

# 10

## *Beaufort County Comprehensive Plan*

### Transportation





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## Introduction

Traffic congestion on Beaufort County's roadways is the most tangible and noticeable indicator of the impact on quality of life caused by new growth. Both Beaufort County residents and visitors rely heavily on private automobiles as their sole means of transportation. According to the 2000 US Census, 86% of Beaufort County commuters rely on automobiles to get to work of which 85% were occupied by one person. This automobile dependence can largely be attributed to historical growth patterns in the county that favored low-density decentralized development. As a result, a vast majority of the resources devoted to addressing transportation issues have been directed towards road projects. There is approximately \$334 million in committed and planned transportation improvements identified and funded to address existing and future transportation needs. Additional projects planned amount to approximately \$701 million, but are not yet funded. These transportation capital improvements will go a long way towards satisfying future travel demand. However, based on growth projections, even once these improvements are made; there will still be approximately 30 miles of failing roads in the year 2025.

While the county and the region will continually need to improve its road network to keep up with new growth, several factors challenge the sustainability of the current levels of commitment to fund and implement transportation improvements:

- The magnitude of funding needs for large-scale transportation improvements;
- Other growth related capital improvement needs (schools, parks, libraries, general government, etc.) that are competing for the same funds; and
- The potential degradation of the county's environmental and aesthetic qualities.

Therefore, this chapter offers the following strategies to maximize the efficiency of the county's road network while promoting policies and alternative transportation choices to reduce our dependency on automobile transportation.

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- Continue to work cooperatively with the municipalities, neighboring counties, and SCDOT to identify, fund, and implement needed road improvements;
  - Preserve road capacity by adopting, applying and enforcing policies to manage access and reduce vehicle miles traveled (VMT's);
  - Support and fund projects and programs that promote a diversity of transportation choices;
  - Adopt land use policies that encourage internal trip capture and promote development whose location and density are suitable to support public transportation and other alternative modes of transportation; and
  - Require new road projects to minimize their adverse environmental impacts and enhance the county's aesthetic qualities.



## Existing and Planned Road Network

Beaufort County has over 2,000 miles of roads ranging from major arterials such as US 278 to unpaved private roads. In 2004 Beaufort County adopted a Road Functional Classification Map (see Map 10-1) for the purposes of establishing the role of key roadways and intersections; to help in the establishment of access management standards; and to help in prioritizing project funding.

### LEVEL OF SERVICE

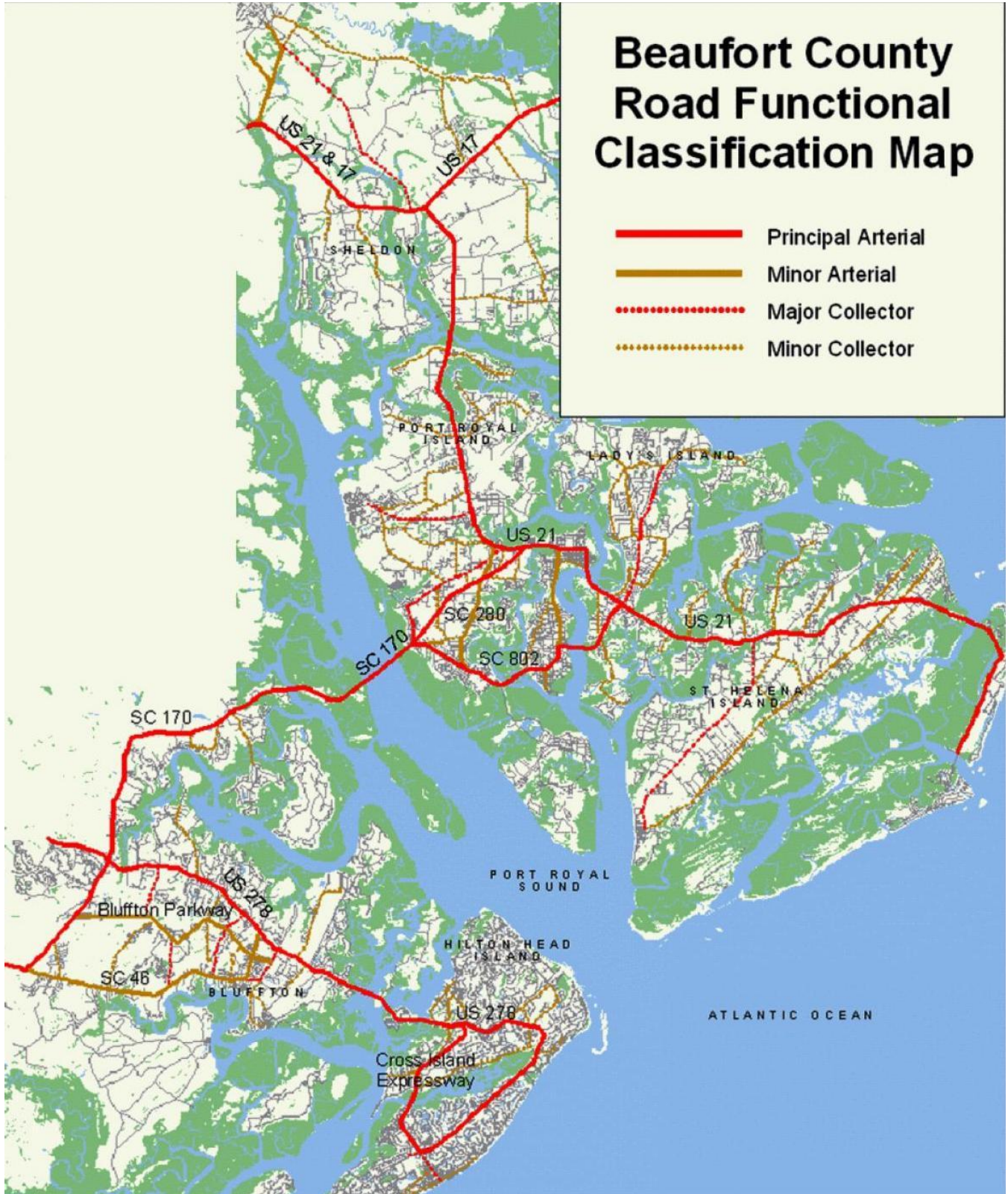
Level of Service (LOS) is a term used in describing how well a particular roadway or intersection is functioning in terms of speed; travel time; freedom to maneuver; traffic interruptions; and comfort and convenience. Six LOS letters designate each level of quality of vehicular flow, from A to F, with LOS “A” representing the best operating conditions and LOS “F” the worst. Beaufort County has decided as a matter of policy that in order to maintain an acceptable quality of life in the region, conditions on its road network should not fall below LOS “D”. However, environmental and community constraints limit the capability to improve some areas of the County. Thus, it is not feasible or practical to provide LOS “D” conditions on all roads. In these cases improvements to complementary travel modes such as transit, pedestrian, or bicycle, as well as efficient use of the existing infrastructure through signal coordination and access management can provide significant benefit to reducing congestion and/or providing travel alternatives.

### TRAFFIC VOLUMES AND TRENDS

In 2005, when Beaufort County updated its Travel Demand Model (TransCAD), over 20 miles of roads were determined to be at LOS E or F. Maps 10-2 and 10-3 show the year 2004 conditions along roads in Beaufort County for the Northern Region and Southern Region, respectively. Failing roads included US 278 from the Hilton Head Island bridge to Simmonsville Road, SC 46 south of US 278, US 21 east of SC 170 through Downtown Beaufort, both Beaufort River crossings in

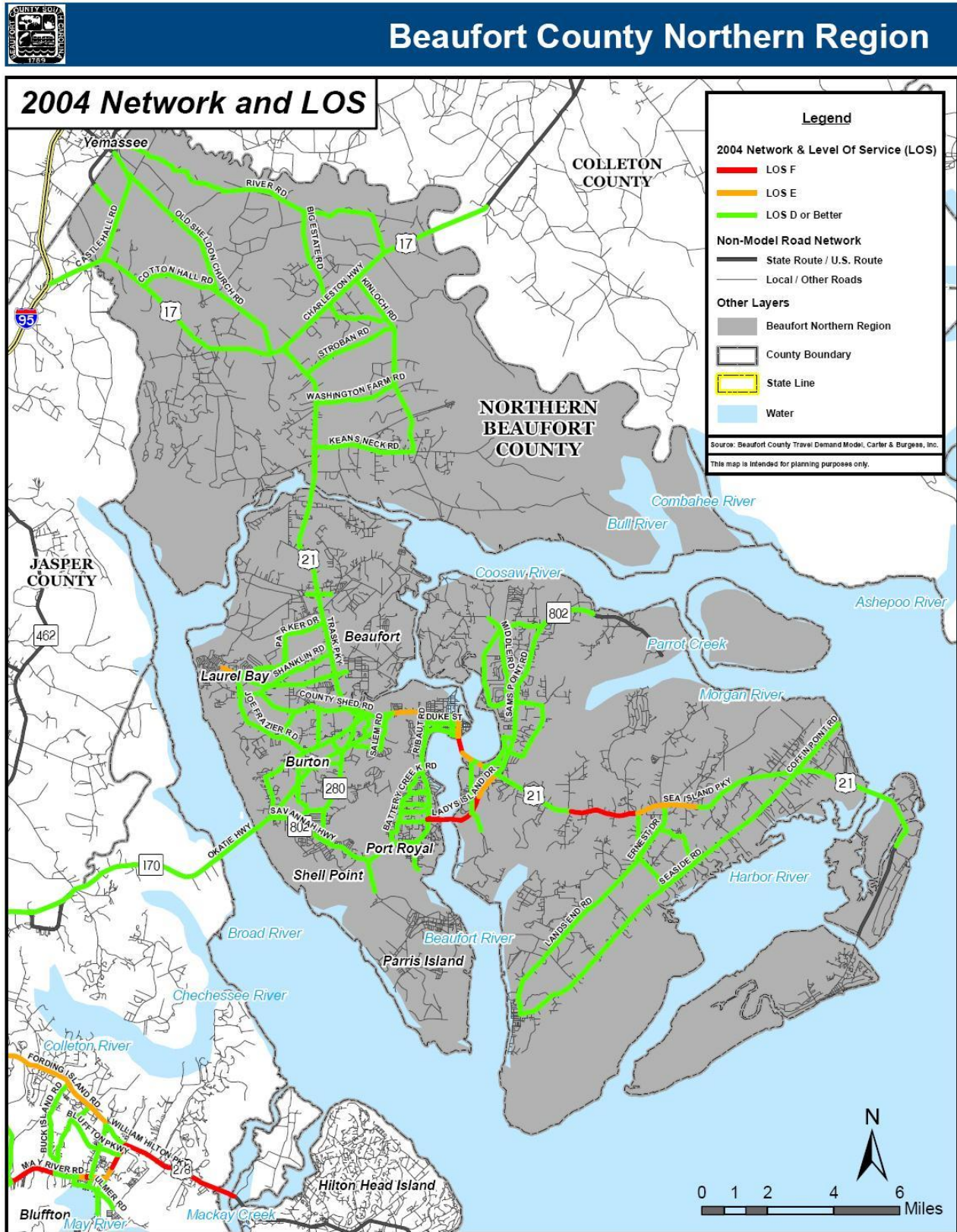


Map 10-1: Beaufort County Road Functional Classification Map



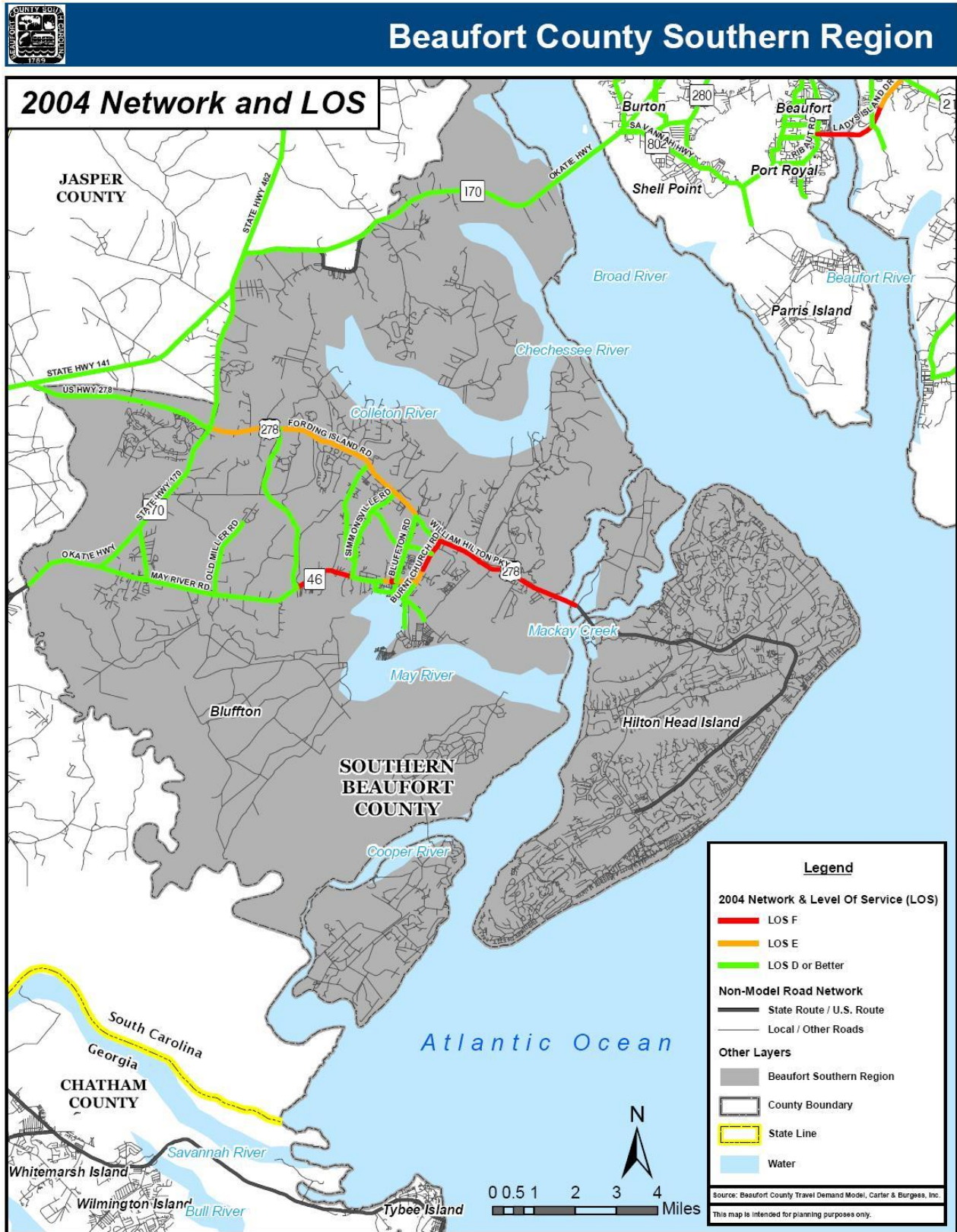


Map 10-2: 2004 Conditions on Northern Beaufort County's Road Network





Map 10-3: 2004 Conditions on Southern Beaufort County's Road Network



Beaufort, and US 21 on St. Helena Island. Since the model was developed, two major road improvements have been completed that help address these deficiencies. They are the widening of US 278 to 6 lanes from the Hilton Head Island bridge to Simmonsville Road and the construction of Bluffton Parkway from SC 170 to Simmonsville Road. While these two improvements have addressed current deficiencies, it is important to note that as of 2007, traffic volumes on US 278 east of Simmonsville Road have reached the roadway’s 6-lane capacity of 60,000 trips per day. In addition, other roadway improvements in northern and southern Beaufort County are planned, but have not yet been implemented.

**COMMITTED ROAD IMPROVEMENTS**

In order to address existing and projected road deficiencies, various projects are committed (planned with funding identified) to address transportation needs in Beaufort County. These projects are shown below in Table 10-1.



U.S. 278 was widened to six lanes between the Hilton Head Bridge to Simmonsville to increase capacity to accommodate existing and future traffic demands.

**Table 10-1: Committed and Funded Road Projects**

Project	Description	Estimated Cost
US 17 Widening	Widening from Gardens Corner to the Combahee River	\$92,000,000
US 278 Signal System, ITS Architecture Plan & street lighting	From Jasper Co. to HHI. Upgrade signals, expand system.	\$1,100,000
Burnt Church Road Phase I Widening	Bluffton: Widen to 4 lane divided from US 278 to Bluffton Pkwy.	\$3,000,000
SC 46 Widening	Bluffton: Widen to 4 lane divided from US 278 to Bluffton Village	\$8,372,000
US 21/SC 802 Connector	Planned new connector road (4 lanes divided)	\$6,500,000
Bluffton Parkway Phases 5A & 5B	New 4-lane divided road from Burnt Church Road to Buckingham and from Buckwalter Pkwy to Buck Island	\$60,500,000
Squire Pope Rd./US 278	Intersection improvement with additional through lanes on US 278 on HHI	\$2,000,000
Boundary Street Parallel Rd.	New 2-lane road with Boundary St. improv.	\$22,000,000
SC 802 Intersection Improvements	Planned improvements along Ribaut Rd.	\$2,265,000
US 278 (W. Hilton Pkwy) Resurfacing	Resurfacing, pathways, intersection improvements and drainage	\$7,310,000
Simmonsville Road Widening	Widen to 4 lane divided From US 278 to Bluffton Pkwy.	\$8,000,000
US 21/SC 802 & Savannah Hwy. widening	Widen to 4 lane divided for Savannah Hwy; new parallel bridge over Beaufort River	\$42,700,000
US 278 Widening, Phases 2 & 3	Widen to 6 lane divided from Simmonsville Rd. to SC 170 with intersection improv.	\$40,000,000
SC 170 Widening	Widen to 4 lane and/or to 6 lane divided from SC 46 to Tidewatch	\$26,000,000
Lady’s Island Intersection Improv.	Intersection improvements at Sams Point/Brickyard Point/Holly Hall Intersection	\$360,000
US 21 Widening (St. Helena I.)	Widening to three lanes on St. Helena Island	\$12,300,000

Source: Beaufort County Engineering Department

The committed improvements are included in the County's existing plus committed (E+C) roadway network. The roadway LOS was determined based on comparison of the future year 2025 roadway volumes, determined through the County's travel demand model, using the future roadway capacity, with committed improvements. Maps 10-4 and 10-5 show the year 2025 conditions with committed projects in place for the Northern Region and Southern Region, respectively.

Although the projects currently committed for construction will provide a valuable impact on mobility and congestion relief, additional deficiencies remain with the E+C transportation improvements in place. These include significant deficiencies along the US 21 corridor from Lady's Island through Laurel Bay Road and along Joe Frazier Road in northern Beaufort County. Significant deficiencies in southern Beaufort County include US 278 from Hilton Head Island to McGarvey's Corner(SC 170), SC 170 throughout southern Beaufort County, and May River Road (SC 46) from SC 170 to Downtown Bluffton.



Peak hour traffic conditions on U.S. 278 that have prompted road improvements in southern Beaufort County

### **ADDITIONAL IMPROVEMENTS TO ADDRESS 2025 NEEDS**

Beyond those planned and committed improvements in the County as shown in Table 10-1, additional improvements are required to help the area accommodate and adequately facilitate forecast traffic volumes by the year 2025. These additional projects, which include road improvements, transit, travel demand management, pedestrian, bicycle, and access management were identified in the Northern and Southern Regional Plans. The road projects are shown in Table 10-2.

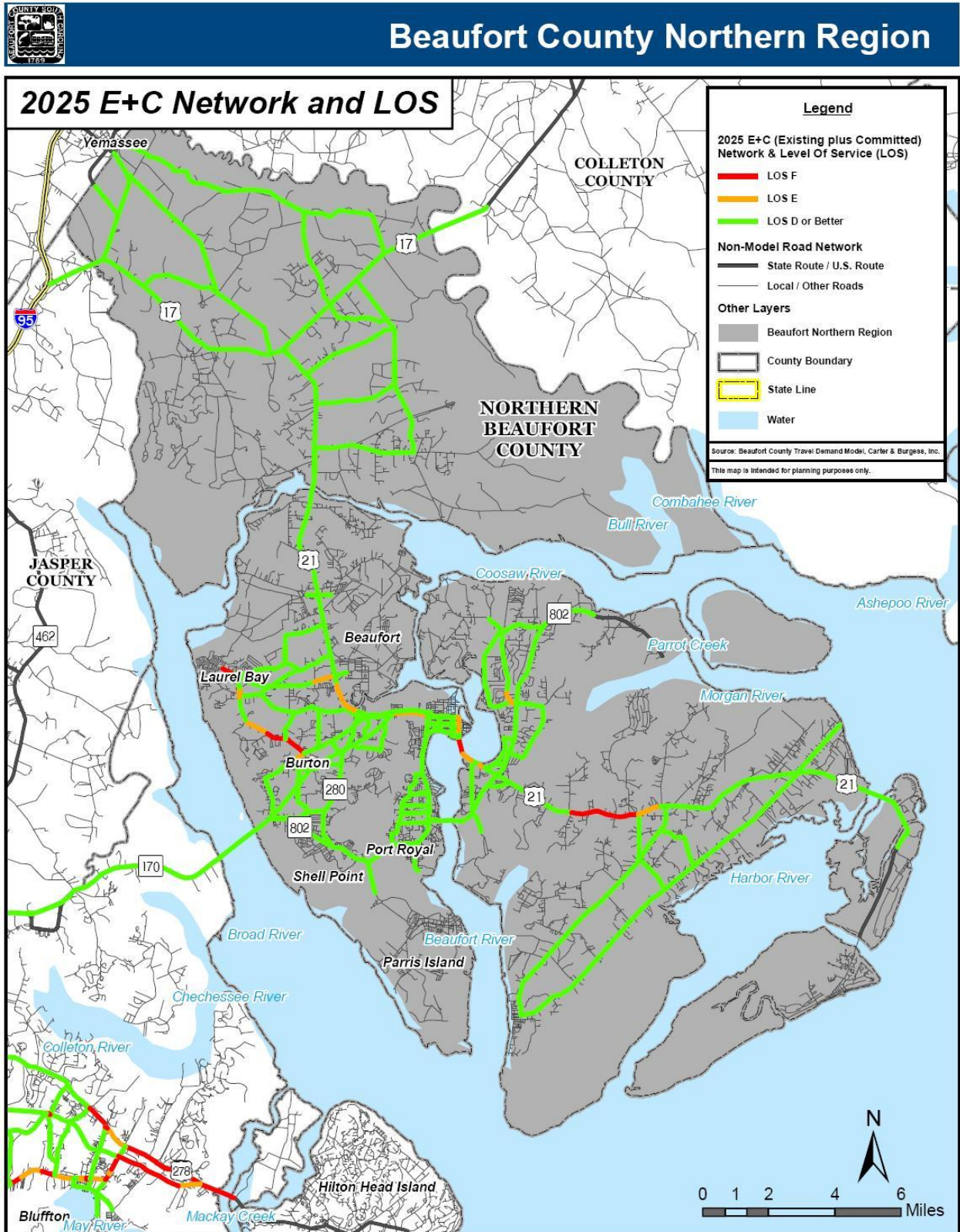
Where it is not feasible or practical to provide LOS "D" conditions via road improvements alone, improvements to complementary travel modes such as transit, pedestrian, or bicycle were recommended. In addition, improvements to make efficient use of the existing infrastructure through signal coordination and access management were also recommended to help reduce congestion and/or provide travel alternatives. These types of recommended improvements are shown in Table 10-3. Maps 10-6 and 10-7 show the year 2025 conditions with additional planned projects in place for the Northern Region and Southern Region, respectively.

### **ROAD PROJECT FUNDING**

The extensive list of committed and planned transportation improvements is a result of a cooperative effort between the county and its municipalities to aggressively pursue a variety of revenue sources to fund these improvements. While historically the principal source of

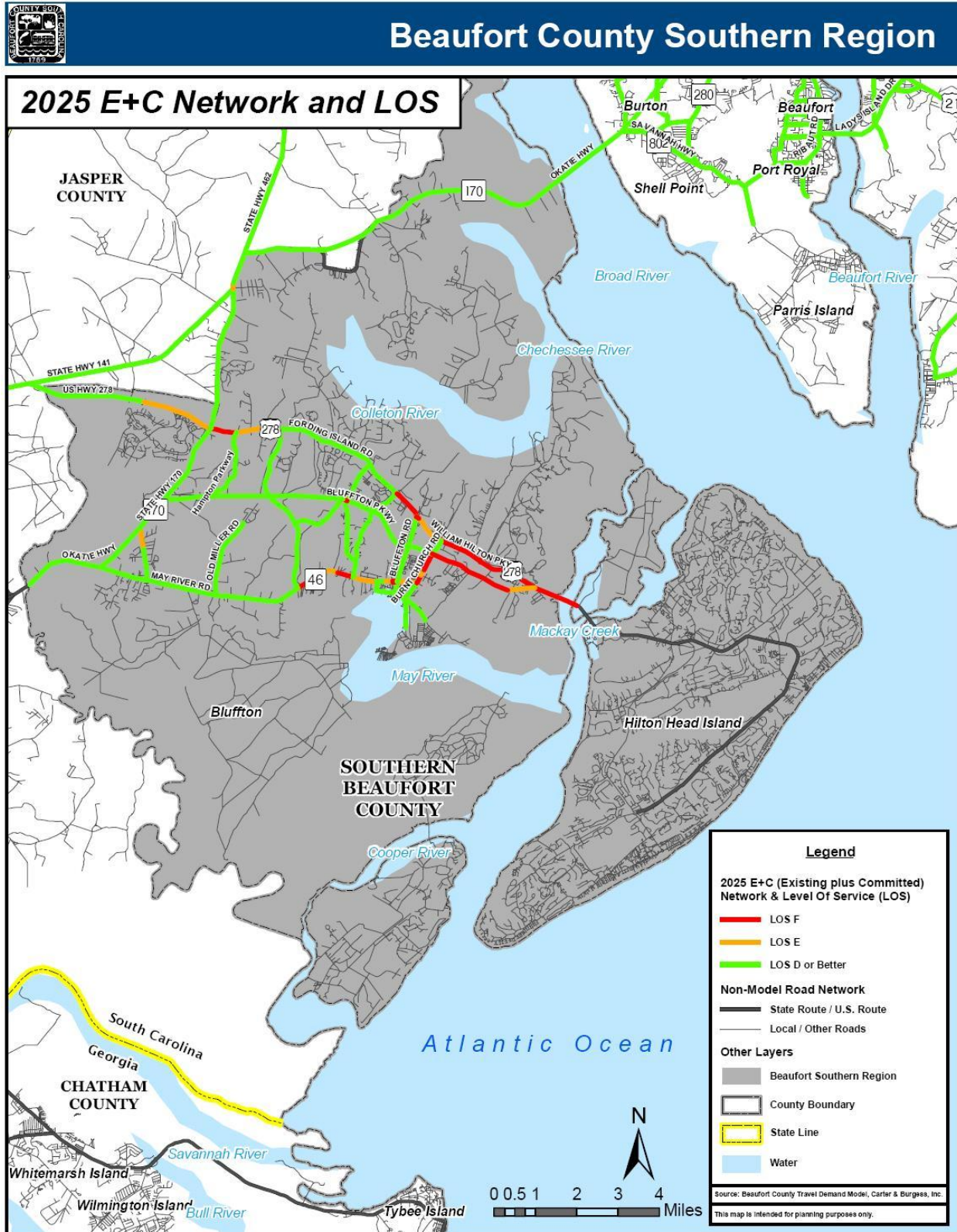


Map 10-4: 2025 Projected Conditions on Northern Beaufort County's Road Network – with Existing and Committed (E+C) Projects



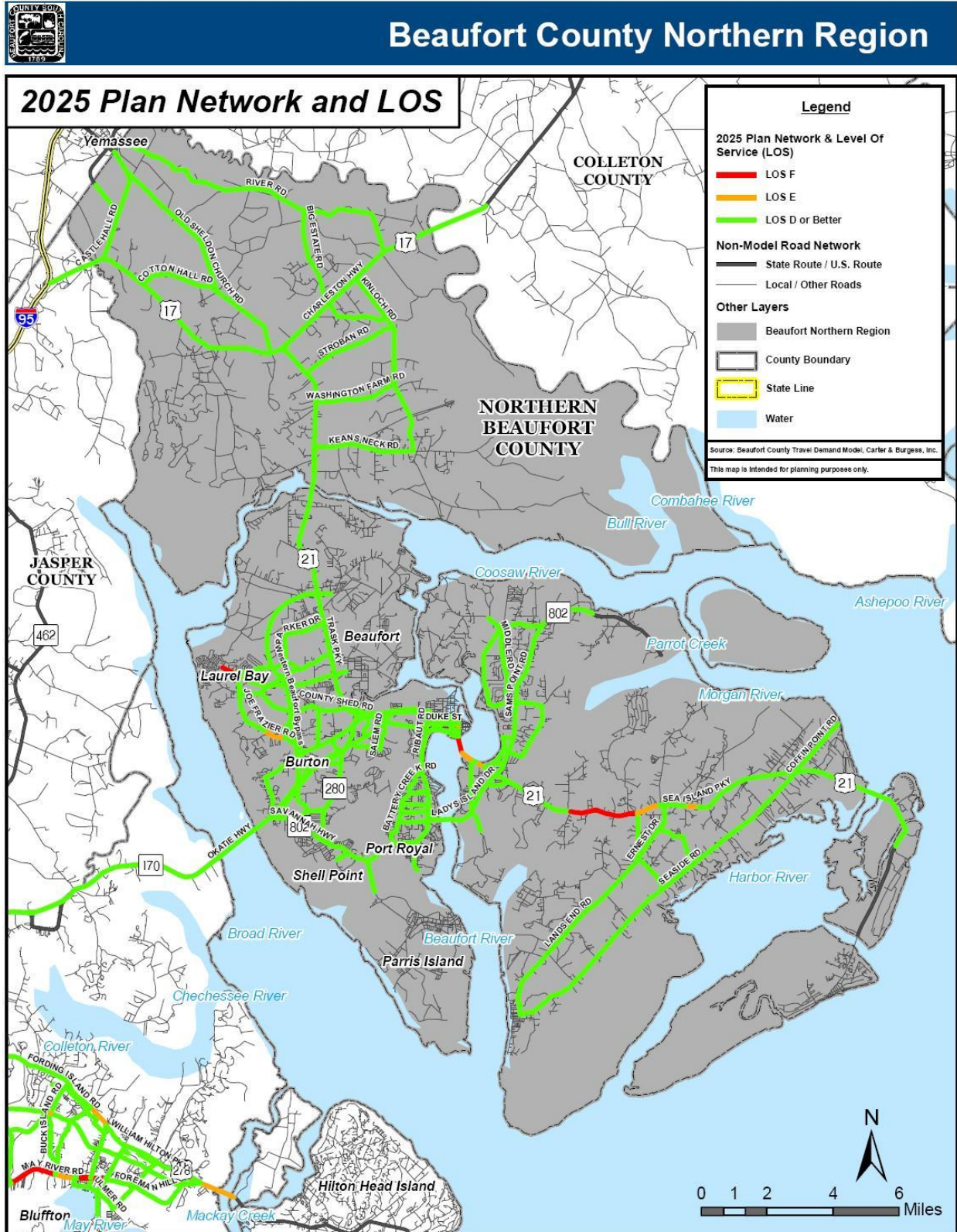


Map 10-5: 2025 Projected Conditions on Southern Beaufort County's Road Network – with Existing and Committed (E+C) Projects



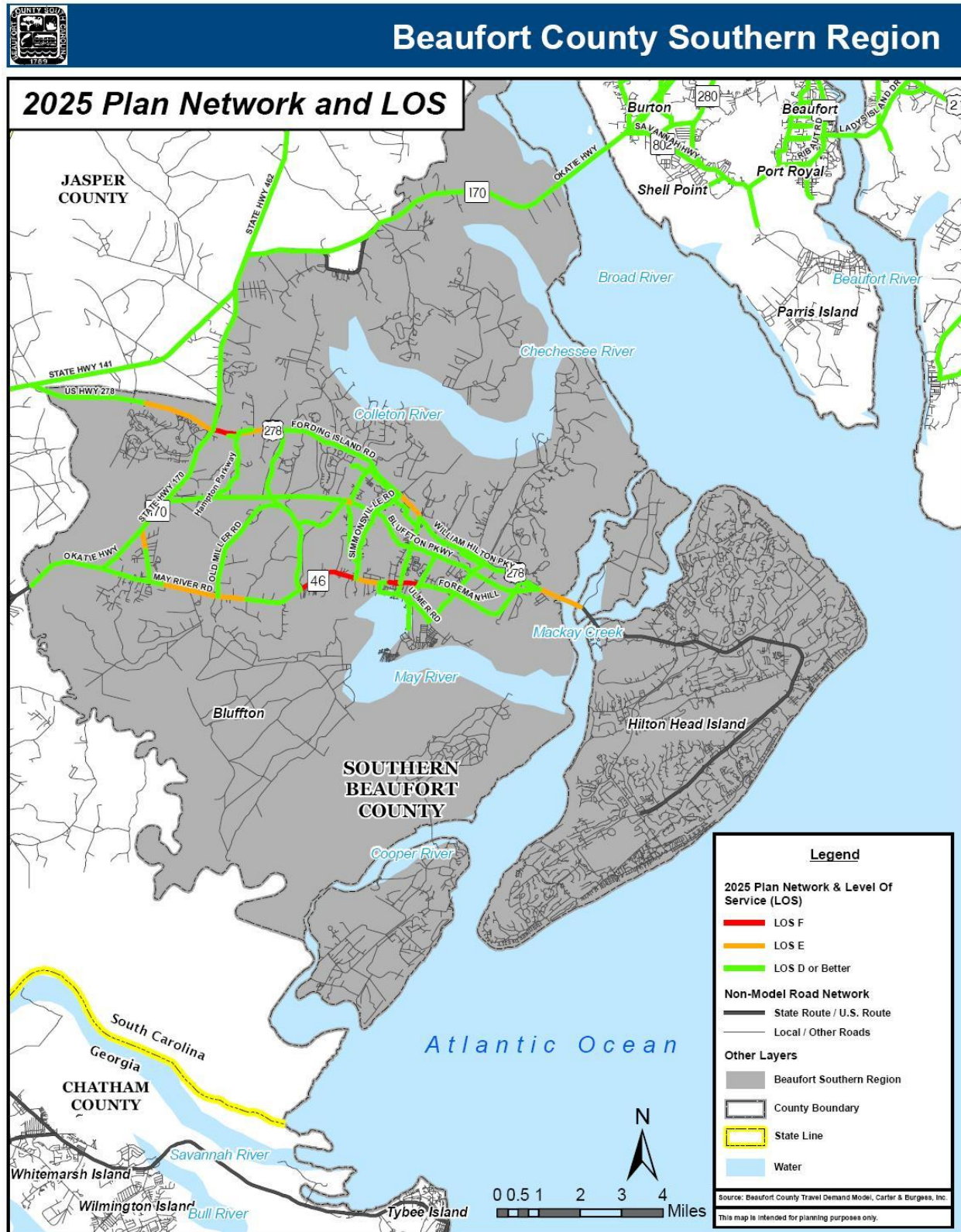


Map 10-6: 2025 Projected Conditions on Northern Beaufort County's Road Network – with Existing and Committed (E+C) and Planned Projects





Map 10-7: 2025 Projected Conditions on Southern Beaufort County's Road Network – with Existing and Committed (E+C) and Planned Projects



**Table 10-2: Additional Planned Transportation Improvements to Address 2025 Needs**

Project	Description	Estimated Cost
US 278 Frontage Roads	7 frontage road projects from the Gatherings to Graves Road along with access improve.	\$13,600,000
US 21 Business Improvements Planning & Design	Road connectivity, access management, bike/ped, streetscaping improvements from Ladys Island to SC 802	\$12,000,000
Malphrus Rd/US 278 & Foreman Hill Rd Connection	New 2 lane road connecting Foreman Hill with Malphrus Rd and widening at US 278	\$3,800,000
Northern Beaufort Bypass	Construction of a new highway from US 21 to Sams Point Road	\$216,000,000
SC 170 Robert Smalls Pkwy	Road connectivity and parallel collector roads from SC 802 to SC 280	\$14,000,000
Old Miller Road Extension	New collector roadway for connectivity from Grande Oaks to Lake Point Drive	\$1,000,000
Joe Frazier Road Improvements	Turn lanes, access management, and bike/ped improve. from Cherokee Farms to Broad R.	\$5,000,000
US 278 Widening, Phase 4	Widening to 6 lane divided from SC 170 to SC 141	\$16,000,000
Bluffton Pkwy, Phase 6	New 4 lane divided roadway from SC 170 to I-95	\$40,000,000
Buck Island Road Widening	Widening to provide 3 lanes from US 278 to Bluffton Pkwy	\$8,000,000
Bruin Road Extension	New 2 lane connector from Burnt Church Rd to Buckingham Plantation	\$15,000,000
Burnt Church Road Widening Phase 2	Widen to 4 lane divided from Bluffton Pkwy to Bruin Rd	\$5,000,000
Western Beaufort Bypass	New highway from US 21 to SC 170	\$50,000,000
US 21 Widening	Widen to 6 lane divided from Broad River Blvd to Clarendon Rd	\$40,000,000
Midtown Drive & Broad River Dr Connection	New 2 lane road for connectivity from Midtown Drive to Broad River Drive	\$1,000,000
US 278 Bridge Widening	From Fording Island to Hilton Head Island to 6 lanes divided	\$155,000,000
SC 170 /SC 46 Widening	From SC 170 to Jasper County to 4 lanes divided	\$15,000,000
Ribaut Road Connection	From SC 170 to Ribaut Rd (using old rail line)	\$10,000,000
Commerce Park Improvements	Intersection improvements and resurfacing	\$2,500,000
Port Royal-Yemassee Rail Trail	Construction of multi-use trail	\$10,000,000
SC 802 Improvements	Construct turning lanes and intersection improvements along SC 802 north of US 21 <sup>4</sup>	\$5,500,000
SC 280 Improvements	Turning lanes and intersection improve. along SC 280 from SC 170 to Mink Point Blvd.	\$4,400,000
Street Design	Provide "complete streets" design for US 21	\$576,000

Source: Beaufort County Engineering Department



**Table 10-3: Recommended Alternative Modes of Transportation Plans, Projects, and Programs**

Project	Description	Estimated Cost
Transit Circulator	Provide transit circulator to connect Lady's Island and Downtown Beaufort	\$7,537,400
	Provide transit circulator to connect Lady's Island and Downtown Beaufort	\$9,065,500
TDM Coordinator	Provide travel demand management coordinator	\$1,120,000
	Provide travel demand management coordinator	\$1,400,000
Park & Ride Lots	Provide Park-and-Ride Lots along SC 802 at US 21 and Brickyard area	\$1,200,000
LRTA Transit Service	Service for commuters, students on loop urbanized area of Northern Beaufort and connections on SC 170 to Southern Beaufort/US 278 and Park & Ride	\$10,000,000
Pedestrian & Bicycle Connections	Construct local pedestrian and bicycle connections (SC 170 at SC 280 / US 21 at SC 280 / US 21 at SC 170 / US21 at SC 802 / SC 802 at Ribaut Road / SC 280 at Palamino Drive)	\$7,680,000
Prepare Access Management Plan	US 21 south of the Beaufort River to St. Helena Island (selected areas)	\$150,000
	SC 170 from US 21 to the Broad River	\$165,000
	Joe Frazier Road from SC 170 to Laurel Bay Road	\$175,000
	SC 280 from SC 170 to Mink Point Boulevard	\$100,000
Implement Access Management Plan	US 21 south of the Beaufort River to St. Helena Island	\$3,000,000
	SC 170 from US 21 to the Broad River	\$3,300,000
	Joe Frazier Road from SC 170 to Laurel Bay Road	See SC 280 Improvements
	SC 280 from SC 170 to Mink Point Boulevard	See Joe Frazier Rd Improvements

Source: Carter and Burgess

road funding for Beaufort County as well as all South Carolina local governments was the South Carolina Department of Transportation (SCDOT) through its Statewide Transportation Improvement Program (STIP), in more recent times (the past decade), as growth in the area grew at dramatic rates, state funding has not been able to keep up with the need for new road improvements and local governments have had to be more active in seeking additional funding sources (see Table 10-4)

- Impact Fees:** Beaufort County with cooperation from the Town of Bluffton and the Town of Hilton Head Island first adopted its transportation impact fee ordinance for southern Beaufort County in 1999. In 2006 these fees were revised to reflect updated growth projections and the resulting demand for more transportation improvements. The current fee is set at \$175.15 per vehicle mile traveled (\$3,067 for a single family dwelling). In 2004, Beaufort County, the City of Beaufort and the Town of Port Royal adopted impact fees for northern Beaufort County set at \$81 per trip generated (\$775 per single family dwelling).

Together, these fees are projected to generate over \$109 million in revenue for road improvements over the next 20 years.

- Capital Projects Sales Tax: In November 2006, Beaufort County voters approved a referendum (after two unsuccessful efforts in 2002 and 2004) to enact a 1-cent sales tax to fund countywide transportation improvements. Over the 5 years this tax is in effect, it is anticipated to generate over \$152 million in revenue for road improvements.
- Federal Earmarks: Beaufort County was successful in securing over \$30 million in federal earmarks to cover road widening and intersection improvements along US 278.
- Admissions Tax: An Admissions tax was enacted by County Council in 2005. The 2½% tax that is charged on all admissions to places of amusement (movie theaters, swimming pools, golf courses, nightclubs, professional sporting events, bowling alleys, etc.) is projected to generate over \$6 million in revenue for road improvements.

**Table 10-4: Existing Funding Sources for Road Projects**

Funding Source	Revenue Generated (in thousands)
Capital Projects Sales Tax	\$152,000
South County Impact Fees	\$89,270
North County Impact Fees	\$20,532
Federal Earmarks	\$30,650
Admissions Fees	\$6,233
State/Guideshare	\$3,600
Local/Other*	\$17,756
<b>Total</b>	<b>\$316,441</b>

\*Includes Municipal Impact Development Fees from the Town of Bluffton and Hospitality Tax from the Town of Hilton Head Island



## Existing Tools and Policies to Address Transportation Demand

Given the tremendous cost to keep up with growing transportation demands, it is important for the County and municipalities to use planning tools and policies that help reduce vehicle miles traveled (VMT's) and to maximize the existing capacity of the county's road network. These tools, such as access management standards, traffic impact analysis ordinances, traffic modeling, and intelligent transportation systems will not increase road capacity, but can be used to maximize the existing capacity of the road network and insure that the system is being used as efficiently as possible.

### ACCESS MANAGEMENT STANDARDS AND CORRIDOR PLANNING

Effective access management standards benefit a community by reducing accidents, increasing roadway capacity, providing better access to businesses, and improving mobility. Access management techniques include maximizing signal spacing; coordinating and timing signals; maximizing intersection and driveway spacing; providing deceleration lanes; sharing driveway access; providing frontage and backside access roads; and requiring road interconnectivity. Corridor access management plans that prescribe access management policies have been completed and adopted along the following roadways:

- US 278 between McGarvey's Corner to the bridge to Hilton Head Island;
- Robert Smalls Parkway (SC 170) between SC 802 to the Broad River Bridge: This is a joint plan between the City of Beaufort, Town of Port Royal and Beaufort County; and
- SC 170 (Oldfield to McGarvey's Corner) and US 278 (McGarvey's Corner west to the Jasper County line: This plan was also adopted by Jasper County.

Additional access management plans for Buckwalter Parkway and Bluffton Parkway are currently being drafted.

### **INTELLIGENT TRANSPORTATION SYSTEMS (ITS)**

There are three components to Beaufort County's existing Intelligent Transportation System (ITS): video surveillance, response vehicles, and radio advisory broadcasts. The County operates 51 surveillance cameras along its major highways offering live video of traffic conditions to the county's Emergency Management Department. Based on the images, the department can send vehicles to remove wrecked or stranded vehicles, place electronic message boards to alert drivers to detour options, and broadcast traffic conditions over designated AM radio stations. The system helps officials respond quickly to unforeseen events, and thereby minimize delays for motorists (and, accordingly, helps maintain the maximum traffic-carrying capacity of these roadways). Images from the cameras are also placed on the county's web site allowing motorists the ability to assess traffic situations before leaving home. The county has begun a study of a comprehensive ITS "architecture" that effectively integrates the traffic cameras with signal timing and message boards in order to adequately address traffic conditions.

### **TRAVEL DEMAND MODELING**

Beaufort County adopted its first travel demand model in 1999. The model was revised in 2005 and converted to use TransCAD travel demand software which is GIS based. The model, which is based on growth projections derived from approved development and the comprehensive plans of the county and its municipalities, allows the county to forecast future traffic volumes along its roadways. Therefore, the model enables the county to plan for road projects that provide sufficient growth capacity to meet projected demand. It is important to note that large scale changes in future land use assumptions resulting from annexations and/or rezonings may require the model to be updated to remain effective.

### **TRAFFIC IMPACT ANALYSIS ORDINANCES**

Beaufort County's Traffic Impact Analysis Ordinance requires developers to determine the impact of their proposed development on the road network and provide mitigation, if necessary. The performance standard to determine whether mitigation is needed is LOS "D" along affected roadways and intersections. Typical improvements recommended by a traffic impact analysis include the provision of turning and deceleration lanes, the installation of traffic signals, and sharing access with adjoining developments.



**LAND PRESERVATION**

Beaufort County and the Town of Hilton Head Island both have aggressive pursued land purchase programs aimed in part at removing land from potential development that could otherwise add to our traffic volumes. Table 10-5 provides a summary of the impact of these programs on the amount of land removed from potential development

**Table 10-5: Summary of Preserved Land Removed from Potential Development**

Program	Acres Acquired	Dwelling Units Removed from Development	Commercial Sq. Ft. Removed from Development
Rural and Critical Lands Preservation Program	10,647	2,233	1,190,000
Hilton Head Land Acquisition Program	1,165	4,210*	4,350,000
<b>Total</b>	<b>11,812</b>	<b>6,443</b>	<b>5,540,000</b>

Source: Trust for Public Lands and the Town Hilton Head Island Planning Department

\*Includes timeshare units

**LAND USE POLICIES**

Generally, two types of land use policies are effective in reducing VMT's:

- Policies directed at promoting internal trip capture by allowing or requiring mixed use development and
- Policies that promote centralized, high-density development that facilitates the use of public transportation.



## Alternative Modes of Transportation

As stated above, county residents are almost solely dependent on automobiles to move about in the region. Therefore, promoting alternative transportation options provides the following benefits:

- It removes potential VMT's from the county's roadways; and
- It promotes the county's quality of life by offering residents and visitors a choice of transportation modes.

### PUBLIC TRANSPORTATION

Palmetto Breeze (formerly Lowcountry Regional Transit Authority) is the public transit provider for Beaufort County and the surrounding region (Jasper, Allendale, Colleton and Hampton Counties). Palmetto Breeze has historically focused on bringing rural residents to jobs in Beaufort County via fixed route commuter lines, two of which only operate during the summer months that operate in one direction during peak periods taking commuters to their workplaces in the morning and returning them to their communities in the evening. The Bluffton headquarters of Palmetto Breeze serves as a transfer center for commuters. In FY 2006 Palmetto Breeze had 25 active vehicles providing more than 230,000 passenger trips. Palmetto Breeze receives federal rural transit funding under the Federal Transit Administration (FTA) Section 5311 funding program. Local funding is provided by the five member counties with over 76% of the contributions coming from Beaufort County and the Town of Hilton Head Island.

Based on recommendations from the Lowcountry Public Transit Coordination Feasibility Study (2003) Palmetto Breeze is pursuing the development of a regularly scheduled mainline bus service along US 278 from I-95 in Hardeeville to Coligny Circle on Hilton Head Island. Palmetto Breeze plans to enhance this service with collector routes in the Bluffton area and park-and-ride lots. Future bus routes planned in Beaufort County include providing mainline service along SC 170 from US 278 to northern Beaufort County with eventual loop/connectors and park-and-ride lots.

The Northern Beaufort County Regional Plan determined that a transit route could potentially reduce the number of vehicles on the Woods Memorial Bridge and the McTeer Bridge, both of which are projected to operate below LOS D in the year 2025. A circulator between these areas would need to operate with frequent service/short headways to be effective in attracting riders to switch modes from automobile use. In addition to transit service, a program to provide an organized approach to teleworking, flexible work hours, carpool matching, and vanpool services is recommended for the Downtown Beaufort and Port Royal areas. A second program to focus on the U.S. Marine Air Station carpooling is also recommended. The transit and travel demand management strategies will require more detailed study to determine the anticipated level of benefits and feasibility.

### BICYCLE AND PEDESTRIAN TRAILS

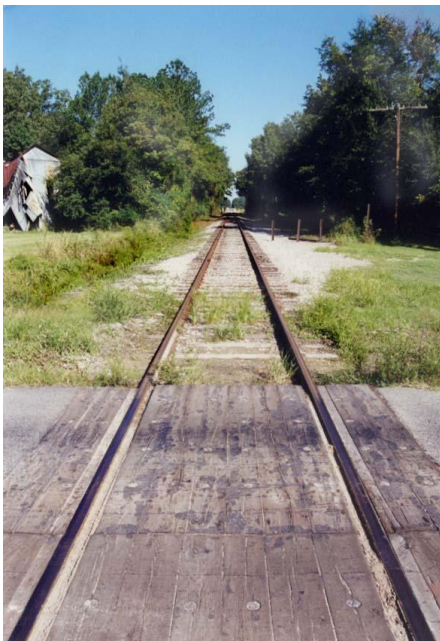
Bicycle and pedestrian trails promote walking, running and cycling as viable alternatives to automobile transportation. The Town of Hilton Head Island has been a leader in the region in this regard with over 51 miles of public multi-use trails and over 23 additional miles planned in their 10-year CIP. Efforts elsewhere in Beaufort County have been more modest. The Town of Bluffton has implemented the 5-mile New River Trail. Also, Buckwalter Parkway and Bluffton Parkway were designed and constructed with multi-use pathways to add over 10 linear miles of multi-use trails to the network.

In 2003, the county adopted the *Beaufort County Trails and Blueway Master Plan* that depicts routes for the development of a trail and blueway network. The plan prioritizes the establishment of a trail on the abandoned Port Royal to Yemassee rail line and the establishment of a trail on a water line easement that connects Parris Island to Burton Wells Park and to the US Marine Corps Air Station. The plan also promotes multi-use trails along the county's major corridors (US 278, SC 170 and US 21).

In addition to multi-use trails, the City of Beaufort, the Town of Port Royal, and the Town of Bluffton all promote the building of sidewalks to create an integrated pathway system in their respective municipalities.

### WATER TRANSPORTATION

Ferry service is a possible alternative mode of transportation given the region's many navigable waterways and the potential to reduce travel demands on US 278 and SC 170. Effective ferry terminals would require sizable waterfront property for parking and multi-modal facilities to transport people from the terminal to places of employment. Funding and commute times are also obstacles that need to be overcome in order to make ferry service a viable alternative to



The abandoned Port Royal to Yemassee rail line provides an excellent opportunity to establish a bicycle and pedestrian transportation corridor.



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automobile transportation. Given the transportation constraints under which the region is operating, however, this is another option that might require further consideration.

Small ferries exist that connect Hilton Head Island to neighboring Daufuskie Island, which are privately owned and operated. Beaufort County and the School District also contract for ferry service for residents. Other private services exist for moving goods and materials to and from Daufuskie Island, Bull Island and other islands without road access.



## Other Transportation Issues

### EMERGENCY EVACUATION

Hurricanes are a reality along the Southeast coast and Beaufort County, while remaining relatively unscathed over the last 50 years, is still vulnerable to their destructive power. Beaufort County has an emergency evacuation plan that directs traffic along designated routes to get people inland as quickly as possible in the event of an evacuation.

**Table 10-6: 2007 Estimated Evacuation Times**

Traffic Control	Northern Beaufort County	Southern Beaufort County
No Traffic Controls	5.8 to 15.7 hrs.	12.3 to 26.7 hrs.
3-lanes out, 1-lane in on US 278 and US 21	5.3 to 12.7 hrs.	9.5 to 19.0 hrs.
4-lane contra flow on US 278 and US 21	5.1 to 11.4 hrs.	8.7 to 18.4 hrs.

\*Based on the 2007 Hurricane Evacuation Route Clearance Time Analysis (PBS & J)

Table 10-6 summarizes projected evacuation times. Estimated evacuation times in northern Beaufort County are significantly shorter than those in the southern part of the county. Therefore, the Emergency Evacuation Department recommends allowing some movement of the southern Beaufort County traffic north across the Broad River Bridge to evacuate through the northern corridor. Evacuation times are not only effected by the conditions inside of Beaufort County. The roadway conditions and the amount of development in Jasper and Hampton Counties are an important factor in the movement of evacuation traffic inland. For example, the Traditions development in Hardeeville when completed has been projected to increase estimated evacuation times of Beaufort County residents by 5%. Conversely, the widening of SC 68 in Hampton to 4 lanes will facilitate the movement of northern Beaufort County traffic.

## AIRPORTS

Beaufort County owns and operates two airports: the Hilton Head Island Airport and the Beaufort County (Lady's Island) Airport. Oversight is provided by the Aviation Advisory Board which is appointed by County Council. Financially, both airports operate as an enterprise fund.

- Hilton Head Island Airport (HXD): The Hilton Head Island Airport is owned and operated by Beaufort County. Facilities include a 4,300-foot runway with two parallel taxiways, one commercial and two general aviation terminals, an air traffic control tower, and professionally trained and equipped fire, crash and rescue teams. The Hilton Head Island Airport Master Plan (2001, Wilbur Smith Associates) calls for a new aircraft rescue and fire fighting station, renovations to the air carrier terminal, new taxiways, a heliport, additional aircraft hangars, and tree obstruction removal.
- Beaufort County Airport (Lady's Island): The Beaufort County Airport has a 3,430 foot runway. Unlike the Hilton Head Island Airport, this airport serves only private planes and the County's Mosquito Control aircraft. In order to serve increased demand and a growing population, the airport department recommends widening and grooving the runway, relocating the parking area, extending sewer to the airport, constructing a parallel taxiway, installing a heliport, expanding the terminal and providing additional hangars. A new master plan will be developed for this airport which will also include an evaluation of the adequacy of the existing runway length to meet future needs.

## Regional Transportation Framework

Over the last 10 years, Beaufort County and its municipalities have taken steps in cooperating on planning, funding, and implementing transportation improvements.

### REGIONAL PLANS

**Southern Beaufort County Regional Plan:** This plan was an important vehicle in calling out the magnitude of the southern region's transportation issues. The plan identified \$222 million worth of transportation improvements necessary to address existing and future deficiencies and only \$95 million in dedicated revenue sources to pay for these improvements. The plan is partly credited for the success of the 2006 Capital Projects Sales Tax referendum and the revision of transportation impact fees which together are projected to raise over \$165 million to help close the funding gap. The plan called for formalized and coordinated multi-jurisdictional transportation planning at both the elected official and staff levels to identify needed improvements, secure funding, and to jointly plan for access management and alternative transportation modes.

**Northern Beaufort County Regional Plan:** In northern Beaufort County, the message was slightly different. While the northern region still faced significant transportation needs, the plan emphasized the consideration of alternative transportation policies and programs to address transportation demands. The plan first looked at how future road capacity could be preserved and enhanced by pursuing the following transportation strategies:

- Public Transportation
- Travel Demand Management
- Pedestrian and bicycle connections
- Access management
- Intersection operational improvements



The plan also identified future municipal growth boundaries for the municipalities north of the Broad River. The plan outlines a policy to analyze and mitigate the impacts on the regional road network of annexations and/or zoning amendments resulting in more intense development that occur within the growth boundaries.

### **BEAUFORT COUNTY TRANSPORTATION ADVISORY GROUP (BCTAG)**

BCTAG is a policy advisory group made up of elected officials from Beaufort County, its municipalities, SCDOT, the Sheriff's Department, the Beaufort County Transportation Committee, and Palmetto Breeze. BCTAG reviews and offers recommendations on transportation improvements, funding options and transportation planning initiatives such as access management plans.

### **NORTHERN AND SOUTHERN BEAUFORT COUNTY HIGHWAY IMPROVEMENT TEAMS**

These staff level working groups were formed at the suggestion of local officials and are made up of planners and engineers of each of the local governments; in addition to representatives from SCDOT, Lowcountry Council of Governments, and the Beaufort County Department of Emergency Management. These staff level working groups meet monthly to address a number of regional transportation issues. The most important accomplishment has been the development of a Roadways Capital Improvement Plan for countywide transportation projects. This effort has led in part to the current list of committed and planned transportation projects (Tables 10-1 and 10-2).

### **LOWCOUNTRY REGIONAL TRANSPORTATION PLAN**

This plan, which was prepared by the Lowcountry Council of Governments, identifies and prioritizes transportation improvements for the Lowcountry region (Beaufort, Colleton, Hampton and Jasper Counties). This plan influences the projects and priorities identified in the state's Long Range Transportation Improvement Plan (STIP).

## Recommendations

### Recommendation 10-1: Level of Service

Beaufort County shall recognize LOS “D” as the standard that should be maintained on its road network and the standard upon which traffic impact analysis should be conducted and the road impact fee ordinance should be based.

### Recommendation 10-2: Regional Transportation Planning and Programming

Beaufort County, along with its municipalities, should formalize through an intergovernmental agreement a regional transportation process that coordinates transportation planning with land use planning and forecasts, and to address: data collection, monitoring, modeling, planning, prioritizing, funding, and implementing issues related to the County’s road network.

- Staff Working Groups: The County will formalize both the Southern and Northern Beaufort County Highway Improvement Teams through intergovernmental agreements.
- Neighboring Counties: Beaufort County will engage in coordinated regional transportation planning with Jasper County, the Lowcountry Council of Governments, and other neighboring counties and municipalities.
- Joint Review of Major Projects: Beaufort County will work with its municipalities and adjoining counties on developing and implementing joint review of proposed developments of regional impact (DRI) prior to their approvals to ensure the proposal does not have an adverse impact on the region’s road network. The County and its municipalities will codify requirements for review and/or mitigation of extra-local transportation impacts on the road network by requiring all projects that trigger traffic impact analysis requirements to be circulated to all local engineering departments. DRI’s consist of developments over 200,000 square feet of commercial and/or 250 dwelling units.

- **Required Update of Travel Demand Model:** The county and its municipalities shall adopt policies that when annexations and/or zoning amendments occur that result in a net increase of over 200,000 square feet of commercial or 250 dwelling units, the applicant is required to update the growth projections in the county's travel demand model.

### **Recommendation 10-3: Committed Road Improvements**

Beaufort County will work cooperatively with its municipalities, SCDOT and other agencies to effectively complete the projects identified in Table 10-1.

### **Recommendation 10-4: Fund and Implement Additional Transportation Improvements**

Beaufort County will work cooperatively with its municipalities and neighboring counties to plan, fund, and implement transportation improvements identified in Table 10-2 necessary to address future demands. These projects include but are not limited to the following:

1. US 21 Widening from SC 170 to Clarendon Rd (6 lanes) – The US 21 corridor experiences significant capacity limitations that are beyond those effectively addressed with the alternatives to capacity expansion examined. Further, significant growth management would be needed to reduce trip making to mitigate deficiencies along the corridor. Therefore, widening SC 21 is recommended to accommodate these travel needs. This should be designed as a “complete streets” application to include automobile, pedestrian, bicycle, and transit considerations, as well as landscaping.
2. US 21 to SC 170 – Western Bypass (Planning, feasibility analysis, and right-of-way for a 2 lane road with turn lanes and bicycle lanes) – This connection will provide a link from the US 21 corridor to the SC 170 and SC 802 corridors. This connection has the potential to relieve US 21 for traffic traveling to/from SC 170, as well as serving some traffic along US 21 north of Beaufort that is destined for Port Royal, Lady's Island, or St. Helena Island. This project will provide the planning and analysis for consideration of this alternative for application beyond year 2025.
3. Third Crossing of Beaufort River (Planning, feasibility analysis, and right-of-way for additional Lady's Island Crossing) – The capital project sales tax currently provides funding for a possible alignment (the northern bypass) for a third crossing from Lady's Island to the mainland. Pursuant to Federal concept definition/NEPA requirements, this feasibility study would include analysis of the mobility, economic, and

community/environmental impacts and benefits of various alignment options.

4. New Connector Road from SC 170 to Ribaut Road (2 lanes with bike lanes) – This road would connect from SC 170 near Neil Road eastward via an abandoned rail corridor toward Downtown Beaufort. This linkage would provide direct relief to the congested section of US 21 between SC 170 and Ribaut Road, as well as provide a bicycle connection through the area. In order to minimize long distance through travel, the roadway cross section and speed design should be that of a collector road for local connectivity.
5. Intersection and Roadway Operational Improvements – Implementation of turning lanes at appropriate locations and intersection improvements to enhance flow at bottleneck intersections could free underutilized capacity along key corridors. Operational improvements are recommended in the following areas:
  - SC 802 north of US 21
  - Joe Frazier Road from Broad River Road to Laurel Bay Road
  - SC 280 from SC 170 to Mink Point Boulevard
6. US 278 Frontage Roads – Seven frontage road projects for interparcel connectivity and access improvements with median closures/modifications have been identified between the Gatherings and Graves Road. These projects should help relieve congestion on US 278 and increase average speeds on the mainline with the median closures
7. Malphrus Road/US 278 & Foreman Hill Road Connection – A new 2-lane road would connect Foreman Hill with Malphrus Road and include a widening at US 278 from US 278 to Ulmer Road. The increased connectivity proposed to alleviate bottlenecks in the near vicinity and on US 278.
8. US 278 Widening, Phase 4 – This project would have US 278 widened to 6 lanes divided from SC 170 to SC 141 with limited access to adjacent land uses. This widening would help regional travel by reducing congestion and limiting mainline traffic interference from side streets.

#### **Recommendation 10-5: Transportation Improvements for Beaufort Commerce Park**

In order to promote the Beaufort Commerce Park as an attractive location for light industrial development, Beaufort County will provide the roadway infrastructure improvements necessary to facilitate ingress and egress from the location. Beaufort County, in conjunction with the Lowcountry Economic Network, has conducted an analysis of existing



and future traffic conditions in the vicinity of the Beaufort Commerce Park development area, located east of US 21 at Parker Drive. The Lowcountry Economic Network is interested in promoting this location to provide a location for light industry to expand in northern Beaufort County. The site is on approximately 177 acres (with 132 acres of developable land); located north and west of Bay Pines Road and Parker Drive, respectively. Commerce Park is expected to employ approximately 400 workers. Transportation improvements include:

- Traffic signals and/or turn lane improvements at:
  - US 21 at Parker Drive
  - US 21 at Shanklin Road
  - Bay Pines Road at Parker Drive
  - Bay Pines Road at Shanklin Road
  - Schork Road and Parker Drive
  - Bay Pines Road at Schein Loop
- If a traffic signal is not feasible at the intersection of US 21 at Shanklin Road, consideration should be given to limiting the intersection to right-in/right-out only, and roadway and intersection improvements along Stanley Farm Road between Shanklin Road and Laurel Bay Road should be considered.
- Repaving/reconstruction of Parker Dr and the widening of Schein Loop and Schork Rd.

### **Recommendation 10-6: Identify and Pursue Future Funding Sources**

Beaufort County will work cooperatively with the state and federal governments to develop a strategy to fund existing and future transportation capital improvements needs on the County's road network to maintain the adopted LOS standard in a way that is environmentally and context sensitive, so that the image and character of the county is maintained, to the maximum extent practicable.

- 1) Funding Strategy: Beaufort County will develop a coordinated funding strategy to fund County road improvements.
  - Encourage local elected officials and staff members to lobby the state and federal governments for additional funds for regional transportation projects.
  - Hold an additional referendum to establish a 1% capital projects sales tax for the maximum 7 year term after the current sales tax expires. An additional 7 year term would generate roughly \$175 million at for transportation projects countywide.
  - Lobby the State Legislature to enable a local option gas tax. A 5 cents tax could potentially generate \$44 million over a 15 year period for Beaufort County.

- Work with the Town of Port Royal and the City of Beaufort to revise transportation impact fees for northern Beaufort County
- 2) **Joint Funding:** Because of the relationship between new growth and development and its impact on the County's road network, Beaufort County, its municipalities, and Jasper County, to the maximum extent practicable, will establish funding arrangements in which the local governments jointly fund the needed capital transportation projects on the County's road network.

### **Recommendation 10-7: Tools and Policies to Reduce Vehicle Miles Traveled (VMT's)**

Beaufort County will work cooperatively to develop strategies to reduce VMT's on the County's road network.

- 1) **Access Management:** Beaufort County will coordinate access management standards to improve the efficiency of the County's road network, especially along shared corridors. Those standards will address signal spacing, signal timing and control, driveway spacing, driveway design, deceleration lanes, shared driveway access, frontage roads, and connectivity standards. Access management is recommended on the following corridors:
- SC 46 (May River Road)
  - Bluffton Parkway
  - Buckwalter Parkway
  - US 21 north of SC 170
  - US 21 south of the Beaufort River to St. Helena Island
  - SC 170 from US 21 to the Broad River
  - Joe Frazier Road from SC 170 to Laurel Bay Road
  - SC 280 from SC 170 to Mink Point Boulevard
- 2) **Intelligent Transportation Systems (ITS):** Beaufort County shall develop a plan to establish an Intelligent Transportation Systems architecture that will provide a framework that will guide development of an ITS system on the County's road network. Beaufort County will implement the recommendations of this plan through an ITS Strategic Plan.
- 3) **Land Use Policies:** Beaufort County, where appropriate, should adopt land use policies, such as regulations to encourage mixed use development at higher intensity nodes that result in reduced VMT's on the County's road network, more pronounced connectivity standards, and adequate public facility standards. In addition, Beaufort County will further evaluate and consider, where appropriate, rate of growth regulations.

- 4) Land Acquisition: Beaufort County and its municipalities will continue to coordinate their efforts to identify and purchase land in order to remove it from potential development. This is a growth management tool that can reduce future transportation demand and be coordinated with other goals and objectives to protect open space and environmentally sensitive lands.
- 5) Travel Demand Management: Beaufort County should consider a program to provide an organized approach to telecommuting, flexible work hours, carpool matching, and vanpool services is recommended for the downtown Beaufort, Port Royal, Hilton Head Island and downtown Bluffton. A second program to focus on U.S. Marine Air Station and Parris Island carpooling is also recommended. The transit and travel demand management strategies will require more detailed study to determine the anticipated level of benefits and feasibility.

#### **Recommendation 10-8: Context Sensitive Design**

Beaufort County will work cooperatively with its municipalities to maintain and enhance regional commercial travel corridors and scenic corridors to promote a positive image of the region, and to protect regional character and quality of life, environmental quality, and aesthetics.

- Regional Travel Corridors: Beaufort County will work cooperatively with its municipalities to develop consistent architectural, landscaping, lighting and signage standards and establish coordinated review, administration, and enforcement of development to maintain a strong community aesthetic and function along the county's regional travel corridors.
- Scenic Corridors: Beaufort County will work cooperatively with its municipalities to establish coordinated review, administration, and enforcement of development to maintain the views along the following regional scenic corridors: May River Road (SC 46) and Old Sheldon Church Road.
- Innovative Road Construction Techniques: Beaufort County will adopt standards to protect the network of open spaces, discussed in the Natural Assets and Natural Constraints to Growth Report, including innovative road construction techniques to link wildlife habitat and preserve wetlands.
- Traffic Calming: Beaufort County should fund and conduct a traffic calming study to identify and evaluate appropriate strategies to meet Beaufort County's needs. Included in the study should be research of potential state and nationwide strategies, and a recommended list of potentially successful tactics that can be incorporated into a recommended countywide traffic calming policy. The policy should then be converted to zoning ordinance regulations for implementation.

### **Recommendation 10-9: Public Transportation**

Beaufort County will place an emphasis on the expansion of public transportation as an alternative means of transportation in the region.

- US 278/Bluffton Parkway Mainline Service: Beaufort County should support Palmetto Breeze’s efforts to develop a regularly scheduled mainline bus service along US 278 from I-95 in Hardeeville to Coligny Circle on Hilton Head Island; and plans to enhance this service with collector routes in the Bluffton area and park-and-ride lots.
- SC 170 Mainline Service (Northern Beaufort County): Beaufort County should support Palmetto Breeze’s efforts to develop a regularly scheduled mainline bus service along SC 170 from US 278 to northern Beaufort County with eventual loop/connectors and park-and-ride lots.
- Circulator: Beaufort County should consider a transit route that could reduce the trip making across the Woods Memorial Bridge and McTeer Bridge. A circulator between these areas would need to operate with frequent service/short headways to be effective in attracting riders to switch modes from automobile use.

### **Recommendation 10-10: Non-motorized Transportation**

Beaufort County and its municipalities will coordinate and place additional emphasis on expansion and implementation of a multi-use pathway, sidewalk, and bike lane system through the Southern Beaufort Greenway Plan, and the Beaufort County Trails and Blueways Master Plan.

- Port Royal to Yemassee Rail/Trail: Establish a rail/trail on the abandon Port Royal to Yemassee rail corridor. Implementation of this corridor is recommended to provide an alternative transportation mode for those along the US 21 corridor. This corridor would provide a trail that is separated from automobile traffic, enhancing safety for all users over on-street bike lanes or “share the road” designations.
- Roadway Improvements: Incorporate the Beaufort County Trails and Blueways Master Plan into roadway improvement plans for SCDOT, the county and its municipalities and include these plans for purposes of right-of-way acquisitions, design and funding.
- Safe Routes to School Program: Beaufort County will work with the School District to promote making walking and bicycling a safe option for children traveling to school.
- New Development: Residential and commercial developments shall be required to include pedestrian and bicycle facilities to provide connectivity within their development and adjacent areas.



Of prime importance is connection to the Beaufort County trail and pathway system.

- Utility Corridors: Beaufort County should partner with utility providers to identify utility corridors that have the potential to be used for pathways.

### **Recommendation 10-11: Emergency Evacuation**

Beaufort County should work cooperatively with its municipalities, inland counties and the state to ensure that emergency evacuation times are minimized.

- Hurricane Evacuation Route Clearance Time Analysis: Beaufort County should implement the recommendations of the Hurricane Evacuation Route Clearance Time Analysis.
- Inland Counties: Beaufort County should cooperatively with Jasper and Hampton Counties to support initiatives that reduce evacuation times.
  1. Beaufort County supports the widening of SC 68 in Hampton County to facilitate the emergency evacuation of northern Beaufort County residents.
  2. Beaufort County will work cooperatively with Jasper County, the City of Hardeeville and LCOG