	\$50,000.00	\$50,000.00
	PAVEMENT MARKINGS AND SIGNING	1.000	LS	\$20,000.00	\$20,000.00
	EROSION CONTROL	1.000	LS	\$25,000.00	\$25,000.00
CONSTRUCTION COST=					\$302,192.11
PRELIMINARY ENGINEERING =					\$40,000.00
REIMBURSABLE UTILITY RELOCATION=					\$10,000.00
PERMITTING=					\$500.00
CONSTRUCTION OVERSIGHT=					\$22,000.00
SUBTOTAL =					\$374,692.11
CONTINGENCIES AT 20% =					\$74,938.42
<b>TOTAL PROJECT COST =</b>					<b>\$449,630.53</b>
<b>NOTES:</b>					
1. PROJECT COST EXCLUDES COSTS FOR OBTAINING RIGHT OF WAY AND PERMISSIONS/EASEMENTS.					
2. COSTS FOR REIMBURSABLE UTILITY RELOCATIONS AND PERMITTING ARE HIGHLY CONCEPTUAL. THEY ARE PROVIDED FOR PLANNING PURPOSES ONLY.					
3. ALL COSTS ARE IN 2017 DOLLARS.					

## 6.9 US 21 AIRPORT AREA AND FRONTAGE ROAD

US 21 Airport Area and Frontage Road includes all improvements shown below and in sheet 2 of the concept plan. These improvements would provide reduced travel delays and improved access management on US 21. They would also provide Little Creek Road and Lost Island Road access to the traffic signal. The US 21 Airport Area and the Frontage road improvements are dependent upon right of way acquisitions from property owners.





US 21 AIRPORT AREA AND FRONTAGE ROAD					
SECTION	ITEM	QUANTITY	UNIT	UNIT PRICE	NET PRICE
1031000	MOBILIZATION	1.000	LS	\$225,000.00	\$225,000.00
2027000	REM. & DISP. OF EXISTING CONC.	205.000	CY	\$29.00	\$5,945.00
2031200	SITE EXCAVATION	1.000	LS	\$205,000.00	\$205,000.00
3100310	HOT MIX ASPHALT BASE COURSE - TYPE A	2,025.000	TON	\$85.00	\$172,125.00
4011004	LIQUID ASPHALT BINDER PG64-22	375.000	TON	\$750.00	\$281,250.00
4013200	MILLING EXISTING ASPHALT PAVEMENT 2.0"	35,841.000	SY	\$9.50	\$340,489.50
4020320	HOT MIX ASPHALT INTERMEDIATE COURSE TYPE B	810.000	TON	\$90.00	\$72,900.00
4030320	HOT MIX ASPHALT SURFACE COURSE TYPE B	4,395.000	TON	\$105.00	\$461,475.00
7203210	CONCRETE CURB AND GUTTER(2'-0") VERTICAL FACE	5,670.000	LF	\$29.00	\$164,430.00
7204100	CONCRETE SIDEWALK(4" UNIFORM)	1,809.444	SY	\$54.00	\$97,710.00
7206000	CONCRETE MEDIAN	485.111	SY	\$105.00	\$50,936.67
7209000	PEDESTRIAN RAMP CONSTRUCTION	200.000	SY	\$170.00	\$34,000.00
	TRAFFIC CONTROL	1.000	LS	\$190,000.00	\$190,000.00
	PAVEMENT MARKINGS AND SIGNING	1.000	LS	\$125,000.00	\$125,000.00
	TRAFFIC SIGNAL	1.000	LS	\$190,000.00	\$190,000.00
	EROSION CONTROL	1.000	LS	\$175,000.00	\$175,000.00
	DRAINAGE	1.000	LS	\$370,000.00	\$370,000.00
	LANDSCAPING	1.000	LS	\$43,992.00	\$43,992.00
	IRRIGATION	1.000	LS	\$30,000.00	\$30,000.00
				CONSTRUCTION COST=	\$3,235,253.17
				PRELIMINARY ENGINEERING =	\$380,000.00
				REIMBURSABLE UTILITY RELOCATION=	\$100,000.00
				PERMITTING=	\$210,000.00
				CONSTRUCTION OVERSIGHT=	\$225,000.00
				SUBTOTAL =	\$4,150,253.17
				CONTINGENCIES AT 20% =	\$830,050.63
				<b>TOTAL PROJECT COST =</b>	<b>\$4,980,303.80</b>
<b>NOTES:</b>					
1. PROJECT COST EXCLUDES COSTS FOR OBTAINING RIGHT OF WAY AND PERMISSIONS/EASEMENTS.					
2. COSTS FOR REIMBURSABLE UTILITY RELOCATIONS AND PERMITTING ARE HIGHLY CONCEPTUAL. THEY ARE PROVIDED FOR PLANNING PURPOSES ONLY.					
3. ALL COSTS ARE IN 2017 DOLLARS.					

## 7.0 Conclusion

The Lady's Island Corridor Study originated with the goals of improving congestion and reducing delays, improving safety, enhancing bicycle and pedestrian accommodations, and enhancing aesthetics. The project team consisted of the City of Beaufort, Ward Edwards Engineering, and Stantec Consulting. Beaufort County and SCDOT provided additional cooperation. While developing the study, the team held several stakeholder meetings and two Public Information Meetings. Stakeholder meetings included:

- Area Developers and Engineers
- Various Property Owners
- Public Safety Representatives
- Lady's Island Community Preservation
- Sea Island Coalition
- Coastal Conservation League
- Beaufort County School District
- Northern Regional Plan Implementation Committee

The first Public Information Meeting was held on September 29, 2016. In that meeting, the team introduced the study's goals and objectives and requested citizen input on how the roadway corridors may be improved. The team collected public comments from that meeting and continued developing the study. The second Public Information Meeting was held on February 16, 2017. In that meeting, the team presented the results of the study and presented the concept plans. The team collected public comments from that meeting and then completed the study. The final concept plans and this report are the result of the team's analysis, stakeholder coordination, and feedback from the Public Information Meetings. The proposed improvements as shown in the concept plans will fully meet the intended objectives and significantly improve the corridors.

Programming and funding are needed to accomplish the proposed improvements. Improvements are expected to occur in phases, with the order of phasing to be determined in the near future based on availability and coordination with property owners.