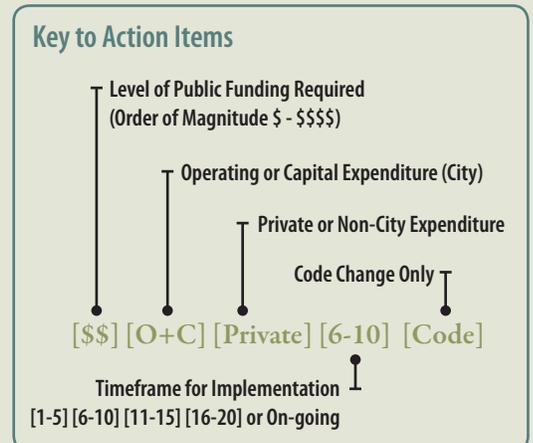




# CHAPTER SEVEN: CLIMATE CHANGE & ENERGY



# 7 CLIMATE CHANGE & ENERGY



The impact of our changing climate, both the natural warming cycle and any anthropogenic (man-made) influences is predicted to have the most dramatic impact along our coastlines where sea level rise and more frequent tropical storm activity will change the way our community faces the next 300 years.

Automobiles (and motorized transportation, generally) and power plants that feed electricity to our homes and businesses are the significant majority contributors to South Carolina's greenhouse gas emissions.

Alternative modes of transportation, energy efficiency in our buildings, and a continued focus on a compact urban form are the most efficient ways in which we can assist in the overall reduction in greenhouse gas emissions. In addition, other sustainability initiatives that reduce reliance on non-renewable energy sources as well as those technologies that encourage the harvesting of existing renewable resources such as solar and wind appear well-suited to Beaufort's climate, geography, and culture.

Based on public feedback from discussions with stakeholders prior to and during the charrette and from the public survey, there are two primary areas of concern regarding climate change and energy:

- Promote and Enforce Local Environmental Sustainability Practices
- Reduce Energy Use/Promote Alternative Energy Sources

## Key Recommendations

- CE 1.0 Reduce Greenhouse Gas Emissions
- CE 2.0 Enhance Resiliency to Natural Hazards
- CE 3.0 Promote Energy Efficiency and Renewable Energy
- CE 4.0 Reduce the Solid Waste Stream
- CE 5.0 Implement Sustainable Development Practices

## KEY PRINCIPLES

### 13 | Hazard Mitigation

*As a coastal community, we will feel the direct impacts of tropical storm activity and flooding. We must be prudent in our preparation for these expected hazards and mitigate against the loss of property to the greatest extent practical.*

### 14 | Climate Change

*We must participate in solutions that reduce or avoid potential impacts to our regional and global climate and in turn we must adapt to those conditions which are likely to be inevitable, most specifically sea level rise.*

### 15 | Resource Efficiency

*We will manage our consumption of renewable and non-renewable resources including energy and water and will continue to reduce our total waste stream. In addition we will be supportive of community activities that promote resource efficiency and the production of alternative energy and innovative water use and protection practices.*

*Climate Change***CE 1.0 | REDUCE GREENHOUSE GAS (GHG) EMISSIONS**

The South Carolina Climate, Energy and Commerce Committee issued a Climate Change Action Plan final report in July, 2008. This report indicated that in 2005, on a net emissions basis (i.e., including carbon sinks), South Carolinians accounted for only approximately 1.0% of total U.S. net GHG emissions. South Carolina's GHG emissions are rising faster than those of the nation as a whole. From 1990 to 2005, South Carolina's gross GHG emissions increased by 39%, while national gross emissions rose by 16%.

The principal sources of South Carolina's GHG emissions in 2005 were electricity consumption and transportation, accounting for 35% and 34% of South Carolina's gross GHG emissions respectively. The direct use of fuels—natural gas, oil products, coal, and wood—in the residential, commercial, and industrial (RCI) sectors accounts for another 19% of the state's emissions in 2005. The Energy Information Administration ([www.eia.doe.gov/oiaf/1605/excel/Fuel Emission Factors.xls](http://www.eia.doe.gov/oiaf/1605/excel/Fuel%20Emission%20Factors.xls)) estimates that each gallon of gas used emits 19.564 pounds of carbon dioxide. And by contrast, the total US transportation sector represents only 27% of the total GHG emissions indicating that both population increase and vehicles miles travelled (VMT) in South Carolina has a significantly disproportional impact on air quality and GHG emissions. As noted in that report, South Carolina has established a statewide goal of stabilizing VMT by 2010. (Source: [www.sclimatechange.us](http://www.sclimatechange.us))

As a means to encourage new building construction to better implement GHG targets, architect Edward Mazri set forth the 2030 Challenge in 2002 as “a global initiative stating that all new buildings and major renovations reduce their fossil-fuel GHG-emitting consumption by 50% by 2010, incrementally increasing the reduction for new buildings to carbon neutral by 2030.” The 2030 Challenge's mission is “to rapidly transform the U.S. and global building sector” through shifts in building planning, design, and construction practices and techniques.

**CE 1.1 Conduct an Emissions Inventory of City Operations.** Prior to the initiation of any actions, it is necessary to establish a baseline of greenhouse gas emissions for the City. There are a number of software tools available to assisting in the data collection and analysis. One such program, the Clean Air and Climate Protection (CACP) developed by the National Association of Clean Air Agencies (NACAA), ICLEI – Local Governments for Sustainability (ICLEI) and the U.S. Environmental Protection Agency (EPA) enables local governments to create greenhouse gas inventories, quantify the benefits of reduction measures and formulate local climate action plans. This free software available for download at [www.icleiusa.org/action-center/tools/cacp-software](http://www.icleiusa.org/action-center/tools/cacp-software) enables local governments to develop harmonized strategies to reduce both greenhouse gas and air pollution emissions. This one-stop emissions management tool calculates and tracks emissions and reductions of greenhouse gases (carbon dioxide, methane, nitrous oxide) and criteria air pollutants (NO<sub>x</sub>, SO<sub>x</sub>, carbon monoxide, volatile organic compounds, PM<sub>10</sub>) associated with electricity, fuel use and waste disposal and can provide the following tools:

- Create emissions inventories for the community as a whole or for the government's internal operations.
- Quantify the effect of existing and proposed emissions reduction measures.
- Predict future emissions levels.
- Set reduction targets and track progress towards meeting those goals.

[§] [O] [1-5]

**CE 1.2 Enact Land Use Policies and UDO Changes with the Goal of Reducing VMT.** The number one priority in implementing this goal is to work with local governments to encourage more efficient development patterns by encouraging and promoting highly connected street networks, higher residential and employment densities, and mixed-land uses in new and existing development. In Beaufort, this will be achieved through the continued refinement of the City’s Unified Development Ordinance. [\$] [O] [1-5]

**CE 1.3 Prioritize Transit, Bike and Pedestrian Improvements with the Goal of Reducing VMT.** In concert with the statewide plan, the goal of this policy recommendation is to enable personal trip making to move from single occupant gasoline-powered vehicles (SOVs) to lower-GHG-emitting transportation options, such as walking, bicycling, ridesharing, and mass transit. Its implementation would ensure that the state’s transportation system is fully integrated with and appropriately serves the development patterns called for under the previous recommendation. This goal will be accomplished by undertaking the following suite of activities:

- Expanding and improving bicycle and pedestrian networks and related facilities both as feeders and as stand-alone modes of travel in all areas of the community. [\$\$] [O+C] [On-going]
- Promoting and creating rideshare programs and improved transit programs within the public and private sectors. [\$\$] [O+C] [On-going]
- Implementing “complete streets” policies to ensure that all new roadways and streets accommodate multiple modes of personal transportation where practical and feasible. [\$\$\$\$] [O+C] [On-going]

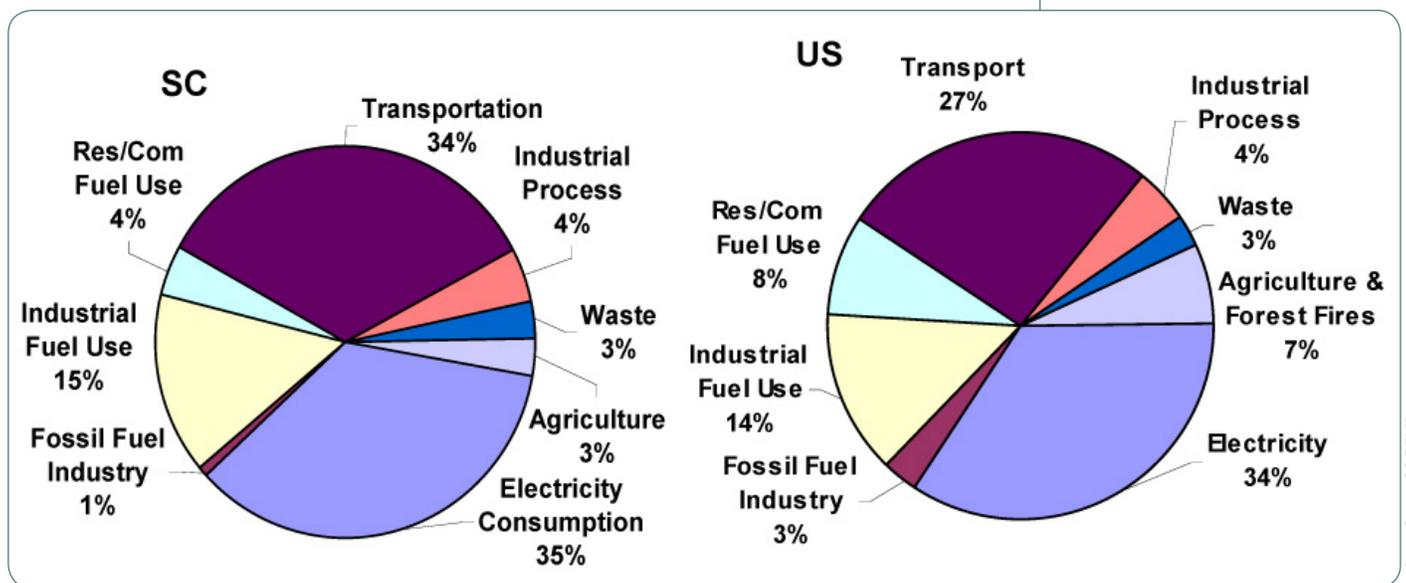


Image Source: SC DENR

**COMPARISON OF GHG EMISSION BETWEEN SC AND THE US (2005)**

The diagram above compares gross GHG emissions estimated for South Carolina to emissions of the US for year 2005. Principal sources of South Carolina’s GHG emissions are electricity consumption and transportation, accounting for 35% and 34% of South Carolina’s gross GHG emissions in 2005, respectively. The next largest contributor is the residential, commercial, and industrial (RCI) fuel use sector, accounting for 19% of gross GHG emissions in 2005. The waste management and agriculture sectors each contribute 3% of gross GHG emissions in 2005. (Final Draft South Carolina Greenhouse Gas Inventory and Reference Case Projections, 1990-2020 Center for Climate Strategies, June 2008, Principal Authors: Randy Strait, Steve Roe, Bill Dougherty, Andy Bollman, Holly Lindquist)

**CE 1.4 The City Will Seek Out Best Practices for the Reduction of GHG Emissions.** The City of Beaufort will engage the public; seek initiatives that have lower initial costs, positive return on investment, and can quickly reduce GHG emissions; propose longer-term projects with higher costs and longer payback periods; identify programs that will assist in reducing the impact of emissions that cannot be immediately removed; and create policies that help residents adapt to climate changes already underway (e.g., sea level rise). [\$] [O] [On-going]

### PLANNING FOR ENERGY AND CLIMATE UNCERTAINTY

Joint energy and climate strategies would do well to focus on two main goals: reducing overall consumption and meeting basic needs more locally. In this way communities can reduce their reliance on transoceanic supply lines, reduce their vulnerability to rising and volatile energy prices, and reduce their contributions to global warming. There are five key principles that local governments should integrate into ongoing decision making and long-range planning for addressing both peak oil and global warming:

1. **Deal with transportation and land use (or you may as well stop now).** Fundamentally rethink your land-use and transportation planning practices, from building and zoning codes to long-range planning. Make infrastructure decisions with 100-year timeframes, and work regionally to address the land-use and transportation challenges of energy and climate uncertainty.
2. **Tackle private energy consumption.** Use existing tools to encourage serious energy conservation and efficiency in the private sector. Engage the business community aggressively, challenging local leaders to reinvent the economy for the post carbon world.
3. **Attack the problems piece by piece and from many angles.** Use proven solutions, pursuing many different kinds of solutions at different scales. Enlist the entire community, setting clear community goals and spurring action from all sides to meet them.
4. **Plan for fundamental changes — and make them happen.** Educate local elected officials, staff, and community stakeholders about the challenges of energy and climate uncertainty and engage them in the discussion. Challenge them to find serious solutions and integrate peak oil and climate change considerations into decisions.
5. **Build a sense of community.** Get people talking with each other, forming relationships, and investing themselves in the larger community. The social resilience that comes from a strong sense of community and mutual investment is essential for meeting the complex and unknown local challenges of peak oil and global warming.

*Excerpted from "Post Carbon Cities" by Daniel Leach. Planning magazine. December 2008. [postcarboncities.net/node/4071](http://postcarboncities.net/node/4071)*

## *Hazard Mitigation/Climate Change*

### **CE 2.0 | ENHANCE RESILIENCY TO NATURAL HAZARDS**

One important element of the climate of Beaufort and of all coastal areas is the potential for devastating tropical storms and hurricanes. A 1994 Hurricane Risk report prepared for Hilton Head Island by the South Carolina Department of Natural Resources (DNR) lists 60 tropical cyclones which passed within 75 nautical miles of the Beaufort County barrier islands from 1886 to 1993. The most recent of these storms, Hurricane Floyd, necessitated the evacuation of Port Royal Island. Statistical analysis within the DNR study indicates that a storm with hurricane force winds could be expected to impact the region approximately every 11 years. Hurricanes and other tropical storms can impact coastal areas with high winds, heavy rainfall, tornadoes and storm surges. The impact that a hurricane has on a coastal community can depend on the way in which the community has planned for severe weather. Land use plans and emergency evacuation plans can work to mitigate the devastating effects of a hurricane through controlled development and organized emergency plans.

Storm surge can be modeled by various techniques; one such technique is the use of the National Weather Service's (NWS) Sea, Lake and Overland Surges from Hurricanes (SLOSH) model. The SLOSH maps indicate that for a Category 1 Hurricane, a significant portion of the County, including portions of the City of Beaufort would be inundated. As the Category of the hurricane increases, more land area becomes inundated until, in the case of a Category 5 storm, there are only pockets of land that are not inundated including some land located partially within the City of Beaufort and partially to its northwest (Gray's Hill).

The County's Flood Insurance Rate Maps (FIRMs) show that an estimated two-thirds (approximately 400 square miles) of the County's land mass lies within the 100-year floodplain, or Special Flood Hazard Area (SFHA). In the City of Beaufort, properties along the Beaufort River in the downtown portion of the city are subject to flood depths of about 3-6 feet during the base flood according to FEMA FIRM base flood and reference mark elevations. The base flood elevation along the river here is 13 ft NGVD while ground elevations range from approximately 7 feet (at the end of Hancock Street by the Beaufort River) to approximately 11 feet on the northwest side of the intersection of Carteret and Port Republic Streets. In 2004, there were an estimated 1,254 structures in the floodplain in the City of Beaufort, with less than 100 structures that were not covered under the National Flood Insurance Program.

**CE 2.1 Implement the Beaufort County Hazard Mitigation Plan.** *The Beaufort County Hazard Mitigation Plan, July 2004* was prepared by Greenhorne and O'Mara on behalf of Beaufort County Building Codes Department. The Plan addresses unincorporated Beaufort County, the City of Beaufort, the Town of Bluffton, the Town of Hilton Head Island and the town of Port Royal. The Plan was developed to assess the area's vulnerabilities to natural hazards and prevent future potential damage and loss of life. Due to the City of Beaufort's coastal location, the study found that the City is at risk for hurricanes, tropical storms, flooding, tornadoes, earthquakes and tidal waves.

The Hazard Mitigation plan includes several recommendations to improve the response capabilities of the municipalities as well as Beaufort County as a whole. Some of these recommendations include: Enhance the hazards education/public information program; protect historic community resources; promote seismic safety; continue to identify drainage problems and work towards their resolution; and preserve and protect natural resources.

This plan may be revised from time to time by the participating jurisdictions and all subsequent revisions are made a part of this plan by reference. [\$\$] [O+C] [On-going]

**CE 2.2 Work with Beaufort County to Develop a Plan that Addresses the Potential Impacts of Sea Level Change.** According to the US Environmental Protection Agency (EPA) “sea level is rising, and there is evidence that the rate is accelerating. Climate change is likely to further accelerate the rate of sea-level rise during the next century. Rising seas can inundate low-lying areas, increase storm-surge flooding, erode shorelines, convert wetlands to open water, and increase the salinity of estuaries and aquifers.” And though the United Nations’ Inter-Governmental Panel on Climate Change (IPCC) has not yet established a reliable timeline for when such a rise will occur, some significant rise is expected to occur in the next 50 years. This plan should consider how to address structures that are currently in these zones, under what conditions new structures could be constructed in these zones, and the identification of ways to mitigate against future losses with consideration for transition zones and expanded floodplain delineation. [\$\$] [O] [1-5]

**CE 2.3 Ensure that All Critical Facilities Located within the 100-year Floodplain are Adequately Protected.** The following critical facilities are located in the 100-year floodplain in the City of Beaufort. The City should work with the appropriate governmental entity to ensure the adequate protection of these resources from flooding events.

- Lady’s Island Fire District 1 Station - 237 Sea Island Parkway
- Lady’s Island Airport - 237 Sea Island Parkway
- Lady’s Island Middle School - 30 Cougar Drive
- Beaufort Post Office - 501 Charles Street
- Beaufort City Hall - 302 Carteret Street
- Mossy Oaks Elementary School - 2510 Mossy Oaks Road
- Beaufort High School - 2501 Mossy Oaks Road
- Beaufort Fire Dept Station #2 - 2517 Mossy Oaks Road
- Beaufort County Library - 311 Scott Street

[\$\$\$\$] [C] [On-going]

**IMPACTS OF  
POTENTIAL SEA  
LEVEL CHANGE WITH  
1 METER RISE**

*With a 1 meter (3 foot) rise, low lying areas that are already wetlands would be permanently inundated..*

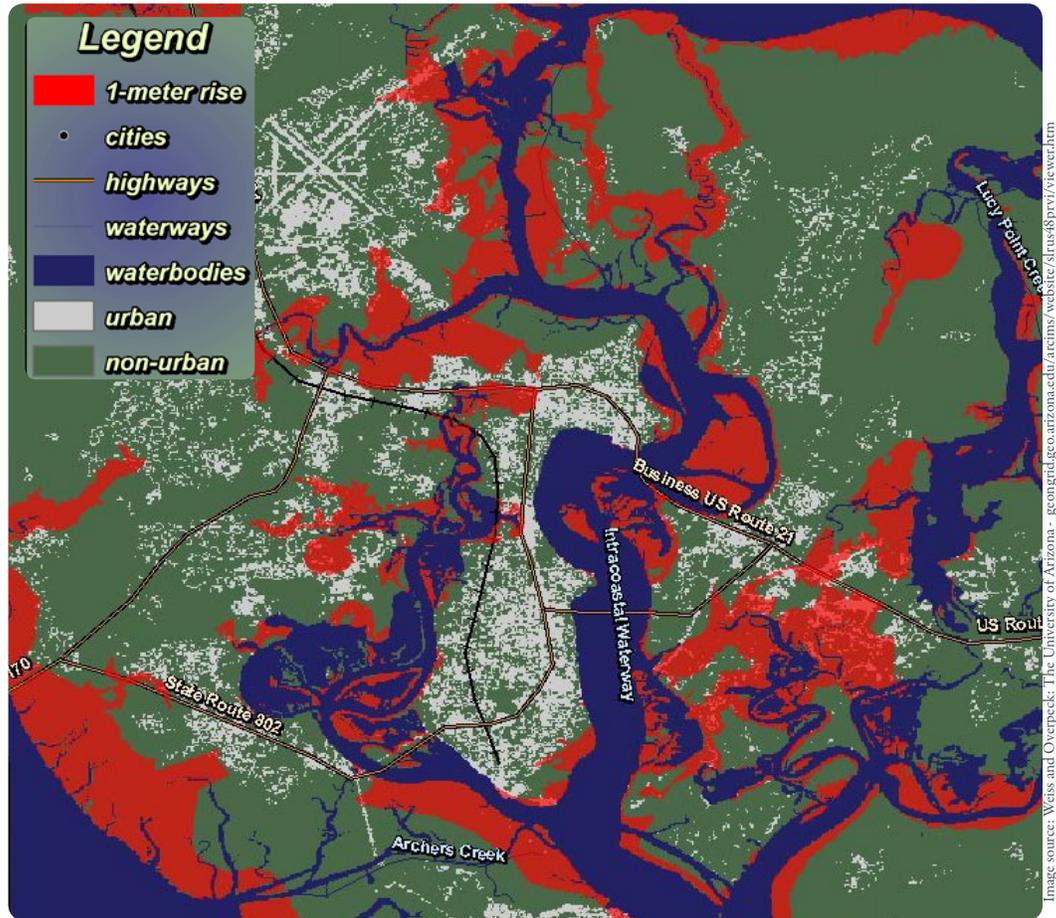


Image source: Weiss and Overpeck: The University of Arizona - geogrid.geo.arizona.edu/arcims/website/srusk/prvi/viewer.htm

**IMPACTS OF  
POTENTIAL SEA  
LEVEL CHANGE WITH  
3 METER RISE**

*With a 3 meter (9 foot) rise, a number of inhabited areas will be permanently flooded including Bay Street and The Point and many of the surrounding streets.*



Image source: Weiss and Overpeck: The University of Arizona - geogrid.geo.arizona.edu/arcims/website/srusk/prvi/viewer.htm

## ADDRESSING CLIMATE CHANGE IN SOUTH CAROLINA

The people of South Carolina have embraced the scientific consensus. As a recent poll revealed, the majority of South Carolina voters from both parties believe action should be taken now to address climate change. The state's leaders are acknowledging the issue as well. South Carolina Governor Mark Sanford wrote a piece in the *Washington Post* discussing his commitment to addressing the climate issue. Over two-thirds of the South Carolina House of Representatives and twenty-one State Senators signed open letters from their respective branches to the presidential candidates, calling on them to make "climate change a priority." More than 100 South Carolina Mayors, representing more than 1 million South Carolina residents, signed a similar letter. Additionally, five of these mayors have pledged to meet certain targets for greenhouse gas reduction in their own municipalities. . .

Taking into account the clear scientific consensus regarding climate change, South Carolina now stands at a crossroads. The state must make a decision to accept the challenge and grasp the opportunity climate change offers. Inaction is no longer an option. Globally, inaction is expected to result in economic costs equivalent to losing between 5% and 20% of the annual global GDP, "now and forever," and South Carolina is a particularly vulnerable state. The potential social, environmental, and economic costs associated with inaction are tremendous and threaten to negatively affect critical resources, including: tourism, real estate, insurance, infrastructure, human health, water resources, wetlands, fisheries, agriculture and forestry. While the cost of doing nothing is great, the economic opportunity is tremendous. Climate action will protect South Carolina's people, places, and economy while the state takes advantage of new markets and creates significant economic development opportunities.

Sea level rise, which is occurring right now, is caused by increasing ocean temperatures expanding the ocean's volume, and by meltwater being released where it was previously locked up in ice stores such as glaciers and ice shelves. . . Within this century, the IPCC predicts sea level to rise between 0.18 and 0.59 meters [0.56 to 1.9 feet]. This prediction is extraordinarily conservative because it does not include "the full effects of changes in ice sheet flow," which are considered, with greater than 90% certainty to contribute to sea level rise. Dr. James Hansen, Director of the NASA Goddard Institute for Space Studies and arguably the nation's top climate scientist, presents a more dismal prediction finding "it almost inconceivable that 'business as usual' climate change will not result in a rise in sea level measured in meters within a century." South Carolina's barrier islands will also be impacted by rising sea levels, which may go up as much as two feet by 2100. . .

The use of adaptation measures anticipating sea level rise. . . can dramatically reduce the potential losses from shoreline movement. But associated costs to address a 2-foot rise for just 1 developed island roughly the size of Hilton Head could be significant: \$462 million with no protection; \$285 million to raise the island to meet the rising sea; \$109 million for engineering an entire island retreat towards the mainland; or \$434 million to engineer a levee system. With a potential sea level rise of 8 feet, the projected costs increase dramatically to: a total economic loss with no protection; \$1.835 billion to raise the island; \$492 million for an island retreat; and \$1.010 billion for a levee system. Science thus supports the theory that a rigid policy of no protection may eventually lead to the abandonment, destruction, and disappearance of most of South Carolina's barrier islands, representing a total economic loss with consequential impacts on the mainland due to the loss of storm protection provided by the islands. . .

*Excerpted from "Climate Change and South Carolina's Economy" by Art von Lebe originally published in the Southeastern Environmental Law Journal, volume 16.2, in 2008.*

*Resource Efficiency/Climate Change***CE 3.0 | PROMOTE ENERGY EFFICIENCY AND RENEWABLE ENERGY**

The issue of energy independence and alternative energy production came to the forefront in 2008 with the combined advent of \$4.00 per gallon gasoline in the summer of 2008 and the acknowledgement that a large percentage of our country's greenhouse gas emissions are caused by traditional power generation facilities such as coal-fired electric and natural gas plants - facilities that consume non-renewable resources to generate the electricity. As a result, the country has accelerated the investment in technologies to maximize usage clean energy facilities that incorporate renewable resources.

*[Note: portions of the following narrative have been adapted from the Beaufort County Comprehensive Plan]*

**ENERGY EFFICIENCY**

When addressing energy issues, achieving energy efficiency should be the first consideration, especially at the City level. Energy efficiency is accomplished when less energy is used to provide the same service. For example, a well-insulated building allows the occupants to enjoy the same room temperature while using less energy for heating and cooling. This is achieved by a combination of changing technologies and behavior.

Measures include the use of efficient and appropriately sized HVAC systems, proper insulation, efficient appliances, high performance windows, and low wattage lighting. When compared to the cost and effort to increase energy production, efficiency is the "low hanging fruit" of the energy equation.

**RENEWABLE ENERGY**

Renewable energy is energy generated from natural resources, such as sunlight, wind, and tides, which are naturally replenished. As energy costs rise, there is a growing market nationally for many forms of renewable energy. Beaufort County with its many days of sunshine, offshore winds and large tidal range has unique opportunities to facilitate and promote the generation of renewable energy.

**Solar Energy** utilizes the light from the sun to produce power. Unlike fossil fuels, solar energy is available anywhere on earth. Solar energy is free, immune to rising energy prices, and can be used to provide heat, lighting, mechanical power and electricity. With an average of more than 230 days of sunshine, solar power has great potential in Beaufort.

A 30 percent federal tax credit for solar power was extended for eight years in October 2008. The law removes a \$2,000 monetary cap for residential solar electric installations, thereby providing a greater incentive to homeowners to invest in solar energy. In addition, South Carolina allows taxpayers to receive a 25% tax credit for the amount expended for the purchase and installation of solar generating devices.

**Biomass** energy is a renewable, homegrown energy source that includes trees, farm crops, manure, plants, and landfill gas. Currently biomass and wood waste in Beaufort County are incinerated with no energy recovery or placed in a construction and demolition (C&D) landfill. In fiscal year 2008, the County collected 9,500 tons of yard waste and 2,000 tons of C&D debris. Two options for beneficial reuse of these materials are incinerating with energy recovery and composting to produce a mulch product.



Image Source: Clemson University



Image Source: www.dynamicpatents.com

*“The things that really work brilliantly are the simplest design decisions—integrating workers with housing, integrating mixed-use, reducing the need for travel, . . . and providing access to locally produced food, local goods and services. Then reduce the demand for heat and power using a high level of insulation, passive solar orientation, good daylighting, good shading strategies, natural ventilation, a passive heat-recovery ventilation system . . . [T]hen create basic renewable energy systems.”*

*-Bill Dunster, founder of ZEDfactory, Urban Land Magazine, June 2008*

**Wind** turbines have been used for hundreds of years to pump water from wells, but they have only been used to produce electricity for about three decades. Wind turbines require a sustained wind speed of 12.5 MPH to generate electricity cost efficiently. South Carolina wind resources are a viable economic energy resource, however, a scarcity of reliable documentation on local wind power has prevented its use. Marked advancements in recent years in wind turbine technology and wind mapping technology have greatly increased our ability to better locate and utilize this valuable renewable resource.

The South Carolina Energy Office, Clemson and Coastal Carolina Universities, and the Savannah River National Lab are cooperating to research the potential for generating wind energy off the coast. Issues to be addressed include identification of the needs and barriers of integrating offshore wind energy into the power grid; identification of technology that can transfer the power to the shore; and establishment of a state task force to determine the economic and environmental effects of wind energy and create a permitting process for wind farms in state waters.

**CE 3.1 Consider Conducting an Energy Audit.** An energy audit is an inspection, survey and analysis of energy performance and usage in a building or group of buildings designed to identify opportunities to reduce energy consumption while maintaining the same level of service. Typically, an energy audit looks at insulation, windows, the HVAC system, lighting and appliances to determine opportunities for energy savings. The Audit should also include an evaluation of the feasibility of using renewable energy, such as wind and solar, to reduce energy costs in city facilities. Energy audits are often achieved through a performance contract with an energy service company. Under a performance contract, a building owner, such as the City of Beaufort, would enter into an agreement with an energy service company to perform an energy audit and to make the energy saving improvements at no up front cost to the owner. Over the contract period (typically 5 to 20 years), the savings from reduced utility bills are used to pay for the facility improvements. The City of Charleston entered into an energy performance contract in 2001, which is projected to eventually result in a 16% reduction in energy and gas usage and \$18.4 million in energy and operational savings. [\$\$] [O] [1-5]

**CE 3.2 Support Energy Efficiency Retrofit Programs.** As the City contemplates programs to upgrade existing public and private substandard buildings, the City can support low-income weatherization programs such as the Weatherization Assistance Program offered through the US Department of Energy, and assist agencies who are implementing these programs to seek available state and federal funds. [\$] [O] [On-going]

**CE 3.3 Evaluate Regulatory Barriers to Renewable Energy and Provide Incentives for their Use.** The City should analyze its development regulations to ensure that regulatory barriers (e.g., height limitations, etc.) provide appropriate standards for solar collectors and wind generators as accessory uses. The City should also look for opportunities, through streamlined permitting or other means, to promote the use of renewable energy technologies locally. The City can also assist private communities in working to change barriers placed by restrictive neighborhood covenants. [\$] [O] [1-5]

**CE 3.4 Protect Solar Access.** Solar access is the availability of (or access to) unobstructed, direct sunlight. In general such rules note that no building may be constructed or plant may be placed or allowed to grow such that it shades a collector more

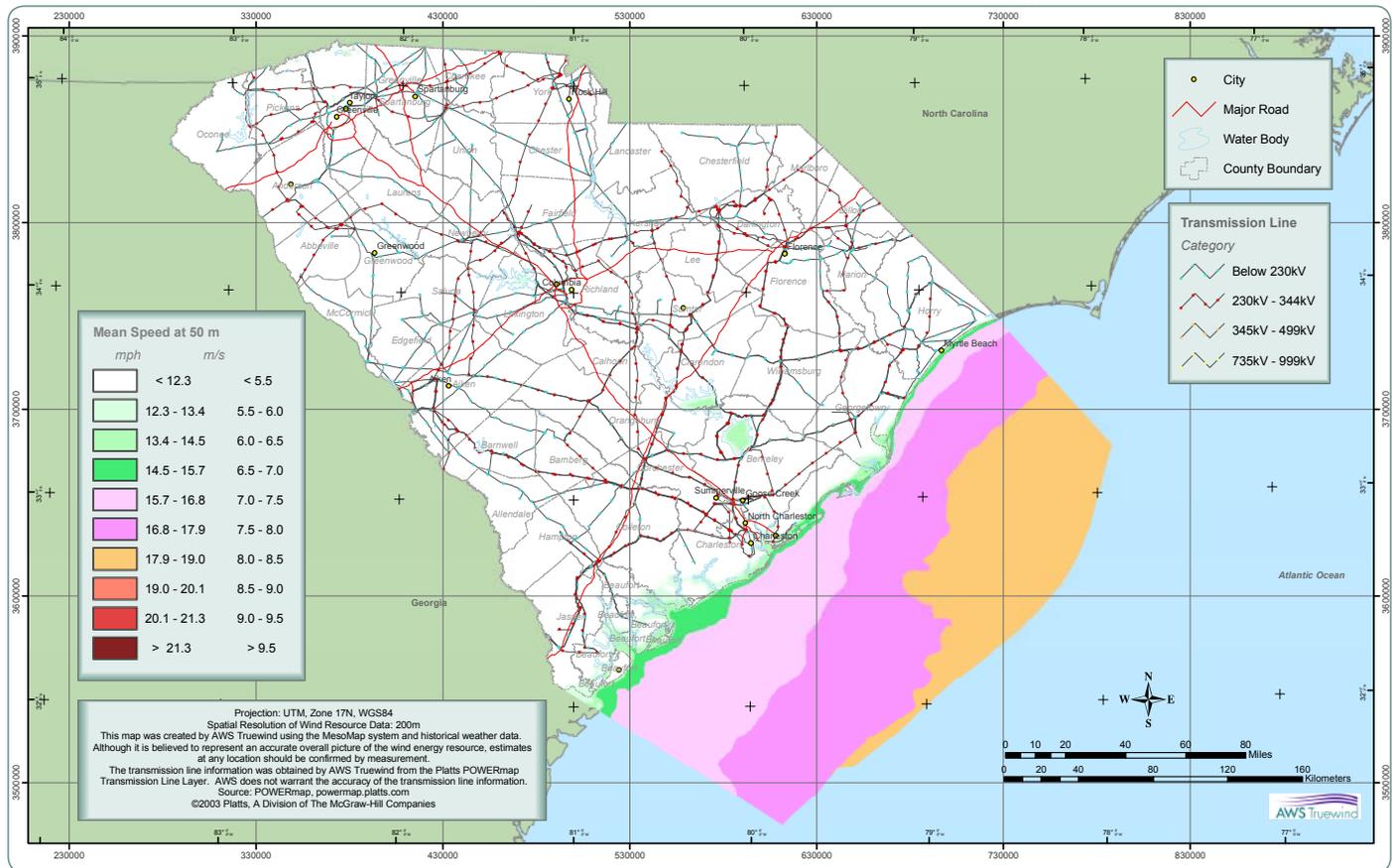


Image Source: SC Energy Office

### WIND ENERGY POTENTIAL MAP

South Carolina’s coast has some of the highest wind energy potential in the United States. The map above shows the median wind speed at 50 meters above sea level.

than 10% from 10 am to 2 pm. In addition, all new subdivisions and planned unit developments are encouraged to be designed to accommodate the present or future use of passive and active solar energy systems with special attention given to street, lot, and building orientation. In this regard, the most important solar access regulation for subdivision development is the ability to align streets in a predominantly east-west street orientation. This promotes optimal building orientation for solar access. It is important to note this type of regulation is not appropriate for more urban conditions (G2, G3, and G4 Sectors in the Framework Plan) where buildings are closer together and often taller. [§] [O] [1-5]

**CE 3.5 Support the Implementation of Renewable Energy Technologies.** The City will work cooperatively with neighboring local jurisdictions, MCAS-Beaufort and the state to encourage the construction of renewable energy facilities. [§] [O] [On-going]

*Resource Efficiency***CE 4.0 | REDUCE THE SOLID WASTE STREAM**

The City of Beaufort coordinates all solid waste collection, recycling pickup and management for City residents and businesses. After collection, all putrid refuse is taken to the Hickory Hill Landfill site in Jasper County. Biodegradable organic solid waste, such as: leaves, limbs, grass clippings and yard debris are taken to Barnwell Resources Landfill on Lady's Island. These are the landfills used by all Beaufort County political subdivisions and the County's unincorporated areas.

Recycling services are currently available to all City residents, but not to commercial properties in the City. The City provides recycling bins which are used by residents to separate recyclables from garbage. Currently, thirteen different types of recyclables are accepted including glass, plastic and paper goods.

- CE 4.1 Expand Recycling Programs to Commercial Properties.** Corrugated cardboard is one of the easiest, most valuable and sought after materials to recycle. Often, a business may generate new revenue by simply choosing to recycle cardboard or what the recycling industry calls Old Corrugated Cardboard (OCC). In addition, a business frequently sees a significant drop in disposal costs when it begins recycling OCC as cardboard is bulky and takes up a lot of space in dumpsters. [\$] [O] [1-5]
- CE 4.2 Institute a Regular Household Hazardous Waste Pick Up Day.** Household hazardous waste is leftover residential hazardous household products such as cleaners, pool chemicals, lawn and garden care products, paint products, automotive fluids, medicine and some beauty products. These products are either flammable, corrosive or caustic, explosive or reactive, or toxic or poisonous. Improper disposal can contaminate septic tanks, landfills, wastewater treatment plants, rivers, lakes and streams. A semi-annual collection day at key locations around the City will help facilitate the proper collection and disposal of this waste. [\$] [O] [On-going]
- CE 4.3 Expand the "No Dumping-Drains to River" Program.** Mount a public education campaign concerning the proper disposal methods of oil, grass clippings, pet waste and other household wastes to help keep pollutants from draining into water resources. In addition to written material, continued stenciling of all storm drains with the "No Dumping - Drains to River" phrase will help people better understand where the stormwater drains lead to. [\$] [O] [On-going]
- CE 4.4 Encourage Backyard Composting.** Composting is the controlled natural decomposition of organic material such as leaves, yard trimmings and fruit and vegetable scraps. The composting of yard waste such as grass trimmings and leaves will help to divert this waste and other organic material from the landfills. [\$] [O] [On-going]

*Climate Change/Resource Efficiency*

**CE 5.0 | IMPLEMENT SUSTAINABLE DEVELOPMENT PRACTICES**

The introduction of energy efficiency in the development of sites and design of buildings is an important facet to the overall environmental sustainability of any community. Energy efficiency and environmental friendliness must marry the building, the site and its location, and the greater community. With the substantial advances in building construction technologies over the last ten years and the rapid integration of new “green” products into the marketplace, the incremental cost of construction has all but been eliminated for new construction.

The US Green Building Council (USGBC) estimates that the slight increase in building costs that incorporate green standards are absorbed into lower utility bills and decreased maintenance over a relatively short period of time (often 2-5 years). Also, commercial building occupants report a range of other secondary benefits including lower absenteeism, lower illnesses, and a more productive workforce.

The USGBC manages the Leadership in Energy and Environmental Design (LEED) Green Building Rating System as a national, consensus based, market-driven building rating system designed to accelerate the development and implementation of green building practices. It is a leading-edge system for designing, constructing and certifying environmentally and economically sustainable site, buildings, and neighborhoods. The first LEED certified building in Beaufort County was completed in 2008 by the Beaufort Jasper Water & Sewer Authority (BJWSA).

Whether it be for global concerns of climate change, national concerns of energy independence, community concerns for environmental sustainability, or household concerns about the cost of energy, the use of green building practices can have significant impacts with some often very subtle and inexpensive changes to conventional approaches.

**CE 5.1 Establish a City Policy for Sustainable Building and Infrastructure Practices.** Like municipalities across the country, the City should use the LEED guidelines for certifying all new public buildings as energy efficient and environmentally sustainable. All new or expanded public buildings in Beaufort should be designed and constructed at a minimum level of LEED-Silver. Additionally, all infrastructure projects such as parking lots, streets, and parks should include low impact design and/or light imprint techniques in both design and construction. These techniques reduce the environmental footprint of a building and promote sustainable development practices. The City can provide a valuable marketing and testing ground for local green building practices. The City of Chicago is implementing a similar requirement across all of its public buildings and is retrofitting many of them to achieve the goals. The most widely publicized of their retrofits is the installation of various roof systems. They are using “green” roofs such as a planted garden or “white” roofs (white painted surfaces to reflect sunlight rather than absorb it) for all new construction, particularly for public uses such as fire stations and schools. Such roofing systems not only reduce energy costs on the buildings, but garden roofs can also be designed to capture and filter stormwater during a rainstorm. **[\$] [O] [1-5]**

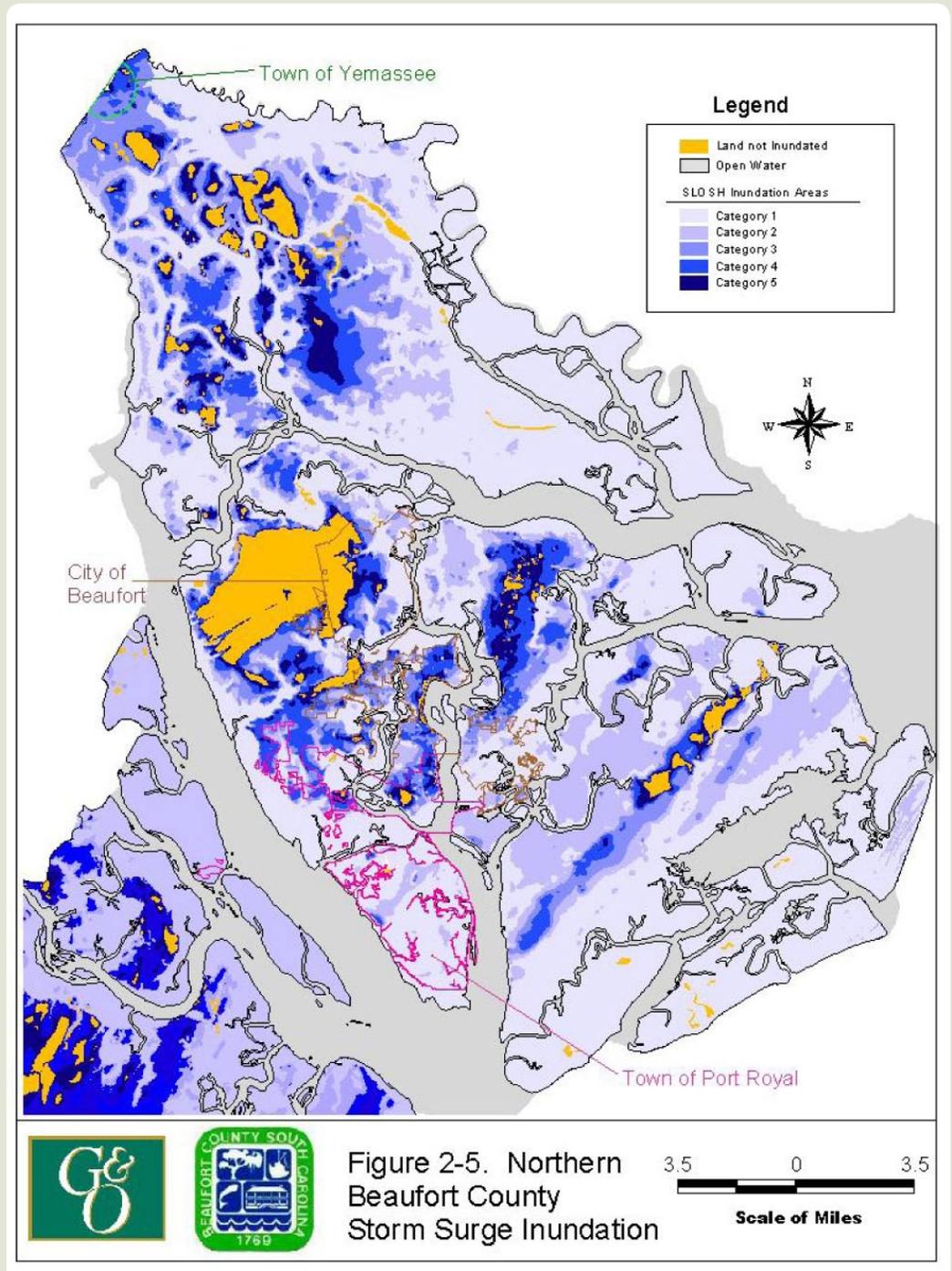


*The image above is a page from the checklist for LEED for New Construction v. 2.2*

- CE 5.2 Endeavor to Make Sustainable Construction Practices Part of the Culture of Development in Beaufort.** The Technical College of the Low Country is developing a LEED “Green” Building Construction Training and Employment Project, which will provide participants with education and training for certification as an Alternative Energy Construction Technician (AECT). In addition, the City and County can continue to partner to host speakers, workshops and other training opportunities. [\$\$] [O] [On-going]
- CE 5.3 Establish Incentives to Implement Context-Sensitive Environmentally Sustainable Building and Development Practices.** The City will consider green building incentives at the local level for developers who consider the use of the LEED rating system for sustainable building practices. Arlington County, Virginia has a LEED Certification Incentive Program entitled “Building Green, Building Smart.” If projects achieve the minimum LEED certification of Silver then they can receive up to 3 additional stories and/or .35 additional Floor Area Ratio (FAR). The City of Seattle provides direct grant funding and technical assistance for soft costs related to LEED documentation, building commissioning and certification. The City of Germantown, TN provides reduced or waived permitting fees and a streamlined entitlement process as well as permitting certain projects to qualify for additional levels of public partnership. [\$] [O] [1-5]
- CE 5.4 Incorporate LEED ND (Neighborhood Development) Standards into the UDO.** The rating system addresses a myriad of issues including housing affordability, access to services and public spaces, local food production, water conservation, solar orientation, energy efficiency, and light pollution. [Code]

### BEAUFORT COUNTY HAZARD MITIGATION PLAN

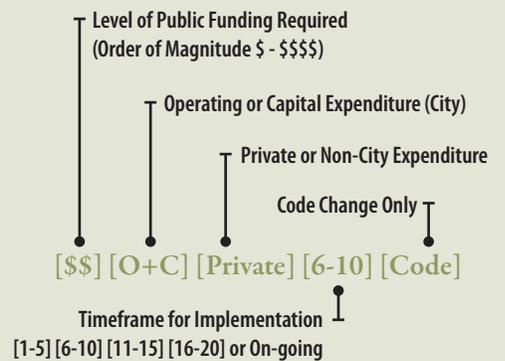
Beaufort County, South Carolina and its incorporated communities prepared this Hazard Mitigation Plan in July, 2004 to assess the communities' vulnerabilities to natural hazards and prepare a long term strategy to address these hazards and prevent future damage and loss of life. This plan was created through participation from county and municipality officials, residents, and business owners and represents the community's consensus.





# CHAPTER EIGHT: SOCIAL INFRASTRUCTURE

## Key to Action Items



# 8 SOCIAL INFRASTRUCTURE



The social fabric of Beaufort is of prime importance to our citizens. Our community is comprised of families whose lineage dates back to the City’s incorporation as well as those who have moved here last week. Back and white, young and old, rich and poor, we are a diverse community that values the rich heritage of our built environment and the public spaces that we all share - our neighborhoods, our streets, our parks, and our waterways.

We recognize that Beaufort is a living community with residents from many backgrounds, each with their own unique needs and expectations. But more important, new residents and visitors alike are welcomed as if they had always lived here. This spirit of welcomeness to “newcomers” and “outsiders” likely traces its roots, as one long-time resident put it, “to the fact that we are largely a military community. With Marines coming and going through Parris Island and MCAS-Beaufort on a regular basis, most long-time residents simply were accustomed to making friends on a two-year cycle.”

There are many aspects to sustaining the social and civic vibrancy of a community. Based on feedback from City residents and stakeholders, elements of neighborhood sustainability, housing, historic preservation, arts and culture, and parks are top agenda items on the community’s social and civic agenda.

## Key Recommendations

- SI 1.0 Enhance and Expand our Park System
- SI 2.0 Continue Reinvestment in our Neighborhoods
- SI 3.0 Provide Housing for a Diverse Population
- SI 4.0 Protect and Preserve Our Historic Resources
- SI 5.0 Expand the Arts and other Cultural Resources
- SI 6.0 Encourage Local Food Systems

## Key Principles

*8 Neighborhoods | We believe that all our neighborhoods, including the downtown, must be vibrant and diverse and thus require consistent and continual public and private attention, maintenance and re-investment. Our neighborhoods should be reinforced in all planning and infrastructure projects.*

*9 Parks & Public Open Spaces | The City will permanently preserve and expand a community-wide parks, recreation and open space network that serves the entire city from the neighborhood playground to the regional reserve.*

*10 Historic and Cultural Resources | Beaufort is a living, dynamic community and must balance the protection of its abundant natural, cultural, institutional and historic resources with managed growth that adds to the community’s character for future generations without degrading those resources which we value.*

*11 Social Diversity | We will maintain and celebrate the integrated ethnic and socioeconomic diversity of the community. To this end, we are committed to the provision of affordable and workforce housing throughout the city.*

*Parks & Public Open Spaces***SI 1.0 | ENHANCE AND EXPAND OUR PARK SYSTEM**

The ownership and maintenance of parks within the City of Beaufort is divided between the City, which has jurisdiction over all passive park areas, and the Beaufort County Parks and Leisure Services Department, which maintains all active recreation parks and facilities in the City and County. There are currently 27 areas designated as parks in the City totaling approximately 50 acres of land. This area does not include federally owned and operated land such as the National Cemetery. Many of the City's parks are small "pockets" of land scattered throughout the City which have been preserved through the work of the Beaufort County Open Land Trust or other preservation means. These small parks are a benefit to the community, but they do not necessarily meet the parks and recreation needs of Beaufort's residents.

Waterfront Park is the largest and most prominent of Beaufort's parks. The seven acre park area lies between the Beaufort River and the downtown Beaufort businesses fronting Bay Street. The current design of the park was completed in 1979 according to plans by Landscape Architect Robert Marvin. The park ties together such important elements as the Beaufort marina, the downtown commercial district and the Point, and serves as host to a variety of events. Since its construction, Waterfront Park has remained the heart of Beaufort but with the passage of time it experienced deterioration in structural integrity. This park was completely renovated in 2007 and serves once again as the crown jewel of the community.

Pigeon Point Park at the northern extreme of Beaufort is a passive recreation park in the midst of a residential neighborhood. The approximately six acre park contains some children's play areas as well as the Pigeon Point boat landing and fishing pier farther down Pigeon Point Road. This recently renovated park is considered by many to be the standard for neighborhood parks in the City. A complete list of the City's parks, open space and cemeteries can be found in the 2003 City of Beaufort Open Space Master Plan.

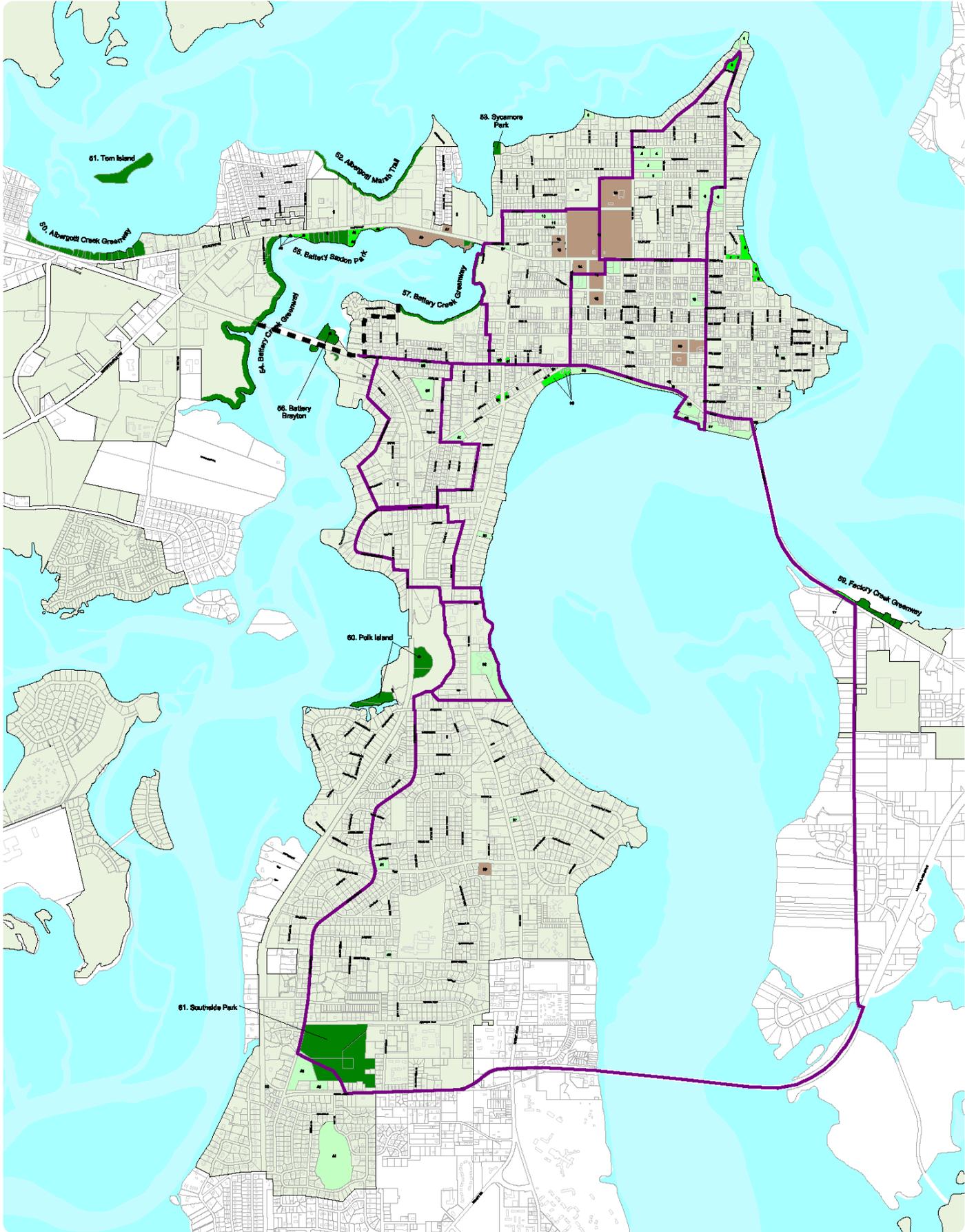
The map on the next page shows the variety of park spaces in the City of Beaufort. Largely unimproved small lots scattered throughout each neighborhood, often in public hands because of utility needs or tax foreclosures, they each represent opportunities to improve the neighborhoods. From small pocket parks to large community parks, the City is in need of a variety open spaces.

The following is a list of the public's priorities expressed during this planning process:

- Provide and Encourage Parks/Greenspace within Neighborhoods/Districts
- Expand/Promote Utilization of Waterfront Park
- Expand Open Space/Greenspace Preservation
- Plan, Expand Trail Network
- Build Dog parks
- Explore Creative Ways to Fund/Maintain Parks
- Enhance Public Water Access

It is also important to note that parks and greenways were among the top 5 items that survey respondents would be willing to pay additional taxes for.

**SI 1.1 Develop an Inventory of Needs for the Improvement of the Existing Neighborhood Parks.** It is important to ensure that the existing parks in the City's system have adequate capitalization and maintenance. It will be necessary to determine which City parks are under-utilized and plan for improvements to make



▲ **2003 OPEN SPACE MASTER PLAN MAP**

*The map indicates both future park and open space facilities as well as all current parks, open spaces and cemeteries.*

those parks more usable to adjacent residents. Expenditures for these parks should be directed towards improving a sense of community in developing and redeveloping neighborhoods. [\\$] [O] [1-5]

**SI 1.2 Identify a Regular Funding Mechanism for the Maintenance and Improvement of the Park System.** Like so many other facilities in Beaufort, the funding of parks are subject to the annual appropriations of the City Council. There is not currently a revenue stream that has been identified specifically for parks, recreation, or open space. Many communities throughout the country have established programs like a dedicated sales tax or bond-funded program that is geared for such a program. Residents surveyed as a part of this comprehensive plan process indicated that they would be very willing to pay additional taxes for the renovation and construction and construction of parks. [\\$] [O] [1-5]

**SI 1.3 Plan and Improve the Southside Park.** The Southside Park, at the site of the former wastewater treatment plant, is the largest park area held by the City of Beaufort and represents a wonderful opportunity to combine elements of truly sustainable design and environmental management with passive and active recreational elements. As suggested in Section 10.8, this plan should consider some private investment as a means to provide the necessary capital to implement the public improvements. [\$\$\$\$] [C+Private] [1-5, 6-10, 11-15, 16-20]

**SI 1.4 Improve Other Parks Throughout the City Following the Development of Neighborhood Plans.** Neighborhood parks along with street infrastructure represent the largest public investment that a community can make in improving a neighborhood. But it is important to note that simply building a park in a fragile neighborhood will not ensure its revitalization. This plan therefore recommends that prior to the planning for the improvement of any neighborhood park, that an overall neighborhood master plan be completed as a means to best leverage public investment with anticipated private investment. [\$\$\$\$] [C+Private] [1-5, 6-10, 11-15, 16-20]



◀ **A CONCEPTUAL PLAN FOR THE DEVELOPMENT OF THE SOUTHSIDE PARK**

*The plan illustrates how a portion of the planned Southside Park can be privately developed as a means to provide a sense of security in the park as well as to provide the necessary capital to be able to implement the desired features of the park. This plan is but one way in which this desired goal can be achieved. Further study is necessary to appropriately discern the right mix and location of the various components.*

**SI 1.5 Enhance Recreation Space Requirements.** Currently, the UDO only requires open space provision for PUD developments. This plan suggests that the City require recreation space dedication for all new residential development of a certain acreage or number of units, and that the amount and type of open space (active, passive, natural, urban, etc.) be detailed and assigned based on the land use context, including proximity to existing or planned public parks, and the type of development. (The transect method can be useful in classifying types and size of open space based on the urban, suburban, or rural context.) The amount of recreation space required should be based on the number of users versus size of lot (per bedroom is a useful factor). Open space dedication should also be linked to existing park and greenway plans. Development incentives such as density bonuses should be considered for certain open space improvements, such as greenways. Incentives or requirements for making recreation space publicly accessible should also be considered. Furthermore, additional standards for the design and minimum requirements for recreation space need to be developed. And where the provision of open space is infeasible, the code should offer a payment-in-lieu option to provide necessary capital improvements at other city-owned parks. **[\$] [O] [1-5]**

There are three basic approaches to open space dedication:

Open Space Strategy	Advantages	Disadvantages
Sliding scale % of land (i.e., 5-10%)	Easily measured	Not reflective of number or types of users
Area per housing unit	Easily measured – closer measure of need	Not as reflective of types or number of users in the neighborhood (typical apartment occupancy is less than single family, but greater density)
Area per bedroom	Greatest coordination between population and need for open space	Can be difficult to measure – can use averages based on building type (i.e., 2 bedrooms in town homes, 3 in single family)

The type and character of open space should be influenced by the surrounding uses (i.e., retail, office, residential) as well as by the prospective user groups (i.e., residents, workers, shoppers, youth, seniors).

Beaufort should also consider a payment-in-lieu-of-dedication option for developers where it isn't practical to dedicate a reasonably sized tract or where the development is in walking distance to another public park or open space that can be improved.

**SI 1.6 Evaluate How Best to Develop and Maintain Small Neighborhood Parks (Less than an Acre).** The best neighborhoods are those that have good access to public park space. In some cases in Beaufort, residents will be able to walk to a community park whereas in others, small playgrounds or squares such as those in Savannah will be more appropriate. While many small parks scattered throughout the City is desirable, the City will need to set appropriate policies for the construction and maintenance of small parks to balance accessibility and operational efficiency. **[Code]**



*Downtown Neighborhood*



*Broad Street Neighborhood*



*Northwest Quadrant Neighborhood*

## *Neighborhoods*

### **SI 2.0 | CONTINUE REINVESTMENT IN OUR NEIGHBORHOODS**

As with any community, the neighborhoods are the fundamental building block. A community with stable and thriving neighborhoods is prosperous and sustainable. Not surprisingly, Beaufort is comprised of many neighborhoods; some large and some small; some historic and some recent; some vibrant and stable and others fragile or threatened. Neighborhoods are Beaufort's civic and social infrastructure. It is where neighbors meet each other while walking on the street. It is where their children play together. And it is where many form the bonds of friendship to help support others in times of needs and celebrate times of joy.

To date, there has not been a comprehensive plan for neighborhood reinvestment. Improvements such as new sidewalks, repaired drainageways, and even street lighting has been completed on an ad-hoc basis within the context of each department or service entity. As a result, while many neighborhoods have seen a modicum of public investment, few have been able to leverage these investments in any real and meaningful way to encourage housing improvements.

The public echoed the need to continue investment and focus on neighborhoods. Some of their key comments are below:

- Build Community Partnerships, Enhance Neighborhood Character, & Promote Community Interaction/Understanding
- Invest in Neighborhood Amenities & Infrastructure: Parks, drainage, utilities, etc.
- Mix Housing types and densities, but with sensitivity to neighborhoods
- Develop Neighborhood Standards/Guidelines
- Provide Property Owner Assistance to Residents who want to Stay in Beaufort
- Plan for and Provide for an Aging Population
- Encourage a Broad Range of Housing Options
- Serve a Broad Range of Constituents, Especially Workforce, Young Families, and Low Income
- Focus on Housing Repairs/Renovations
- Promote Residential Density/Infill/Appropriate locations; Mix Uses
- Develop Creative Funding Sources for Affordable Housing
- Increase Residential Design Standards
- Streamline Regulatory/Approval Process
- Promote and Support Education/Financial Literacy re: Housing & Regulations

**SI 2.1 Prepare Small Area Plans for Neighborhoods and Districts.** A City-wide plan rarely gets to a level of detail that can satisfy all of the needs and desires of specific small areas within the jurisdiction. Much feedback from citizens and stakeholders in this planning process related to issues and recommendations that can only be fully explored in the context of a focused small area or neighborhood plan. As a way to build on and further detail the recommendations from the Comprehensive Plan effort, additional small area or corridor plans should be considered over the next decade, including:

- The Northwest Quadrant/Bladen Street Neighborhood
- Southside Park area
- The Lafayette Street/Park Street area
- Downtown

The City should consider developing at least one or two small area/neighborhood plans every year subject to budgetary limitations. These plans should include, at a minimum, and as appropriate for each area: a natural resource inventory and recommendations for natural preservation; transportation strategies for all modes; public open space strategies; housing strategies; historic and cultural preservation recommendations; market analyses for economic development and new investment; branding strategies; design guidelines; and recommendations for regulatory changes and capital investment. [\$\$] [O] [On-going]

**SI 2.2 Investigate Dedicated Revenue Streams for Neighborhood Reinvestment.** Richland County, SC, as a part of the Neighborhood Planning program has dedicated a certain millage of their tax rate to go towards neighborhood improvements. This enables the County to be able to implement a number of the recommendations that come from comprehensive neighborhood planning and greatly facilitates their long-term success. While it is understood that a variety of funding mechanisms (local, state, and federal) may be identified during a comprehensive neighborhood plan, it would be ideal to have some seed money available to each neighborhood following the completion of a plan. [\$\$] [O+C] [On-going]

**SI 2.3 Encourage greater development density.** One of the most important opportunities for Beaufort given the high cost of land and the sensitive environmental conditions is to use the most buildable land more efficiently by building more compactly and more vertically. Higher-density development is a key element to creating walkable communities can also contribute to a wider range of housing choices and more affordable housing options. (Smart Growth Network, 2005)

Increased density also benefits environmental goals and water resources. The U.S. Environmental Protection Agency (EPA) examined stormwater impacts from various different development scenarios. Their analysis concluded that the higher-density scenarios generate less stormwater runoff per house at all scales—one acre, lot, and watershed. For the same amount of development, higher density development produces less runoff and less impervious cover than low density development; and For a given amount of growth, lower-density development impacts more of the watershed. (EPA, 2006) [\$] [O] [1-5]

**SI 2.4 Focus on Making Neighborhoods Pedestrian-Friendly.** More than just constructing sidewalks (through this is a wonderful start for those neighborhoods where they are absent), neighborhoods have an obligation to their residents to be places where people can comfortably enjoy the mild climate that Beaufort offers. Research over the past decade has shown that the average comfortable walking distance for Americans is approximately a quarter-mile or a 5-minute walk. Public health studies (e.g. Dannenberg, Jackson, Frumkin, and Schieber, “The Impact of Community Design and Land-Use Choices on Public Health: A Scientific Research Agenda”)

*Communities need a continuity and affirmation of public policy as it relates to high-density development, even through elected leadership changes and market cycles. In other words, communities shouldn't treat high-density development as a passing fad, but rather as a time-tested successful trend that's here to stay.*

*~Broderick Perkins  
(Executive Editor of  
Deadline News Group)*

#### WHAT MAKES A NEIGHBORHOOD WALKABLE?

- **A Center:** Walkable neighborhoods have a discernable center, whether it's a shopping district, a main street, or a public space.
- **Density:** The neighborhood is compact enough for local businesses to flourish and for public transportation to run frequently.
- **Mixed income, mixed use:** Housing is provided for everyone who works in the neighborhood: young and old, singles and families, rich and poor. Businesses and residences are located near each other.
- **Parks and public space:** There are plenty of public places to gather and play.
- **Pedestrian-centric design:** Buildings are placed close to the street to cater to foot traffic, with parking lots relegated to the back.
- **Nearby schools and workplaces:** Schools and workplaces are close enough that most residents can walk from their homes.

*Source: [www.walkscore.com](http://www.walkscore.com)*



## JUST HOW WALKABLE IS BEAUFORT?

Many historic communities like Beaufort have piles of tourists and visitors walking around the downtown and the waterfront park. But how easy is it to do other things on foot? Can you buy groceries or pick up dinner as a pedestrian? Using [www.walkscore.com](http://www.walkscore.com), we evaluated the “potential” walkability for each neighborhood and major residential area in Beaufort.

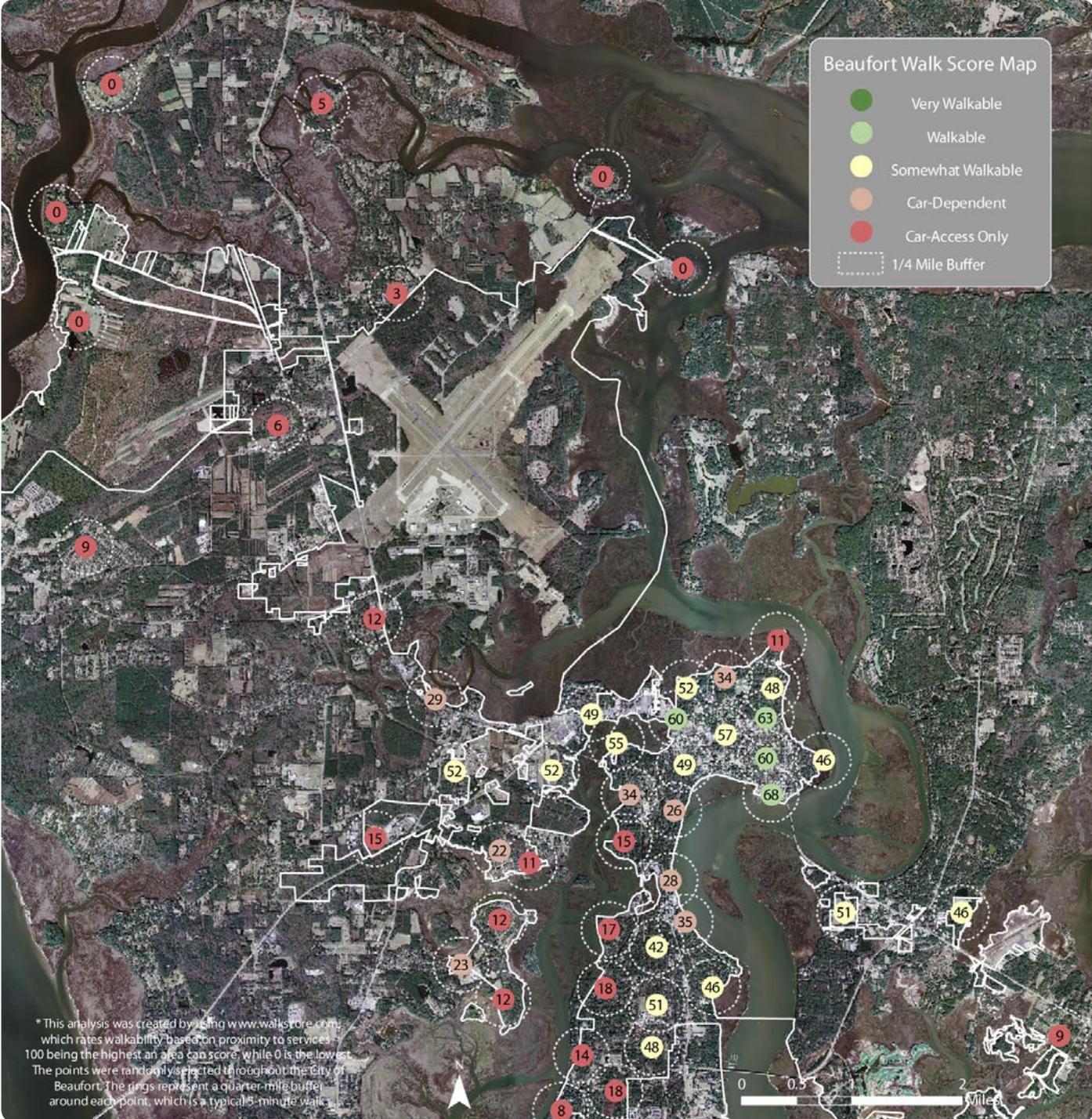
According to their web site “Walk Score helps people find walkable places to live. Walk Score calculates the walkability of an address by locating nearby stores, restaurants, schools, parks, etc. Walk Score measures how easy it is to live a car-lite lifestyle—not how pretty the area is for walking.”

The Walk Score is a number between 0 and 100. Here are general guidelines for interpreting the score:

- 90–100 Walkers’ Paradise:** Most errands can be accomplished on foot and many people get by without owning a car.
- 70–89 Very Walkable:** It’s possible to get by without owning a car.
- 50–69 Somewhat Walkable:** Some stores and amenities are within walking distance, but many everyday trips still require a bike, public transportation, or car.
- 25–49 Car-Dependent:** Only a few destinations are within easy walking range. For most errands, driving or public transportation is a must.
- 0–24 Car-Dependent (Driving Only):** Virtually no neighborhood destinations within walking range. You can walk from your house to your car!

The results may surprise you. In fact, a number of in-town neighborhoods scored remarkably well, but there is a big footnote to add. As noted above, Walkscore uses an algorithm that gathers information from Google Earth’s extensive inventory of places such as churches, schools, restaurants, and shopping areas. We call these destinations. But, what this score does not incorporate is the journey. It only looks at how far you live from goods and services (destinations) as the crow flies and does not evaluate the site conditions - the presence of a sidewalk or the area’s topography (is there a creek between you and the destination) - from point A to point B.

So is this map still useful? Absolutely! We contend that this map can serve as the basis for future pedestrian improvements by prioritizing where the City will get the biggest bang for their buck. As part of the next phase of the City’s Pedestrian Plan we will complete a sidewalk inventory that will hopefully be overlaid with this information to show us where the gaps are. Then, Beaufort can begin to make investments in areas with the highest potential pedestrian activity.



also show that walking regularly can provide substantial health benefits, especially if walking is incorporated into the routines and trips of daily life.

Pedestrian orientation is measured in two ways - the journey and the destination. The journey is evaluated by the safety and convenience of the walk. Is there a sidewalk? Is it of sufficient width to walk side-by-side with another person? Is it well connected to other pedestrian pathways and sidewalks? Does the sidewalk go by areas there are safe and interesting or does it traverse past empty overgrown lots, vacant homes, or blank walls? For many, the quality of the journey will be the highest priority for recreation.

By contrast, destinations reachable on foot from neighborhoods provide opportunities to reduce automobile trips and provide true choice in the transportation network. Ideally, each neighborhood should be able to access some level of goods or services within a five minute walk. This would provide an alternative to complete dependence on the automobile for people who would like that choice or for people for whom the ownership of an automobile is impossible - namely the young (children under 16), the elderly, and the poor. [\$\$] [O+C] [On-going]

**SI 2.5 Reduce setback/dimensional standards.** The UDO's District Development Standards are a major obstacle to infill development in Beaufort and specifically compact development. This plan suggests reducing setback/dimensional standards. [Code]

**SI 2.6 Reduce minimum lot widths and minimum lot sizes generally.** Practically speaking, detached, single-family homes can be built on lots as narrow as 24 feet (with the use of alleys) and at densities of up to 12-18 units per acre. Reducing required minimum lot size, lot width, and setback dimensions also encourages the development of townhouse, multi-family, and small lot single family dwellings on infill lots in or near downtown and identified mixed-use nodes. This will place higher density areas within walking distance to needed amenities and services. [Code]

### STRATEGIES FOR NEIGHBORHOOD STABILIZATION (FROM 2004 COMPREHENSIVE PLAN UPDATE)

- Encourage the development of, and support the activities of, strong neighborhood and neighborhood watch associations.
- Encourage the development and redevelopment of neighborhoods as population centers where a point of common focus can be shared and a sense of community established and maintained.
- Hold landlords of rental properties accountable for the proper maintenance of those properties.
- Establish a rental unit inspection program in order to ensure that all rental units meet code requirements and are properly maintained and equipped.
- Pursue a solution to the problem of heirs' rights and title clearance which would allow for redevelopment in circumstances where there is no clear title holder. This may be accomplished through a lobbying effort at the state level, an ombudsman program for property owner's information, and a non-profit legal service for title clearance.
- Redevelop underutilized commercial areas, such as the Boundary Street Corridor and Bladen Street, into mixed-use districts which include affordable housing.
- Implement the 2001 Bladen Street Revitalization Plan which identifies potential areas for redevelopment.

## Social Diversity

### SI 3.0 | PROVIDE HOUSING FOR A DIVERSE POPULATION

Demographic and economic elements have an integral impact on housing. In order to attract customers to support retail, and employment to business and higher order goods/services, residential housing growth is needed. This will assist in providing the minimum threshold population and incomes to support such commercial uses, as well as a mix of housing styles to meet lifestyle demands and support workforce populations.

There is an opportunity in Beaufort to provide new housing stock that is an alternative to traditional single family, or substandard and/or subsidized multi-family housing with new offerings such as patio homes, bungalows, row-houses/brownstones, lofts, town-homes and condominiums both for lease and for sale. The challenge for the community will be to position itself to address a mix of incomes, styles and types of housing choices to provide variety and meet the needs of all its citizens.

With a transition to a broader variety of housing product offerings in mixed-use and neo-traditional (traditional neighborhood development) communities, Beaufort could provide more new housing choices for in-fill locations to meet changing lifestyles. Affordable new and restored homes in existing neighborhoods and new developments will provide three key ingredients for social and economic sustainability:

1. An economic development advantage for business recruitment by providing workforce housing.
2. Assistance in balancing and growing the residential tax base; and
3. The ability for residents grow and age in place without having to leave their community and thereby further improving quality of life in Beaufort.

#### Housing Demand

The elements for housing demand are attributed to both demographic elements, including population growth and age distribution, and economic elements including job growth. Provided that population and job growth continues, annual demand for housing is estimated at approximately 117 units per year. Since tourism provides the first introduction to the community, housing demand based upon lifestyle choices and quality of life characteristics plays a large part of the housing dynamic in Beaufort. This is reflected in the number of second or seasonal homes occupied by residents aged 55 or older.

The housing and economic meltdown has impacted the second home market, retiring seniors and young professionals seeking housing choices. The aging population and challenges with workforce/affordable housing, together with media attention on retirement, suggest incentives should be broadened to provide a wider variety of housing choice in Beaufort. The creation of alternative housing choices for younger working populations and seniors could connect the downtown with the adjacent medical facilities and provide incentives for historic preservation of old neighborhoods. This could supply urban, affordable housing, which would create vital energy needed to sustain the shops and restaurants in the historic downtown.

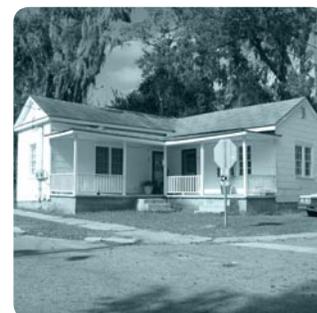
The economic growth of a region results in growth in population and households. The recent national news of the sub-prime meltdown and housing market crisis has left home sales weakened in most markets in the United States. The Bureau of the Census estimates that the United States will add 11.6 million new households from 2007-2015. It is estimated that 75% of these consumers will rent versus buy their homes. Further, 40% of



*Multi-family housing*



*Infill housing*



*Downtown Housing*



*Affordable housing*



*Manufactured housing*

apartment residents chose to rent for lifestyle choice, and nearly one-quarter of renters earn \$50,000 per year or more.

For homebuyers, a recent national survey by Smart Growth America and the National Association of Realtors cited that 6 out of 10 prospective homebuyers chose a higher density, mixed use community over traditional low density subdivisions. Families moving to the region driven by the job market, retirement or lifestyle changes provide opportunities for new housing in areas where amenities and quality of life characteristics meet changing needs. These are both tangible and non-tangible components of what defines and drives a market. This includes a variety of socio-economic factors including lifestyle, income, affordability and age. Census data from 2000 reveals the following characteristics about existing housing types in the city of Beaufort:

*City of Beaufort - Summary Housing Characteristics*

Beaufort Housing Characteristics	Percentage (Census 2000)
Detached Single Family Stock	69.4%
Owner Occupied	58.5%
Renter Occupied	41.5%
Seasonal/Recreational Use	13.7%

Assuming the 2008 population in the city of Beaufort continues to grow at an estimated annual rate of approximately 1.55%, then, conservatively, the population would grow by 206 people. Based upon an average household size of 2.32 persons (ESRI estimate), demand for 89 new households in the City would be created annually. Beaufort created 61 new housing units in 2007 based on reported permit activity, leaving a gap of 28 units, therefore, 117 housing units could be considered as the current potential housing demand for Beaufort.

### Housing Supply

The supply of housing is impacted by military personnel, 60% of whom live off base, and student housing associated with the University. While the supply of new single and multi-family units peaked in 2006, an average of 95 new dwelling units per year were permitted from 2000 to 2007. A total of 470 new single family and 290 new multi-family dwelling units have been permitted/built since the 2000 census. Owner-occupied housing dropped from 58.5% in 2000 to 44.7% in 2008, while the supply of rental housing remained relatively the same. Workforce housing and affordability were the subjects of a 2004 report and the Comprehensive Plan Update, both of which support additional higher density housing, multi-family and in-fill residential units.

*City of Beaufort - Permitted New Residential Dwelling Units*

Year	Single-Family	Multi-Family	Total
2000	45	9	54
2001	36	36	72
2002	50	4	54
2003	65	0	65
2004	81	2	83
2005	71	67	138
2006	77	156	233
2007	45	16	61
Total	470	290	760
Average	59	36	95

The new construction in Beaufort in recent years has included an increase in multifamily housing as shown in the table above. The city has grown its multifamily housing by 290 units since 2000, raising the percentage of this housing sector. These units are attributable to both student housing associated with the University and housing for military personnel who live off base.

### Affordability & Workforce Housing

The *Workforce Housing Needs Assessment* (April 2004) report was completed by GVA Marquette Advisors for Beaufort County. The report included analysis of for-sale housing, apartments, affordability, development barriers and recommendations, which highlight the economic impact of affordable housing on the community. The findings for the City suggest that “redevelopment and infill development opportunities must be capitalized upon and the supply of workforce housing should be increased. . .wherever possible.” The report identified 2,500 substandard housing units in the Beaufort/Port Royal area that should be the target of rehabilitation and replacement.

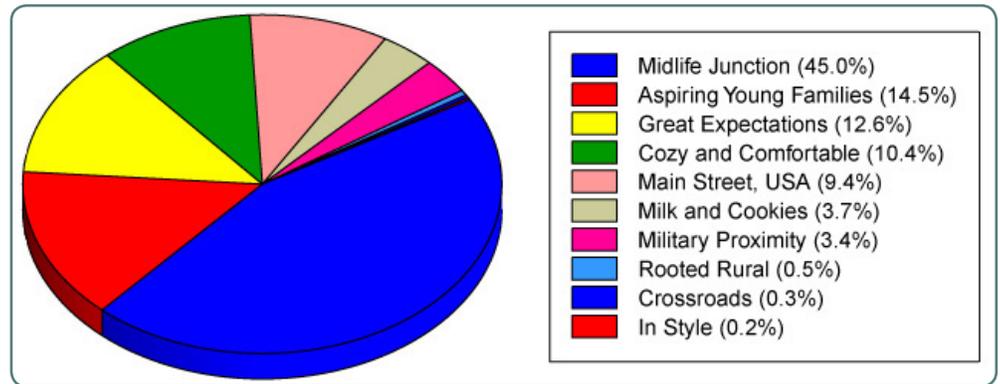
The dynamics of the current market have not warranted substantial change in these recommendations, which is supported by the current income and housing data in Beaufort. However, the report does not take into consideration mixed-use/mixed-income development trends and buyer preferences which could mitigate development barriers and concerns regarding property values. Efforts by regional workforce development groups within the Chamber of Commerce and the Lowcountry Economic Network & Alliance to diversity employment have intersected with housing challenges to meet this demand for appropriate housing options. Given the limited opportunities in Beaufort, the “Beaufort Redevelopment Incentive Program” and current regulations should be evaluated with an eye towards encouraging higher density and mixed-use development.

### Targeted Buyer Segments

Determining the depth and breadth of the market based on household growth projections is limiting. Therefore, geo-demographic segmentation, or lifestyle/tapestry clustering, helps us understand that demographic variables exist not only region to region but by neighborhoods and in sub-communities within each neighborhood as well. This type of modeling is based on the premise that people tend to gravitate towards communities and neighborhoods of relative homogeneity. Factors that go into clustering include age, income, education, ethnicity, occupation, housing type and family status. While basic differences in behavior patterns between rural and urban dwellers still exist today, the market has become increasingly complex.

Tapestry Segmentation™ identifies those households with a preference for living in rural areas versus urban neighborhoods. Of 65 total potential segments in Urban or Life Mode groups, the top four segments with the greatest number of households within Beaufort County were considered. The top tapestry segments include Midlife Junction, Aspiring Young Families, Great Expectations, Cozy and Comfortable, and Main Street, USA.

While many of the segments prefer single-family dwellings, a substantial number of these households include populations which favor more suburban and urban dwellings, such as town homes, condominiums, apartments or other alternative housing. Together these segments include a diversity of young professionals, families and retirees who have a preference for a variety of housing types and lifestyles. These assist in framing not only consumer preferences for residential housing, but also land use and categories for shopping, recreation and entertainment.



The chart above illustrates the Community Tapestry™ of the City of Beaufort. Descriptions of each tapestry segment are on the next page.

## HOUSING PLANS IN BEAUFORT

### Workforce Housing Needs Assessment (Beaufort County, 2004)

This study commissioned by Beaufort County in 2004 includes recommendations for specific areas as well as general recommendations for the County as whole. These recommendations include:

- Capitalize on infill and redevelopment in Beaufort/Port Royal area
- Incorporate affordable housing in the Burton area as part of new development.
- Focus on rehab and replacement of existing, substandard units (nearly 2,500 in Beaufort/Port Royal area)
- Provide tax abatement for affordable housing
- Reduce/eliminate impact fees for affordable housing
- Use TIF for affordable housing development
- Upzone appropriate areas for higher density
- Use inclusionary housing policies
- Allow mixed-use in more areas
- Establish work-force housing development fund

### The Northern Beaufort County Regional Plan (2007)

The Northern Beaufort County Regional Plan built on and referenced the recommendations of the 2004 study. The Regional Plan included the following recommendations for affordable housing:

- Pass a multi-jurisdiction mandatory inclusionary zoning ordinance.
- Participating local governments should work jointly to identify federal and state funding streams to address the housing needs throughout the county.
- Establish and implement affordable housing strategies appropriate for urban/suburban areas and for rural areas to preserve rural culture, combat sprawl, and to ensure that a majority of workforce and affordable housing is located in proximity to jobs and services. Urban/Suburban areas (Port Royal Island and Lady's Island): Focus affordable housing strategies on constructing new workforce housing and low/moderate income housing and on the rehabilitation of existing housing structures.
- Make home repair and replacement of substandard housing a housing priority.

## WHAT IS A COMMUNITY TAPESTRY?

Community Tapestry™ represents the fourth generation of market segmentation systems that began 30 years ago. The 65-segment Community Tapestry system classifies U.S. neighborhoods based on their socioeconomic and demographic composition. Community Tapestry's 65 distinct market segments profile the diversity of the American population and also provide two ways to summarize and simplify these differences—LifeMode summary groups and Urbanization summary groups. Segments within a LifeMode summary group share an experience such as being born in the same time period or a trait such as affluence. The Top 5 Tapestry Segment groups (representing ~92% of the city's population) for the City of Beaufort, as listed on the previous page, are summarized below:

### MIDLIFE JUNCTION

Midlife Junction communities are found in suburbs across the country. Residents are phasing out of their child-rearing years. Approximately half of the households are composed of married-couple families; 31 percent are singles who live alone. The median age is 41.2 years; the median household income is \$49,031. One-third of the households receive Social Security benefits. Nearly two-thirds of the households are single-family structures; most of the remaining dwellings are apartments in multi-unit buildings. These residents live quiet, settled lives. They spend their money prudently and do not succumb to fads. They prefer to shop by mail or phone from catalogs such as J.C. Penney, L.L. Bean, and Lands' End. They enjoy yoga, attending country music concerts and auto races, refinishing furniture, and reading romance novels.

### ASPIRING YOUNG FAMILIES

Most Aspiring Young Families residents are young, startup families, a mix of married-couple families with and without children and single parents with children. The average family size is 3.12, near the U.S. average. Approximately two-thirds of the households are families, 27 percent are single-person households, and 9 percent are shared. The median age is 30.5 years; the median household income is \$50,392, and income is derived mainly from wages. Approximately 60 percent of employed residents have professional, management, sales, or office/administrative support positions. Overall, 85 percent of residents aged 25 years and older have graduated from high school, 35 percent have attended college, and 22 percent hold a bachelor's or graduate degree. Half of the households are occupied by renters, half by homeowners. Residents live in moderately priced apartments, single-family houses, and startup townhomes. Aspiring Young Families residents spend much of their discretionary income on their children and their homes.

### GREAT EXPECTATIONS

Young singles who live alone and married-couple families dominate the Great Expectations market, although all household types are represented. The median age is 33.2 years. Some residents are just beginning their careers or family lives. This segment has a higher proportion of residents in their

20s and a higher proportion of householders younger than 35 years old, compared to the U.S. proportions. The median household income is \$37,684. Approximately 29 percent of residents aged 25 years and older have attended college (slightly above the U.S. average), but only 16 percent hold a bachelor's or graduate degree (somewhat below the U.S. average). The manufacturing, retail, and service industry sectors are the primary employers in this market. Half of the householders own their homes; the other half rent. More than half of the households are single-family dwellings; approximately 40 percent are apartments in lower mid-rise buildings. Great Expectations homeowners are not afraid to tackle smaller maintenance and remodeling projects, but they also enjoy a young and active lifestyle. They go out to dinner, to the movies, to bars, and to nightclubs. Residents watch courtroom dramas, reality shows, sitcoms, news programs, and dramas on TV. Residents shop at major discount and department stores, and also order frequently from the internet.

### COZY AND COMFORTABLE

Cozy and Comfortable residents are middle-aged, married couples, comfortably settled in single-family homes in older neighborhoods. The median age is 41.9 years, slightly older than that of the U.S. median. Most residents are married, without children, or married couples with school-age and adult children. Although the labor force is older, they are in no hurry to retire. Employed residents represent a range of occupations, from professional or managerial to service, in a variety of industries. The median household income is \$65,768. Many residents are still living in the homes in which they raised their children. Single-family structures make up 88 percent of the household inventory. Home improvement and remodeling work, including lawn care, are important to Cozy and Comfortable residents. Although they will contract for some work, these homeowners will take an active part in many projects, especially painting, hanging wallpaper, and lawn care. Residents eat at family restaurants such as Bob Evans, Perkins, Big Boy, and Friendly's.

### MAIN STREET, USA

Main Street, USA neighborhoods are a mix of household types, similar to the U.S. distribution. Approximately half of the households are composed of married-couple families, nearly one-third are single-person or shared households, and the rest are single-parent or other family households. The median age of 36.7 years matches the U.S. median. The median household income for this market is \$55,144. Approximately one-fifth of residents aged 25 years and older have earned a bachelor's or graduate degree; 30 percent have attended college. Main Street, USA neighborhoods are a mix of single-family homes and multi-unit dwellings found in the suburbs of smaller metropolitan cities. Sixty-one percent of households are single-family homes, matching the U.S. percentage. Homeownership is at 66 percent. Residents of Main Street, USA are active members of their communities, participating in local civic issues and working as volunteers.

*Excerpted from Community Tapestry Handbook, <http://www.esri.com/library/brochures/pdfs/community-tapestry-handbook.pdf>*

*A recent national survey by Smart Growth America and the National Association of Realtors cited that 6 out of 10 prospective homebuyers chose a higher density, mixed use community over traditional low density subdivisions.*

**SI 3.1 Establish Location and Design Criteria for Affordable/Workforce Housing.** There are two major issues that affordable housing must address if it is to be sustainable economically and politically acceptable: location and design.

Affordable housing is a controversial reality of contemporary life, for gains in affordability often result from expanding the supply of land available for housing or increasing the density of housing units in a given area. The process of weighing the impacts of locating affordable housing is quite contentious and can be laden with implications of race and class. This makes the twin policies of dispersal throughout communities and similarity to market units in appearance extremely important. Minimum design standards of site layout and housing design can help in achieving these twin objectives.

According to the report “Making Affordable Housing Truly Affordable: Advancing Tax Credit Incentives for Green Building and Healthier Communities” ([www.frontierassoc.net](http://www.frontierassoc.net)), there are locational factors regarding affordable housing that must be addressed in addition to the cost of the housing itself. Since the cost of transportation is a major factor in most low income household budgets, priority locations for affordable housing include locations with good access to services and jobs and transportation options, including transit. When affordable housing is built in compact, mixed use areas, the community and affordable housing residents both benefit:

- Residents of compact communities drive 20-40% less per day, resulting in safer and less polluted communities.
- Local stores and businesses do best when more people live within walking distance or a short drive away.
- When more people work and live in the same town, civic organizations are stronger and residents can participate better.
- Residents of compact communities spend less on cars and have more time and resources for families and communities (adapted from the Affordable Housing Design Advisor, [www.designadvisor.org](http://www.designadvisor.org)).

In terms of design, affordable housing units should be similar to market-rate units in exterior appearance, proportion of attached and detached units, bedroom mix, and proportion of rental and owner-occupied units. The units also must be dispersed throughout communities and developments and must come on the market on a schedule similar to that of the market units. [§] [O] [1-5]

**SI 3.2 Review Regulatory Barriers to Affordable Housing Options and Consider Market-Based Incentives.** In accordance with the SC Local Government Comprehensive Planning Enabling Act, local governments need to evaluate “nonessential regulatory requirements” that may preclude affordable housing including “standards or requirements for minimum lot size, building size, building setbacks, spacing between buildings, impervious surfaces, open space, landscaping, buffering, reforestation, road width, pavements, parking, sidewalks, paved paths, culverts and storm water drainage, and sizing of water and sewer lines that are excessive; and application and review procedures that require or result in extensive submittals and lengthy review periods.” In addition, Beaufort should consider some market-based incentives to encourage affordable housing including, but not limited to density bonuses, relaxed zoning regulations, and reduced or waived fees. [Code]

**SI 3.3 Allow duplexes, triplexes and townhomes more widely.** Duplexes are common in single family neighborhoods around the country and are compatible with single family uses. Like accessory apartments, duplexes provide an affordable and flexible housing option for homeowners and families. The City should consider allowing them by-right in all districts that allow residential uses. Two-family dwellings are not allowed currently allowed in the single family zoning districts.

Townhomes and triplexes (three-family dwellings) are compatible with two-family homes or duplexes (townhomes or row homes are essentially an extension of the side-by-side duplex building type). However, townhomes are not currently allowed in the primary residential districts (except GR) or in the largest commercial districts. Townhomes are an appropriate building type near existing concentrations of retail and employment destinations. [Code]

**SI 3.4 Allow Cottage Housing Development (CHD)** Cottage housing is a residential form of development that has gained acceptance in the Pacific Northwest in recent years as response to rising land costs and the desire for different housing options and more compact designs for detached homes. This housing type has also received national attention with the Katrina Cottage prototype developed in response to the need for small but efficient, affordable and attractive homes that could be built on small spaces in a short amount of time for victims of the gulf hurricanes. These cottages were conceptualized as an attractive and permanent alternative to trailers or traditional manufactured homes. These cottages are now available as kits from major distributors such as Lowe’s and provide elegant small, expandable spaces sized from a few hundred square feet to just over a thousand.

According to the Smart Growth Network, “Cottage houses are single-family detached units, usually less than 1,000 square feet in size, that incorporate many of the amenities associated with conventional single-family detached housing. Because of the style and size of cottage houses, developers can cluster cottage housing onto smaller parcels of land without sacrificing feel and character of detached housing.” (Getting to Smart Growth II, p. 13)

Beaufort could promote this type of housing by amending zoning requirements to allow cottage housing developments with design requirements in certain districts; or by encouraging individual infill cottage houses by-right in certain districts by permitting small enough parcels to make them affordable. [Code]

**SI 3.5 Consider an Inclusionary Zoning Ordinance.** With affordable housing being one of the critical issues facing Beaufort, the City has discussed the option of inclusionary housing requirements in previous plans and studies (recently, the Northern Beaufort Regional Plan). Inclusionary housing regulations are designed to mandate or incent the provision of housing for people at all levels of the income spectrum. Such regulations are meant to be inclusive rather than exclusive, which is the tendency of most zoning standards (either by default or by design) if there is no intentional effort to provide affordable housing.

Inclusionary housing provisions can range from a requirement that a percentage of new housing units be affordable, to incentives for providing affordable housing including density bonuses, tax rebates, expedited development review, and special consideration for government provided services or land. More than 200 local governments across the country are using inclusionary housing strategies. [Code]

*“[A.C.] Nelson projects that the [national] demand [over the next few decades] for attached and small-lot housing will exceed the current supply by 35 million units (71 percent), while the demand for large-lot housing will actually be less than the current supply.”*

*Ewing, et al, p. 19*

*Historic and Cultural Resources***SI 4.0 | PRESERVE AND PROTECT OUR HISTORIC RESOURCES**

*The following is excerpted from the City's Historic Preservation Plan Update, which was adopted in July, 2008. That plan was prepared with the intent that the Comprehensive Plan would incorporate the recommendations of the Preservation Plan.*

Beaufort is the second oldest town in South Carolina, originally established in 1711 on Port Royal Island, one of 65 islands comprising Beaufort County. The physical development of Beaufort from its founding to 1860 was recognized for its historic character and architectural integrity when the 304-acre area comprising the original town was listed in the National Register of Historic Places (NRHP) in 1969. Beaufort's important historic and architectural character from 1710 to 1861 was further recognized when the district was designated a National Historic Landmark (NHL) in 1973. The National Register District nomination has been updated twice since the original listing. The first update, in 1986, extended the district's period of significance to 1935, and the second update, in 2001, extended the period of significance to 1950.<sup>1</sup>

The Beaufort Historic District is significant for both its history and architecture. It is significant as a center of antebellum plantation culture in South Carolina and for its role during the Civil War and in African-American history both during and after the war. The district is significant both for the high style pre-Civil War architecture and history and the folk architecture and history of its post-Civil War African-American community.<sup>2</sup>

The buildings in the historic district represent the city's history and evolution of development patterns over time. The extant historic resources represent development ranging from the late eighteenth to the mid-twentieth century, as well as a diversity of high architectural styles and vernacular architectural building types. Architectural styles of buildings in the district include English Colonial, Federal, Classical Revival, Greek Revival, Italianate, Queen Anne, Gothic Revival, Colonial Revival, Neoclassical, Craftsmen, Art Deco, and Art Moderne. In addition, vernacular building types found in the district include colonial cottages, hall and parlor houses, gable fronts, massed plan, shotgun, I-houses, gable front & wing and pyramidal buildings.

Given this presence of historic buildings and the evolution of preservation efforts in Beaufort, the City's identity and image are today defined by its historic resources and character. Beaufort's leaders and citizens recognize the value of and are committed to the historic character of the community.

<sup>1</sup> David B. Schneider. "Beaufort Historic District." *National Register of Historic Places Nomination Update. April 2001: Section 8, Page 73.*

<sup>2</sup> David B. Schneider. "Beaufort Historic District." *National Register of Historic Places Nomination Update. April 2001: Section 8, Page 1.*

*The City's identity and image are today defined by its historic resources and character. Beaufort's leaders and citizens recognize the value of and are committed to the historic character of the community.*

*~ Historic  
Preservation Plan  
Update, 2008*

**HISTORIC RESOURCES**

The Above-Ground Historic Resources Survey of Beaufort County, South Carolina, completed in April 1998, is the most current and comprehensive study of historic and architectural resources not only of the City of Beaufort but also the Town of Port Royal and unincorporated Beaufort County. The impetus behind this study was a desire to provide an understanding of the locations, types and significance of the cultural resources that may be affected in the course of the rapid development of the Beaufort County area. In addition to a researched historic overview of Beaufort County and its municipalities, the survey includes data on some 1,468 sites, with 820 of these sites being within the

City of Beaufort. Each surveyed site was given a site number, located on tax maps, photographed, and studied to record data such as the estimated date of construction, general condition of structures, and historic integrity. Through cooperation with the Beaufort County Geographic Information System (GIS) these data have been recorded digitally within the County GIS system and are accessible through this system.

Based on the survey and analysis of data, the survey has included a series of recommendations pertinent to historic and cultural resources. These recommendations include specific recommendations for properties that should be considered for the National Register of Historic Places (NRHP) and other recommendations related to planning, research and documentation needs in the study area.

### National Register of Historic Buildings

In addition to the City of Beaufort’s National Historic Landmark district, there are several individual buildings listed on the National Register of Historic Places. Individual listings on the National Register in the City of Beaufort include the following:

- The William Wigg Barnwell House, 501 King Street, Beaufort, circa 1816
- The Thomas Fuller House “Tabby Manse”, 1211 Bay Street, Beaufort, circa 1786
- The John Mark Verdier House “Lafayette House”, 801 Bay Street, Beaufort, circa 1801
- The Elliott House “Anchorage”, 1103 Bay Street, Beaufort, circa 1800
- The John A. Cuthbert House, 1203 Bay Street, Beaufort, circa 1810
- The Elizabeth Barnwell-Gough “The Old Barnwell House”, 705 Washington Street, circa 1780
- The James Ross Verdier House “Marshlands”, 501 Pinckney Street, circa 1814
- The Henry McKee/ Robert Smalls House, 511 Prince Street, Beaufort, circa 1834
- Beaufort National Cemetery, 1601 Boundary Street, circa 1863

### Potential National Register Historic Properties

The Beaufort County Above Ground Historic Resources Survey has indicated a number of properties and areas in the City of Beaufort which have potential for listing on the National Register of Historic Places. A survey of these properties has been reviewed by the State Historic Preservation Office (SHPO) of the South Carolina Department of Archives and History.

The SHPO found that approximately 30 properties in Beaufort County which are not listed meet the eligibility criteria for inclusion in the National Register of Historic Places and 11 additional properties warrant further investigation. Within the City of Beaufort, the Wood-Lawn Subdivision may be eligible for the National Register.

### PRESERVATION OF HISTORIC RESOURCES

The City of Beaufort has a successful history of historic preservation as evidenced by the National Historic Landmark status of the historic downtown. This is a result of a combination of the fortune of Beaufort to avoid the detrimental effects of such historical events as the Civil War as well as the establishment of current regulatory and advocacy protection measures. Leaders in the efforts to promote historic preservation in Beaufort include the City of Beaufort, the Historic Beaufort Foundation and the Open Land Trust, among others.

The City of Beaufort has used several measures of design review and control as tools for ensuring the preservation of historic Beaufort. From the National Historic Landmark



*William Wigg Barnwell House*

Historic Beaufort Foundation



*Thomas Fuller House*

Historic Beaufort Foundation



*James Robert Verdier House*

Historic Beaufort Foundation



*Henry McKee/Robert Smalls House*

Historic Beaufort Foundation

District, established in 1972, the City has designated the Historic Beaufort District covering the same area as a defined area of overlay zoning within which the City has the authority to review all project plans. The Historic District Review Board (HRB), formerly the Board of Architectural Review (BOAR), is the appointed board that was established in the Beaufort Zoning Ordinance to take responsibility for reviewing all applications for building permits related to construction, alteration or demolition within the Historic Beaufort District. The HRB uses the Beaufort Preservation Manual of 1979 and the ensuing Beaufort Preservation Manual Supplement of 1990 as guides for its review of projects.

As it had been the practice of the HRB to review projects in a portion of the Historic Beaufort District while not reviewing those in the Northwest Quadrant of the district, a separate overlay district, the Beaufort Conservation Overlay District, has been created to respond to the conditions of the Northwest Quadrant by enforcing a less exhaustive review. Design guidelines for the Northwest Quadrant have been prepared which serve as the guide for HRB review of projects in that area.

### ACTIONS FOR HISTORIC RESOURCES

The Historic Preservation Plan Update (2008) suggests incorporating its recommendations into this Comprehensive Plan document. The full scope and breadth of those recommendations are included here by reference. Most of the recommendations in the Preservation Plan Update are completely consistent with other City goals outlined in this Comprehensive Plan, although there are some recommendations that will merit further discussion - particularly those that relate to various regulatory changes. In general, the City should evaluate, prioritize, and implement the thorough and detailed recommendations of the Preservation Plan Update in light of Beaufort's other environmental, social, and economic goals.

The complete list of recommendations can be found in the Preservation Plan Update document. Representative recommendations from the Preservation Plan Update are listed below.

#### SI 4.1 Conduct Sector (Small Area) Planning & Implementation

- Boundary Street Sector Planning : Identifying and wayfinding signage should be placed at key entry points into the historic district to provide a sense of entry into the district as well as directions to downtown and key historic sites. Preserve and interpret the historic sites in the Boundary Street Plan project area, including the 16 Gate cemetery and Battery Saxton Civil War battery. [ \$ ] [ O ] [ 6-10 ]
- Bladen Street Sector Planning : The view of the River from Bladen Street is important to preserve. Building setbacks and landscaping should maintain the view shed. Neighborhood commercial and small-scale professional office uses should be the focus on Bladen Street to maintain the historic character and scale of the area. Appropriate commercial development should include restaurants, convenience stores, and other neighborhood service-oriented businesses. [ \$ ] [ O ] [ 1-5 ]
- Downtown Sector Planning: Conduct a public visioning process that will develop a plan to maximize downtown's commercial potential while protecting the historic character that attracts residents and visitors. The plan should include specific market research to define existing and potential markets; tenant mix to support identified markets; and use of buildings that retain historic character. (See Chapter 11 for additional recommendations regarding Downtown planning.) [ \$\$ ] [ O ] [ 1-5 ]

### Beaufort Historic Preservation Plan Update - Contributing Bldgs. Beaufort, South Carolina

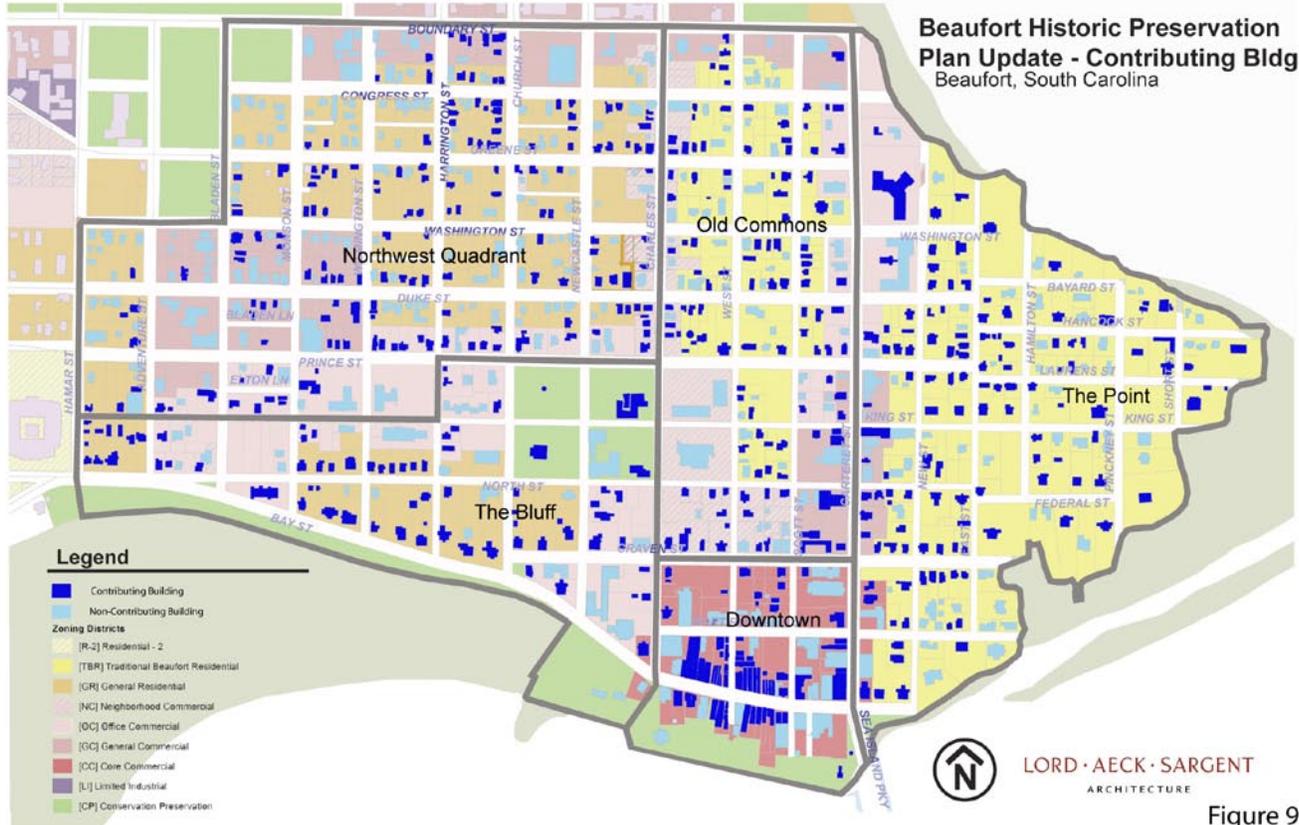


Figure 9

### Beaufort Historic Preservation Plan Update - Contributing Building Clusters Beaufort, South Carolina

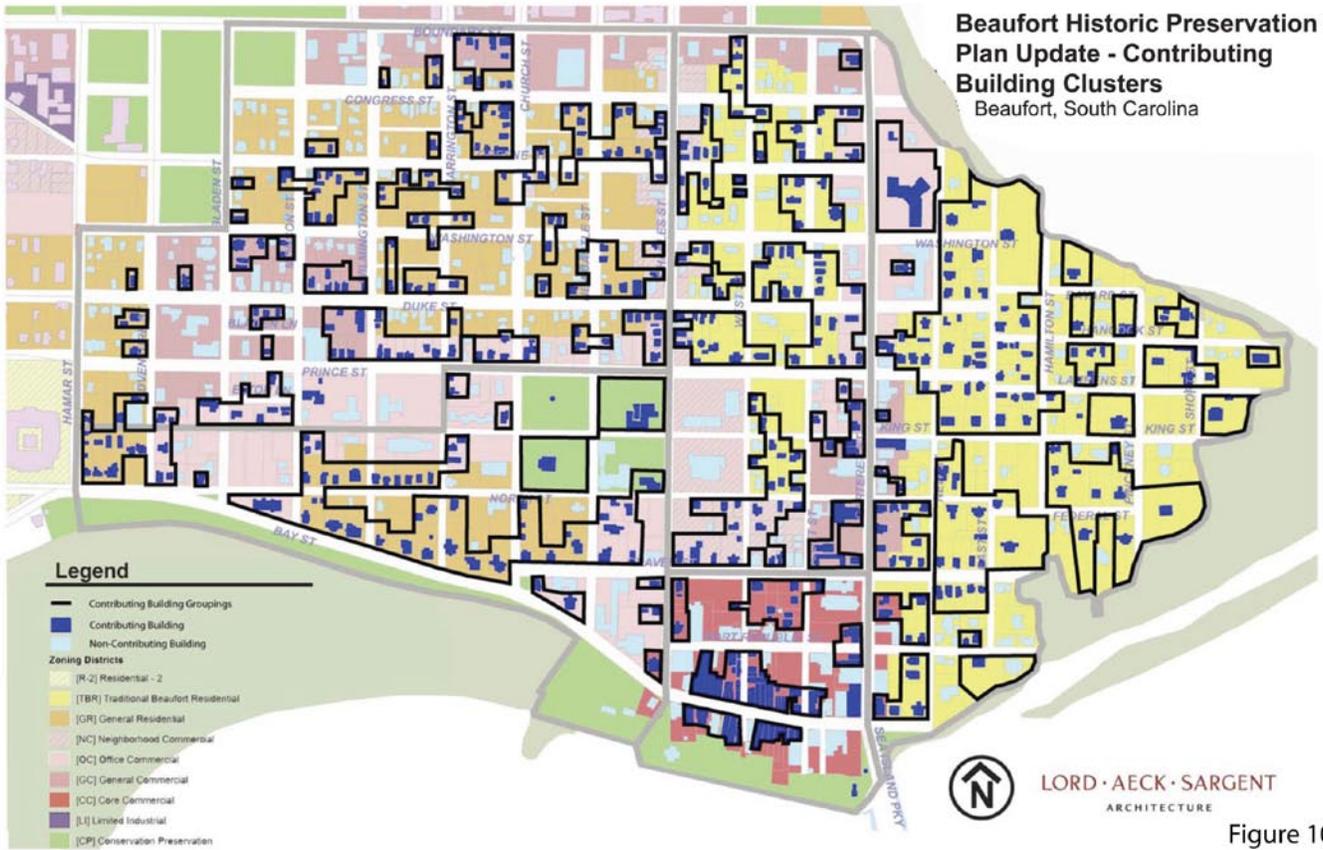
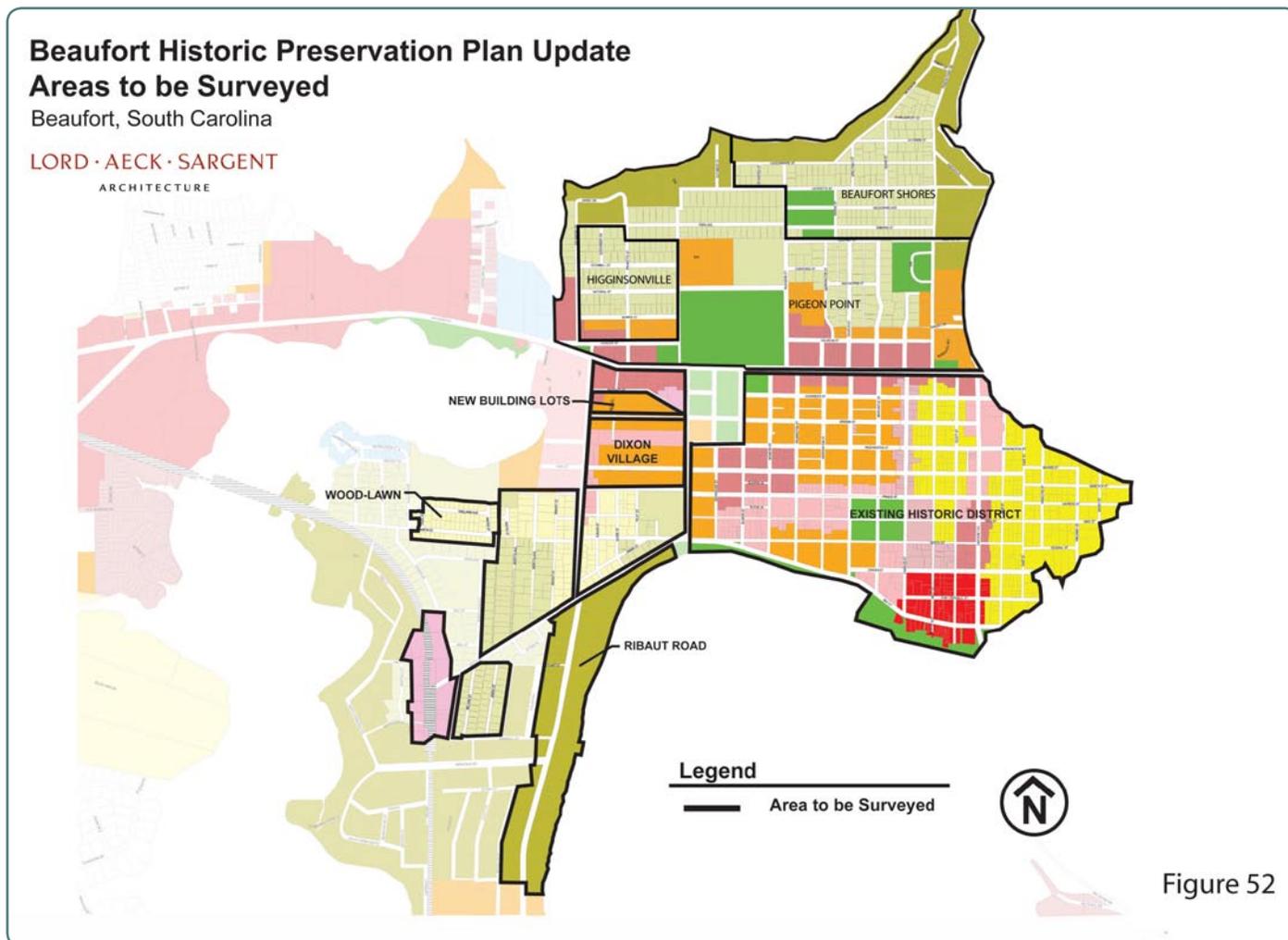


Figure 10

- Northwest Quadrant: Complete a preservation and revitalization plan for the Northwest Quadrant as outlined in the historic resource element of the [2004 Comprehensive Plan Update]. (See Chapter 11 for additional recommendations for the Northwest Quadrant.) [\$\$] [O] [1-5]

- SI 4.2 Establish and Reinforce Historic Character Areas.** Character areas descriptions should be evaluated and refined by the Beaufort planning staff and the HRB as further analysis could merit revisions to the boundaries and/or identification of additional areas. Within the context of character areas, design guidelines should be applied more specifically to maintain the design quality and material components unique to each identified character area. The historic character of Old Commons, Northwest Quadrant and Bluff should be recognized and included with the Point and Downtown Commercial District as “prominent areas among Beaufort’s historic resources.” [Code]
- SI 4.3 Update the Citywide Survey of Historic Resources.** Update the citywide survey of historic resources to include, but not be limited to, the existing historic district, Pigeon Point, Dixon Village, North Street, Depot Road, and Ribaut Road. In addition to buildings, the survey update should identify other key character-defining elements of the historic district such as vegetation, historic landscapes and gardens, viewsheds, tabby sea walls, and archeological sites. (See map on the next page) Given the potential for redevelopment along the railroad right of way in the industrial area, it is important that the historic character of the existing industrial buildings as well as the neighborhood character of the adjacent historic residential areas and archeological resources along Battery Creek be respected and retained. [\$\$] [O] [6-10]
- SI 4.4 Improve Clarity in Regulatory Language and Administration.** Evaluate, prioritize, and implement the Preservation Plan Update’s proposed changes to regulatory language and administration. [Code]
- SI 4.5 Implement Proposed Historic District Rezonings**
- Rezone areas of the Historic District as recommended in the Historic District Plan Update. [Code]
  - Re-evaluate zoning designations and boundaries after updated resource survey is complete. [Code]
  - Eliminate the Neighborhood Conservation Overlay District designation for the Northwest Quadrant and include the NWQ in the Historic Preservation Overlay District. [Code]
- SI 4.6 Implement Building Height, Allowable Uses, and Subdivision Standards Changes for Historic District.** Evaluate, prioritize and implement the Historic Preservation Plan Update’s recommendations regarding building heights, allowable uses, and subdivision of parcels, especially in relation to the City’s other economic, social, and environmental goals for growth, development, and redevelopment in Beaufort. [Code]
- SI 4.7 Develop and Refine Infill and Design Guidelines.** Refine design review standards for the Northwest Quadrant to achieve and sustain investment in historic properties. This step should be part of a public process to provide consistent administrative oversight and technical support to address preservation guidelines and economic hardship situations. [Code]



**SI 4.8 Implement Recommendations for Modern Materials in Historic Districts.** Prioritize and Implement the recommendations of the Historic Preservation Plan Update regarding the use of “modern materials” in the historic district and for buildings or designated historic buildings or building details. [Code]

**SI 4.9 Establish and Enhance Educational Initiatives**

- Establish and support an education & technical support program for new residents in historic districts and property owners. [\$] [O] [1-5]
- Foster a leadership support network in historic district neighborhoods to develop cooperation and communication of common interests. Strengthen neighborhood associations where they already exist and develop new associations. [\$] [O] [On-going]
- Renew efforts to create a “design center” where public-private interaction and communication can take place regarding preservation, planning, and economic development issues. [\$\$] [O] [1-5]

**SI 4.10 Provide Technical Support to Historic Neighborhoods and Property Owners**

- Renew efforts to establish a non-profit community development corporation to focus on rehabilitation & infill in economically distressed historic neighborhoods. [\$\$\$] [O+C] [1-5]
- Create a non-profit legal service to work with property heirs to clear title to family lands. [\$\$] [O] [6-10]
- Conduct marketing analysis to guide the creation and maintenance of an

appropriate business mix for all areas of commercial use in and adjacent to the historic district. [ \$ ] [ O ] [ 6-10 ]

- Incorporate responsibility for appropriate management of neighborhood commercial areas under Main Street Beaufort. [ \$ ] [ O ] [ 6-10 ]

#### SI 4.11 Develop Financial Incentives

- Continue & expand the City’s “Project Repair” program for funding and technical assistance to homeowners for maintenance and rehabilitation of historic homes. [ \$\$ ] [ O+C ] [ On-going ]
- Consider creating a local property tax abatement program for property owners who rehabilitate and properly maintain contributing historic buildings. [ \$\$ ] [ O ] [ 1-5 ]
- Implement a façade program to provide grants and/or low interest loans to commercial property owners for restoration and rehabilitation of historic buildings. [ \$\$ ] [ O ] [ 1-5 ]

#### SI 4.12 Prioritize and Implement Recommendations for Infrastructure in Historic Districts.

The Historic Preservation Plan Update addressed a number of infrastructure-related issues with specific recommendations related to traffic calming and connectivity; pedestrian planning/infrastructure; stormwater drainage and infrastructure; and trees. These recommendations should be considered in relation to the other transportation and infrastructure actions established by this Comprehensive Plan. These include:

- Signage: Prepare and implement a public signage plan for the historic district to include identifying signage at entryways into the district and for streets, neighborhoods, and bikeways, and wayfinding signage to provide direction to the historic district and community and historic resources. [ \$\$ ] [ O ] [ 1-5 ]
- Drainage: Identify and maintain the existing tabby sea walls in the historic district. It is recommended that these tabby walls be included in the update of the historic resources survey, and that a preservation plan for the sea walls be developed. [ \$\$\$ ] [ C ] [ 6-10 ]
- Viewsheds: Protect viewsheds to & from district, including from across Lady’s Island Bridge toward downtown; from Bluff toward river; at street ends towards the river throughout district; and existing park and special event space on the riverside of Boundary Street. [ Code ]

## *Historic and Cultural Resources*

### **SI 5.0 | EXPAND THE ARTS AND OTHER CULTURAL RESOURCES**

Arts and cultural activities have long been an essential part of life in Beaufort. Beyond the historic charm of the area, the salty air seems to inspire creativity. As a result, there is a bounty of arts and cultural activities for visitors and residents alike. These include historical attractions like the downtown and the surrounding neighborhoods (the Point, the Bluff, Old Commons, the Northwest Quadrant) as well as important historic landmarks - the Beaufort Museum, The Verdier House, and Fort Lyttleton. Key arts facilities in the community include numerous art galleries in downtown, USC-Beaufort Performing Arts Center, and ArtWorks at Beaufort Town Center. In addition to these wonderful facilities, the community hosts a number of events and festivals, particularly in the waterfront park area, including the Water Festival in July, the Gullah Festival in May and the Shrimp Festival in October. Horse-drawn carriages tours travel through the historic downtown and the surrounding neighborhoods.

Without a doubt the City of Beaufort's arts facilities and festivals provide important cultural resources as well as valuable tourist revenue. The importance of the arts and cultural facilities were echoed by the public in the preparation of this plan. They include:

- Link Arts, Tourism & Economic Development
- Foster Partnerships between USC-B & Arts
- Develop Arts Organization/Leadership
- Expand Strategies to Build Art/Culture: Assessments, Architecture, Museum, Facilities, Festivals

**SI 5.1 Continue to Support Development of New Cultural Facilities.** Building on the success of the existing facilities, the community has an opportunity to create new facilities including, but not limited to:

- Coastal Environmental Center (Location undetermined but Southside Park should be considered as a partnership opportunity to further its use and construction)
- Botanical Gardens (Location undetermined)
- An amphitheater or other outdoor performance facility capable of holding special concerts and festival events (Location undetermined)
- Fine Arts/Maritime Museum (downtown area)
- Children's Museum (downtown area)

[\$\$\$\$] [O+C] [6-10, 11-15, 16-20]

**SI 5.2 Increase the number of cultural events that celebrate Beaufort's heritage and culture.** Continue to work with local groups like the Arts Council of Beaufort County, the Beaufort Chamber of Commerce, and regional cultural organizations to promote high-quality cultural events throughout the community. [\$] [O] [On-going]



*“Those people who come here as tourists come here because of who we are. One of the ways we strengthen our community and make it attractive to others is by building within. The strong cultural, artistic, and education-oriented community we have is in many ways the heart and soul of Beaufort, even beyond the water and the beautiful vistas.”*

*- Mayor Billy Keyserling*

## HISTORIC SITES OF INTEREST

**The Beaufort Museum: 713 Craven Street** Construction of the Beaufort Arsenal was begun in 1795 and was completed by 1799. The building had deteriorated substantially by 1852, when the Beaufort Volunteer Artillery Company rebuilt the complex “on the foundation of the old Arsenal a building capable of accommodating a garrison of 250 men and a battery of six guns.” The Arsenal has taken part in every war fought by this nation, including the Revolutionary War. Featuring exhibits on the history of Beaufort and the Lowcountry, the Beaufort Museum is located in the historic Arsenal building which dates from 1798.

**The Verdier House: 801 Bay Street** The Verdier House, built 1800-1805 by John Mark Verdier, a prosperous merchant and planter, is one of the finest examples of a Federal-style home. The interior shows examples of many fine architectural details, including an elaborate arch in the entrance hallway. During its history, the Verdier House served as the post headquarters for Union soldiers during the Civil War and was the site of the first telephone exchange in Beaufort. It is maintained and operated by the Historic Beaufort Foundation who offer daily tours of the home.

**Fort Lyttleton:** Located two miles south of downtown on Spanish Point, it was originally built to protect against the Spanish. Completed in 1762, it was a triangular tabby-built work, 400 by 375 feet, with a bastion and two half-bastions, tabby barracks, and a magazine. Patriots seized the fort in 1775. Attacked by the British in 1779, the defenders blew up the fort. Renamed Beaufort Battery by the Americans after the American Revolution. It was rebuilt in 1809 as a semi-circular tapia work and renamed Fort Marion, but was still unfinished by 1812. The site was excavated in 1978.

## IMPACT OF THE ARTS ON THE BEAUFORT COUNTY ECONOMY

To demonstrate the value of the creative economy, the Arts Council of Beaufort County and the Beaufort Regional Chamber of Commerce partnered to commission a study in August, 2008 of the Economic Impact of the Arts, which was prepared by the Bureau of Business Research and Economic Development at Georgia Southern University.

### Arts Businesses:

- 67% of the arts businesses identified were galleries and other businesses involved in the sale of works of art and craft.
- These accounted for 71% of the jobs.
- Estimated gross sales are \$73 million annually.

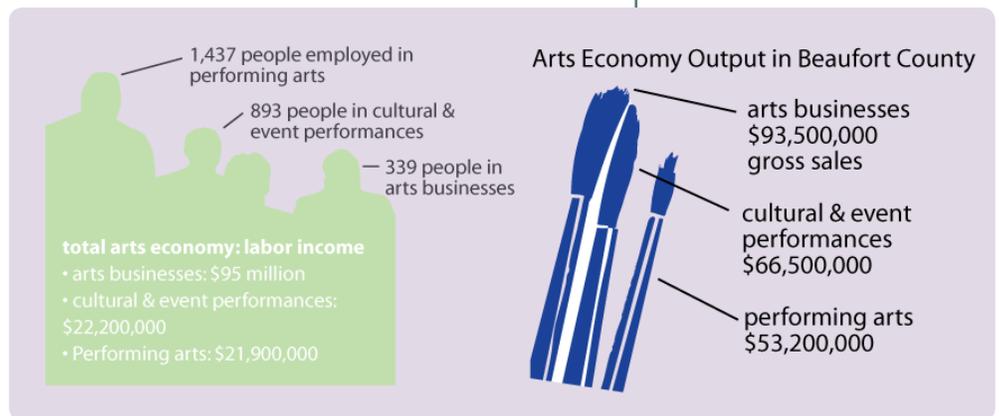
### Arts Job Market Statistics

- Between 1998 and 2004, the number of jobs in occupations filled by artists was 2,000 jobs per year.
- Since 2004, the number of jobs in occupations filled by artists has averaged between 2,200 and 2,500 per year.

### Earning Statistics

- In 2000, the average monthly earnings in arts-related occupations was \$1,578, about \$250 higher than the state average.
- In 2007, the average monthly earnings in arts-related occupations was \$2,005 per month, about \$400 higher than the state average.

Source: *ArtNews: A Publication of the Arts Council of Beaufort County*, November, December, January, February 2008-2009, [www.beaufortcountyarts.com](http://www.beaufortcountyarts.com)



## Historic and Cultural Resources

### SI 6.0 | ENCOURAGE LOCAL FOOD SYSTEMS

The resurgence of interest in local food is gradually reshaping the business of growing and supplying food to Americans. The local food movement has already accomplished something that seemed unlikely a few years ago: a revival of small farms. An article in *Business Week* in May 2008, reported another set of figures from the U.S. Department of Agriculture, namely that the number of small farms, after declining for more than a century, has increased 20% in the past six years to 1.2 million.

Food production, preparation, and consumption play a crucial role in virtually all aspects of our lives: health, economy, culture, and environment. Healthy local food systems are central to a strong local community. Increased sale of locally grown food makes sense to farmers, consumers and local governments as a way to keep more dollars at home and improve the quality of life for everyone in the community. Local food can also help the environment by reducing a meal's food miles or the distance it travels to reach one's plate and the energy consumed in getting there.

**SI 6.1 Investigate the Viability of Bringing a Farmer's Market Back to Downtown.** The farmer's market was previously located in the Waterfront Park but was relocated to Port Royal during the park's renovation. Research published in the May 2008 issue of the *American Journal of Agricultural Economics* suggests that the average supermarket shopper is willing to pay a premium price for locally produced foods and that shoppers at farmer's markets are willing to pay almost twice as much extra as retail grocery shoppers for the same locally produced foods. Given the cluster of potential activities in downtown Beaufort today, a new seasonal outdoor market should be investigated that could accommodate not only farmer's produce but also locally fabricated artwork such as sweetgrass baskets and paintings. Because of the expected continuing presence of the market in Port Royal, further study will be necessary to determine if a second market is viable, particularly if it is located in downtown. [\$] [O] [On-going]

**SI 6.2 Encourage Community Gardens.** Many neighborhoods have common areas that go underutilized. According to the American Community Garden Association ([www.communitygarden.org](http://www.communitygarden.org)) the construction of a community garden: improves the quality of life for people in the garden; provides a catalyst for neighborhood and community development; stimulates social interaction; beautifies neighborhoods; and produces nutritious food. Through education and small neighborhood grant funding, the City can encourage these wonderful neighborhood amenities. Consideration should be given to using a portion of Southside Park for community garden space. [\$] [O] [On-going]

**SI 6.3 Encourage Agricultural Urbanism.** According to [agriculturalurbanism.com](http://agriculturalurbanism.com), "agricultural urbanism (AU) is a planning, policy, and design framework that combines sustainable community ideas, urban design strategies and the growing practices of urban agriculture and sustainable food systems. The cornerstone of implementing AU is to create an urban environment that activates and sustains agriculture through the integration - not separation - of people and food. It's about reconnecting people to where food comes from; designing desirable and viable site specific forms of agriculture and food activities in a range of spaces; from wild foraging areas to downtown cores." Weaving together various food-related activities, such as small farms, shared gardens, farmers' markets, and agricultural processing, AU fits perfectly into the walkable mixed-use traditional small town design of Beaufort. [\$] [O] [On-going]



Image Source: Ben Brown/PlaceMakers

Farmers market vendor



Lowcountry Local First is committed to building a network of small businesses that allows all business owners to participate on the same level. Retail, manufacturing and agricultural businesses will unite with the same mission - to promote and preserve their local economy through the promotion of their goods and services. We are an alliance that educates the public on the importance of supporting the local economy, and encourages businesses and consumers to be environmentally sustainable and socially responsible. We are one of over 60 chapters of the Business Alliance for Local Living Economies (BALLE) [www.livingeconomies.org](http://www.livingeconomies.org).

We envision a sustainable global economy as a network of Local Living Economies, building long-term economic empowerment and prosperity in communities through local business ownership, economic justice, cultural diversity and a healthy natural environment. Independent businesses create wealth by engaging local people in the production, marketing, and consumption of goods, they pay taxes, and reinvest in our communities.

We educate the public to:

- Create a sustainable business
- Vote with your dollars
- Buy and sell locally
- Support local agriculture

Buy Local, Be Local Campaign is a grassroots campaign designed to educate Lowcountry residents to Think Local when they are considering where to make purchases, to Buy Local whenever possible and to Be Local by supporting businesses that keep our community unique. We want to increase market share to independent, locally owned businesses by increasing awareness about the personal and community benefits of choosing local. This will be a multi-year campaign, with an initial focus on restaurants, retail and service businesses. The objectives of the campaign are to:

- Re-circulate more dollars in our community to promote a strong local economy.
- Support and strengthen locally owned, independent businesses and local jobs
- Preserve and enhance our unique neighborhoods
- Establish economic justice in all communities

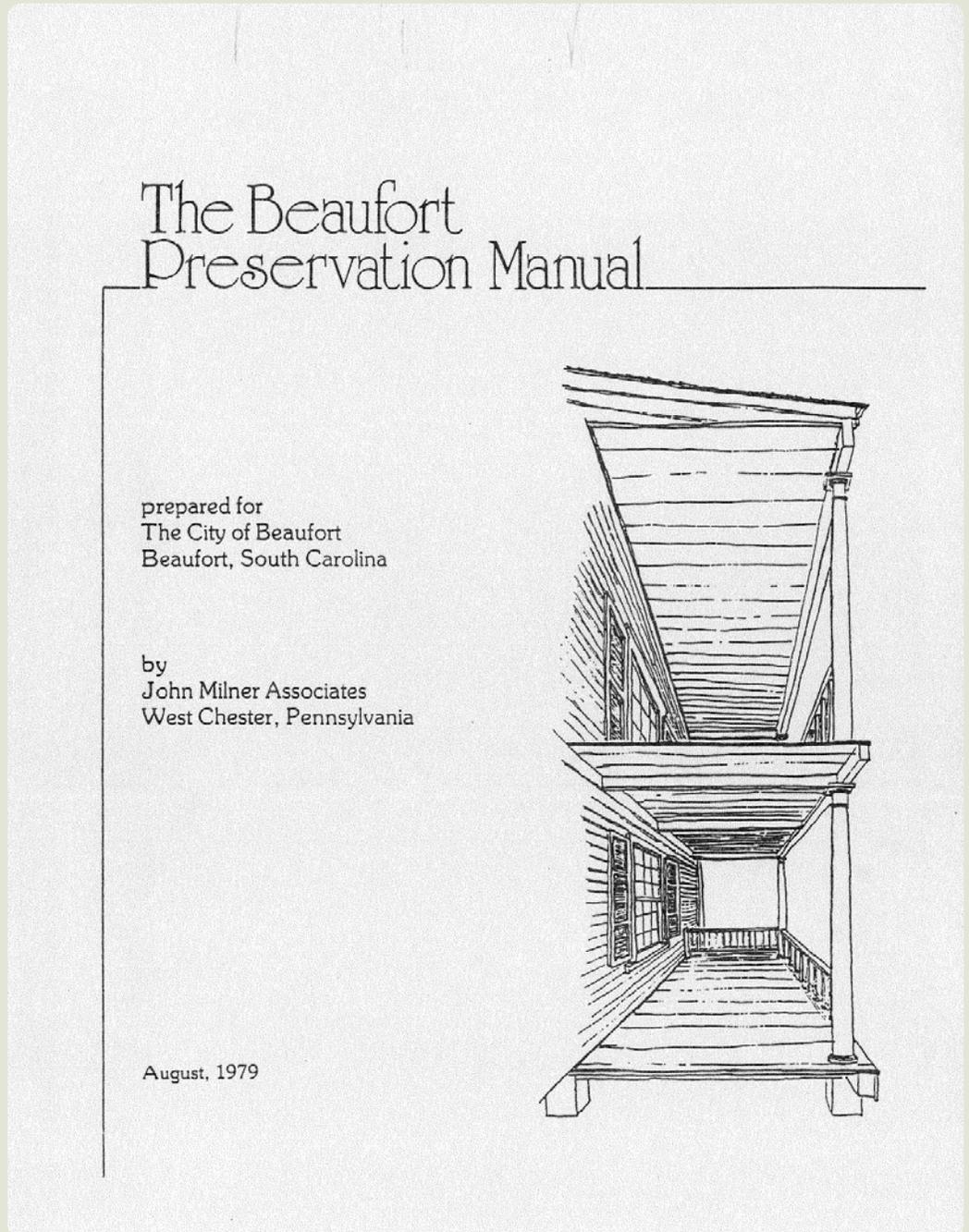
Farm Fresh Food - Our Sustainable Agriculture Initiative focuses on strengthening local farms and producers by creating partnerships with local restaurants, institutions, and the community. LLF along with the Coastal Conservation League envisions a strong regional food system incorporating a diversity of rural farms and a robust urban farming component that preserves ecosystems, reduces pollution, promotes social justice, provides education about the environment, and invigorates rural and urban economies. By bringing producers and consumers to the same table we are promoting a close connection between you and those in our community who grow and raise our food.

Visit their website! *Adapted from [www.lowcountryfirst.org](http://www.lowcountryfirst.org).*

**THE BEAUFORT  
PRESERVATION  
MANUAL**

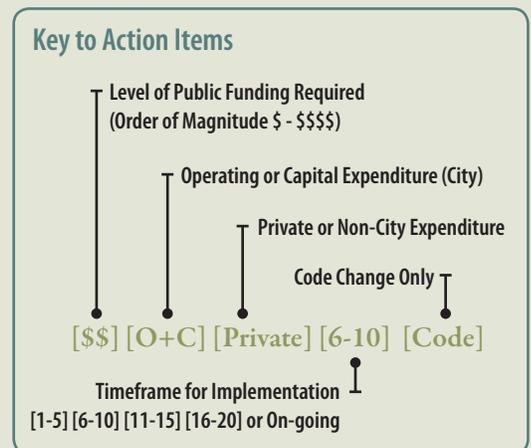
Following the completion of the first Preservation Plan in 1972, the City of Beaufort commissioned in 1979 the architectural and planning firm of John Milner Associates to prepare the Beaufort Preservation Manual. The Manual outlines a wide range of rehabilitation, repair and maintenance methods for historic buildings. Detailed overviews of Beaufort’s historical development and architectural styles are provided, as well as information regarding parameters for new construction and signage in the historic district.

The Manual was the primary source of design guidelines for review of certificates of appropriateness by the Board of Architectural Review. During subsequent preservation planning efforts, it was determined that though the Manual was a good source of repair and maintenance practices, it did not adequately serve as a comprehensive set of design guidelines for the review of rehabilitation, restoration, addition, and new construction projects in the historic district.





# CHAPTER NINE: ACCESS & MOBILITY





# 9 ACCESS & MOBILITY

Congestion in the City of Beaufort is largely a function of the environmental conditions and the regional development patterns. The numerous streams, creeks, rivers, and wetlands when combined with the geography of the various islands that comprise northern Beaufort County, serve to constrain opportunities for increased regional connectivity. Today, the network is best described as a historic core based on a traditional grid and a series of local or neighborhood streets connected to three arterial highways—US 21, SC 170, and SC 208—that bisect the Beaufort/Port Royal Island Peninsula. While the McTeer Memorial Bridge and the Russell Bell Bridge are modern, elevated, multi-lane structures, the 1960's-era Woods Memorial Bridge is a steel swing bridge that impacts traffic flow in the downtown core with its constrained two-lane capacity and its frequent stoppages of traffic to accommodate tall ships passing through.

While few non-automobile-based transportation options exist in and around Beaufort, this situation is slowly changing. Attention to pedestrian and bicycle travel with enhanced sidewalks, trails, and expanded greenways is slowly creating a secondary network for local travel and recreation. In addition, the careful attention to urban design being paid to the Boundary Street improvements will further enhance and reinforce biking and walking as essential components to the city's transportation strategy.

The recent *Northern Beaufort County Regional Plan* is a joint planning effort between Beaufort County, the City of Beaufort, the Town of Port Royal and the Town of Yemassee. That plan includes a transportation needs assessment which evaluates existing and future road conditions and recommends improvements to address existing and future road deficiencies identified as a result of new growth in the next 20 years. The plan recognizes that building more roads is one way of addressing deficiencies, and, that in some areas, this approach is the best option. However, the plan also focuses on alternative transportation strategies in areas of the city where road widenings are either not feasible or desirable. These strategies include transit, travel demand management, pedestrian and bicycle connections, access management, and intersection operational improvements. The plan suggests that these strategies, when and where feasible, should be incorporated before the construction of new roads. It should be emphasized that it is neither the City's obligation nor its plan to accommodate unlimited future traffic growth passing through our streets where that will result in the degradation of the quality of life in our neighborhoods.

## Key Recommendations

- AM 1.0 Improve the Road Network
- AM 2.0 Prioritize Pedestrian and Bicycle Improvements
- AM 3.0 Expand Transit Opportunities
- AM 4.0 Maximize Blueways for Recreation and Transportation
- AM 5.0 Update Regulations to Improve Access, Mobility and Safety

*Our citizens and visitors need a transportation system that integrates regional solutions with a fine-grained local network of choices that accommodate pedestrians, bicyclists, transit, automobiles, and water-based travel. - Principle 6*

## AM 1.0 | IMPROVE THE ROAD NETWORK

The transportation strategies identified in the *Northern Beaufort County Regional Plan* are based upon analysis performed to determine transportation needs in the northern region of Beaufort County. The land use assumptions developed in that plan were incorporated into the transportation analysis. In addition to the capacity of the existing road network, the analysis factored in committed and planned transportation improvements. Even with these committed and planned projects, the analysis identified future road deficiencies that will likely result from new growth in the next 20 years. Rather than simply addressing these deficiencies by building more roads, this analysis first looked at how future road capacity could be preserved and enhanced by pursuing the following alternative transportation strategies which are discussed later in this chapter:

- Transit
- Travel Demand Management
- Pedestrian and Bicycle Connections and Crossings
- Access Management
- Intersection Operational Improvements

**AM 1.1 Establish an on-going multi-jurisdictional transportation planning process.** An organization similar to a Metropolitan Planning Organization, which would include representatives of the county and municipal governments, Lowcountry Council of Governments, and DOT, should be developed to coordinate and manage a cooperative transportation planning process for Northern Beaufort County. [\$] [O] [Ongoing]

**AM 1.2 Implement the Current Planned and Committed Transportation Projects in the Northern Beaufort County Regional Plan.** The *Northern Beaufort County Regional Plan* established a regional consensus for moving forward with common solutions. The City will continue to work with the participating local governments in order to implement planned and committed road widenings, new road alignments, and planned intersection improvement projects as noted on the map to the right. The analysis of future transportation conditions was based on year 2025 and reflected projects with committed funding (committed project) or for which significant studies have been performed and are included in the Beaufort County planning process for future funding (planned projects). The analysis results for the “committed and planned projects” assumed to be in place in the future year 2025 are shown on the map to the right. Note that the costs indicated below are in 2006 dollars. [\$\$\$\$] [C] [1-5, 6-10]

### Committed Widening Projects

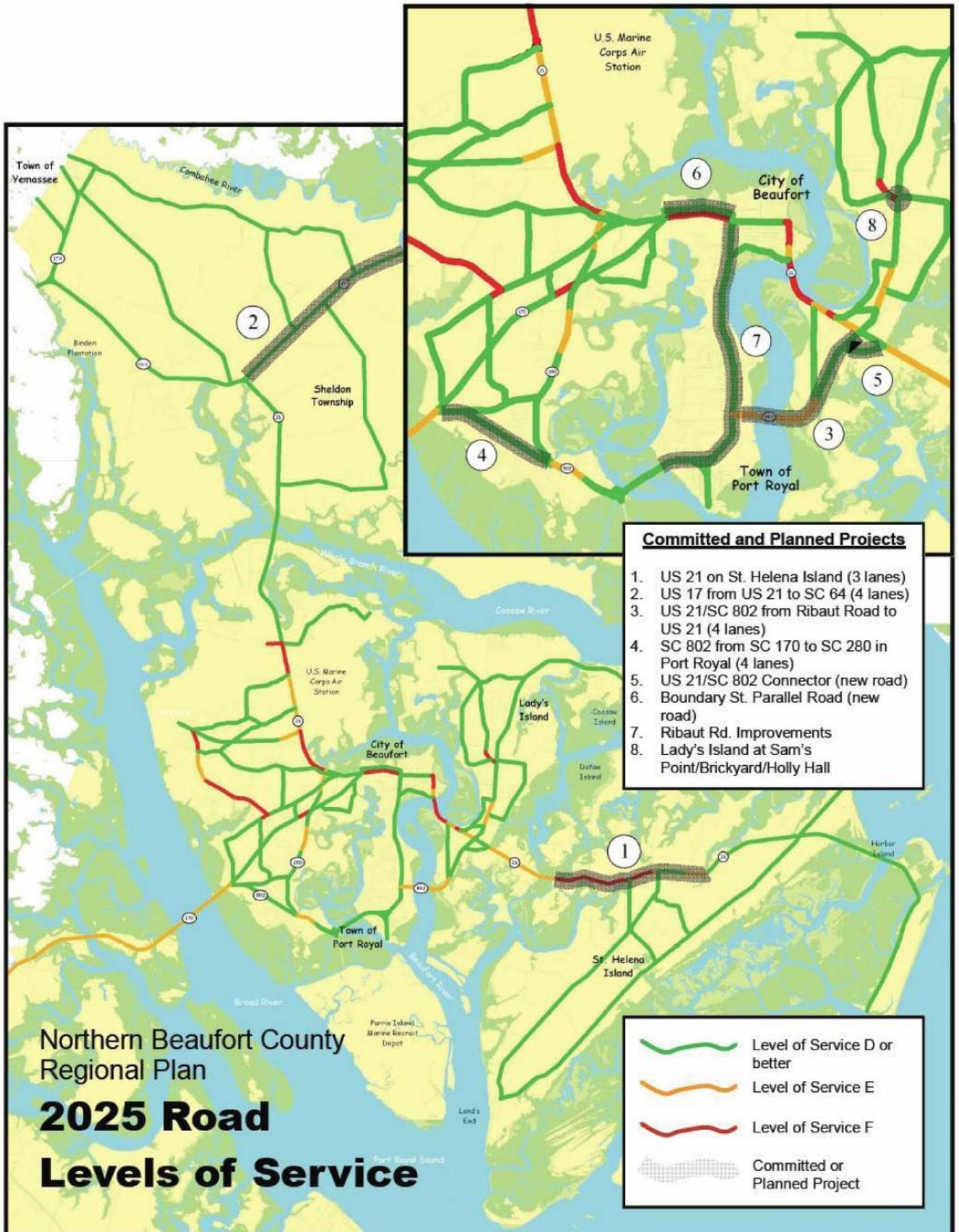
1. US 21 on St. Helena Island (3 lanes) - \$12.3 million
2. US 17 from US 21 to SC 64 (4 lanes) - \$92 million for Beaufort County only

### Planned Widening Projects

3. US 21/SC 802 from Ribaut Road to US 21 (widen to 4-lane divided road) - \$35.7 million
4. SC 802 from SC 170 to SC 280 in Port Royal (widen to 4-lane divided road) - \$70.0 million

### Planned New Roadway Alignment

5. US 21/SC 802 Connector (new 4-lane divided road) - \$6.0 million



6. Boundary Street Parallel Road (new 2-lane road) - \$22.0 million

**Planned Intersection Improvements**

7. SC 802 (Ribaut Road) Improvements - \$2.3 million
8. Lady’s Island at Sam’s Point/Brickyard/Holly Hall - \$250,000

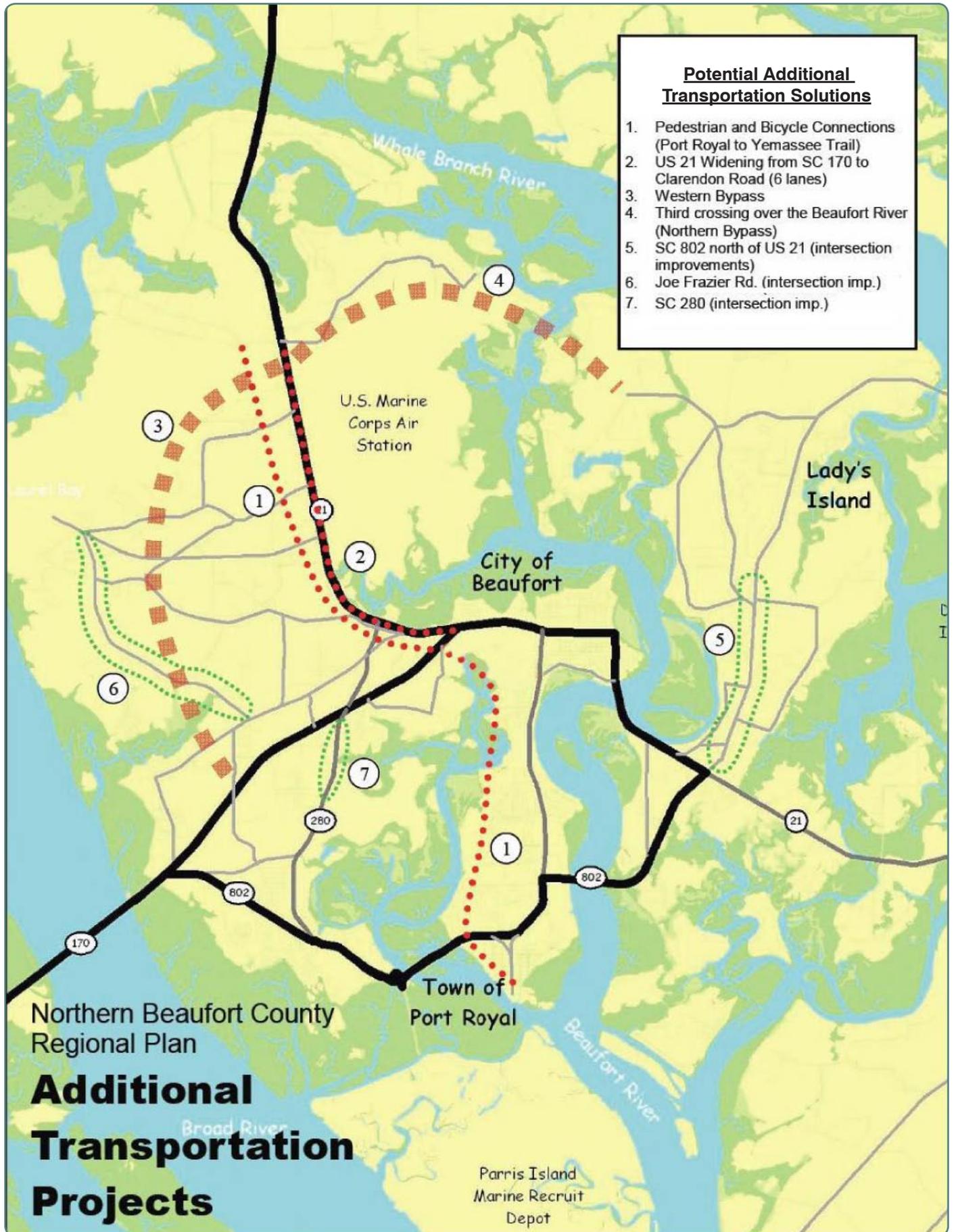
**AM 1.3 Explore and Evaluate the Additional Roadway Projects Noted in the Plan.** The City will continue to work with the participating local governments in order to explore and evaluate a range of transportation improvements, including road capacity improvements, transit, pedestrian and bicycle connections, enhanced access management, and operational improvements. The transportation analysis in the Northern Beaufort County Regional Plan shows that even with the planned and committed projects, additional transportation solutions are needed for longer term growth. It is important to recognize that flexibility is needed to determine the best specific solutions based upon analysis of changing conditions. The projects are shown on the next page.

Specifically, assuming the planned and committed projects are built, the following areas are forecasted to be deficient in the long run (by year 2025) based on growth forecasts:

- US 21 (Broad River Boulevard to Clarendon Road)
- US 21 (SC 170 to Ribaut Road)
- US 21 (Boundary Street to St. Helena Island)
- SC 802 (east of Ribaut Road)
- SC 802 (north of US 21)
- Joe Frazier Road (north of Broad River Boulevard)
- SC 170 (west of SC 802)
- SC 280 (US 21 to Mink Point Boulevard)

**US 21 Widening from SC 170 to Clarendon Rd (6 lanes) (Project #2)**– Portions of the US 21 corridor experience 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. Because a 6 lane arterial is such a major piece of infrastructure, this recommendation should not be taken lightly and should be studied as part of a strategic corridor. A more refined collector street plan in the GR-1 area along with key access management and intersection improvements could mitigate the need for this widening. Any improvements to this corridor should use a “complete streets” approach (see AM 1.4 below). For more discussion about this refer to the Trask Parkway Strategic Corridor recommendations on page 153. [\$\$\$\$] [C] [11-20]

**Western Bypass – US 21 to SC 170 (Planning, feasibility analysis, and right-of-way for a 2 lane road with turn lanes and bicycle lanes) (Project #3)** – 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 needed for consideration of this alternative for application beyond year 2025. For more discussion about this refer to the Northwest Parkway Strategic Corridor recommendations on page 151. [\$\$] [O] [11-20]



**Third Crossing of Beaufort River (Planning, feasibility analysis, and right-of-way for additional Lady’s Island Crossing) (Project #4)** – 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. *Comment: While this connection plays an important role in the long term mobility of the community, the cost and degree of mobility provided in the short term has rendered this project a lower priority. Additional studies are required to assess the likely impacts to the natural environment and to confirm likely construction costs.* [\$\$] [O] [1-5]

**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 (Project #6)
  - Joe Frazier Road from SC 170 to Laurel Bay Road (Project #7)
  - SC 280 from SC 170 to Mink Point Boulevard (Project #8)
- [\$\$\$] [C] [11-20]

**AM 1.4 Evaluate the Re-designation of US 21 around the City.** An additional recommendation to those described in the Northern Beaufort County Regional Plan is the realignment of the Trask Parkway/Parris Island Gateway intersection making the predominant movement from Trask Parkway to Parris Island Gateway rather than Boundary Street. This minor realignment would allow for the re-designation of US 21 to Parris Island Gateway, a facility with ample roadway capacity. The assignment of US 21 would likewise be applied to the southern portion of Ribaut Road to the Lady’s Island Drive Bridge with ultimate connection back to existing US 21 at Sea Island Pkwy. This improvement would allow Boundary Street to remain a local arterial with an urban character as it traverses through the historic downtown. It may also result traffic queuing when the drawbridge is open. The resulting US 21 designation to Parris Island Gateway should also help to support emergency evacuation routes through the area. As part of this study it will be important to assess any negative impacts as well such as reduced tourist traffic through the Boundary Street corridor and the downtown area. [\$\$] [O+C] [1-5]

**AM 1.5 Incorporate “Complete Street” Methodology into all Retrofits and New Construction.** “Complete streets” is a term used nationally to describe the transformation of vehicle-dominated thoroughfares in urban and suburban areas into community-oriented streets that safely and conveniently accommodate all modes of travel, not just motorists. The detailed guidance comes from a joint effort of the Institute of Transportation Engineers and Congress for the New Urbanism. With funding from the U.S. Department of Transportation and the U.S. Environmental Protection Agency, best practices have been published as *Context-Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities*. Beyond the support provided in this plan, the other important policy documents that should reflect complete street policies or enabling language include:

- City or County Comprehensive Transportation Plans
- Area Plans (for the applicable area served by the complete street)

## FOUR REALMS OF COMPLETE STREETS

Complete streets can be viewed in terms of four basic zones or realms: the context realm, pedestrian realm, travelway realm, and intersection realm. When used in combination with a form-based code, a complete street will take on very different design depending on the context zone in which it travels through, often changing cross-sections through the corridor to accommodate the needs of all users.

### Context Realm

The context realm of a complete street is defined by the buildings that frame the major roadway. Identifying distinct qualities of the context realm requires focusing on four areas: building form and massing, architectural elements, transit integration, and site design.

- Building Form and Massing
- Architectural Elements
- Transit Integration
- Site Design

### Pedestrian Realm

The pedestrian realm of a complete street extends between the outside edge of sidewalk and the face-of-curb located along the street. The pedestrian realm may consist of up to four distinct functional zones: frontage zone, throughway zone, furnishing zone, and edge zone. Incorporation of one or more of these function zones in the pedestrian realm of a street generally is based upon the context of the surrounding built environment.

- Pedestrian Mobility
- Quality Buffers
- Vertical Elements
- Public Open Space

### Travelway Realm

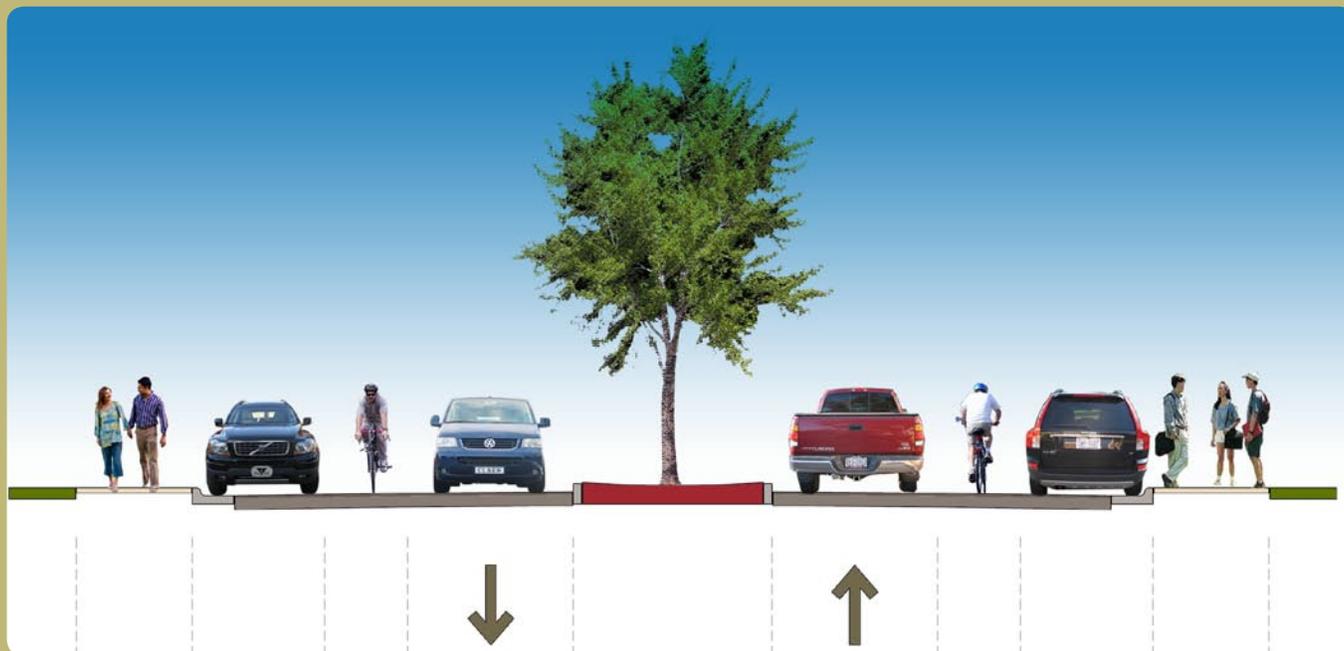
The travelway realm of a street is defined by the edge of pavement or curb line (in more urban areas) that traditionally accommodates the travel or parking lanes needed to provide mobility for bicycles, transit, and automobiles sharing the transportation corridor. This area also separates the pedestrian and context realms and may provide carefully-designed crossing opportunities between intersections. Recommended design elements incorporated into the travelway realm serve to achieve greater balance between travel modes sharing the corridor and favor design solutions that promote human scale for the street and minimize pedestrian crossing distance.

- Multi-modal Corridors
- Median Treatments

### Intersection Realm

Evaluating potential changes for the intersection realm of a street requires careful consideration for the concerns of multiple travel modes that could meet at major intersections within the transportation system.

- Geometric Design
- Operations



*An image of a "Complete Street" showing accommodations for automobiles, pedestrians, bicyclists, and landscaping.*

- Park Master Plans (if adjacent to the corridor)
- Economic Revitalization/ Development Strategies

The City of Beaufort is working toward the creation of streets that seek to complement local land use initiatives with transportation goals. An example of this effort is the current plan to improve Boundary Street. In June 2006, the City completed the *Boundary Street Master Plan*. The plan was a comprehensive strategy for growth and development of the corridor which serves as the entranceway to the city. Principles of the plan focused on connectivity, walkability, improving safety, and expanding the uses and housing types along the corridor. The following principles embody the most important aspects of a successful complete streets program:

- Achieve community objectives.
- Blend street design with the character of the area served.
- Capitalize on a public investment by working diligently with property owners, developers, economic development experts, and others to spur private investment in the area. A minimum return-on-investment of \$3 private for every \$1 of public investment should be expected. Often in more densely populated areas, the ratio is 10:1 or more.
- Design in balance so that traffic demands do not overshadow the need to walk, bicycle, and ride transit safely, efficiently, and comfortably. The design should encourage people to walk.

[\$\$] [O+C] [On-going]

**AM 1.6 Use the Street Design Priority Matrix for all Access and Mobility Planning.** As a means to connect street design elements with the land use character, a preliminary street design matrix was established during the charrette. Additional considerations include the need for connectivity and access management. The resulting priority matrix (on the next page) communicates the priorities for each street element as it relates to the character areas of the community (downtown, suburban, main streets, lowcountry mixed-use, rural, and residential neighborhoods) and should indicate those high priority items that should NOT be compromised during the design process. In essence, the matrix reinforces the relationship between transportation and land use by adding design and context to the decision making process. [\$\$] [O+C] [On-going]

**AM 1.7 Continue Implementation of Access Management along all Major Corridors.** Access management (the regulation of automobile access to a specific site through driveway limitations and medians) is recommended along the following corridors:

- 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

[\$\$] [O+C] [On-going]

**AM 1.8 Prepare a Collector Street Plan for the Urban Growth Boundary.** Connected local streets are critical to the transportation network and to active modes of transportation, but just as important is an evenly spaced network of collector streets that provide access from the local streets to the major arterials. Collector streets carry less traffic, have lower speeds, travel shorter distances than arterials,

	Downtown	Suburban	Main Streets	Lowcountry Mixed Use	Rural	Residential Neighborhoods
<b>TRAVEL REALM</b>						
Number and width of travel lanes						
Intersection vehicular capacity						
Design for large vehicles						
Medians						
Bicycle lanes						
Multimodal intersection design						
<b>PEDESTRIAN REALM</b>						
Wide sidewalks with amenities						
Standards sidewalks with verge						
Pathways						
Multi-use paths						
On-Street parking						
Urban design features						
<b>OTHER ELEMENTS</b>						
Interconnected street system						
Access Management						

High Priority	
Medium Priority	
Low Priority	
N/A	

### STREET DESIGN PRIORITY MATRIX ▲



Low Intensity



Medium Intensity



High Intensity

Source: Kimley-Horn Associates

Land Use/Type of Collector Street	Intensity	Access Function	Approximate Street Spacing
Low Intensity Residential	Less than 2 dwelling units per acre	High	3,000 to 6,000 ft apart
Medium Intensity Residential	2 to 4 dwelling units per acre	High	1,500 to 3,000 ft apart
High Intensity Residential	More than 4 dwelling units per acre	High	750 to 1,500 ft apart
Activity Center	Mixed-use residential/commercial	Medium	750 to 1,500 ft apart

*Graphics and table above provide guidance on spacing of collector streets based on density*

and help take traffic pressure off of major and local streets. They also provide attractive route alternatives from neighborhoods to major activity centers for motorists, transit, cyclists, and pedestrians.

Although the opportunities for new collector streets in Beaufort’s growth area will be limited by the area’s unique environmental conditions, such a plan would provide a mechanism for the City to protect and provide for key alignments as new development or redevelopment occurs. A collector street plan should be used to preserve and suggest the general location of future connections. As new developments are proposed, planning officials can use the plan to reserve right-of-way for and/or require the construction of new collector streets. In many cases, collector streets can be wholly or partially built by private developers. [\$\$] [O+C] [On-going]

**AM 1.9 Develop Specific Plans/Recommendations for Strategic Community Corridors.**

During the week-long charrette, citizens listed streets that need to be protected or improved using access management strategies. Citizens often listed corridors throughout Beaufort that they rely on to reach local destinations or to travel across the region. These corridors were refined after discussions between the project team, Steering Committee, general public, and staff. The project team reviewed existing conditions in detail, determining the issues that currently limit their functionality as multi-modal corridors and considering what the streets may look like once they “grow up”. Eighteen corridors were selected as community strategic corridors and are shown on the map on the next page. These include: Three of these corridors, Trask Parkway, Ribaut Road, and the future Northwest Parkway, were selected for consideration during the charrette. For these locations, strategic corridor diagrams were created that drill a little deeper than the system-level recommendations described previously and recommend potential solutions that ease congestion, increase safety, and reflect the vision and goals for a balanced transportation system identified by the community. Diagram details include typical cross section and design, a vision for the future, and any outstanding issues facing the corridor. It is recommended that the City complete a more thorough study for each of the strategic corridors.

- Trask Parkway/US 21
- Parris Island Gateway
- Robert Smalls Parkway
- Castle Rock Road
- Ribaut Road
- SC 280/802
- Lady’s Island Drive
- Sea Island Parkway
- Bay Street
- Boundary Street
- Joe Frazier Road
- Sams Point Road
- Brickyard Point Road
- Laurel Bay Road
- Broad River Boulevard
- Savannah Highway
- Future Northwest Parkway
- Bruce K. Smalls Drive

These corridors were selected for detailed study because the conditions and issues of these corridors are representative of other roads throughout Beaufort. As such, the recommendations and access management solutions can be applied to other corridors. By taking the proper steps now, strategic corridors can promote new growth, accommodate increases in traffic, and contribute to the success of the overall transportation system. [\$\$] [O] [1-5, 6-10, 11-20]



STRATEGIC COMMUNITY CORRIDORS ▲

## NORTHWEST PARKWAY STRATEGIC CORRIDOR

**Background:** Proposed in the *Northern Beaufort Regional Plan* as the “Western Bypass”, the roadway is a connection from Trask Parkway (US 21) south to Robert Smalls Parkway.

**Context:** Proposed roadway passes through the northwest area where development is fragmented as a result of poor soil conditions and utility provisions.

**Purpose:** The purpose of the roadway should be to provide enhanced north-south connectivity and reduce reliance on existing arterials and to provide a future framework for organizing future development. The roadway should not be considered a bypass of US 21. However the roadway should provide logical connections from the northwest Trask Parkway to points south and southeast including Robert Smalls Parkway, Parris Island Gateway and Savannah Highway. The roadway should also play a role in the implementation of a comprehensive bicycle and pedestrian network.

**Generalized Alignment:** During the Beaufort Comprehensive Plan design charrette, the design team evaluated several roadway alignment options. Consideration of soils, existing development and connectivity were reviewed prior to the identification of a preferred alignment (as shown on this page). A corridor specific feasibility study should be performed prior to the finalization of this alignment (see AM 1.2). The feasibility study should evaluate alternatives and include the development of a conceptual design and planning level cost estimate. The general alignment developed during the design charrette begins at Trask Parkway in the general vicinity Bruce K. Smalls Drive west to Laurel Bay Road, south to Joe Frazier Road with the first phase terminating at Broad River Road. A second phase of the road continues from Broad River Road directly south to Robert Smalls Parkway and Savannah Highway.

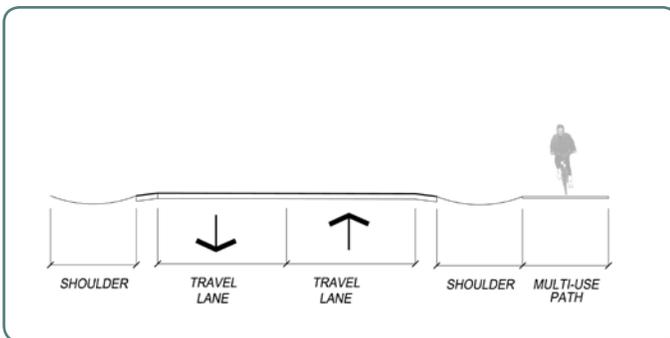
**Cross-Section and Design:** Given the existing and projected low development intensity for this area, a phased cross-section is recommended. The initial section would include two travel lanes, ditch section and multi-use side path (initially on one side). As development occurs and travel demand increases, a future improvement to the road may include the addition of two additional travel lanes (separated by a vegetated median) and additional multi-use side path. For this reason, an initial 60 foot right-way will be required to construct the first phase of the roadway. As development incrementally occurs, construction of the roadway is recommended with reservation of an additional 60 feet (total of 120 feet) to allow for the potential widening of the roadway. A ditch and swale cross section is recommended in order to provide more natural filtration of resulting storm water runoff. A design that accommodates a posted 45 mph speed limit is recommended.

**Implementation:** The roadway should be constructed incrementally as development occurs, with ultimate improvements and full connection being funded with local sales tax and state funding.

**NOTES:** A portion of the Northwest Parkway is represented on existing Joe Frazier Drive. Any improvements made to Joe Frazier (along the Northwest Parkway alignment) should be done in a manner that is consistent with the described vision for the Northwest Parkway and include the construction of the multi-use side path with appropriate accommodations for bicycle and pedestrian crossings and intersection treatments.

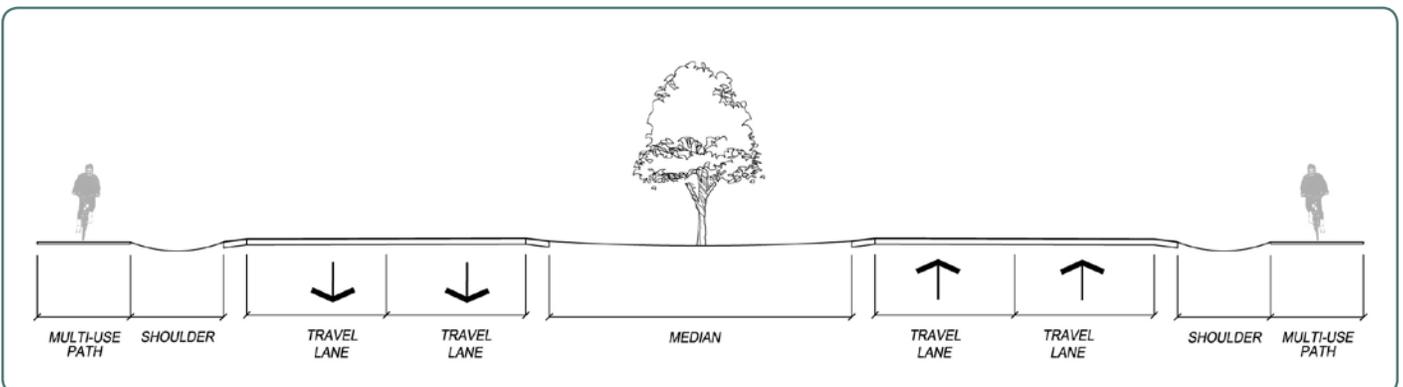


▲ NORTHWEST PARKWAY CORRIDOR (CONCEPT)



◀ PHASE 1 CROSS-SECTION (CONCEPT)

▼ PHASE 2 CROSS-SECTION (CONCEPT)



## TRASK PARKWAY STRATEGIC CORRIDOR

**Context:** The proposed roadway generally runs north to south and passes through the northwest area, ultimately to the center of the study area at the confluence with Boundary Street and Robert Smalls Parkway. The route is currently designated as US 21 and includes 4 through travel lanes and a bi-directional center turn lane (total five-lanes). The Greyhound bus station is also located along the corridor providing regional connections for those, specifically military personnel, traveling to and from the area.

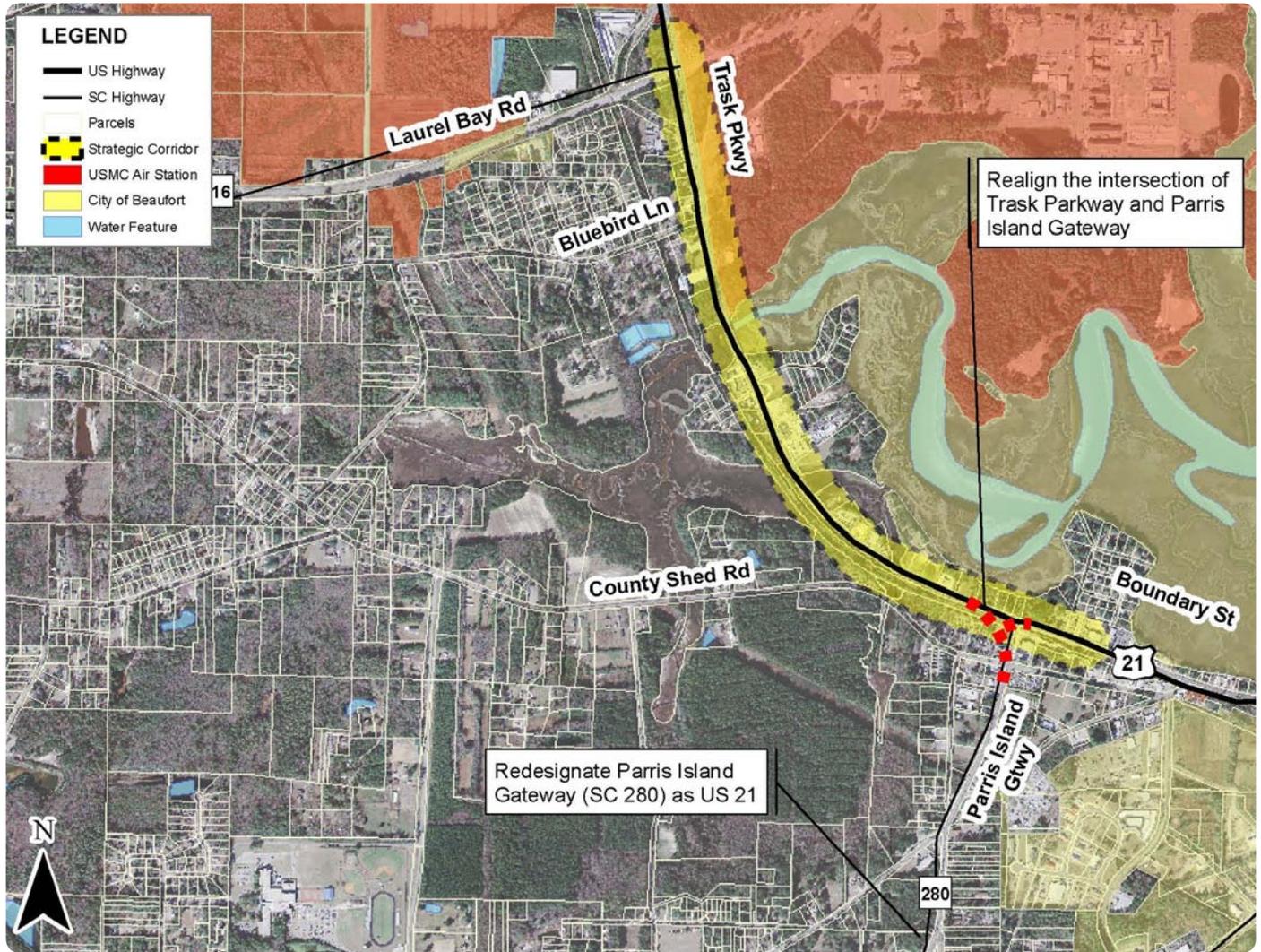
**Purpose:** The purpose of the roadway is to provide a regional connection from north of Whale Branch to the City of Beaufort and ultimately to Lady's Island. The roadway also plays another important role as the northern gateway to the City of Beaufort. The road generally runs parallel to the old SC State Ports Authority and Railways-Port Royal corridor (being considered for conversion to a multi-use path, rail trail). The roadway is also a part of a designated truck route playing a vital role in the movement of freight throughout the region.

**Existing Conditions:** The five lane road has a 2007 traffic count of approximately 28,800 vehicles per day (vpd) between Laurel Bay Road and Parris Island Gateway, 22,300 vpd between Parris Island Gateway and Robert Smalls Parkway, and 35,400 vpd between Robert Smalls Parkway and Ribaut Road with a posted speed limit of 50 mph. The Roadway has inconsistent sidewalk on the east side located at the back of curb, but few other pedestrian accommodations.

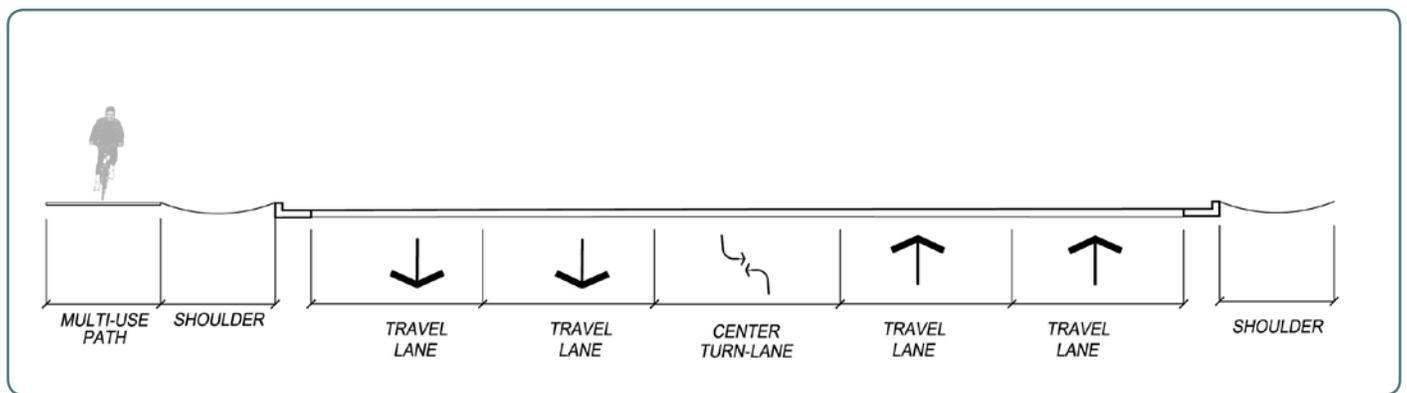
**Future Vision:** The Northern Beaufort County Regional Plan identified this corridor for near-term improvements and for a future widening to include a total of six travel lanes north of SC 280. This plan suggests that any widening be a long term improvement beyond the horizon of the planning period. In the interim, the roadway should be considered a gateway to Beaufort beginning at the intersection of Laurel Bay Road with a new treatment that includes enhanced sidewalks, lighting, plantings and a vegetated median to assist with access management. In addition, realignment at Boundary Street should be considered. The realignment would allow for the predominant movement to be a through movement from Trask Parkway to Parris Island Gateway (rather than to Boundary Street). Boundary Street would be realigned to create a "T" intersection (or perhaps a roundabout). The proposed realignment would allow for a designation of Parris Island Gateway as US 21. It is important to note that the US 21 route can be accomplished with a change in signage as this is already the designated truck route. As a part of the realignment, a new intersection design that includes accommodations for pedestrians and safe movements for bicyclists should be included (especially given the high percentage of trucks). In addition, as a gateway to Beaufort this intersection should include community design elements consistent with the city.

**Cross-Section and Design:** No changes north of Bluebird Lane are anticipated except for the addition of a multi-use side path. This path may be required in order to accommodate a potential gap in the rail to train line resulting from exclusion in the Clarendon Development Agreement. In the vicinity of the realignment with Parris Island Gateway, a four-lane median divided cross-section is suggested.

**Outstanding Issues:** As a result of the Clarendon Development Agreement, the rail-trail conversion may not occur through the Clarendon property. In order to provide continuous connectivity, a multi-use side path may need to be accommodated along Trask Parkway between Poppy Hill Road and Whale Branch Creek on the west side of the road.



▲ TRASK PARKWAY CORRIDOR (CONCEPT)



▲ CROSS-SECTION WITH MULTI-USE PATH (CONCEPT)

## RIBAUT ROAD STRATEGIC CORRIDOR

**Context:** The proposed roadway generally runs north to south connecting downtown Beaufort with Port Royal to the south. Included in this segment is the connection to Lady's Island Drive with a bridge that connects east to Lady's Island. The bridge is currently slated for improvements which include the construction of a parallel bridge that provides for a total of four travel lanes with accommodations for bicycles and pedestrians. The roadway is currently designated as US 21 providing access to downtown, Port Royal, and other regional facilities including, the Beaufort Memorial Hospital, US Naval Hospital, and Technical College of the Low Country.

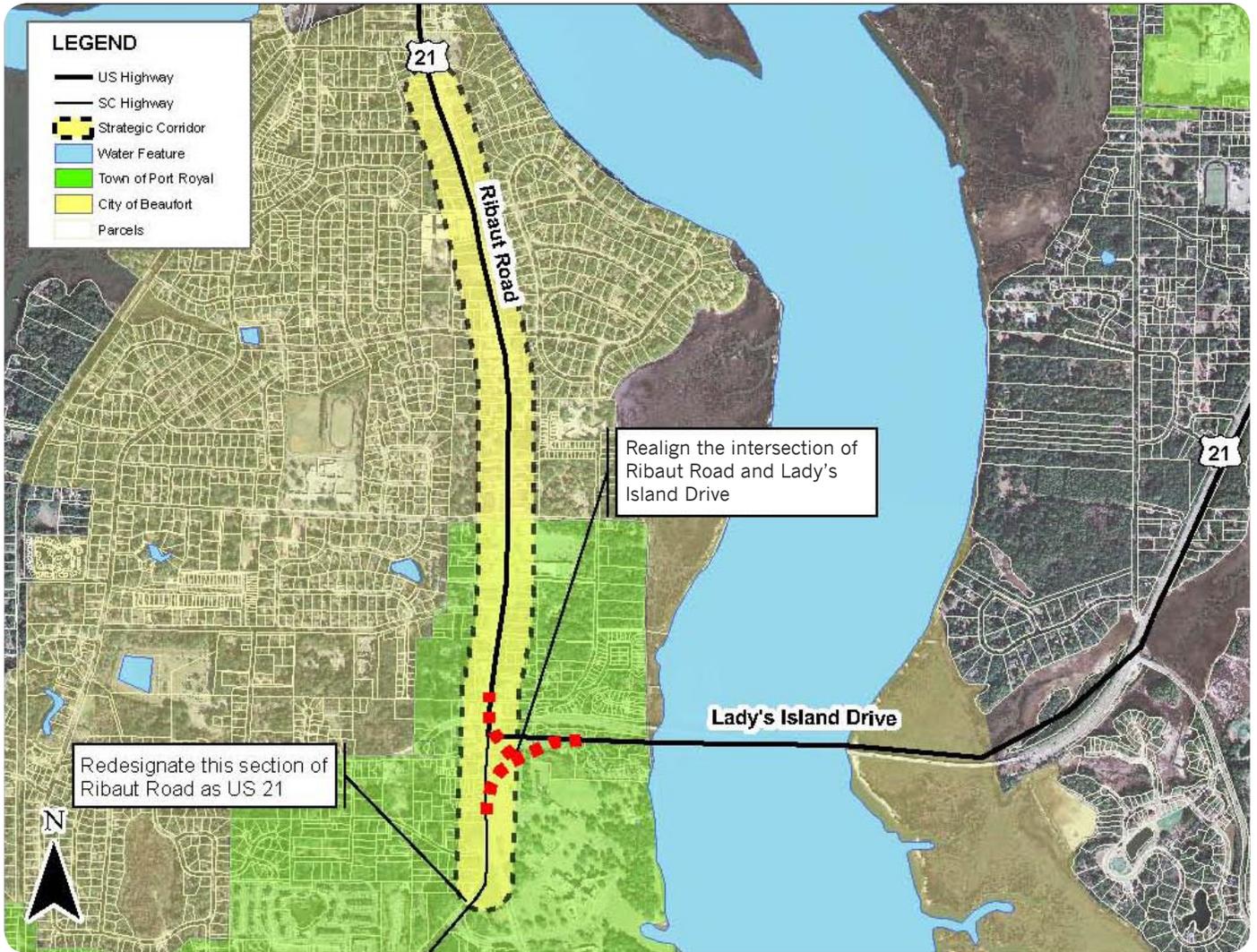
**Purpose:** The purpose of the roadway is primarily to provide local land access to the peninsula and provide connectivity between downtown Beaufort and Port Royal. However, the designation as US 21 coupled with access to the McTeer Bridge also attracts a significant amount of through traffic (trips without origin and destination) on the peninsula.

**Existing Conditions:** The four lane road has a 2007 traffic count of approximately 16,400 vehicles per day with a 35 mph posted speed limit north of Lady's Island Drive and 45 mph to the south. Some portions of Ribaut Road have sidewalks on both sides, while other areas (specifically south of Lady's Island Drive), only have sidewalk on the west side of the road.

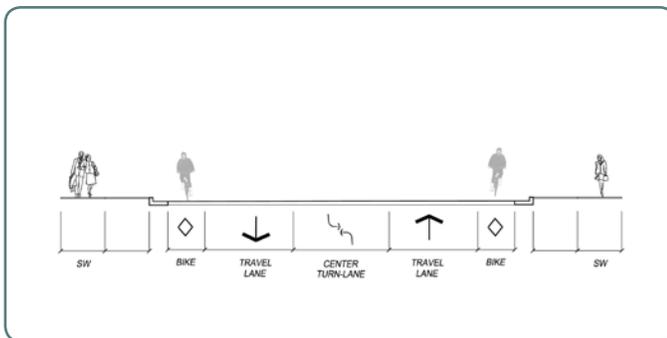
**Future Vision:** In the interim, the roadway should be considered a gateway to Beaufort beginning at the intersection of Lady's Island Drive. New treatments that include enhanced sidewalks, lighting, plantings should be considered. In addition, as a part of the redesignation of US 21, a realignment of Ribaut Road from the southern approach to Lady's Island Drive should be considered. The realigned road would create a through movement of Ribaut Road to Lady's Island Drive and a resulting realignment of Ribaut Road north of the intersection so that it effectively creates a "T" intersection at the realigned road. This intersection improvement should encourage the use of the Parris Island Gateway and Ribaut Road designation as US 21 and thereby lessen the need for additional vehicular capacity on the stretch of Ribaut Road north of the bridge. This may provide an opportunity for enhanced streetscapes north of the Lady's Island Drive including a reduction in the number of travel lanes and the inclusion of on-street bike lanes, enhanced pedestrian facilities and potentially on-street parking in some blocks. A feasibility study evaluating this possibility is recommended in conjunction with any redesignation of US 21.

**Cross-Section and Design:** North of Lady's Island Drive, no short term changes are anticipated; however a feasibility study evaluating a road diet (reducing the roadway from 5 lanes to 3) is recommended. The revised cross-section may include on-street bike lanes, enhanced sidewalks, landscaping, and some on-street parking. South of Lady's Island Drive, the addition of a multi-use side path on the east side of the roadway is recommended.

**Outstanding Issues:** The current intersection of Ribaut Road and Lady's Island Drive is signaled with cross-walks at all approaches with a pedestrian signal controlling the crossing at the southern approach of the intersection which leads to a location at the southeast quadrant where there is no sidewalk. A revised signal arrangement that includes pedestrian heads at all approaches is recommended.

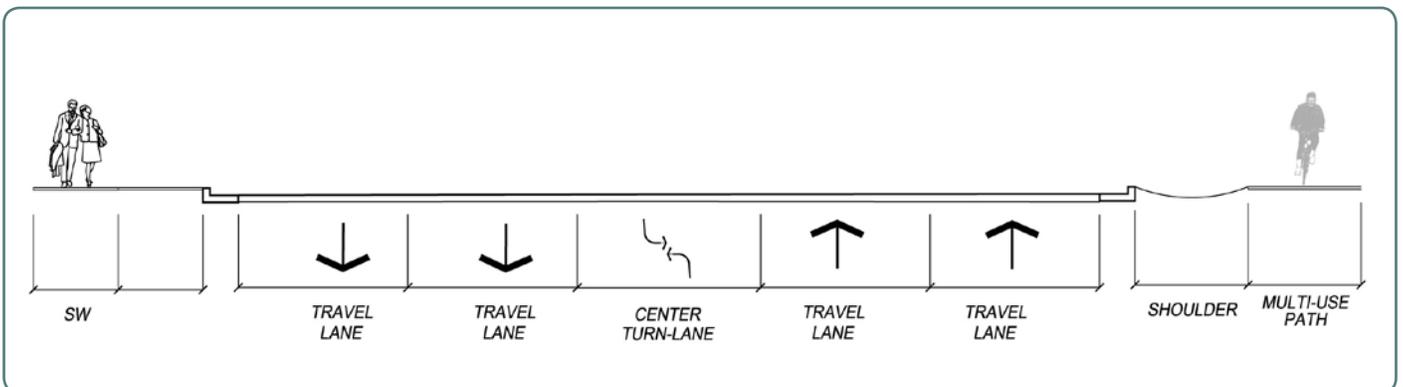


▲ RIBAUT ROAD (CONCEPT)



◀ CROSS-SECTION NORTH OF LADY'S ISLAND DRIVE (CONCEPT)

▼ CROSS-SECTION SOUTH OF LADY'S ISLAND DRIVE (CONCEPT)



## AM 2.0 | PRIORITIZE PEDESTRIAN AND BICYCLE IMPROVEMENTS

Transportation plans once focused solely on roadway solutions, with planners and local officials concentrating on commuter traffic and travel patterns. Today, it is understood that community travel is not limited to morning and afternoon rush hours, and each trip does not begin and end in the driver's seat. In fact, every trip begins and ends with a pedestrian trip. For improved quality of life, citizens now strive for livable communities that balance travel options/choices. A common theme of any livable community is how well it accommodates pedestrians and cyclists, for both recreational and more utilitarian trips.

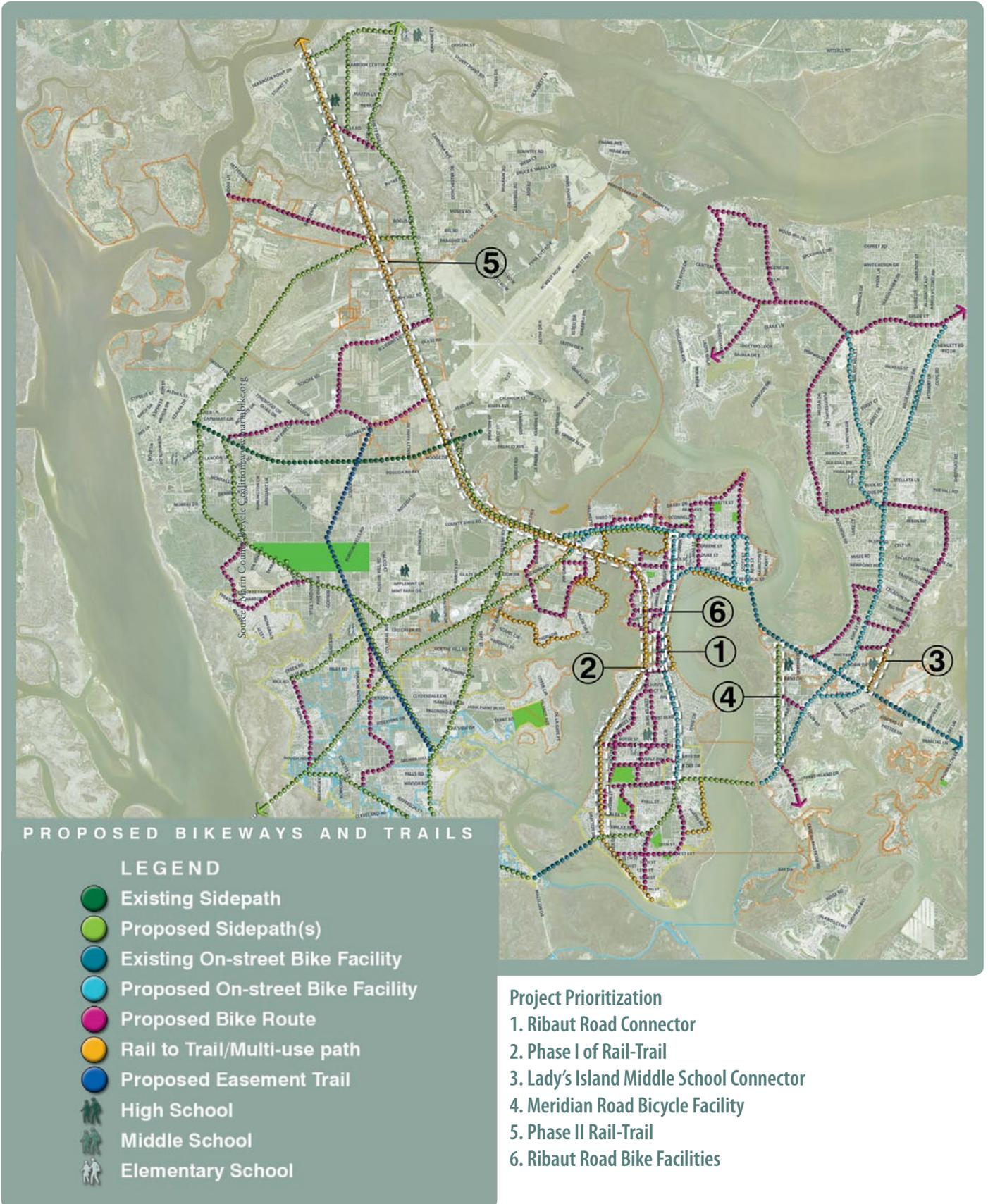
The benefits of cycling and walking include improved health, cost savings, and a cleaner environment. But the transition from potential use of non-motorized transportation to its reality is not easy. The increasing demand for bicycle and pedestrian facilities as expressed by the public has culminated in an enhanced focus on these choices during the transportation planning process.

**AM 2.1 Implement the Pedestrian and Bicycle Connections shown in the Northern Beaufort County Regional Plan (Project #1)** – Providing local pedestrian and bicycle connections where commercial areas are present near residential communities could reduce trip making along adjacent arterials. On a larger scale, implementation of a bike corridor along the abandoned railroad corridor west of US 21 is recommended to provide access to 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. (Projects shown on p. 159) Estimated Cost - \$10.9 million [\$\$] [C] [1-5]

**AM 2.2 Create a Master Plan for Bikeways, Greenways, Sidewalks, and Trails.** The overwhelming response from Beaufortonians is that they want more sidewalks, more bike lanes and bike paths, and more greenway/multi-use path connections linking the places where people live with the places that they go to shop, work, or recreate. The City has completed a number of plans through the years regarding bikeways, sidewalks, and trails but has not consolidated these efforts to better coordinate implementation. The map to the right is a preliminary attempt to reconcile all of the proposed projects but further study, evaluation and prioritization will be necessary.

**Bikeways** - The City currently has existing on-street bike facilities along Sea Island Parkway. Several new on-street bike facilities are proposed along Sams Point Road, Ribaut Road, Boundary Street, and Bay Street (see map on the next page). The City is also working to implement a rail to trail multi-use trail along the abandoned railroad corridor west of US 21 as identified in AM 2.1 above.

**Sidewalks** - The City of Beaufort has sidewalks in many areas of the City. Like most growing communities, gaps exist throughout the sidewalk network. The City of Beaufort is currently undertaking two efforts to improve sidewalk network connections. First, the City includes sidewalk provisions in their Unified Development Ordinance (UDO) in an attempt to make connections between new development and existing neighborhoods, retail centers, and offices. The City requires the installation of sidewalks within the right-of-way of all existing public streets on which the property has frontage which do not have a





*Like motorists, cyclists need a safe and convenient place to park their vehicle at their destination.*

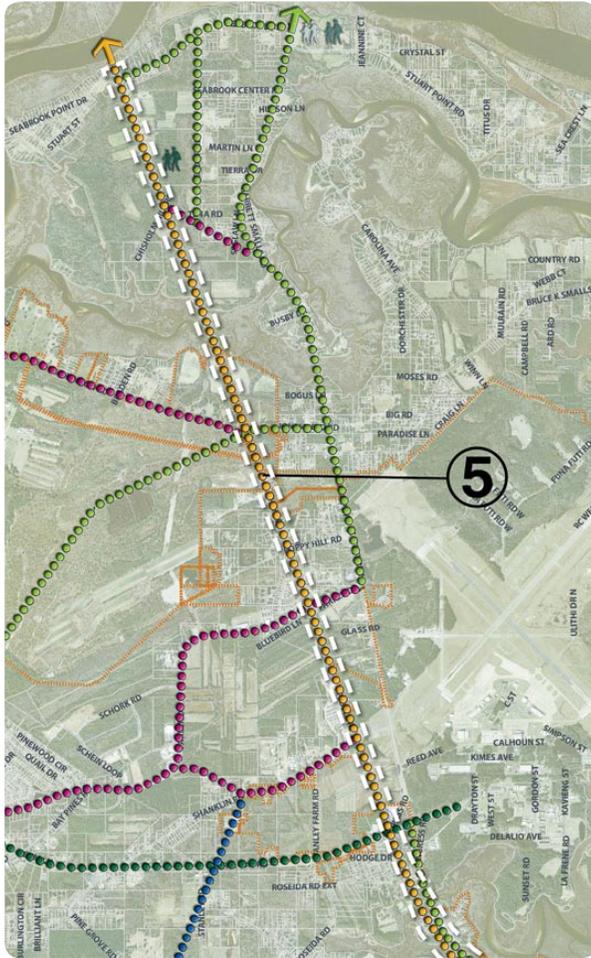
sidewalk. Additionally, the City is directly addressing the problem through their Public Works Department. The City's Streets Division has recently installed approximately 20,000 square feet of sidewalk in the City. When considering the location and priority of new sidewalk installation, the City should place the greatest emphasis on the installation of sidewalks between pedestrian generators (i.e. neighborhoods and attractions such as schools, parks, community facilities, and activity centers). [\$\$] [O+C] [1-5]

**AM 2.3 Greenways** - The City is currently implementing the 1997 Greenway Plan that envisioned an 11 mile network of trails and bike paths linking the City of Beaufort, Lady's Island, and the Town of Port Royal. The plan for greenways is divided up into eight routes that serve as greenway connectors in which there are nine project areas. The proposed but as yet unconstructed connector routes include:

- Pigeon Point Loop: From Waterfront Park through Pigeon Point Park to Pigeon Point Landing down Wilson Laudonniere and Rogers Streets, through the National Cemetery and across Boundary Street to the Green Street Gym. Connect the Greene Street Gym to Beaufort Elementary School and to Waterfront Park – 2.2 miles
- Government Center Connector: Connect the National Cemetery to Lovejoy Park and across Highway 21 to the Beaufort County Multi-Government Center and down North Street to Bay Street to Waterfront Park – 0.7 miles
- Hermitage Loop: North Street to North Hermitage and Hermitage Roads to Fuller Parkway to Battery Creek Elementary School and loop back to North Street – 1.4 miles
- Lowcountry Connector: South Hermitage Road to the Technical College of the Lowcountry, through the campus and loop back to Hermitage Road by way of Rhett Street – 0.7 miles
- Medical Loop: Connect the Beaufort Memorial Hospital to Kate Gleason Park and across Ribaut Road to link with medical offices– 0.6 miles
- Battery Creek– Port Royal Connection: Battery Creek Road through Southside Park to Waddell Road – 1.4 miles
- Lady's Island Connector: Across McTeer Bridge to Lady's Island, along Meridian Road to the Highway 21 Boat Landing Park and across the Woods Memorial Bridge to Waterfront Park– 2 miles
- Blueway Connectors: Blueway Connectors provide public access to the waterways of the Beaufort River. Blueway Connectors will connect Horse Hole Park, Pigeon Point Landing, Waterfront Park, and the Highway 21 Boat Landing to the Sands in the Town of Port Royal.

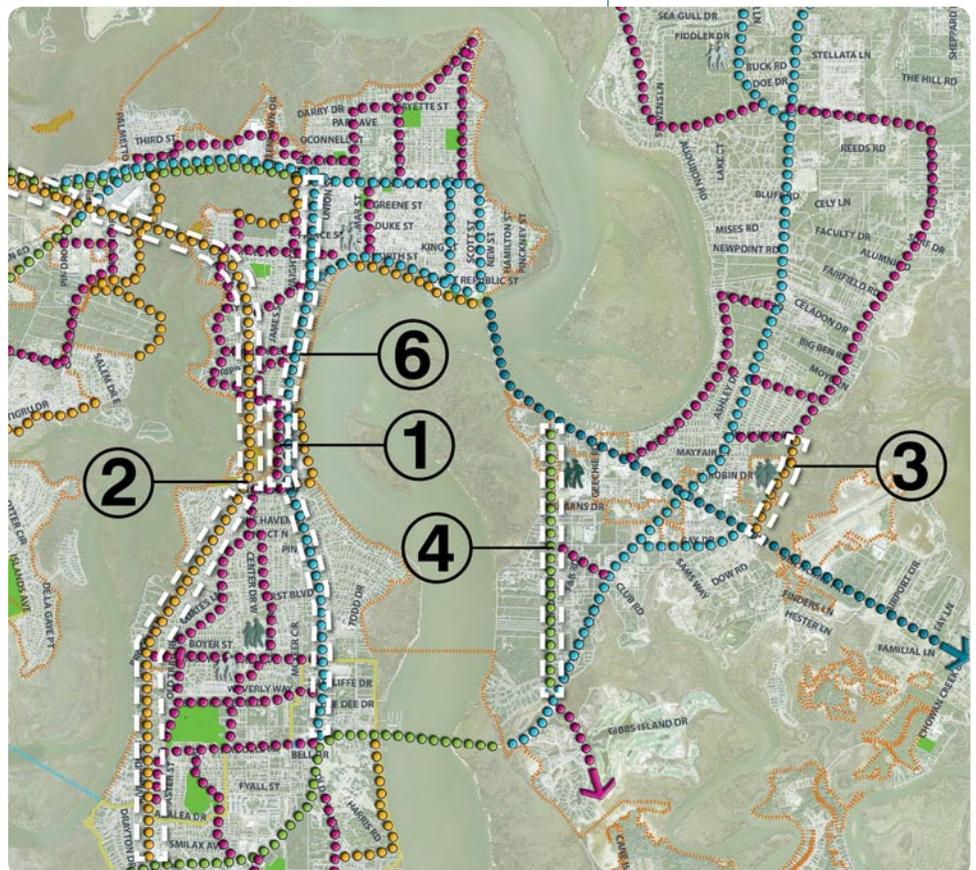
*A Preliminary consolidation of these plans was completed as part of the Comprehensive Plan. The prioritization of pedestrian and bicycle projects is identified on the maps to the right. [\$] [O] [1-5]*

**AM 2.4 Complete and Implement the Pedestrian Improvement Master Plan.** The *Pedestrian Improvement Master Plan* was developed to define areas for pedestrian infrastructure improvements. The Plan outlines proposed locations for crosswalks and signalized pedestrian crossings. The present plan initially addresses the downtown area of Beaufort and should be expanded to encompass the City as a whole. Phase One of the Plan addresses existing and proposed crosswalks and signals while Phase Two will address sidewalks, curb cuts and handicap accessibility and Phase Three will address bicycle lanes and access.



### Bikeway, Greenway & Trail Network Project Prioritization and Rationale:

1. **Ribaut Road Corridor Connector:** short, off-street connector behind TCL and existing commercial properties that connects neighborhood street network between Old Town Beaufort and the southern end of Port Royal Island.
2. **Phase I of Rail-Trail:** Connecting destinations along the corridor from commercial services on Robert Smalls Parkway to the Old Town area, the TCL campus, hospital, schools, neighborhoods, and the Town of Port Royal.
3. **Lady's Island Middle School Connector:** Providing route around SC 802/US 21 intersection and creating parallel bike route to 802 corridor.
4. **Meridian Road Bicycle Facility:** Sidepath or bike lanes along Meridan Road to provide link between Sea Island Parkway and Lady's Island Drive and completing bike loop linking Port Royal Island and Lady's Island via the bicycle facilities on the Mcteer and Woods bridges.
5. **Phase II of Rail-Trail:** Connecting Robert Smalls Parkway to MCAS entrance, existing sidepath on Laurel Bay Road, and northern destinations along the corridor to Yemassee.
6. **Ribaut Road Bike Facilities:** If the primary route designation for US 21 is removed from Ribaut Road, exploration of a road diet and/or lane diet should be explored, which would include striping of bike lanes along the length of the corridor.





Poster for the Marin County, CA adult bicycle skills course, sponsored by a local hospital, an advocacy group, and the local law enforcement agency

[verify] [\$\$] [C] [On-going]

**AM 2.5 Establish a Retrofit Connectivity Program.** In order to expand and enhance the existing transportation network, especially for pedestrians and cyclists, Beaufort should consider a funded program to identify, prioritize, and construct bicycle and pedestrian connections between existing neighborhoods and other developed areas. Such projects might entail the construction of a pedestrian bridge across a creek, linking two cul-de-sacs with a path, or connecting stubbed streets. These retrofit connectivity projects are relatively inexpensive when compared to traditional transportation projects, but have far reaching active living and transportation benefits when a short connection can provide access to miles of the transportation network that were previously unlinked. These projects should connect to and take advantage of planned and existing greenways and on-road bicycle and pedestrian facilities to create an extensive non-motorized transportation network that includes but does not rely heavily on major arterials. For example, the Ribaut Road Connector described on the previous page would be an excellent project for this program. [\$\$] [C] [On-going]

**AM 2.6 Provide Bicycle Parking at Existing Development.** AM 5.4 recommends requiring bicycle parking for all new construction. However, existing destinations would not be affected by new bike parking requirements. For that reason, this report also recommends that the City budget funds for the installation of bicycle parking for visitors and employees at key destinations. This would include public buildings and in the public right-of-way in areas where buildings are close to the street such as in downtown. Beaufort might also want to establish a program whereby the City would provide free bike racks to requesting businesses who agree to install them and locate them correctly. A bike rack can typically be purchased for around \$150 and installed for not much more. [\$] [C] [On-going]

**AM 2.7 Initiate Bicycling Education and Encouragement Efforts.** Planning for walkable and bikeable communities includes five E's: Engineering, Enforcement, Education, Encouragement, and Evaluation/Planning. Most communities, if they spend any money, time, or effort on any of these E's, concentrate on Engineering for infrastructure and Enforcement by local police. Typically, very little money or energy is spent on Education or Encouragement, much less Evaluation, despite the fact that these efforts typically cost the least amount of money. The City, in cooperation with major institutions, the County, the Regional Planning Organization, SCDOT, and local advocacy groups, can promote walking and biking in Beaufort through such initiatives as:

- City-wide events to promote walking and bicycling. Consider competitive and fun events to raise awareness about these modes, such as a bike/walk/bus week.
- Multi-modal transportation maps, showing key roads, bike routes, greenways, walkways, and transit routes.
- Bicycle education courses: Work with the University, advocacy groups, hospital and health groups, and law enforcement to teach adults and children to safely and effectively operate bicycles around the City.
- Safe Routes to School Events to promote efficient, healthy, and environmentally friendly modes of transportation to local schools. (20% roadway congestion is typically attributed to school traffic.)

[\$] [O] [On-going]

## AM 3.0 | EXPAND TRANSIT OPPORTUNITIES

Currently the Lowcountry Regional Transportation Authority (LRTA) has one route that provides limited local service in the City of Beaufort. This service primarily provides transportation to workers commuting to resort areas outside of the City. The most recent mass transportation plan is the *Lowcountry Public Transit Coordination Feasibility Study: A Public Transportation Strategy*, which was completed in 2003, on behalf of the Lowcountry Council of Governments by Day Wilburn Associates, Inc. The plan was intended to assess transit needs and opportunities in the region (defined as Beaufort, Colleton, Hampton and Jasper Counties); how current services are addressing identified needs and to identify opportunities to improve existing or add new services. More detailed objectives of the plan included:

- Determining the relationship between economic development and the provision of coordinated public transit services in the area;
- Identify coordination possibilities, including improving or expanding services; and
- Formulating an action plan for implementation which responds to coordination needs and provides additional services.

The study found that there is a significant population that either needs transit or appears likely to use it if new or enhanced services were available. The potential users include low income residents, minorities and people 65 years and older, as well as tourists, students and staff at post-secondary educational institutions, the military, and residents and visitors with out of region destinations or origins.

**AM 3.1 Continue to Evaluate and Advocate for Regional Transit Improvements.** The *Lowcountry Public Transit Coordination Feasibility Study* outlines an overall framework for the development and implementation of service revisions and new services. A few basic objectives were included in the development of the transit concept outlined in the study, which include: accommodation of a broader range of travel needs; development of services which are more efficient and tailored to ridership patterns, identify funding sources and account for cost considerations, coordinate the various mass transit providers in order to avoid duplicity of services and facilitate public-private partnerships service delivery. The recommended future transit concept includes a wide array of service types to serve the broad range of users as well as be appropriate for the diverse region- the rural, low density areas as well as the more intensive development in Southern Beaufort County. They include:

- Regional rideshare and vanpool program;
- Main line service along the US 278 corridor in Southern Beaufort County;
- Connector service in main travel corridors linking to the US 278 main line service;
- Distributor service into key areas, such as City of Beaufort, Bluffton, and Hilton Head Island;
- Coordinated demand response service throughout the region;
- Out-of-region service to Charleston and Savannah, Georgia;
- Passenger ferry service; and
- Transportation facilities: park and ride lots, transportation center and transfer hubs.

The plan also called for a new association to provide a framework for the planning, coordination and support efforts that are presently missing in the regional public transportation system. A Regional Transportation Management

Association (RMTA) was recommended to guide the implementation of the strategies and service enhancements outlined above. RTMA membership is proposed to be composed of the Lowcountry Rapid Transit Association, Lowcountry Council of Governments (who was recommended for the coordination role), county and local governments, private transportation providers, human services agencies, major employers and State agencies. [\$] [O] [On-going]

**AM 3.2 Implement Transit and Travel Demand Management** – A transit route could reduce the trips made across the key Woods Memorial Bridge and SC 802 river crossings. 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. 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 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. - \$20.3 million [\$\$\$] [O+C] [On-going]

**AM 3.3 Consider Expanding Transit Services with Flexible Bus System to Serve Fixed Routes and Demand Response.** The Comprehensive Transit Plan proposes to increase service within the more densely developed areas including the City of Beaufort via small buses. The vehicles will provide service throughout the day and operate along routes which are generally fixed, but will allow deviation to pick-up and drop-off passengers as necessary. The local fixed route service to the Sun City/ Bluffton and Beaufort/Port Royal areas are identified as the most promising for implementation within two years along with rideshare and the rural dial-a-ride programs. The development of park and ride lots would follow within five years with the implementation of the express corridor and feeder service as the last element of the 10 year action plan. [\$\$\$] [O+C] [6-10]

**AM 3.4 Evaluate a Fixed-Route Trolley/Transit Service for the Central Area of the City.** Serving both tourists from remote park and ride lots as well as local residents, a fixed route trolley/transit service could help to mitigate the impact of future parking demands in the downtown as well as provide needed transit services to the highest density area of the community. The route of the service could include the following route areas - Bay Street/Downtown area, USC-Beaufort, Boundary Street to SC 170 (Cross Creek Plaza), Ribaut Road to the Hospital and Community College. [\$\$\$] [O+C] [6-10]

## AM 4.0 | MAXIMIZE BLUEWAYS FOR RECREATION AND TRANSPORTATION

The City of Beaufort has a marina located in the downtown in the waterfront park. It offers long term and short term docking. Amenities include 12 deep-water slips, sewer pumps, fuel dock, showers, and laundry. The marina is in walking distance to the Historic District and the downtown shopping and restaurant district. As mentioned in the previous section, the conceptual greenway plan for the City includes recommendations for the development of “Blueways” – the development of boating destinations along waterways where boaters can dock at waterside establishments such as restaurants and shops.

**AM 4.1 Continue to Evaluate the Woods Bridge Operation.** The blueways activity and the expansion of the marina will add to the revenue spent downtown. Key to the development of waterway transportation for the City of Beaufort will be issues related to the Woods Memorial Bridge operation. Limited openings and/or the redirection of boat traffic could impact the City’s efforts tied to marina development. Increased boat traffic would also impact vehicular traffic crossing the bridge. As the City begins to implement waterway plans – blueways – it will have to closely examine the land transportation network, particularly the Woods Memorial Bridge and the related traffic impacts. [\$\$] [O] [1-5]

**AM 4.2 Increase Blueway Access.** The greenway plan also establishes the goal to strengthen the link between land and water by providing maximum views to the water and marshes. Boat ramps and access to the water are recommended to serve as nodes with the greenway system where blueway trails for kayak and canoes could be incorporated. Expanding the use of boat ramps to include non-boating activities and the development of additional water access sites for the non-boating public is also recommended. [\$\$] [C] [1-5, 6-10, 11-20]

**AM 4.3 Consider Implementing Regional Water Taxi/Ferry Service.** The LTRA Comprehensive Plan and the Beaufort County Comprehensive Plan recommend exploring the option of implementing a regional ferry service or ‘water taxi’ service that would link the City of Beaufort, Port Royal, Hilton Head Island and Savannah. As noted in the Beaufort County Comprehensive Plan, efforts to provide waterborne transportation generally require the support of the private sector if they are to be feasible. [\$\$] [O+C] [6-10]



*The various blueways around Beaufort are an essential to the quality of life enjoyed by residents and visitors alike.*

## AM 5.0 | UPDATE REGULATIONS TO IMPROVE ACCESS, MOBILITY AND SAFETY

The current UDO contains a number of key transportation provisions but is lacking in others. The key action items below are recommended for inclusion in the next major code upgrade.

**AM 5.1 Promote on-site traffic circulation and shared-use driveways during development application review.** The total number of vehicle conflicts can be reduced by promoting on-site traffic circulation and shared-use driveways during development application review. Such improvements should be a key consideration during the approval of redeveloped sites along corridors identified for access management programs.

- **Improved On-Site Traffic Circulation** - One way to reduce traffic congestion is to promote on-site traffic circulation. Pushing back the throat of an entrance helps to avoid spillback onto the arterial. This action improves both the safety and efficiency of the roadway. A minimum separation of 100 feet should be provided to prevent internal site operations from affecting an adjacent public street, ultimately causing spillback problems. Approximate construction cost varies and usually is the responsibility of private development.
- **Number of Driveways** - Only the minimum number of connections necessary to provide reasonable access should be permitted. For those situations where outparcels are under separate ownership, easements for shared access can be used to reduce the number of necessary connections. Reducing the number of access points also decreases the number of conflict points, making the arterial safer and more efficient. Approximate construction cost varies and is usually the responsibility of private development.
- **Driveway Placement/Relocation** - Driveways located close to intersections create and contribute to operational and safety issues. These issues include intersection and driveway blockages, increased points of conflict, frequent/unexpected stops in the through travel lanes, and driver confusion as to where vehicles are turning. Driveways close to intersections should be relocated or closed, as appropriate. As a best planning practice, no driveway should be allowed within 100 feet of the nearest intersection.
- **Cross Access** - Cross access is a service drive or secondary roadway that provides vehicular access between two or more continuous properties. Such access prevents the driver from having to enter the public street system to travel between adjacent uses. Cross access can be a function of good internal traffic circulation at large developments with substantial frontage along a major roadway. Similarly, side street and backdoor access occurs when a parcel has access to an adjacent street and/or parallel street behind buildings and away from the main line. When combined with a median treatment, cross access, side street, and backdoor access ensure that all parcels have access to a median opening or traffic signal for left-turn movements.

[§] [O] [1-5]

**AM 5.2 Improve Roadway Connectivity Standards.** Improving connectivity and limiting cul-de-sacs results in improved mobility for motorists, pedestrians, and cyclists; decreased response time for emergency services and delivery costs for services such as garbage collection through improved routing options; and, improved water pressure and maintenance from the ability to loop lines through a development rather than have to rely on less efficient dead-end pipe runs.

Traffic studies have shown that highly connected street networks provide much greater traffic capacity and mobility for a community at less cost. A high degree of connectivity should occur not only at the level of thoroughfares, but also on collector, local and other secondary roads. Such connectivity vastly improves a street network's performance. While roadway connectivity is challenging in the Low Country environment, the City's goal should be to promote roadway connectivity to the maximum extent possible.

The UDO currently provides very vague connectivity requirements, which need to be made more objective and more definitive with measurable standards for when connections are required. Block length and intersection spacing standards for arterials should be based on the context of development and density. In low density residential areas, blocks may appropriately be 800 to 1000 feet. In highly compact, pedestrian environments, intersections should be spaced 200-400 feet apart. In Beaufort's historic area, blocks are roughly 250 feet wide by 300 feet long.

The UDO should also provide definitive standards for when cul-de-sacs and other permanent dead-end streets are allowed. Otherwise, they should be discouraged and an objective connectivity requirement explored. [\$] [O] [1-5]

**AM 5.3 Revise & Enhance TIA Requirements.** A Transportation Impact Analysis (TIA) is a specialized study that evaluates the effects of a development's traffic on the surrounding transportation infrastructure. It is an essential part of the development review process to assist developers and government agencies in making land use decisions involving annexations, subdivisions, rezonings, special land uses, and other development reviews. The TIA helps identify where the development may have a significant impact on safety, traffic and transportation operations, and provides a means for the developer and government agencies to mitigate these impacts. Ultimately, a TIA can be used to evaluate whether the scale of development is appropriate for a particular site and what improvements may be necessary, on and off the site, to provide safe and efficient access and traffic flow.

The current UDO provisions for Transportation Impact Analyses (TIA) are detailed and appropriate with regard to access management and [motor vehicle] traffic capacity/impact and apply to a wide range of development types, the section includes no mention whatsoever of mitigating the impacts on or improving the access for non-motorized/active modes of transportation [walking and biking] or transit. The current TIA process is based on motorized access only and takes only a supply-side approach to the issue. A more multi-modal TIA review process should be considered that takes into account demand as well as supply side approaches to traffic impacts and includes detailed standards and review of bicycle and pedestrian and transit access. [\$] [O] [1-5]

**AM 5.4 Require Bicycle Parking for New Development.** Improved access for pedestrians and cyclists to services, employment/education, recreation, and other destinations will contribute to the Smart Growth environment in Beaufort. For bicycles specifically, however, access alone is not enough. Like motorists, cyclists need a safe and convenient place to park their vehicle at their destination. Also like motorists, cyclists are not as likely to frequent a destination where there is not enough or unsafe parking. The Chicagoland Bicycle Federation says, “Fear of having a bicycle stolen is one of the biggest deterrents to people riding to their favorite destination. Providing parking also lets cyclists know that they and their bikes are welcome.” (www.chibikefed.org)

Just as the provision of motor vehicle parking has been shown to induce driving, the provision of safe and convenient parking for bicycles can have the same effect on bicycling. Bicycle parking can be provided at a fraction of the cost of automobile parking and in a fraction of the space—10 to 12 bicycles can be parked in the area of one car parking space at a cost of tens of dollars per bicycle space versus hundreds or thousands of dollars per motor vehicle space. Beaufort should require bicycle parking for all multifamily and non-residential development. Different standards of bicycle parking are needed for short term visitors and customers and for longer term users like employees, residents and students. [\$] [O] [1-5]

**AM 5.5 Apply (and Enforce) Appropriate Urban Speed Limits on Major Streets.** Speeding motor vehicles are a deterrent to pedestrians and cyclists and an extreme safety hazard to all roadway users. A pedestrian being struck by a motor vehicle is never good, but a pedestrian is very likely to survive such an incident if the vehicle is travelling at 20 mph, but is not likely to survive a crash as vehicle speeds approach and exceed 40 mph.

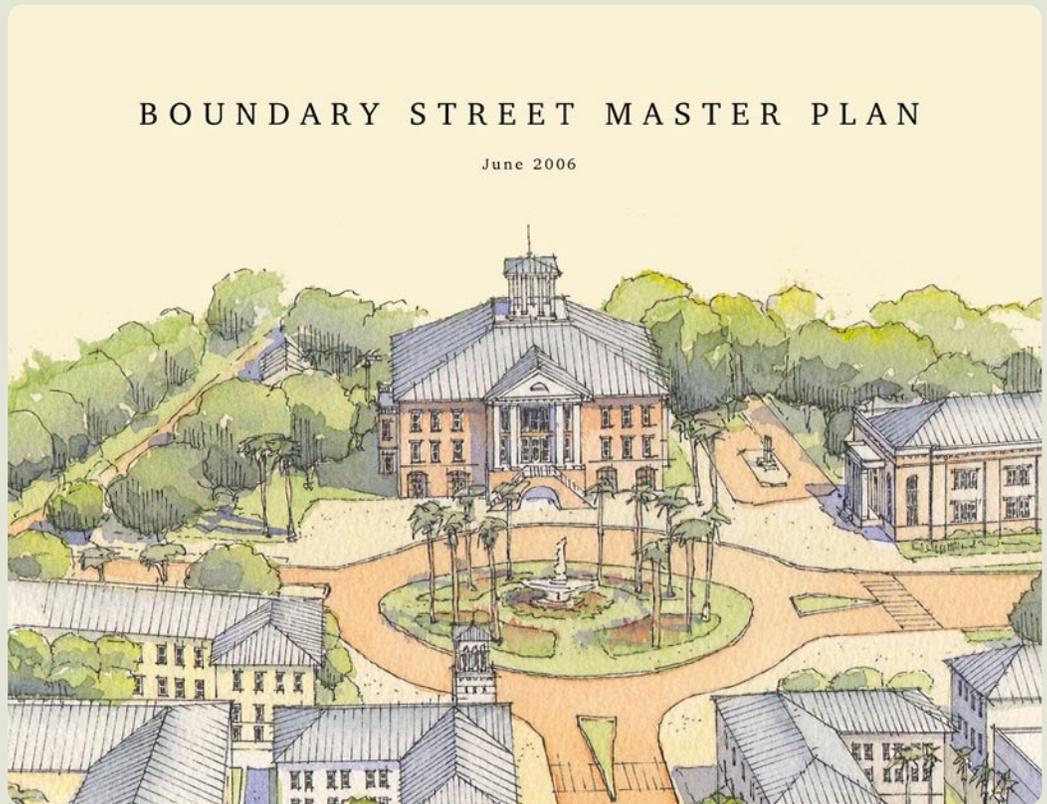
Beaufort has designed traffic calming measures on local and collector streets such as Bladen Street both to reduce speeds and reduce cut-through traffic in neighborhoods. This audit also recommends that the City work with SCDOT to keep traffic speeds at appropriate levels on all streets including arterials. There are measures—including traffic signal timing, roundabouts, lane width reductions, on-street parking and others—that can help to keep traffic speeds at appropriate levels. [\$] [O] [On-going]

## LOOKING BACK: 2006

### BOUNDARY STREET MASTER PLAN 2006

Redevelopment is planned for the Boundary Street corridor between and including the intersections at Robert Smalls Parkway on the west and Ribault Road on the east. The modified street will be consistent with the Master Plan that was adopted in 2006.

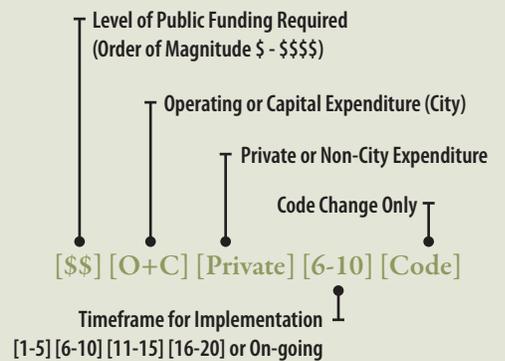
With funding from Beaufort County's 1-cent sales tax and traffic impact fees, the City and County retained the firm Kimley-Horn and Associates, Inc. to prepare engineering plans for Boundary Street and the parallel street proposed in the Master Plan. The current phase of the study includes surveying, traffic analysis, stakeholder involvement, preparation of preliminary engineering plans, and prioritization of sections of the project. Detailed engineering design is expected to begin in 2009.

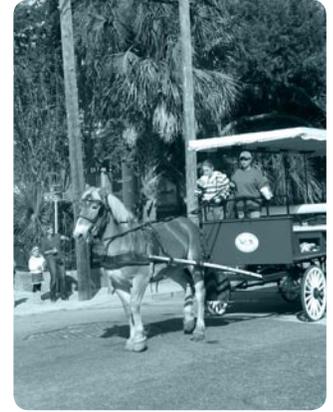




# CHAPTER TEN: ECONOMIC PROSPERITY

## Key to Action Items





# 10 ECONOMIC PROSPERITY

The character and composition of a city is strongly based on the economy of the area. The opportunity for employment and the type of occupations determine the standard of living and quality of life of its citizens. Beaufort is currently best known for its southern charm, rich history, arts scene and picturesque quality of life — as identified by its downtown and waterfront park.

And while there has been significant development in northern Beaufort County over the last decade, the City population has grown very little. This lack of population growth generally has had little effect on the revenues for the City as the changes in state taxation policy over the past decade have dramatically shifted the tax burden away from homes to commercial development and tourism. As a result the predominately modest homes that comprise most of the City have had to pay a decreasing tax burden while consuming larger amounts of government resources.

The financial success of Beaufort is therefore reliant upon strategically refocusing revenue generation and delivering government services that are efficient and responsive to this new revenue paradigm. Together, this supports a strategy for continued economic development in commercial sectors (as outlined in the 2004 Plan) and quality of life through efficient infill and mixed-use development within the City boundaries.

The approach taken in this plan is unlike many plans that simply assess the economic climate of the City of Beaufort by examining past labor and economic trends in the community and then projecting these trends into the future. This paints an incomplete picture and assumes that the failures or successes of the past will continue into the future. By contrast, the lack of growth and the changing revenue structure over the past decade must call into question the need for radical transformation. As a result, this plan makes recommendations about how to change the past trends to achieve a new level of prosperity.

## Key Recommendations

- EP 1.0 Aggressively Promote Economic Development in all Sectors
- EP 2.0 Prioritize Infill and Redevelopment
- EP 3.0 Provide Efficient City Services

## Key Principles

### 5 | Economic Development

*A strong, vibrant, and healthy economy will be achieved through a successful economic development program in order to ensure the long term success and viability of the City of Beaufort. We must support the continuation and expansion of our primary economic engines - tourism, the military, health care, and education - while also seeking to expand opportunities for the arts and the recruitment of creative/knowledge-based industries.*



*Continue recruiting employment to the City*



*Promote the unique quality of life of the City*



*Make commercial real estate available throughout City*

## ECONOMIC DEVELOPMENT IN SOUTH CAROLINA: AN OVERVIEW OF RECENT TRENDS AND FUTURE PROSPECTS

“Local economic development policy responses to the new competitive environment can be divided into low road versus high road approaches. The low road strategy attempts to enhance the community’s competitive advantage in recruiting traditional manufacturing firms by focusing on local production costs. The cost of doing business in a community may be reduced through tax cuts, holidays, or abatements; subsidized labor training programs; or labor, land use, and environmental regulations favorable to prospective firms. This type of industrialization strategy has been used successfully by many South Carolina communities in the past to increase their base of manufacturing firms. However, these policies are less likely to provide significant long-term economic development in the new competitive environment.

First, the low road approach focuses on traditional manufacturing—a sector of declining importance in terms of providing jobs. Moreover, competition for manufacturing facilities now comes from cities in Mexico and Korea as well as those in Ohio and New Jersey. Matching the costs of foreign locations will be more problematic than undercutting those of Northern cities. Second, the growth sectors of the future (services, trade, small businesses, high tech manufacturing) favor locations with skilled labor, appropriate infrastructure, and high quality of life. Locations offering primarily low wages, rents, and taxes are not necessarily attractive to these sectors. Third, the low road approach may not be sustainable over the long run. Low taxes may result in a decline in the quality of public services and infrastructure over time, and lax environmental and land use regulations may reduce the local quality of life. If so, industrial development efforts in the future will be impaired.

High road development strategies, on the other hand, focus on providing a local environment conducive for nurturing business start-ups and attracting firms in the high growth 16 sectors of the future. The high road approach emphasizes policies and programs to provide a long term profit maximizing location for new, expanding, and relocating businesses instead of a short term cost minimizing location for manufacturing recruits. The profit maximizing location is characterized by the high quality of life necessary to attract professionals and entrepreneurs; the educated and skilled labor force desired by high tech and flexible production activities; the public services and infrastructure required for the rapid transfer of goods and information, and the public leadership and institutions that enable communities to evolve successfully as political and economic systems change.

In summary, sustainable community economic development in the new competitive environment requires a balanced, holistic approach. The foundations of this strategy are policies and programs that address five critical areas: education and labor skills, local quality of life, the financing and provision of public goods and services, comprehensive land use planning, and leadership development and institutional support. Communities that successfully address these critical areas will significantly enhance their prospects for growth and development in the new economy.”

*David Barkley. “Economic Development in South Carolina: An Overview of Recent Trends and Future Prospects.” REDRL Research Report 08-2001-01, Clemson University, 2001. ([http://cherokee.agecom.clemson.edu/redrl\\_rpt1.pdf](http://cherokee.agecom.clemson.edu/redrl_rpt1.pdf))*

## EP 1.0 | AGGRESSIVELY PROMOTE ECONOMIC DEVELOPMENT

The economic base of a community is reflected in its per capita and household income, educational attainment, labor force and employment segmentation. The City's economic base is determined by its job growth, which creates demand for real estate, thus providing both residential and commercial tax base resulting from such growth.

The job market in South Carolina has been declining since January 2008. The greatest decline by far is in Construction, which has fallen 13.1%. Beaufort County's economic base is currently dependent upon (in order of ranking): Real Estate (rental & leasing); Tourism - Arts, Entertainment & Recreation; and Accommodation & Food Services - all of which are highly volatile in today's fragile economy. While the City is clearly dependent upon these employment sectors, its economic base is more complex and in some ways more stable than that of the greater county. The top seven primary employment sectors for the City's residents include the military, health care, retail trade, education, construction, public administration, and accommodations/food service.

The economic base is differentiated from the tax base as it does not necessarily relate directly to the revenue streams of the City. Much of the City's current revenue is in fact heavily dependent on general business activities, retailing and tourism - all of which have been impacted by the current recession. Therefore, Beaufort must continue to implement programs which will move toward diversifying both its workforce and its economic base if it is to remain viable and grow to be sustainable.

**EP 1.1 Support the Expansion of the Current Economic Base - Higher Education, Medical Services, and the Military.** USC-Beaufort, MCAS-Beaufort, Technical College of the Lowcountry, and Beaufort Memorial Hospital along with Parris Island and the US Naval Hospital serve as the major employers in the area - all but one of which are government-funded services. The employed population in the City of Beaufort includes 64.60% white collar jobs (highest in the County), 16.50%



*Beaufort Memorial Hospital is the area's largest non-governmental employer.*

### THE ECONOMIC IMPACT OF THE MILITARY IN BEAUFORT

Much of Beaufort's economy is dependent upon its area military installations. The Marine Corps Air Station-Beaufort (MCAS-Beaufort), Parris Island, and the US Naval Hospital. These bases not only drive local employment through direct jobs as well as contractor work but also tourism with frequent military graduations and other family visitations. Data from the MCAS-Beaufort suggests that the MCAS facilities have a direct economic impact of \$509.2 million. Results from the Base Realignment And Closure Act (BRAC) indicate no significant increase in base population in the coming years, but rather reallocation of personnel to accommodate new equipment and technologies.



The Base population includes 4,210 Military personnel, 1,118 civilians and 5,327 Military family members — totalling 10,655 persons. It is estimated that approximately 60% of the employed personnel and their families live off base. This translates into a population of approximately 8,525, or some 3,674 households, many of which are reported to live outside the City of Beaufort. This is reportedly due to the issue of affordability of housing and housing choices in Beaufort. While the number of families living outside of Beaufort is not clear, it is likely that there is limited connection between those base employees and enlisted personnel living elsewhere and the City of Beaufort. Therefore, the primary impact to Beaufort currently includes the base daytime employment population to support retail uses, restaurants and services in and around the base along Boundary Street.



USC Beaufort Campus



Technical College of the Lowcountry

*“We can build an economy that does not destroy its natural support systems, a global community where the basic needs of all the Earth’s people are satisfied, and a world that will allow us to think of ourselves as civilized. This is entirely doable.”*  
 ~ Lester Brown, Earth Policy Institute

service jobs and 18.80% blue collar jobs. Recruitment of business that support and cluster existing sectors including military, healthcare and education, and provide competitive labor, capital, materials and locations will ensure continued job growth in a variety of sectors. The largest economic gains in the region will come from the continued successful expansion of these individual institutions. Therefore, the City and its related economic development partners must continue to seek ways to ensure the long-term viability of each entity. [Private]

**EP 1.2 Take leadership role in institutional development.** The City should take a leadership role in institutional development—preserving and strengthening the major institutions in the area—hospital, military, government, education, and business. [\$] [O] [Ongoing]

**EP 1.3 Focus on Small Business Recruitment and Retention.** Long acknowledged by local economic development officials, the opportunity to recruit a large employers or manufacturer to the region is a strategic challenge. With the exception of the major institutions noted in the previous recommendation, it is the lowcountry lifestyle that attracts the remainder of the community’s economic base—retirees, artists and location-independent entrepreneurs who seek the quality of life offered by the region.

According to ZoomProspector (zoomprospector.com), an online business location tool, in 2008 the Beaufort area had more than 965 small businesses (business with less than 20 employees). When factoring in the same area’s estimated population of 11,778 people and 6,390 person job force, the Beaufort area is clearly a hotbed of entrepreneurial activity. In fact, by most widely accepted measures, Beaufort scores well in small business opportunities. ZoomProspector evaluates locations based on a formula weighing the following 11 factors: workers with at least a bachelor’s degree; white-collar workers; “young and educated” population; workers in “creative” professions; international talent; universities; patents; venture-capital funding; small businesses per capita; sole proprietors per capita; and startups per capita. The key issues facing small business startups in Beaufort will be focused on the availability and pricing of office, flex, and incubator space, and other supportive services. [Private]

**EP 1.4 Create a Business License Program that is Tied to Economic Development Goals.** Given the restrictions in levying property taxes imposed by the General Assembly, the best way for the City to encourage economic development is through their business license program. As a tax on the gross receipts of any company operating within the city limits, the business license program has perhaps the widest latitude of nearly any revenue program of the City, with few restrictions on the overall taxation policy. In Fiscal Year 2009, the Business License program represented nearly 30% of the total revenue of the City, more than any other single category. As a result, the reliance on this program for revenue growth will be increasingly important. Likewise, the ability of a City to use this program to incentivize certain goals may likely be the most flexible tool. [\$] [O] [1-5]

**EP 1.5 Support Expansion of Higher Education.** The working population of those 25 years and older by educational attainment provides insight into skills of the local labor force. The 2008 estimates for the City of Beaufort show improvement over 2000 census data with 39% of the population holding a college degree. Beaufort ranked second highest compared to other Beaufort County jurisdictions with 12.50% of the population holding graduate or professional degrees. Hilton Head Island

ranked the highest with 32.80% holding a bachelor's degree and 15.70% holding graduate or professional degrees. This far exceeds both state and national indices but is likely driven by in-migration to the area. Workforce readiness and technical skills will be essential. [Private]

**Technical College of the Lowcountry (TCL):** Technical College of the Lowcountry (TCL), one of sixteen comprehensive two-year technical colleges in South Carolina, is a locally governed, publicly supported college with its main campus in Beaufort. With over 75 programs serving more than 2000 students in some of the Lowcountry's and the nation's fastest growing career fields including nursing, web design, network engineering, paralegal, civil engineering and college transfer programs, the College offers programs for high school seniors, recent high school graduates as well as for individuals seeking to re-enter the workforce at 3 campuses and 2 on-base facilities. *With the initiatives of the federal government regarding climate change, a sustainability program should be considered as an essential degree that will both prepare students for this emerging field as well as assist employers in responding to our changing world. This program should combine energy efficiency measures of buildings with site design techniques such as stormwater management and solar/wind energy.*

**USC-Beaufort (USCB):** The University of South Carolina Beaufort, a small (1,000 to 3,000 students/fall headcount enrollment) senior campus of the state's largest public university, brings the University of South Carolina's statewide mission of teaching, research, scholarship, and public service to the rapidly growing Lowcountry of South Carolina. USCB offers baccalaureate degrees that respond to regional needs, draw upon regional strengths, and prepare graduates to participate successfully in communities here and around the globe. The campus also supports the USC Extended Graduate Campus, which provides local access to graduate courses and programs. USCB offers programs in mathematics and the natural sciences, humanities, and professional and social sciences. *Given the fact that Beaufort is a known destination for the arts with a very strong local arts presence, USCB should continue to investigate programs and fields of study that foster this burgeoning field. In addition, the City should consider a partnership with USCB to create an environmental laboratory at the Southside Park and/or arts programming at the Arsenal building.*

**EP 1.6 Continue to Seek Ways to Expand Tourism.** The City has enjoyed a strong tourism industry that is supported by military visitors, local arts, history and culture. Tourism also includes the natural beauty of its intercoastal waterways and the centerpiece of a string of barrier islands. Efforts by the Chamber of Commerce include studies to expand conferences, meetings and facilities. Nationally, trends in travel and tourism have shown a decline, including a significant drop in roadway travel in August, 2008 due to high gasoline prices, according to the Federal Highway Administration. This trend bears watching carefully, particularly in the short term, largely due to the changing global economy and shifts in gas and energy use.

The City is dependent on tourism to fill its hotel rooms, eat at the restaurants on Boundary Street, and shop at the art galleries along Bay Street. From the waterfront to the historic neighborhoods to the museums, the cultural offering play an important role in tourism and must continue to be supported and expanded. [Private]



*Local high school band performs in Memorial Day Parade*

## EP 2.0 | PRIORITIZE INFILL AND REDEVELOPMENT

The current expense of extending city services well beyond the current municipal boundary and the restrictive nature of the current annexation laws make the need for infill and redevelopment a high priority for Beaufort. In addition to being more economically efficient to serve existing areas of the community, but it is also much more environmentally friendly to re-use previously undeveloped or under-developed land rather than consuming virgin land.

**EP 2.1 Refocus on the Downtown.** The downtown needs to remain a “Central Place” in the community as a tourist location and as a living community center. Continued investment in the location of jobs and housing will bolster the investment in Waterfront Park and other retail areas along its waterfront. Therefore, a strategic focus on promoting housing and employment in the downtown will maintain it as a special place for which it has become known and by which Beaufort gets much of its identity. As has been suggested in Section 11.2, the City needs to complete a formal downtown plan that addresses parking, infill, tourist management (orientation, parking, and walking/carriage tours) and business recruitment/retention. [\$\$] [O] [1-5]

**EP 2.2 Continue Implementation of the Boundary Street Master Plan.** The Boundary Street Master Plan was adopted in 2006. The plan is a comprehensive strategy for growth and redevelopment of the Boundary Street corridor, which seeks to enhance the entrance to the city. The form-based code has been adopted and is currently being implemented by the City. The next phase of work is the completion of construction drawings and construction of the improvements to Boundary Street. This \$22 million project is considered the highest priority for northern Beaufort County and its funding is available through a dedicated one percent (1%) sales and use tax approved in 2006. [\$\$\$\$] [C] [1-5]

**EP 2.3 Complete Neighborhood and District Redevelopment Plans.** There are a number of key areas that are ripe for redevelopment as noted in Chapter 11: Catalyst Sites and Focus Areas. Those areas include: Lafayette Street, Northwest Quadrant/Bladen Street, Lady’s Island Gateway, Burton, the Robert Smalls Village Center, and the Southside Neighborhood. As funding allows, the City should complete master plans that will guide future public investment and private development/redevelopment activity in those areas. [\$\$] [O] [1-5, 6-10]

**EP 2.4 Consider the Use of Municipal Improvement Districts (MID).** Under the Municipal Improvement Act of 1999, municipalities can set up special improvement districts and assess property owners in the districts for improvements (capital projects) and services (operational expenses) in specific areas. Residential properties are exempt from this program unless the property owner grants permission to be included. Like common area charges in condominiums or shopping centers, this revenue stream offers the opportunity to provide focused and unique services in a defined area without burdening the rest of tax base. This type of localized financing might be appropriate for the Highway 170-Boundary Street corridor, the Bladen Street corridor, and the downtown area. [Revenue]

## CONCEPTUAL INFILL AND REDEVELOPMENT PLANS ▼

*Clockwise from top left: Downtown, Lafayette Street, Northwest Quadrant, and Southside Park*



**EP 2.5 Target Sites for Redevelopment.** The role of the Redevelopment Commission is to facilitate the redevelopment of site or buildings throughout the City. The Commission should identify specific sites to be targeted for redevelopment within the City such as the Von Harten Building, the Pickle Factory and the Old Jail and develop marketing plans to facilitate these efforts. [\$\$] [O] [1-5, 6-10]

**EP 2.6 Replace the Current Redevelopment Incentive Program with a New Program.** Since the last Comprehensive Plan update in 2004, the City has re-activated the Redevelopment Commission. The Commission is charged with researching and recommending redevelopment projects within the City of Beaufort, coordinating, reviewing, and recommending redevelopment plans for projects to City Council, facilitating negotiations necessary for the execution of redevelopment plans, and overseeing project implementation. They are presently helping to guide the implementation of the Boundary Street Master Plan as well as advising the City on the new Southside Park. As part of their role they should thoroughly investigate innovative options to incentivize redevelopment beyond

what is already available.

The current policy - the Beaufort Redevelopment Incentive Program - was established in 1998 as an incentive for downtown development, redevelopment of older commercial corridors, and to encourage new forms of residential development. Development incentives in the form of a rebate of City taxes (generally three years worth) are available for the following activities:

- Purchase and occupancy of a commercial building anywhere in the City which has been vacant for over a year. (These projects are eligible for a rebate of five years worth of City taxes.)
- New construction or substantial renovations to existing structures in the downtown area.
- Development of residential units above first floor commercial uses in the downtown area. (The reimbursement payment for these projects is doubled.)
- New construction or rehabilitation of structures for the purpose of providing housing to students enrolled full or part-time at the University of South Carolina Beaufort or the Technical College of the Lowcountry.
- Development of an accessory dwelling unit (i.e., “guest cottage” or “mother-in-law apartment”).
- New construction on vacant lots in the U.S. Highway 21/Boundary Street Corridor.
- Substantial renovations or improvement of property in the U.S. Highway 21/Boundary Street Corridor.
- Rehabilitation of vacant, abandoned structures located in the Historic District.

This current policy has been largely ineffective because it is not appropriately tied to the actual major sources of revenue for the City nor are these current incentives significant enough to offset the cost of infill and redevelopment activities which are often significantly more expensive than their greenfield counterparts. There are a number of programs worth considering as a means to incentivize preferred development patterns. These include:

- Business Licence exemptions/rebates
- Permit Streamlining
- Completion of Specific Plans that “Pre-zone” Development
- Tax Increment Financing Districts (TIFs)
- Municipal Improvement Districts (MIDs)
- Property Tax Rebate for Retail Facilities Revitalization (In accordance with the Textile Communities Revitalization Act of 2005)
- Coordination of State and Federal CDBG Funds for Redevelopment
- Property Purchase by the City
- Other Innovative Public-Private Partnerships

[Code]

REDEVELOPMENT  
INCENTIVE PROGRAM

**THE BEAUFORT REDEVELOPMENT INCENTIVE PROGRAM**  
**City of Beaufort, South Carolina**

The Beaufort Redevelopment Incentive Program, formerly the Beaufort 2003 Program, was established in 1998 as an incentive for downtown development, redevelopment of older commercial corridors, and to encourage new forms of residential development. Development incentives in the form of a rebate of City taxes (generally three years worth) are available for the following activities:

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*For more information, call the City of Beaufort Department of Planning and Development Services at (843) 525-7011.*