

OCTOBER 1, 2015  
DRAFT

# RETHINK FOLLY ROAD

A COMPLETE STREETS STUDY



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## A COMPLETE STREETS STUDY

CREATED BY:

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**BCDCOG**

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COUNCIL OF GOVERNMENTS

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**TOWN OF JAMES ISLAND**

**CITY OF FOLLY BEACH**

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**CHARLESTON COUNTY**

**...ALONG WITH HUNDREDS OF RESIDENTS  
FROM THE CHARLESTON REGION**

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# OVERVIEW

Folly Road is a major thoroughfare leading onto James Island (adjacent to the historic peninsula of Charleston), connecting it with the West Ashley area of Charleston to the north and with the City of Folly Beach to the south. In 2010, almost 19,000 residents lived on or within a half-mile of the 7.87-mile segment of the road between Center Street on Folly Beach and the Wappoo Cut Bridge. Average Daily Traffic (ADT) volumes range from 44,000 across the Wappoo Cut Bridge and approximately 9,300 ADT across the causeway to Folly Beach. In cases of emergency, Folly Road also serves as the area's primary evacuation route.

Today, Folly Road struggles with inefficient traffic operations, infrequent sidewalks, limited bike lanes, sparse landscaping, and inadequate infrastructure to support Charleston Area Regional Transit Authority's (CARTA) bus system. Aging strip malls and auto-oriented commercial uses line the corridor. The roadway, including many of the properties that front it, does not convey James Island's unique sense of place.

As expressed by hundreds of residents and area stakeholders as part of a charrette held in May 2015, Folly Road can better realize its role as James Island's "center," and as the hub of commercial activity. Critical concerns to be addressed include:

- DESIGNING A "COMPLETE STREET" THAT BALANCES THE NEEDS OF ALL MODES OF TRAVEL
- FACILITATING MULTIMODAL (WALKING, BIKING, AND TRANSIT) CONVERSIONS ALONG THE CORRIDOR
- INTEGRATING ENHANCED PUBLIC TRANSPORTATION INTO FUTURE IMPROVEMENTS
- COORDINATING AMONG VARIOUS GOVERNMENTAL BODIES WITH REGARD TO ZONING AND DEVELOPMENT STANDARDS, AND
- SETTING STANDARDS FOR NEW DEVELOPMENT ALONG THE CORRIDOR

This Plan serves as a framework for the accomplishment of these concerns. It describes a series of recommendations formulated to make the corridor a more desirable environment by addressing pedestrian, bicycle, transit, and vehicular circulation, land use/development standards, public landscaping and open spaces, stormwater management, and implementation/funding considerations. The document aims to serve as a model for other key corridors in South Carolina and elsewhere to provide multimodal mobility options for area residents, businesses, and visitors.



## INTERGOVERNMENTAL COORDINATION

Properties along Folly Road are located in multiple jurisdictions including the Town of James Island, the City of Folly Beach, the City of Charleston, and unincorporated Charleston County. Coordination among different governments for cohesive planning, design, and implementation sometimes proves difficult, yet is critical to this effort.

Recently, local governments on James Island came together to create the Folly Road Corridor Overlay Zoning District (FRC-O). This Overlay fronts on the east and west sides of Folly Road from its intersection with Tatum Road south to the Folly River (shown as the highlighted parcels on the map at right). The FRC-O district was adopted in 2014 by the City of Folly Beach, Town of James Island, and Charleston County after extensive public input regarding how to implement traffic safety measures, improve the visual character of the corridor, and create consistency concerning land use and design standards. While the City of Charleston did not adopt the Overlay, the other jurisdictions along the roadway have done so, and it is the intent of all jurisdictions to work cooperatively together on Folly Road-related issues.

The vision established for Folly Road in this Complete Streets study builds upon the character areas defined by the Overlay, and the spirit of cooperation that has emerged. For the recommendations in this study to come to fruition, the Berkeley-Charleston-Dorchester Council of Governments (BCDCOG), each municipality (City of Charleston, Charleston County, Town of James Island, and City of Folly Beach), the South Carolina Department of Transportation (SCDOT), Charleston Area Regional Transportation Authority (CARTA), as well as multiple community stakeholder groups will need to work in close coordination.





# 1

# GUIDEPOSTS

Based upon community input, stakeholder feedback, and the consultant team’s assessment, five “Guideposts” or primary goals for improving the Folly Road Corridor have been identified. The Guideposts reflect popular agreement about the ideal future for Folly Road so that it better serves a range of users and provides increased amenities while augmenting quality of life for the area. Each improvement recommended within this report promotes one or more of the Guidepost ideas.



**5 GUIDEPOSTS: SAFE 1.2**

**5 GUIDEPOSTS: CONNECTED 1.4**

**5 GUIDEPOSTS: GREEN 1.6**

**5 GUIDEPOSTS: VALUABLE 1.8**

**5 GUIDEPOSTS: SYNCED 1.10**

# 5 GUIDEPOSTS: SAFE

This corridor serves an important function of moving people and providing access to services – yet at the kick-off meeting, 62% of participants stated they “hate” Folly Road as it is today. The physical environment does not meet the needs of its many users. Overwhelmingly, community feedback identified increased safety as a top priority. Improvements that make all of Folly Road a safe, appealing, and desirable place to walk, ride bicycles, use transit, as well as to drive, are the goal.

Today, being a pedestrian on much of the corridor requires walking in the bike lane or planted swale, or through a parking lot. By completing the discontinuous sidewalk network, pedestrians can travel to stores and offices without having to use their car for every trip. The installation of additional, more frequent crosswalks means that pedestrians can find one nearby, making it safer to walk and cross Folly Road. The installation of protected bikeways can make bicycle travel a compelling mobility option, and potentially remove a portion of today’s cars from the road.

Folly Road is designed to allow cars to move at fast speeds (over 40 mph), posing safety risks for pedestrians and others. Reducing speeds can increase safety. This means not only revising speed limit signs, but also making street design changes that provide drivers with visual cues to slow down such as narrower traffic lane widths, new street trees, more crosswalks, and buildings that are oriented to the street. The objective is to slow cars down, but still allow them to move through smoothly. In this way, the roadway and adjacent sidewalks and bicycle paths can work together in tandem, providing multiple, complimentary ways to move along the corridor.

One final safety consideration is emergency evacuation; this corridor is James Island’s primary evacuation route. In proposing roadway improvements, consideration has been given to ensure this critical function is preserved. Existing practices such as the use of contraflow vehicular lanes can continue to be used to maximize utility during emergencies.



## FOLLY ROAD CAN BE MADE SAFER BY:

- BUILDING CONTINUOUS SIDEWALKS, FREQUENT CROSSWALKS, AND PROTECTED BIKEWAYS
- USING SLOWER, SAFER “DESIGN SPEEDS”
- PRESERVING EVACUATION ROUTES



**WHAT IF YOU COULD SAFELY  
WALK, DOWN A PLEASANT  
SIDEWALK, BETWEEN ANY TWO  
POINTS ALONG THE CORRIDOR?**

**WHAT IF YOU COULD  
CROSS FOLLY ROAD ON  
FOOT WITHOUT FEAR?**

*below:* The vision for a walkable, bikeable commercial center for James Island.



# 5 GUIDEPOSTS: CONNECTED

**WHAT IF YOU COULD SAFELY BIKE, DOWN A WORLD-CLASS PROTECTED BIKEWAY, ALL THE WAY TO THE BEACH?**

Folly Beach is a popular destination for locals and visitors, and its popularity is only expected to increase. Making more and better connections will improve Folly Road’s usability, thereby improving the experience of moving through the corridor for all users.

Long waits in a car, specifically on weekends when beach traffic peaks, was a common concern for many charrette participants. For many, transit is a potential alternative means of travel only if made more appealing and responsive to travelers’ needs. New options could include a “Folly Trolley” – a new trolley route between a park-and-ride location in the corridor and Folly Beach, using a dedicated lane that can serve the entire corridor, as well as a trolley vehicle designed to carry beach gear. The transit experience can also be improved through the installation of covered shelters that provide protection from the sun or sudden storms, and modern technology that can monitor and announce the location of the nearest bus or trolley and project travel times.

GUIDEPOSTS



*below:* The vision for enhanced transit and a new shared-use path on Folly Road.



RETHINKING FOLLY ROAD: A COMPLETE STREETS STUDY

If travel between adjacent properties and surrounding residential neighborhoods is improved, the number of vehicles that must travel on Folly Road can be lessened, improving conditions for all travelers. For example, cross-access easements and connections between parking areas can allow shoppers and diners to reach multiple destinations without having to travel onto Folly Road multiple times. Similarly, new connections can be made through the rear of properties, via new street network segments and pedestrian paths that connect Folly Road, commercial parcels, and surrounding neighborhoods, so that nearby residents do not need to drive onto Folly Road to take advantage of nearby shops and restaurants.



**WHAT IF THERE COULD BE  
FREQUENT, FIRST QUALITY  
TRANSIT SERVICE, WITH BUS  
STOPS SO GOOD IT IS  
FUN TO BE THERE?**

### **FOLLY ROAD CAN BE CONNECTED BY:**

- MAKING IT MORE CONVENIENT TO REACH THE BEACH
- UPGRADING TRANSIT: MAKE IT FASTER & MORE FREQUENT, ADD COVERED SHELTERS, EMPLOY MODERN TECHNOLOGY
- CREATING NEW CONNECTIONS BETWEEN ADJACENT PROPERTIES AND TO AND FROM FOLLY ROAD
- ADDING CROSS-ACCESS EASEMENTS, NEW STREET NETWORK SEGMENTS AND PEDESTRIAN PATHS TO CONNECT FOLLY ROAD, COMMERCIAL PARCELS, & SURROUNDING NEIGHBORHOODS

# 5 GUIDEPOSTS: GREEN

Adding more “green” to Folly Road and maintaining the green that already exists can make the corridor more beautiful, while also contributing to the health and well-being of its users. Trees are not only beautiful, but also contribute positively to property values and environmental health. Folly Road’s tree cover is inconsistent but can be made complete by planting real canopy street trees that provide shade, define character, and provide value to future generations. In addition, trees along the road help to reduce vehicular speeds, create a safer walking environment, and provide protection from weather conditions while also absorbing pollution.

The insertion of landscaped medians can manage access and serve as an appealing refuge for pedestrians while also providing additional shade and beautification along the route. In order to reduce the impact of the medians on local businesses, the number of commercial driveways along the corridor should be reduced, creating shared driveways leading into the commercial parking lots. These driveways can then be coupled with intermittent left turn lanes that will replace the medians at various locations,

allowing vehicles to make a left turn into the businesses. Additionally, the corridor contains a number of passive areas – in both public rights-of-way as well as on private property – that can be better utilized and landscaped in order to introduce a range of new public spaces into the corridor. Future retrofit projects should include new quality green spaces as part of their designs.

Installing modern green infrastructure systems to treat stormwater runoff can become a community resource, celebrating water while also providing water quality, flood control, and traffic calming, street beautification and placemaking functions. Utilizing creative techniques can make Folly Road more memorable, and serve as a precedent for the Charleston region.

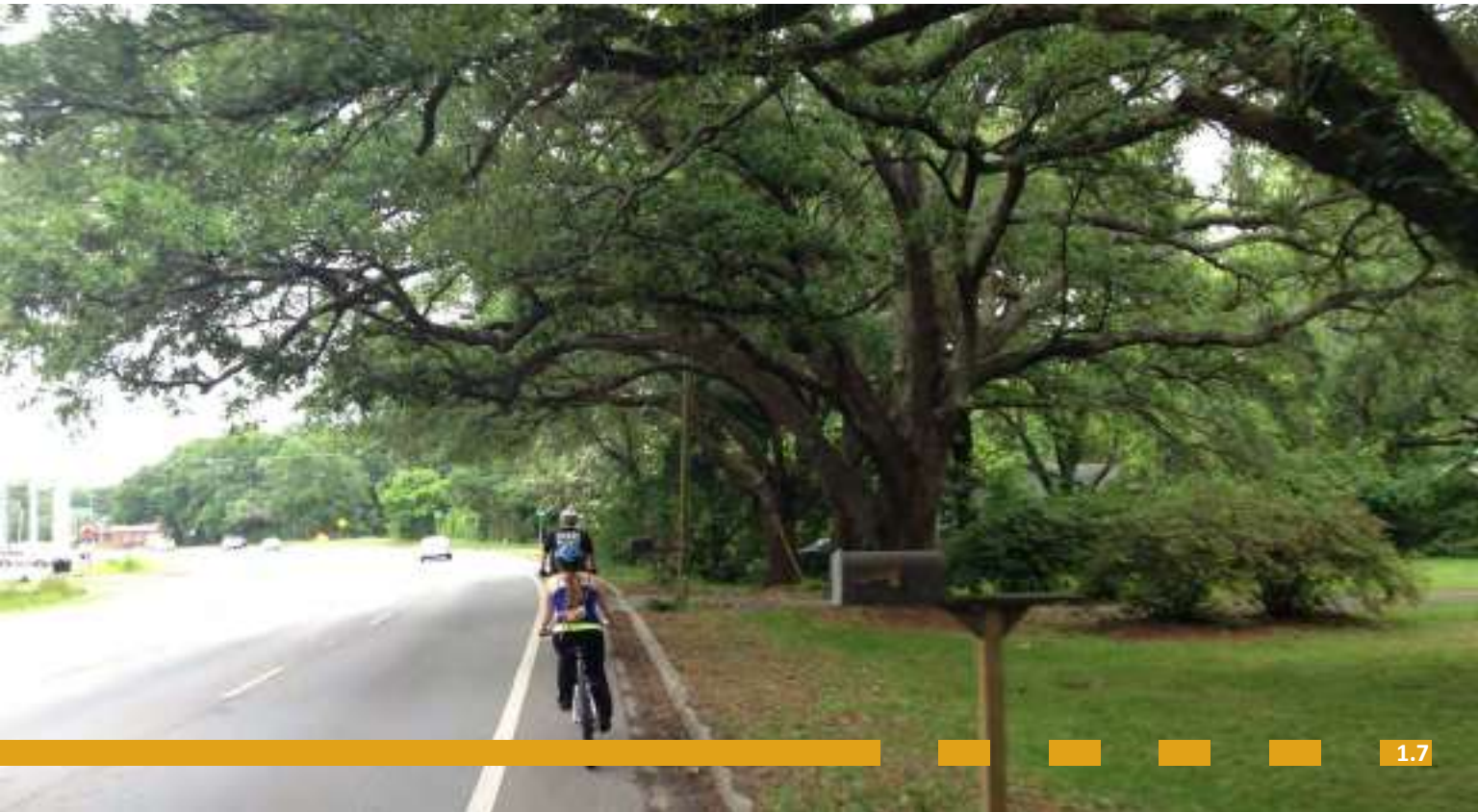


## FOLLY ROAD CAN BE MADE GREEN BY:

- MODERNIZING STORMWATER INFRASTRUCTURE WITH CREATIVE, SUSTAINABLE, MEMORABLE DESIGNS
- INCREASING TREE CANOPY; ADDING REAL STREET TREES IN THE RIGHT-OF-WAY
- INTRODUCING LANDSCAPED MEDIANS AND A RANGE OF PUBLIC GREEN SPACES

**WHAT IF BEAUTIFUL SHADE TREES LINING FOLLY ROAD WERE  
ONCE AGAIN THE RULE, RATHER THAN THE EXCEPTION?**

*below:* The Ellis Oaks on Folly Road create a memorable stretch of roadway.



# 5 GUIDEPOSTS: VALUABLE

Each of the proposed enhancements to Folly Road is conceived to make daily travel easier by providing a variety of viable mobility options. In turn, these changes make living and working along Folly Road more appealing to a greater number of people, thereby supporting the preservation of or improvement to the area's desirability and consequently, its property values.

This plan does not rely on large-scale, multi-block developments to achieve positive change. Instead, it envisions small, sensible changes that can be made to parcels of all sizes, over time, together resulting in an improved physical environment.

Attractive physical upgrades that include more improved architectural designs will draw shoppers and restaurant patrons to the corridor, helping local retailers to thrive. The creation of a multi jurisdictional design review board, coupled with common design standards, can help bring this to fruition. Positive changes to the businesses include not only aesthetic enhancements but also mobility improvements that allow more pedestrians, bicyclists, and transit users to access an establishment.

**WHAT IF THE ARCHITECTURE WAS GRADUALLY  
UPGRADED, BECOMING THE ENVY OF THE LOWCOUNTRY?**



above: The vision for improved building and urban design on the corridor.



## FOLLY ROAD CAN BE MADE VALUABLE BY:

- CONTRIBUTING TO PROPERTY VALUES AND DAILY LIFE
- IMPROVING BUSINESS CONDITIONS WITH BETTER BUILDING DESIGNS THAT LOOK GOOD AND ENCOURAGE WALKING
- MAKING POSSIBLE GRADUAL CHANGE AND INCREMENTAL DEVELOPMENT

# 5 GUIDEPOSTS: SYNCED

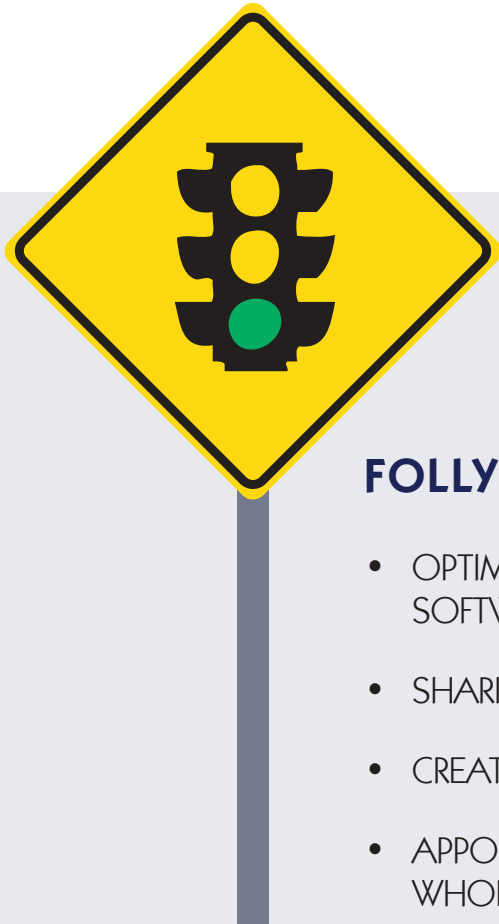
A well-functioning Folly Road is one that demonstrates great coordination in every way possible – this includes the operations and performance of the roadway, as well as of the policies and municipal actions that guide future improvements.

The introduction of modernized software that optimizes traffic signals can best address traffic flow throughout the corridor. More comprehensively, the long-term future of the roadway can be improved by the joining together of the various governments involved with the corridor. In this way they can collaborate consistently and frequently on important decisions, for the benefit of all. By sharing costs and responsibilities everyone can feel ownership and work to transform Folly Road over time, in unison.

One key way to ensure coordination is through the creation of a joint design review body, so that both public and private enhancements to Folly Road and the adjacent properties are made with the knowledge and support of the affected governmental bodies, acting in harmony

and mutual support. The powers and functions of this joint review body would need to be determined by the affected jurisdictions.

To tackle the day-to-day work involved, an experienced project manager should be appointed, capable of coordinating the various “moving parts” – funding, design, approval, and construction that will form the future success of Folly Road.



## FOLLY ROAD CAN BE MORE SYNCED BY:

- OPTIMIZING TRAFFIC SIGNAL TIMING WITH MODERNIZED SOFTWARE
- SHARING COSTS AND RESPONSIBILITIES
- CREATING A JOINT DESIGN REVIEW BODY
- APPOINTING A PROJECT MANAGER TO OVERSEE THE WHOLE SUITE OF FOLLY ROAD IMPROVEMENTS



# WHAT IF TRAFFIC SIGNALS WERE MODERNIZED AND SYNCHRONIZED IN REAL TIME?

*below:* New signals with optimized timing to facilitate movement along the corridor are part of the vision.

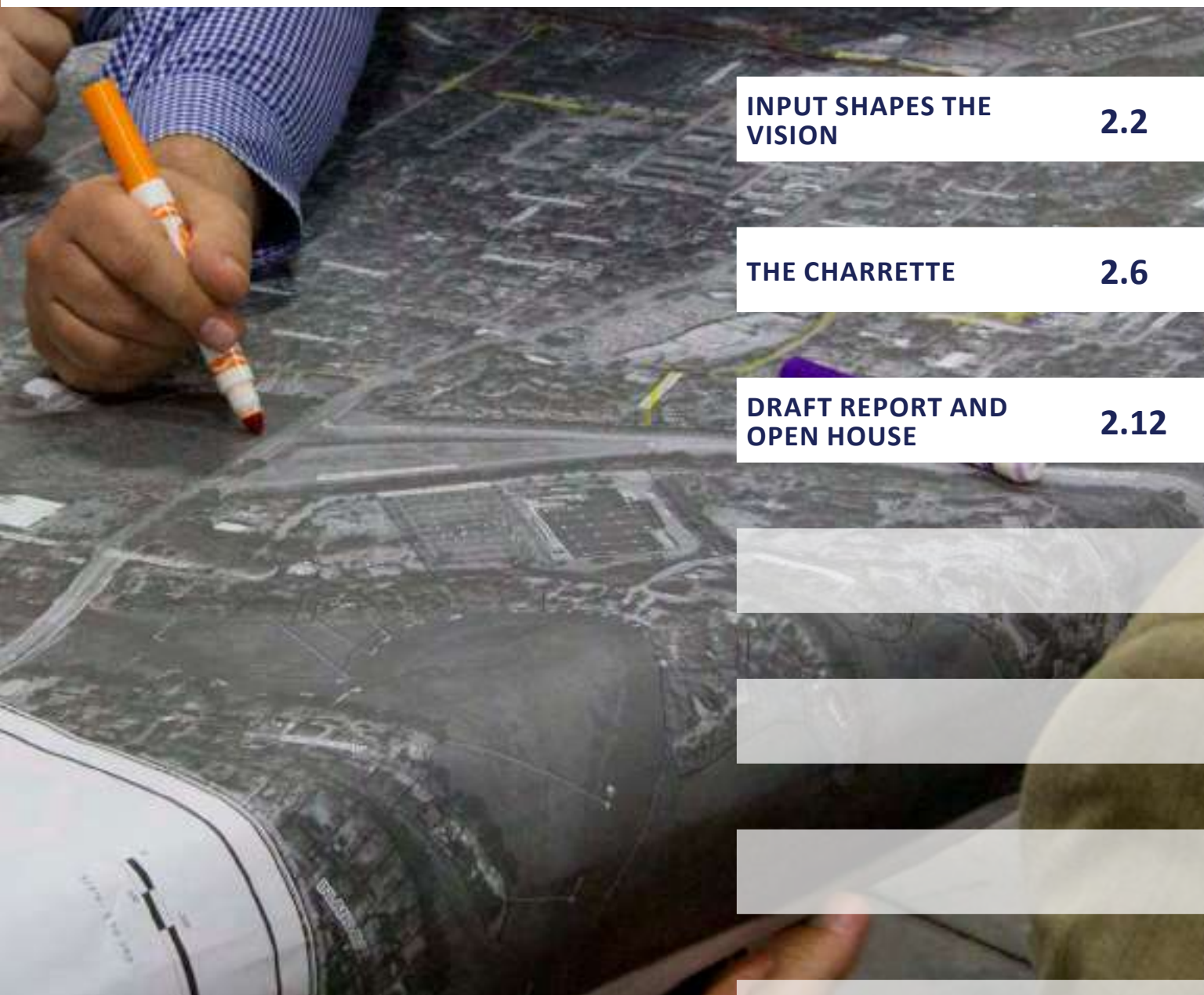




# 2

# PUBLIC PARTICIPATION

In order to reimagine Folly Road, it is essential that municipal leaders, residents, business owners, property owners, and a range of other types of stakeholders are involved in planning and visioning. This planning effort centered around a week long charrette set out to provide multiple opportunities and methods of responding to ideas and indicating preferences; the public process is summarized on the following pages.



**INPUT SHAPES THE VISION** **2.2**

**THE CHARRETTE** **2.6**

**DRAFT REPORT AND OPEN HOUSE** **2.12**

# INPUT SHAPES THE VISION

A public design charrette was the centerpiece of the public participation process; community workshops provided opportunities for group brainstorming and input. An open studio and open house allowed community members to have one-on-one conversations with members of the consultant team as draft ideas were being explored. Anonymous surveys were available throughout the charrette week, allowing for discrete written feedback for the team. Keypad polling was incorporated into project presentations, so that participants could see the opinions of all in attendance, in real time. Finally, a MindMixer site was launched to allow online participation (see next page).

## CHARRETTE PREPARATIONS

At the onset of the project, the consultant team engaged in a preliminary analysis of existing conditions. By reviewing existing area Comprehensive Plans and development regulations, the team was able to grasp longstanding concerns as well as the framework that is shaping the physical form of the corridor today. The team traveled the corridor with representatives from each of the municipalities, which provided insight to the unique features and opportunities along Folly Road. Additional research and analysis included a market overview, mapping of existing urban design and ecological conditions, collection of traffic data at key intersections, and documentation of existing street cross sections.

The consultant team worked with the Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) and municipalities to develop a stakeholder list; these stakeholders were invited to participate in technical sessions held throughout the charrette week, as well as public workshops held for the larger community. The list included technical experts, such as representatives from South Carolina Department of Transportation (SCDOT), each municipality, local engineering and landscape architecture consultants, and other agencies involved in the design and functionality of the street. The list also included community stakeholders, such as representatives from neighborhood groups and advocacy groups, as well as those interested in the future design of the corridor such as business owners, property owners, and developers. In addition, a 16-person project Steering Committee consisting of representatives from each municipality as well as key community stakeholders was formed; the purpose of this committee is to review draft ideas and provide insights to the consultant team as concepts and recommendations are refined.



above: The Preliminary Analysis covers existing urban design, transportation, green infrastructure, and economic conditions (see Appendix).

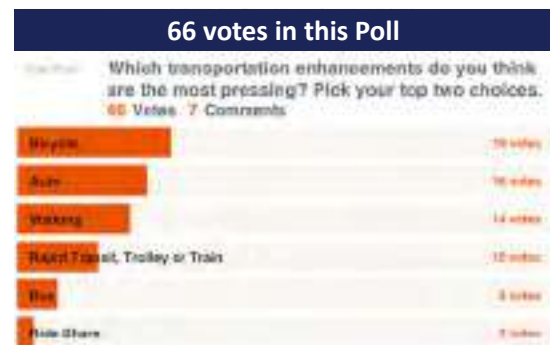
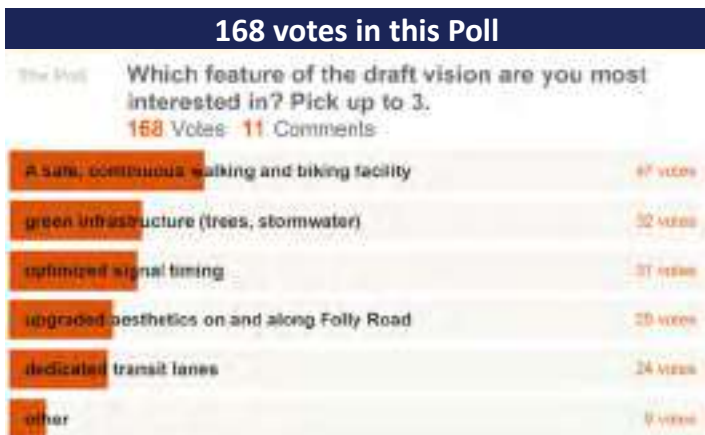
# MINDMIXER PARTICIPATION

The community conversation about improving Folly Road has expanded beyond public meetings; an online forum was established at [follyroad.mindmixer.com](http://follyroad.mindmixer.com). The site was launched on April 23, 2015; in the months that followed the charrette (by September 2015), the site had over 4,802 unique visitors, and 249 participants. A video of the work-in-progress presentation was added to the site, to allow those who did not attend to be updated on the draft concepts, and to continue to gather input.

Key statistics about who participated and results from online polling are included below. Interested community members can visit the website to see all of the ideas and comments shared.



## Online Polling Results



[follyroad.mindmixer.com](http://follyroad.mindmixer.com)



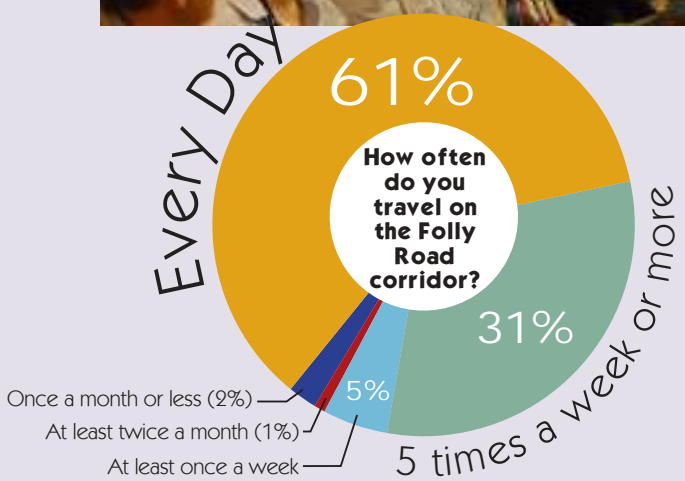
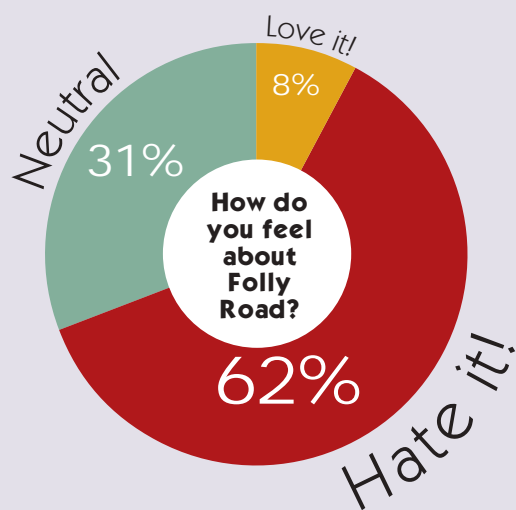
## COMMUNITY KICK-OFF MEETING

On April 23, 2015, a community kick-off meeting marked the official start of the public planning process. At the kick-off, information was presented about best practices in Complete Streets and sustainable urban design, as well as initial opportunities and constraints observed through the preliminary analysis. Over 120 community members were in attendance; through keypad polling as well as a question-and-answer session, participants were able to share their ideas. Questions and comments included:

- Will the study include Wappoo Cut Bridge?*
- What transportation options are possible (transit, light rail, others)?*
- Are roads coming in to Folly Road included?*
- Can we do anything about electric lines?*
- Pave the road, simple improvements first*
- How are businesses included in the process?*
- Where is the money coming from?*
- Do roundabouts take up as much space or more than regular intersections?*



## KEYPAD POLLING RESULTS



## FOLLY ROAD, IN ONE WORD:

Participants at the Kick-off Meeting were asked to describe Folly Road in one word today, and in the future. Responses are tallied below; the more often a response was given, the larger the text.

**RETHINK FOLLY ROAD**

ONE WORD that comes to mind about the FOLLY ROAD CORRIDOR:

NOW: \_\_\_\_\_

IN THE FUTURE: \_\_\_\_\_

*(in my vision)*

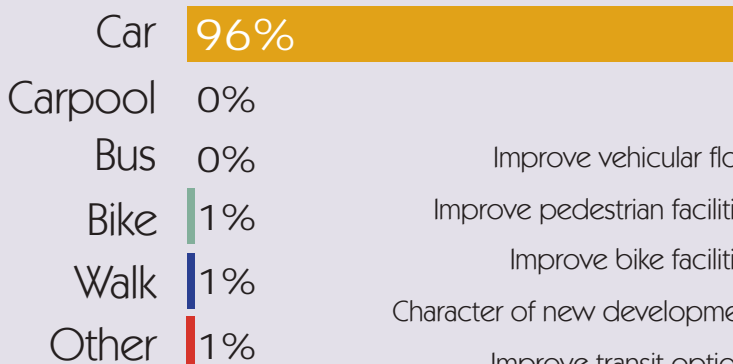
**NOW:**



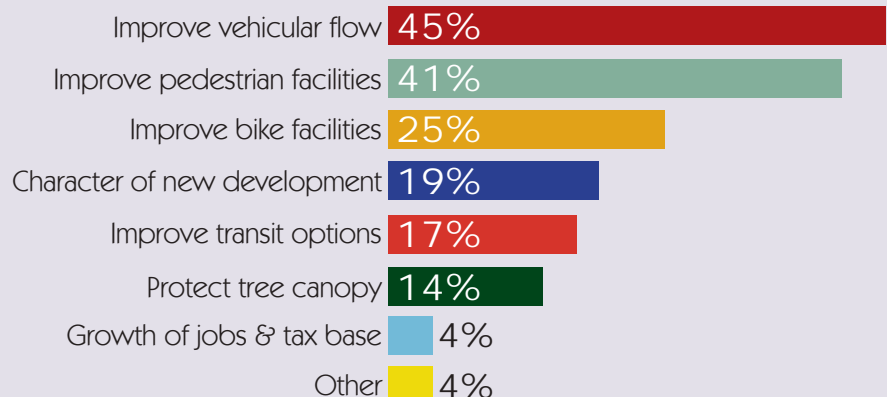
## IN THE FUTURE (IN MY VISION):



### The primary way I typically move around the corridor is by:



### Which of the following do you think are the most important to address to ensure a positive future for Folly Road? (Select 2)



# THE CHARRETTE

The consultant team held a seven-day public Design Charrette at the First Baptist School Activity Center, located just a few blocks from Folly Road. During the charrette, team members worked collaboratively with the public to analyze the technical feasibility of design ideas, and to make recommendations for improvements to the corridor, including enhancements to mobility for all modes, preservation of tree canopy, the design of new buildings along the corridor, and innovative stormwater solutions. The hands-on nature of the Charrette and the opportunity to interact with differing perspectives allowed for the consideration of a number of issues, ideas, and perspectives.

## KICK-OFF & HANDS-ON SESSION

On Thursday, May 7th, the team held a Kick-off and Hands-on Design Session to mark the official start of the Charrette. This session allowed stakeholders and community members to come together to interactively plan the Folly Road corridor's future evolution. An opening presentation educated citizens about the pre-charrette analysis and challenges to be addressed during the charrette.

The goal of the Hands-on Design Session was to begin to form a community consensus, and to develop a short- and long-range vision for the future of Folly Road. Participants divided into table groups to work on design exercises. Interactive techniques made it easy for the community to offer a range of suggestions.

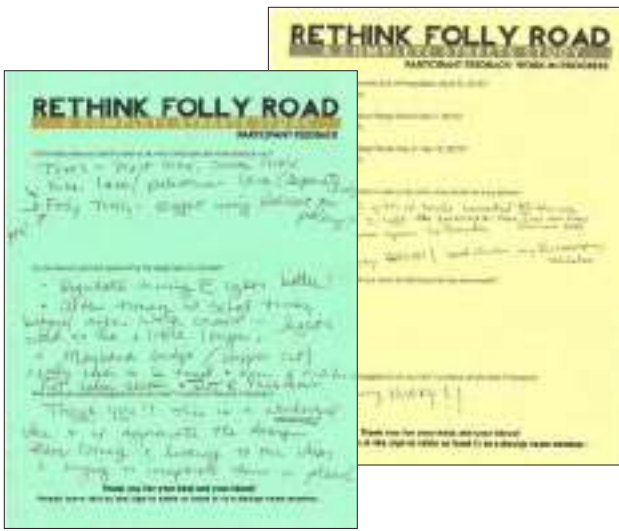
Each table had a set of maps that included the overall corridor, as well as one specific segment of the corridor at a larger scale. Participants were encouraged to draw on the maps to illustrate their ideas that included concepts for the future street design, bicycle and pedestrian facilities, landscaping and open spaces, and building design.

Each table also completed a “build the street your way” exercise. “Playing pieces” consisting of vehicular lanes, bike lanes, sidewalks, and trees were provided, and each table assembled them as they envision the street configuration to be in the future. Participants had to balance the needs of cars, pedestrians, cyclists, and transit, and come up with a design solution that fit within the existing right-of-way.

At the end of the workshop, one person from each table summarized “three big ideas” from their conversation to the entire assembly. Additional written surveys allowed participants to share their opinions on the ideas discussed.







## PARTICIPANT FEEDBACK FORMS

Throughout the charrette week, participants expressed their opinions through written “Participant Feedback” forms. The first forms (green) were distributed at the Hands-on Design Session, and available at the studio in the days that followed. A separate (yellow) form was distributed at the Work-in-Progress Presentation.

The graphic below summarizes ideas mentioned six or more times, grouped into common categories (non-vehicular transportation, vehicular movement, landscape and green infrastructure, and transit).

### 23% mentioned VEHICULAR MOVEMENT

- sync traffic signals - 20
- new connectivity - 17
- lower speed limits - 15
- roundabouts - 8
- improve traffic flow - 8
- connect parking lots - 8

**76 MENTIONS TOTAL**

### 17% mentioned PUBLIC TRANSIT

- “Folly Trolley” - 22
- improve public transit - 16
- dedicated transit lane - 12
- park-and-ride - 6

**56 MENTIONS TOTAL**

### 26% mentioned LANDSCAPE & GREEN INFRASTRUCTURE

- more trees - 27
- bury power lines - 17
- beautification - 9
- stormwater / flooding - 9
- green infrastructure - 9
- planted medians - 9
- protect ecological system - 6

**86 MENTIONS TOTAL**

### 35% mentioned NON-VEHICULAR

- separate bikes from road - 37
- continuous bike path/sidewalk - 31
- safety - 14
- boardwalk - 13
- improve pedestrian crossings - 11
- encourage non-car transportation - 9

**115 MENTIONS TOTAL**



## HANDLEBAR SURVEY

Members of the consultant team conducted a “handlebar survey”, observing existing conditions along the corridor from a cyclist’s perspective. The team cycled the entire length of the corridor, noting where the bike lane begins and ends (observing the condition and usability of the bike lane); and conditions where cyclists must share the lane with vehicles. Observations included:

- The existing bike lane is narrow (approximately four feet); coupled with fast-moving vehicles, this led to an uncomfortable experience.
- In many places, the bike lane had gutters filled with debris, or overgrown with grass, further narrowing the area of roadway dedicated to cyclists.
- Where no bike lane is present, cyclists must share the lane with fast-moving vehicles, which was challenging, even for experienced riders. Sharrows (sharing the lane) are more appropriate where speeds are slower (typically, less than 25 mph).
- In several areas of the corridor, frequent curb cuts create repeated conflict points that make movement through difficult.
- Due to a lack of sidewalks and pedestrian infrastructure, in several locations pedestrians also use the bike lane or road shoulder.
- The Wappoo Cut bridge provides an important connection between Folly Road and the East Coast Greenway, but cycling is challenging due to the grated surface, and sharing the lane with vehicles.

The handlebar survey allowed the team to better understand the comments received from community participants, and challenges to cycling along the corridor as it exists today.

# RETHINK FOLLY ROAD

## A COMPLETE STREETS STUDY

### YOUR IDEAS HERE:



## THE CHARRETTE PLANNING PROCESS

The principal aim of the charrette week was to define a common vision for the future of the Folly Road corridor, combining land use and transportation solutions to create a Complete Street. This was undertaken through a series of interrelated activities.

Following the opening session, the team worked at the First Baptist School building for six additional days. During the week, the team held meetings with the Steering Committee, municipal and County staff and officials, business owners, developers, transportation agency staff, and others. The design team was on-site approximately 10 or more hours each day, allowing members of the public to visit and offer their input at their convenience.

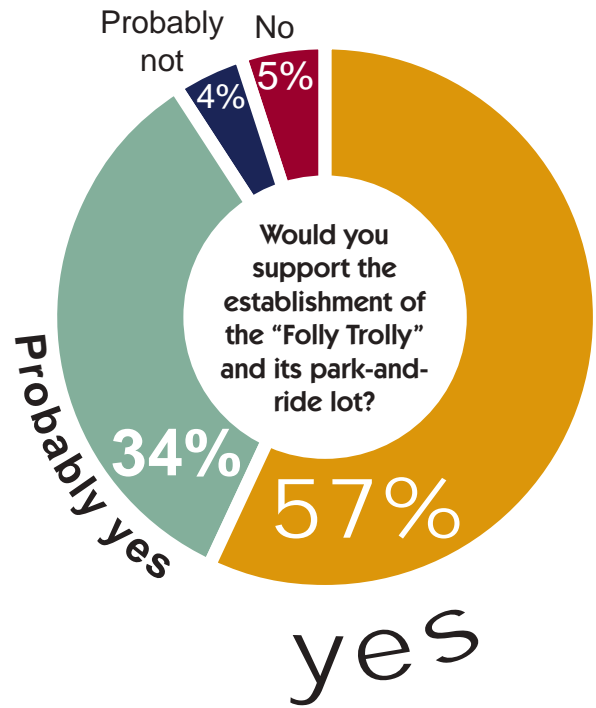
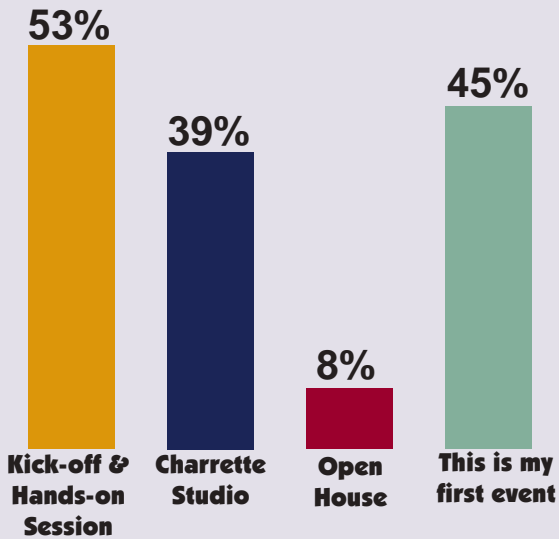


On Sunday, May 10th, the team held an Open House to preview aspects of the emerging vision, including draft urban design and transportation concepts. Consultant team members integrated the input gained during the Hands-on Session, the Open House, the technical meetings, and individual one-on-one conversations. The frequent feedback loops between the team's planners, engineers, and economic experts, along with representatives from each municipality and the County, the public and other stakeholders allowed draft ideas to progress and be quickly refined. At the conclusion of the charrette week, on Wednesday, May 13th, the team made a Work-in-Progress Presentation that included a draft vision and goals for the corridor's future. This allowed for additional feedback to shape the Rethink Folly Road plan.

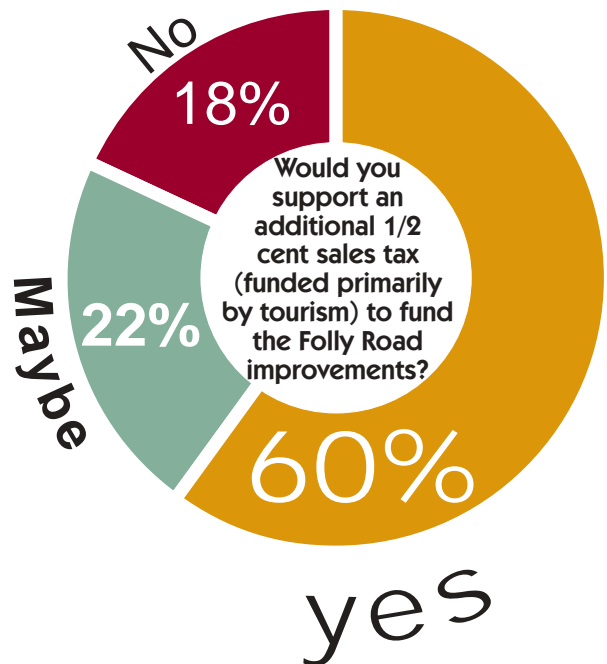
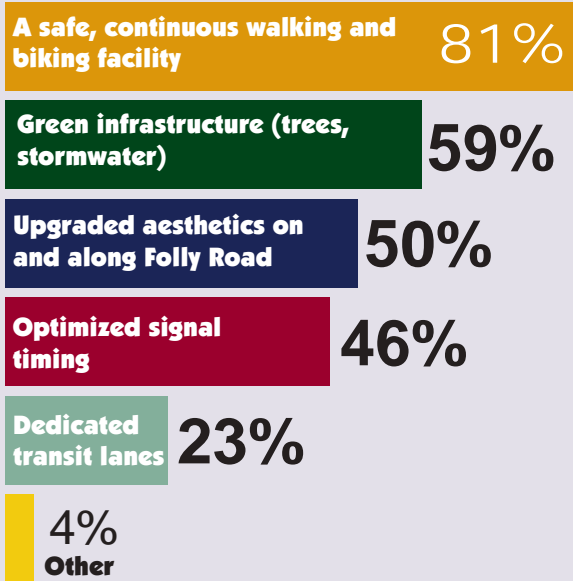


# WORK-IN-PROGRESS PRESENTATION: KEYPAD POLLING RESULTS

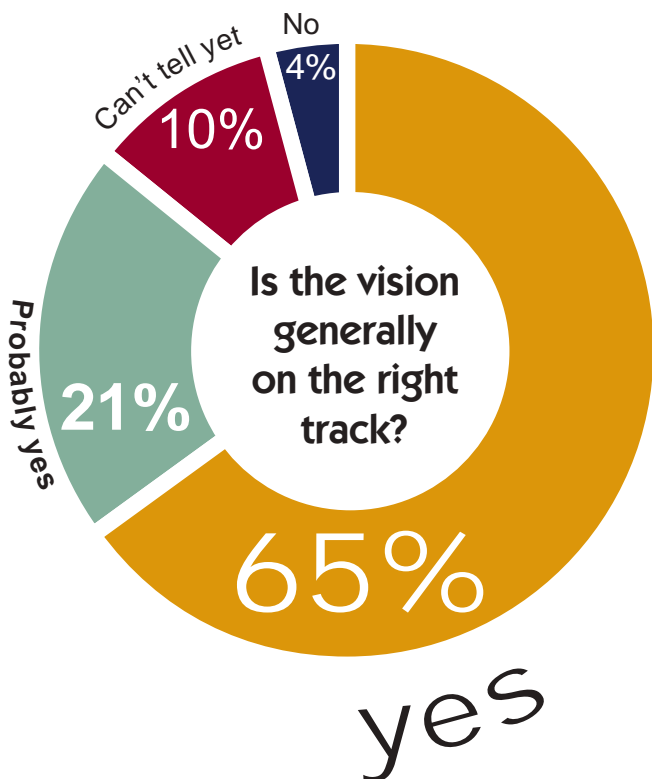
Did you attend any of the charrette events earlier this week?



Which of these features of the draft vision are you most interested in? (pick up to 3)



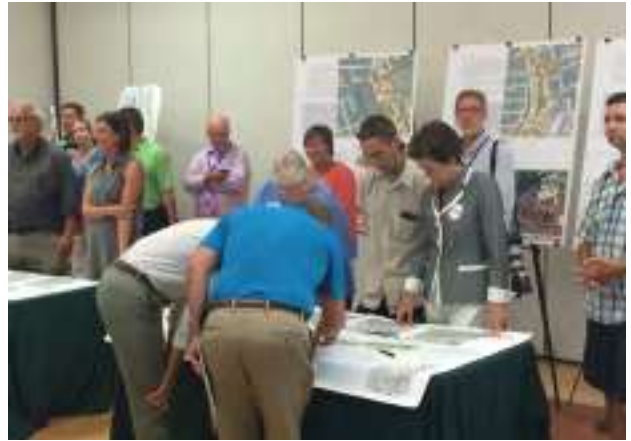
Would you support the implementation of the improvement projects described so far?



# DRAFT REPORT AND OPEN HOUSE

Following the charrette, the consultant team held monthly meetings with the Steering Committee as ideas were refined and report recommendations drafted. A Public Review Draft of the Rethink Folly Road report was published in August 2015.

On August 26, 2015, the BCDCOG hosted a Community Open House at the Lowcountry Senior Center to gather input on the draft report and recommendations. Over 100 community participants stopped by during the evening to see a short presentation of the recommendations, review exhibits, and talk with representatives from each of the jurisdictions and the consultant team. Comment cards were available for participants to provide written feedback; interested community members were encouraged to read the report and provide additional comments in the weeks that followed. Input received was used to refine the recommendations in the updated draft report.





# 3

# CORRIDOR-WIDE STRATEGIES

Utilizing the five “Guideposts” as well as input from hundreds of participants throughout the planning process, a number of important improvements have been proposed to create a Complete Street on Folly Road. Approaches and strategies that apply corridor-wide are described on the following pages.

**OVERVIEW 3.2**

**URBAN DESIGN 3.4**

**MOBILITY 3.6**

**GREEN INFRASTRUCTURE 3.23**

# OVERVIEW

*Rethink Folly Road* reimagines this important corridor as a Complete Street, improving the everyday experience for pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Rather than simply defining a street within its curbs, a truly Complete Street stretches farther out to consider the design of the streetspace from building to building, which includes how buildings relate to the street, landscaping and street trees that protect pedestrian and bicycle facilities, the design of stormwater and utility infrastructure, and the location of parking, to name a few. To create a Complete Street, a number of important improvements must be made across all segments of the corridor, to retrofit street design patterns, facilitate mobility, and improve ecological infrastructure.

## Design

Much of the Folly Road corridor developed “organically” with little consideration for adjacent land uses, design and connectivity. The existing Folly Road Corridor Overlay Zoning District began to rectify this and provides a solid framework by establishing zones that describe the desired character of new development, including neighborhood, village, and commercial core, as well as conservation areas. Additional details for the desired design of the Folly Road streetspace are identified in this report, which complement the vision for neighborhoods and villages and specifies details for upgrades to development forms along the corridor.

## Mobility

Mobility recommendations describe strategies as well as specific improvements to pedestrian, bicycle, transit, and vehicular facilities, which can be phased in over time to achieve “good”, “better”, and “best” results.

## Green

The ecological overlay details approaches to stormwater management and landscaping that improve function as well as add to sense of place, calibrated to be appropriate to adjacent development forms from beach to town.







**CORRIDOR CHARACTER AREAS**

- CONSERVATION
- NEIGHBORHOOD PRESERVATION
- VILLAGE
- COMMERCIAL CORE

**ECOLOGICAL OVERLAY**

- TOWN
- TRANSITION
- COASTAL FLOODPLAIN
- COASTAL BEACH

**PROPOSED IMPROVEMENTS**

- NEW CONNECTIONS
- GATEWAY / WAYFINDING OPPORTUNITY
- IMPROVED BICYCLE FACILITIES
- MARSH BOARDWALK
- OPEN SPACE
- IMPROVED TRANSIT ROUTES

# URBAN DESIGN

The vision for Folly Road considers the design and functionality of the entire streetspace – from building facade to building facade – and how this area functions as a high quality public realm for all users of the corridor.

The streetspace includes land in the public right-of-way as well as land on private properties. Recommendations therefore must address upgrades for the design of the street as well as for the design of buildings and green infrastructure along the corridor. As mapped on the previous page, the character of development and natural areas changes throughout the Folly Road corridor; detailed suggestions for each segment of the corridor, calibrated to each specific context, are described in Section 4. In addition, the functionality and visual appeal of the corridor can be improved through corridor-wide basic urban design strategies and standards:

## Street Trees and Sidewalks

Street trees and sidewalks are basic urban infrastructure, and requirements for pedestrian activity. In areas of the corridor that are not wide enough to fit these elements within the public right-of-way, trees and sidewalks will need to be implemented through easements or as part of new development on private properties.

## Building Orientation

To create a high quality public realm, buildings must be sited so that the primary facade – including active doors and windows – is oriented to face the street.

## Building Appurtenances

Awnings, canopies, colonnades, balconies, and other building appurtenances should be required over sidewalks, to provide shade for pedestrians.

## Building Materials

Buildings should look like they belong in the Lowcountry and on James Island by following precedents established in local and regional building traditions. For example, precedents demonstrate a prevalence of light materials (such as wood siding) instead of masonry for primary building walls. In addition, new buildings should respect the various contexts along the Folly Road Corridor by following more urban building practices to the north, and beach/coastal conventions to the south.



*left:* Typical existing conditions along Folly Road include frequent curb cuts, buildings set behind parking, and minimal landscaping.



*above:* Future conditions along Folly Road, following the above urban design basics, include buildings oriented to the street with high transparency, parking to the rear of buildings, a consolidation of curb cuts, and new street trees to create a quality streetspace.

## Building Transparency

Transparent building facades is another basic building block of high quality streetspaces. A high degree of transparency adds visual interest for pedestrians and cyclists, as well as safety and aesthetic appeal. A good rule of thumb is for the first story of a shopfront building to have a minimum of 70% of the façade in doors and windows. For residential or office uses, as well as upper stories on shopfront buildings, there should also be a minimum requirement, but it could be lower (for example, 30% minimum transparency).

## Parking

In the corridor today, parking dominates the streetspace with buildings set back far from the street – yielding an environment that is hostile to all users except those that arrive by car. In the future, necessary parking should be located to the side or the rear of buildings; as more multimodal improvements take place, parking ratios can be reconsidered and potentially reduced, as patrons will be also arriving by foot, bike, and transit.

## Signage

In pedestrian-oriented areas, signage is typically placed on the building; large free-standing monument signs along the roadway are no longer needed when patrons are arriving by foot, bike or transit. When zoning codes for the corridor are revised or updated, regulations for signage should be put in place to guide new development, particularly in stretches of the corridor where pedestrian activity is prioritized.

## Landscaping

Landscaping should complement the experience of moving through the corridor. Rather than being thought of as simply a “buffer”, landscaped areas define the public realm, providing separation between moving cars and pedestrians but also allowing sight lines to buildings and public spaces.

## Implementation

To implement these urban design basics along the corridor, the existing zoning overlay can be amended by each municipality to include more detail on the design of the streetspace. Alternatively, a form-based code could be written that specifies standards for building, street, and open space design. Additionally, a multijurisdictional board can be established to review buildings and site design for all projects that have frontage on Folly Road, to ensure that new developments uphold a high standard for quality urban design. Additional information on implementation can be found in Section 5.



*above:* The same urban design basics can be applied to residential buildings that face the corridor. The detailing of the streetspace can vary according to building type; in this example, townhouses have a planted dooryard between the buildings and sidewalk.

# MOBILITY

The goal of these recommendations is to progress Folly Road toward becoming a Complete Street, where transit riders, walkers, and cyclists feel comfortable and can move as freely as motor vehicles along the corridor. “Complete Streets” are intended to improve the safety, health, economic, and environmental conditions of a region through a thoughtful redesign of the roadway network that incorporates the needs of all street users.

These mobility recommendations are intended to remove barriers for people who don’t want to or cannot use a personal motor vehicle to travel on Folly Road, improving the safety, connectivity, and accessibility for all.

In order to achieve a Complete Street on Folly Road, a variety of changes need to happen. Recommendations are described in more detail in each of the following pages:

- Dropping Traffic Volumes (p 3.8)
- Motor Vehicle Efficiency & Safety Improvements (p 3.10)
- Design for Appropriate Speeds (p 3.12)
- Better Connectivity for Bicyclists and Pedestrians (p 3.14)
- Steps to Better Transit (p 3.19)
- Repurposing Lanes (p. 3.24)

## EXISTING



### WALKING

missing / discontinuous sidewalks, infrequent crosswalks, high vehicle speeds (40-50 mph)



### BIKING

4’ bike lane, missing facilities in key segments of corridor and connection across Wappoo Cut



### DRIVING

congestion (peak hour); signal timing problematic



### TRANSIT

90 minute wait for bus; no shelters; inhospitable walk and bike environment at stops

OVERALL VALUE:

**D-**

## GOOD



### WALKING

complete sidewalks/ crosswalks at intersections; begin to consolidate curb cuts and add street trees; slower speeds (30-40 mph)



### BIKING

mark paved shoulders as bike lanes in missing gaps, add sharrow marking in select locations



### DRIVING

walk/ bike/ transit initiatives begin to help reduce volumes; optimized signal timing



### TRANSIT

60 minute wait for bus; bus stop improvements; “Folly Trolley”

OVERALL VALUE:

**C+**

**improving Mobility:  
“Good”, “Better”, and “Best”**

It is unrealistic to expect all of the proposed mobility improvements for Folly Road to happen tomorrow or even in the next year; while the ideal scenario is described, potential phases toward full implementation are as well. These phases are described in three steps – “good”, “better”, and “best”. The progression toward full implementation should be considered a guide. As funding and development opportunities arise, the “good,” or “better” phases can be skipped.



BETTER	BEST
<p> <b>WALKING</b> “good” plus shared-use path on west side of corridor; additional mid-block crosswalks; slower speeds (majority 30-35 mph)</p>	<p> <b>WALKING</b> “better” plus consolidated curb cuts and street trees complete; slower speeds (all 30-35 mph)</p>
<p> <b>BIKING</b> “good” plus shared-use path on west side of corridor; better connections off-Folly; upgrade Wappoo Cut Bridge</p>	<p> <b>BIKING</b> “better” plus cycle track on northern corridor; complete network off-Folly; multi-use boardwalk in conservation area, replace Wappoo Cut Bridge</p>
<p> <b>DRIVING</b> “good” plus walk/bike/transit initiatives continue to reduce volumes; adaptive controls for signal timing; new streets add more options</p>	<p> <b>DRIVING</b> “better” plus full implementation of access management/ new streets improve flow; walk/bike/transit initiatives reduce volumes</p>
<p> <b>TRANSIT</b> “good” plus 30 minute wait for bus; new routes added</p>	<p> <b>TRANSIT</b> “better” plus bus-only or shared bus-bike lanes</p>
<p>OVERALL VALUE:  <b>B+</b></p>	<p>OVERALL VALUE:  <b>A+++</b></p>

## DROPPING TRAFFIC VOLUMES

The primary mode of transportation along Folly Road is by personal motor vehicle. A majority of the right of way and the priority along the corridor has been given to the motor vehicle as well. To transition Folly Road to a Complete Street will require a more balanced approach to transportation planning, integrated with a land use vision along the corridor. This approach does not require abandoning the needs of the motor vehicle, but rather an acknowledgment that the number of vehicle miles driven is dropping nationally and locally (including on the Folly Road corridor). Strategic infrastructure and service improvements can encourage this number to drop even further.

As noted in the existing conditions analysis, there is a national trend in the reduction of vehicle miles driven. Folly Road is no exception. The annual average daily traffic (AADT, or average vehicles per day) has been declining along the corridor (see Appendix B). Even though these numbers are declining, reductions through other means are still required to be able to reallocate vehicle space to other uses without adversely impacting vehicle level of service. In general, traffic volumes of 15,000 vehicles per day (vpd) are considered acceptable for a three lane section (two travel lanes with a center turn lane), while traffic volumes between 15,000 and 25,000 vpd are worth analyzing, and over 25,000 vpd typically require 4 or 5 travel lanes.<sup>1</sup> It is worth noting that there are many two lane roadways throughout the nation that move more vehicle traffic than engineering assumptions accept, often because they are more convenient or predictable than other routes. This is why it is recommended that between 15,000 and 25,000 corridors be studied.

There are portions of Folly Road that already have traffic volumes below 15,000 vpd (as shown at right). This includes Folly Road between the Grimball Road/Fort Johnson Road intersection and Folly Beach. Some of this portion is already two or three lanes, while the area north of Bowens Island Road has four or five lanes, and, therefore, excess capacity. Given today's volumes, a reallocation of this roadway space can be done now.

<sup>1</sup> Road Diets Information Guide. Chapter 3.3.5 Average Daily Traffic. FHWA. [http://safety.fhwa.dot.gov/info\\_guide/](http://safety.fhwa.dot.gov/info_guide/)



left: Traffic Volumes vs Lane Requirements

above: AADT Volumes along Folly Road



above: Conditions of Folly Road relating to Road Diets

The map to the left depicts the areas that either are already or can be transitioned to three lanes, in green. The area in yellow has traffic volumes between 15,000 and 25,000 vehicles per day and requires further study and possible mitigations before any reallocation of roadway space. The areas in red have higher traffic volumes. Other means will need to be utilized to reduce traffic volumes anywhere from 5 to 50 percent. It is expected that these volumes will continue to decline by a small percentage every few years, given the trend shown by traffic counts over the past nine years (see Appendix B) and the national trend toward declining traffic volumes. It is recommended that transportation monitoring be conducted in order to verify the trend of dropping traffic volumes on Folly Road and predict whether or not it will continue. It has also been projected that other proposed roadway projects, such as the I-526 Connector project, will also lead to a decline in traffic through this area. Projections show that decline to be in the range of 5 to 20 percent depending on the roadway segment. Other recommended improvements such as increased connectivity, improved pedestrian and bicycle facilities, and better transit service will also reduce volumes. As volumes decrease, “road diets” can be used to reallocate underutilized vehicular lane area to other modes, including facilities for cycling, walking, and transit (see page 3.24).

While the transportation profession often evaluates “daily” volumes to size the roadway, peak hour volumes are also another consideration to determine the number of lanes. Daily volume thresholds are developed from assumptions based on the percentage of traffic during the day in the peak hour. However, sizing roadways based on one or two peak hours of the day may not be the best utilization of financial resources, create the safest roadway for all roadway users, or allow for the most choices in mobility along the corridor. Improved safety, connectivity, and accessibility for pedestrians, cyclists, motorists and transit users alike may require a balance of prioritization and how the roadway is designed so that the roadway functions and meets the needs of all roadway users for all hours of the day rather than just motorists for one to two hours of the day. For instance, if the capacity threshold of a travel lane during the peak hour was 1,500 and for one hour of the day it exceeded that 1,500 by up to 100 vehicles but the other 23 hours of the day it was below that threshold, it might be a good policy decision not to widen the roadway because of one hour or a hundred vehicles that could be spread over the adjacent hours. This phenomenon is called “peak hour spreading” whereby excess demand for one hour is served by the adjacent hours. Some congestion and queuing may be experienced for a short period of time, but will dissipate.

## MOTOR VEHICLE EFFICIENCY & SAFETY IMPROVEMENTS

### Vehicular Challenges on Folly Road

Like other transportation users, motorists face challenges on the Folly Road Corridor. At certain areas, congestion plagues the corridor and a lack of access points forces large traffic volumes to converge to individual points. The traffic signal system needs to be updated, regularly coordinated, and expanded in order to efficiently move vehicles through intersections across the corridor. Large expanses of curb cuts prevent an efficient system of ingress and egress on Folly Road and a constant presence of turning vehicles inhibit the flow of traffic. These challenges have been assessed and can be overcome through proper planning policies and design features.

### Traffic Signal Implementation

One concern with Folly Road is the perceived effectiveness of the signal timings. Creating a signal timing network revolves around the idea of platoons: platoons are groups of vehicles that move together through traffic signals. A well designed network will allow platoons to flow through the signals without having to stop or yield to other traffic more than once along their route. In addition to this, platoons should also form gaps between each other in order to allow for traffic coming from driveways or two-way stop controlled intersections to enter the flow of traffic. At most, traffic coming from these alternative sources should not have to wait longer than the length of a cycle of the closest signalized intersection. While this is the ideal situation, many factors must fall into place in order to achieve it, such as traffic signal spacing of ¼ mile within the commercial core area, properly maintained signal coordination, and appropriate design speeds that more effectively and safely move the most vehicles per lane. While the existing SCDOT standard is 1/4 mile spacing between traffic signals, there may need to be some flexibility to this standard within the developed commercial core to account for and balance other factors such as existing connectivity with streets and driveway locations, buildings, landscape (protected trees), and utilities.

Upgrading and maintaining the control of the signals is recommended. By implementing regularly updated advanced control, signal cycle lengths and signal phases can be adjusted throughout the day and throughout the peak hour to respond to the current vehicle demand. Actuation detects the presence and frequency of vehicles that are approaching an intersection. With actuation, the signal timing is programmed to adjust in real-time to higher or lower traffic volumes to increase efficiency and reduce delay. Further implementing actuation along the corridor will assist in the coordination and optimization of the traffic signals along Folly Road. Coordination of traffic signals should also be done in smaller segments of like designed and sized intersections and context of land uses as opposed to coordination of the entire corridor. Larger intersections may function within the system better if they operate independently since they may already operate as a bottleneck on the corridor.

It is also recommended that the signal coordination be updated on annual or biannual intervals with regular monitoring and modeling so vehicle progression is maintained. It is possible to also implement signal prioritization. Devices can be installed in emergency vehicles and buses which will allow them to trigger a green light in the direction that they are traveling. This allows transit and emergency vehicles to move more quickly through the corridor.

### New Access Points and Roads

In order to achieve the optimal progression and maintain vehicle platoons along the corridor, traffic signal frequency needs to be increased, especially within the commercial core. By consolidating driveways along Folly Road and providing greater connectivity to adjacent parking areas and roadways, several smaller signalized intersections can be created. The creation of these new intersections will allow for better signal coordination and progression, provide more predictable access to adjacent businesses and fewer delays exiting left out of developments, and







above: Preliminary analysis of potential curb consolidation and cross-access opportunities in the Commercial Core area

reduce conflicts with cyclists and pedestrians along the corridor. In order for these signals to be warranted, they must first be assessed and meet the criteria of the SCDOT. An example of how this can be implemented is shown for the area of Folly Road and Camp Road (pg 4.26).

### Access Management and Commercial Driveway Consolidation

One of the barriers to traffic flow on Folly Road is the large number of curb cuts that allow access to the corridor's many commercial parking lots. Consolidating commercial driveways along the corridor to serve multiple businesses and parking lots will reduce the impact of turning vehicles on the flow of traffic.

Creating connection points between adjacent parking lots will also help increase the mobility on Folly Road, as it would allow vehicles to patronize multiple businesses without having to travel on Folly Road to get from one parking lot to the next. This would result in fewer vehicles on Folly Road, reducing the impact on commuters and other travelers, as well as creating shorter travel times between parking lots for the business patrons.

Where appropriate, installing rear access points from local streets into the parking lots will help alleviate congestion by encouraging motorists to take alternate routes to and from these businesses. These should be introduced in locations where businesses are located directly on backroads or have vacant land separating them from the backroads. Acquiring the right-of-way when it becomes available is

important, as is sensitivity to design and transition when connecting businesses with local streets.

Traffic calming and driveway design are important. These connections do not need to encourage cut-through but rather local access. For businesses located at the corner of cross-roads on Folly Road, creating access to side streets should also be encouraged. Even if patrons must use Folly Road to reach their next destination, they will often choose to use the side street route as it can be more comfortable to enter a large corridor like Folly Road at an intersection rather than from a commercial driveway. When this happens, platooning will also increase and the efficiency of Folly Road will increase as well.

### What about Widening the Road?

Other alternatives have been considered for the improvement of motor vehicle travel along Folly Road, including expanding Folly Road by increasing the number of lanes on either side of the corridor. While this alternative may help reduce congestion at a particular location, the cost of acquiring right-of-way and relocating businesses is not sustainable along the entire corridor. In addition, this would further exacerbate the perception of Folly Road being a barrier to cross for all roadway users, reducing the comfort and mobility of other modes of transportation, which directly opposes the goals of this Complete Streets project and hinders the overall mobility of the corridor. And while one bottleneck will be fixed for the moment another one could be created downstream.

The effect of capacity enhancing projects rarely achieves the desired outcome as motorists shift their travel patterns when new capacity is created and can often induce demand. The perceived improvements become marginalized when compared to the negative externalities that ensue, including impacts from construction on businesses, residents and landscape. The increase in lanes would result in a shorter peak hour, encouraging more vehicles to travel during the same periods of time, thus minimally reducing the congestion. The increase in capacity from widening Folly Road would increase its viability for users who currently choose alternative routes, which would in turn increase the traffic volumes on the corridor and offset any positive changes of the widening of the road. Given these considerations as well as current dropping of traffic volumes and the demand for better facilities for alternative modes of transportation, this alternative for Folly Road was not pursued as part of this Complete Streets project as it does not achieve the desired outcomes.

## DESIGN FOR APPROPRIATE SPEEDS

Apart from a short segment in the Folly Beach commercial core that has a speed limit of 30 mph, the current speed limits on Folly Road vary from 40 mph to 50 mph (as shown in the map to the right). Allowing vehicles to travel at these high speeds has negative effects on all modes of transportation within the corridor, including the vehicles themselves, by reducing safety, vehicle progression and platoons, and increasing delays on adjacent streets and driveways. By reducing travel speeds along the corridor, there are many benefits, as highlighted below, yet little impact to the current 12.5 minute free flow travel time from one end of the corridor to the other.

### Proposed Speed Limits and Design Speeds

Encouraging vehicles to travel at slower speeds along the corridor (through design) has several positive effects:

1. Shorter vehicle spacing, which results in higher vehicle capacity;
2. Increased platooning of vehicles, which results in higher benefits of signal timing progressions;
3. A higher level of comfort for bicyclists riding with or adjacent to vehicles;
4. A higher level of comfort for pedestrians walking along and crossing Folly Road; and
5. Lower risk of injury and fatality if there were to be a collision, whether it is among vehicles, bicyclists, or pedestrians.

Three phases of speed limit reduction are proposed: “good” – phase 1, “better” – phase 2, and “best” – phase 3. These speed limit reductions should be implemented in conjunction with traffic calming infrastructure changes, as well as enforcement of the new speed limits. Infrastructure changes could include narrowing of travel lanes, median treatments, new traffic signals, a greater number of street trees, and street-oriented development directly adjacent to the roadway.

The images on the next page show the progression through the three phases of speed limit reductions. The first two phases are intended as transitional periods. While they provide more desirable conditions, the third phase – “best” - represents the ideal speed limit conditions along Folly Road. This does not eliminate the ability to skip one or two phases. The first two are proposed for a more transitional approach to allow drivers to adjust to lower design speed limits and to implement the corresponding infrastructure changes.

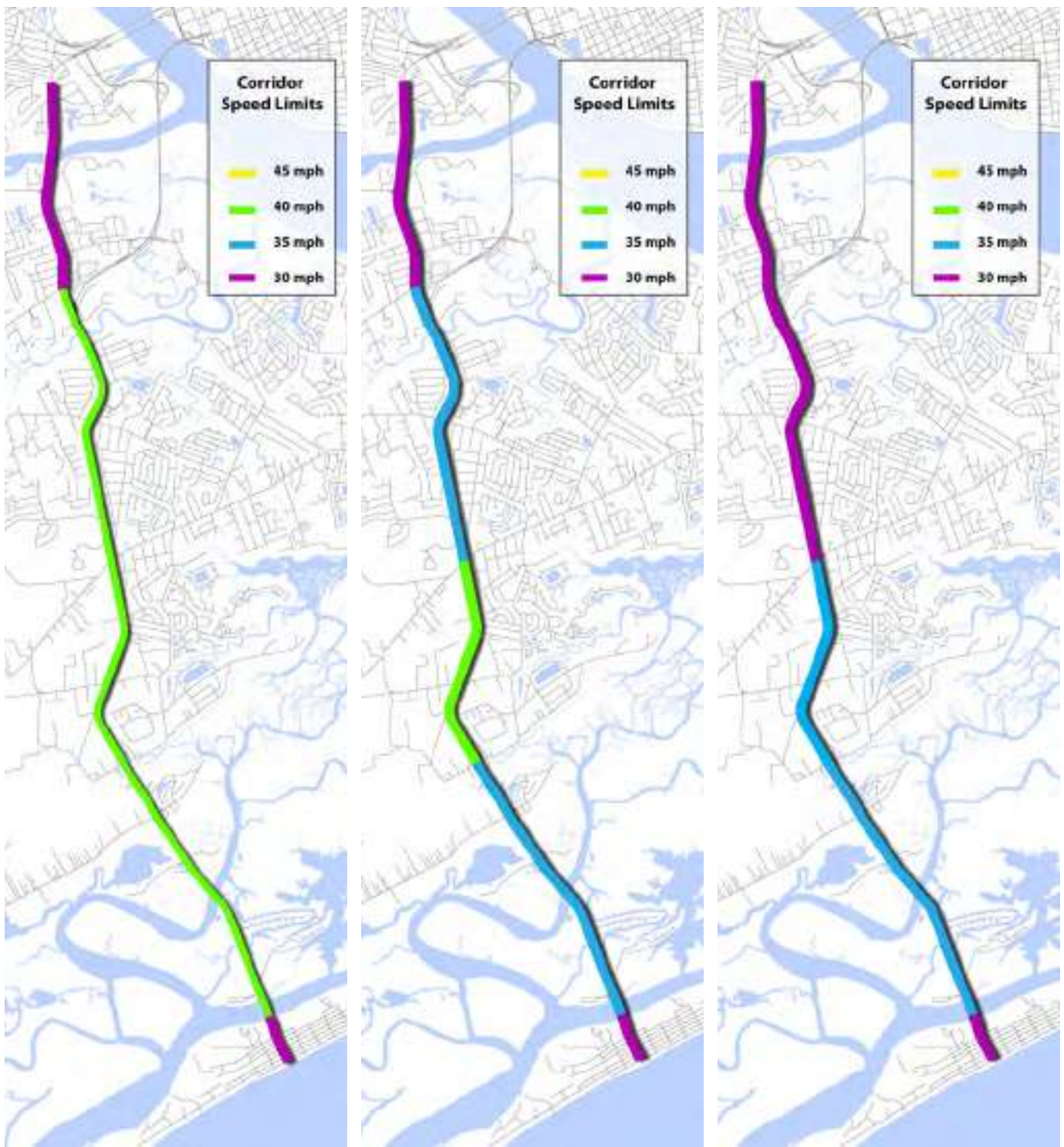


*right: Existing Speed Limits, 2015. Note: A speed study on a portion of Folly Road was conducted in the summer of 2015, which will result in the reduction of the 50 mph section to 45 mph.*

In order to implement these changes, the roadway will need to be redesigned with traffic calming techniques. As the street design changes, the corresponding posted speed limit will change and new signs should be installed showing the new speed limits. Before any speed limit changes occur, speed studies will first be conducted in order to ensure the newly designed streets meet the criteria for lower speed limits set forth by SCDOT. Wide and open sections should be avoided, as they encourage drivers to travel faster and encourage speeding.

The first phase of the new speed limit recommendation changes the segment of Folly Road north of Central Park Road to a 30 mile per hour zone, and south of Central Park Road to the Center Street Bridge to a 40 mile per hour zone. The second phase of the recommendation starts to transition the 40 mile per hour zone into a 35 mile per hour zone, leaving only the expanse between the two intersections of Grimball Road and S. Grimball Road as a 40 mile per hour zone. The final phase reduces all segments of Folly Road north of Grimball Road to a 30 mile per hour zone and the segment between Grimball Road and the Center Street Bridge to a 35 mile per hour zone.

While these changes will result in slower free flow travel times from one end of the corridor to another, the increase is minimal compared to the operational and safety benefits.



above: Phases 1 through 3 (Good, Better, Best) for speed limit and design reduction

	Travel Time (minutes)	Increases in Travel Time (minutes)
Existing	12.5	0.0
Phase 1	16	3.5
Phase 2	16.5	4.0
Phase 3	17	4.5

left: Travel times with speed limit changes.

These values were calculated without congestion or traffic signal delays factored into the time, assuming that these delays would remain the same or have miniscule differences from the changes in speed. While the overall travel time increase is 4.5 minutes, the positive effects resulting from the reduction in travel speed are numerous, including reduced accident severity for all modes, and increased comfort for pedestrians and cyclists.

## BETTER CONNECTIVITY FOR BICYCLISTS AND PEDESTRIANS

Increasing connectivity for Folly Road also means increasing access for bicyclists and pedestrians. Implementing features such as sidewalks, bike lanes, shared lanes, shared-use paths, or separated bicycle facilities can make the service provided by transportation networks more comfortable and reliable for non-motorized users.

*below, top:* Existing conditions on the west side of Folly Road near Camp Road

*bottom:* Implementation of the shared-use path provides connectivity for pedestrians and cyclists

Bike lanes or paved shoulders are useful for designating space for cyclists along corridors that are separated from motor vehicle traffic. Shared lanes are lanes along corridors that are marked with shared lane markings, which indicate that the lane is to be shared by both motor vehicle traffic and cyclists. Shared-use paths are dedicated for use by pedestrians, cyclists, and other non-motorized traffic. They provide the highest level of safety and comfort for cyclists because they are completely separated from motor vehicle traffic. A two-way separated bicycle facility, or cycle track, is a set of bike lanes adjacent to each other, and separated from motor vehicle traffic by a vertical barrier or curb.

These features are recommended for implementation on Folly Road over three separate phases. The purpose of this phasing is to ease users into bicycle and pedestrian facilities over time, and to alleviate initial costs, while providing the much-needed pedestrian and bicycle connectivity along the corridor. The first phase of bicycle accommodations will hopefully motivate more individuals to take to cycling, which would result in a greater demand for cycling accommodations. Increased demand could then help strengthen funding for and installation of both the next phase and the final phase. Bike lanes represent a feature that could be installed in Phase 1, while the shared-use path is an example of what could be installed in Phase 2. Finally, the boardwalk through the conservation area would be an example of a Phase 3 project.

In addition to the facilities mentioned above, additional accommodations should be considered to improve travel comfort for pedestrians, cyclists, and motorists. Landscaping, pedestrian refuge islands, curb ramps, and bollards can also accompany bicycle and pedestrian treatments and will further increase comfort for non-motorized users.



## Phase 1 (GOOD)

Phase 1 is the initial phase of the bicycle and pedestrian accommodation project, focusing on overall connectivity and laying the groundwork for more advanced accommodations. As this map illustrates, there are three types of recommended treatments for this phase: mixed-use paths, filling bike lane gaps by paving shoulders, and providing shared lane markings.

The extension of paved shoulders along Folly Road should be implemented first. Folly Road already has paved shoulders along most of its expanse, but they are missing at several key intervals. Creating continuous paved shoulders, and marking them as bike lanes, will ensure that space for bicycle travel is provided along the entire length of the roadway. Since Folly Road is an important connective corridor, installing these shoulders will enhance cyclist mobility.

Crosswalks should be added across all approaches of signalized intersections along with ADA accessible ramps as a first step in improving pedestrian safety and connectivity. Gaps in the existing sidewalk network should also be constructed on both sides of Folly Road.

Additional pedestrian and bicyclist baseline improvements beyond Folly Road include:

- Paved shoulders should also be added to Harbor View Road and Fort Johnson Road. Like Folly Road, these roads are important in connecting neighborhoods in this area. In addition, they carry the majority of traffic running east and west while serving as a conduit for adjacent suburban neighborhoods.
- Shared lane markings are recommended for Battery Island Drive leading up through Secessionville Road, which will provide an alternate north-south route for cyclists that does not carry traffic volumes as high as Folly Road, as well as for Grimball Road near James Island Elementary School.
- The final installations recommended for Phase 1 are the mixed-use paths on Riverland Drive and the Savannah Highway Bridge. These will connect with the existing mixed-use paths in the area. In addition, the path on Riverland Drive will also provide connectivity to neighborhoods west of Folly Road. By providing this connectivity, bicyclists can access Folly Road and the businesses along it more readily. These improvements, while recommended as part of Phase 1 (good), can be implemented during any phase of the project, but should be considered a priority for increasing the connectivity of Folly Road to adjacent corridors.



above: Phase 1 Bicycle and Pedestrian Recommendations

## Phase 2 (BETTER)

Phase 2 will create a grid of bicyclist accommodations and enhance the level of comfort to the Phase 1 installations. Additional shared-use lanes, multi-use paths, and paved shoulders will be added. In addition, the “better” scenario would include mid-block and uncontrolled pedestrian crossing locations in areas that have key destinations or attractions to reduce the distance pedestrians have to detour to the nearest traffic controlled crossing.

The primary focus of this phase will be the addition of a shared-use path along Folly Road. This represents an upgrade from the existing paved shoulders and provides more protection for both cyclists and pedestrians. The path is proposed to extend from the West Ashley Greenway in the north to Battery Island Drive in the south, servicing the majority of the area and connecting with facilities on either end.

Several areas along Folly Road have a large number of curb cuts. It is recommended that commercial driveways be consolidated throughout the corridor; reducing curb cuts will reduce conflicts between motorists turning across the path, ensure the path is clearly and effectively connected throughout the corridor and provide a comfortable setting for its users. It is also recommended that the parking lots not be allowed to expand to the roadside, but rather provide enough space for the multi-use path to be installed. A utility easement already exists for part of this expanse and can be used. In other areas, an easement or land acquisition may be required.

Additional recommendations beyond Folly Road to create an effective grid for bicycle travel include:

- In the eastern area: paved shoulders will continue for Camp Road; new paved shoulders will be added to the James Island Expressway; and new shared lane markings will be installed on Fort Lamar Road.
- In the western area: a new off-road multi-use path north on Camp Road connecting Riverland Drive to Folly Road; another multi-use path to follow utility lines from the path on George L. Griffith Boulevard to Camp Road; paved shoulders on Camp Road, and shared lane markings will be installed on Yorkshire Drive.
- Finally, paved shoulders will be installed on West Ashley Avenue in the south, providing bicycle accommodations along the beachfront and setting the stage for connecting the beachfront to the path network in Phase 3.



above: Phase 2 Bicycle and Pedestrian Recommendations



above: Phase 3 Bicycle and Pedestrian Recommendations

### Phase 3 (BEST)

Phase 3 will expand the upgrades seen in Phase 2, which will create alternative routes that could accommodate higher volumes of pedestrians and cyclists with an additional level of comfort.

To the north, paved shoulders are proposed on Savannah Highway and new shared lane markings are proposed on Parish Road, Magnolia Road, and West Oak Forest Drive. The shared lane markings will connect more communities in the north to the improved network, and the paved shoulders will provide an alternative route to the West Ashley Greenway.

There are several new multi-use paths proposed in the central portion of the Folly Road corridor. These include one following Fleming Road and one parallel to Stefan Street. There are also two paths proposed in the east, reaching into suburban neighborhoods and converging on one another at Dills Bluff Road.

To the south, the Folly Road multi-use path recommended in Phase 2 will be extended as the boardwalk through the marshland as discussed earlier. This will extend from Battery Island Drive to the beachfront and will veer away from Folly Road, creating a more enjoyable environment for cyclists and pedestrians that is physically separated from motor vehicle traffic. The boardwalk, and the view it would provide, would not only provide a travel corridor for non-motorized users, but also serve as an additional attraction at Folly Beach.

An additional improvement to be added to the network includes a two way separated bicycle facility, or cycle track, on the east side of Folly Road between Grimball Road and Harbor View Road. This will provide a physically separated travel-way for cyclists, greatly increasing comfort for all user types. The two-way separated bicycle facility will be raised and separated from traffic by a curb and a row of trees. The implementation of this facility will allow both pedestrians and cyclists to travel north and south along Folly Road without needing to cross the roadway. When all of these improvements are realized, a sustainable network for cyclists and pedestrians will be solidified with Folly Road as its backbone.

### Crosswalks & Pedestrian Connectivity

The installation of properly spaced crosswalks is an important element of the vision for Folly Road. Pedestrians are the most vulnerable user of the roadway and their presence is critical to success. Pedestrians are an “indicator” of the roadway design’s ability to facilitate enhanced safety and health, and improved economic and environmental conditions. Providing connectivity and frequent opportunities for safe crossing, and reducing delay in locations where pedestrians want to go, is important to creating an environment conducive to pedestrian movement.

As part of the “good” approach, crosswalks are recommended to be placed at each approach of signalized intersections on Folly Road and in conjunction with transit stops; coupled with a connected, continuous sidewalk network, this is a significant upgrade. In “better” and “best” approaches, additional mid-block crosswalks, consolidated curb cuts, street trees for shade and separation from motorists, streets and intersections designed for slower speeds, and connectivity between parcels and land uses all enhance comfort and usability for pedestrians.

Where implemented, crosswalks should be provided across all approaches of an intersection along with ADA accessible ramps. Prohibiting pedestrians to cross an approach should be avoided as it increases the exposure of conflicts with motorists and significantly increases pedestrian delay.

Often crosswalks at traffic controlled signalized intersections are wider than at uncontrolled locations due to the number of exclusive turning lanes. The greater distance a pedestrian has to cross the more exposed the pedestrians are to motorists making poor decisions or illegal maneuvers. Mid-block locations, if designed properly, allow a pedestrian to utilize gaps created from upstream and downstream traffic signals and reduce the detour and delay for both pedestrians and motorists. Mid-block crosswalks also do not have the same turning movement conflicts that are found at signalized intersections, which allow for a more comfortable environment for pedestrians. These new mid-block and uncontrolled pedestrian crossing locations could have advanced yield lines, signage, raised median islands, and rectangular rapid flashing beacons.



Rectangular Rapid Flashing Beacons (RRFB) utilize a warning yellow LED stutter flash light bar within the standard crossing sign assembly. They have proven an increased motorists yield rate versus other flashing beacon warning systems. They are especially useful at multilane crosswalks.



## STEPS TO BETTER TRANSIT

Improvement to transit services can result in a shift in travel choices along the Folly Road corridor. Transit has become an increasingly popular mode of transportation over the last decade, as it provides a less-expensive alternative to owning a motor vehicle. In order to increase ridership, transit service must be reliable, comfortable, and frequent. To accomplish this goal the current headway time of 90 minutes must be reduced to allow users flexibility with schedules; in addition, improvements to transit stops and routes are needed to offer more convenience comfort.

It is important when assessing transit services and ways to improve them, that the routes, schedules, and on-site facilities are all addressed. While the availability of a route near particular origins and destinations plays a major part in encouraging individuals to use transit, a well scheduled route and amenities at stops can also create the necessary incentive. Parking costs and availability can be a motivation to utilize transit; identifying high demand parking destinations such as downtown Charleston, Folly Beach, college campuses, hospitals, and major employers can create an incentive to utilize transit.

### On-street Facilities

There are several on-street facilities and accommodations that can be made for transit services. These improvements include transit specific facilities such as converting lanes to bus/bike only lanes, as well as facilities for other modes of transportation such as sidewalks, bike lanes, paths, and parking lots. These facilities for other modes encourage intermodal travel where users can switch from biking, walking, or driving to using transit part-way through their trip. The more facilities that are built for transit, the more transit users there will be, which then means there will be less cars on the road.

The images at right show recommended improvements for Folly Road. Initial steps include implementing a planted median that would switch to a center turning lane at driveway locations, landscaping the side of the road, installing shared lane markings, and installing sidewalks. This will encourage a higher transit ridership by creating more comfortable walking and bicycling environment to reach transit stops.

A future phase (best) would consist of a road diet – converting the left most lane into a bus and bike only lane. Bus and bike only lanes, or shared bus bike lanes (SBBs), are lanes that are designated spaces where only cyclists and buses are allowed to travel. This increases the comfort of the cyclists, as they are removed from the majority of the motor vehicle traffic, and it reduces delays for transit vehicles. When a bus approaches a cyclist travelling in the shared lane, it will need to either change lanes in order to go around them, or yield to the cyclist, staying behind them until there is a gap in traffic large enough for them to change lanes and go around. At bus stops, a bike lane can be designed to travel behind the bus stop to allow cyclists to pass the bus without having to enter the adjacent travel lane. Bus operators should be trained to pay special attention to cyclists in this condition.



Existing Conditions



Initial Improvements



Long-term Improvements

## Bus Stop Improvements

Bus stop criteria should consist of visibility, accessibility, safety, and comfort. These can come in different forms and can be implemented into the Folly Road stops in multiple phases. The top priority for these improvements should be stops with the highest passenger boarding and disembarking volumes.

For visibility, bus stop signs are the most basic requirements for the individual stops. The signs should be made to be visible from both the street and the sidewalk. They should also be visible from the sidewalk on the other side of the street and should be recognizable as bus stops from at least a block away. For this reason, they should be placed in their own space away from other signs and fixtures. For the current bus routes on Folly Road, several of the signs are fixed to utility poles or other signs and should be replaced with signs on their own individual poles.

For accessibility and safety, the following should be present at every bus stop so that pedestrians can access the stop from any approach:

- Sidewalks
- Crosswalks
- Curb ramps
- Paved loading area

Crosswalks can also be installed at stops with higher traffic volumes in order to further increase pedestrian safety. Rectangular Rapid Flashing Beacons, or RRFBs, should be considered for mid-block crosswalks.

For comfort, bus shelters should be installed. Bus shelters are generally roofed with seating where transit users can wait for the bus. They protect users from the elements and provide rest to those who may be tired or may not be able to stand for extended periods of time. Since they increase comfort, they reduce the perceived cost for waiting and encourage more people to take transit services. Additional features that can be added to the bus shelter include the following:

- Proper lighting
- Trash cans
- Bicycle parking
- Street art or landscaping

These features will further increase the effectiveness of the bus shelters and increase bus ridership; these are all seen in the rendering below. Unique features, such as the bus swing, can also help draw attention to the new bus shelters and make them a more enjoyable place for users to relax and wait for the bus.

Transit centers will play an important role in proposed improvements, as described in the next section. Unlike the typical bus stop, transit centers should offer multiple amenities, be more visible than the typical stop, and draw in transit users. Several designated stops will have parking for motor vehicles, known as park and ride centers. This will encourage intermodal travel. Mobility for the elderly, disabled, or those with children should be provided, such as ample seating, curb ramps, and a comfortable environment, surrounded by street art and shade.





Existing Conditions



left: "Folly Trolley" route

above: The two-way transit lane and shared-use path

## "Folly Trolley"

Along with on-street design implementation, creating new routes is also proposed. The first phase of the new routes would involve the formalization of the "Folly Trolley." There is an existing trolley system that is a privately owned service, oriented towards tourists and summer home owners. It is seasonal and is currently the only transit system serving the Folly Beach area. It is also currently a taxi system that operates according to an on-demand system, without a formal route. Formalizing it as part of the CARTA Routes would result in increasing mobility to the general populace and provide a public route to the beachfront and properties on the southern end of Folly Road.

The proposed route can be seen in the map above, with two new transit centers, including one park and ride stop. The new park and ride location is proposed at the intersection of Grimball Road and South Grimball Road, near the James Island Elementary School. With the route running seasonally, during the summer, the increase in traffic that the park and ride will generate will be offset by the absence of traffic with the school being on summer hours. The location was chosen for its existing parking lot and a short travel time to the beachfront. Other locations along

Folly Road between Grimball Road and S. Grimball Road are also well suited for park and ride locations. Having a park and ride stop on the Folly Trolley route will help alleviate the parking demand on the beachfront during the peak tourism seasons.

The proposed Folly Trolley route will take approximately 10 minutes to travel one way. It is proposed that the use of an open-air trolley remain to allow beach-goers the ability to get on and off with bags and coolers easily.

The proposed on-road facilities are illustrated above, including a reduction in number of travel lanes from four to two. One lane would be transformed into a trolley-only lane, allowing for two-way travel for the trolley, and the other lane would be transformed into a mixed-use path adjacent to the northbound lane.

The location of the transit center on the beachfront has yet to be determined. Several locations identified as strong options for this transit center include the Folly Beach City Hall; Tides Folly Beach Hotel; Folly Beach County Park; and Folly Beach Fishing Pier. These locations are only suggestions; other options should also be considered.

### Improve Current Bus Service

Another initiative that will create better transit for Folly Road involves taking the current routes that serve this corridor and increasing their quality of service.

The main priority in Phase 1 (good) is to provide better bus stops and decrease the headways between transit vehicles. Headway is defined as the time or distance between transit vehicles on given routes. For this case, the headway is most clearly defined as the average time between buses at each stop. The current headways on Route 31 (teal route) are approximately 90 minutes, as discussed in the existing conditions section. Route 1 (orange route) has 30 minute headways, but is only available during peak commuting hours.

The goal of this initiative is to ultimately reduce the headways to 30 minute intervals. It is proposed that this will happen in two phases, first by reducing headways to 60 minutes (good), then to 30 minutes (better). Other mobility recommendations, including signal coordination, will help buses move more freely through the corridor.

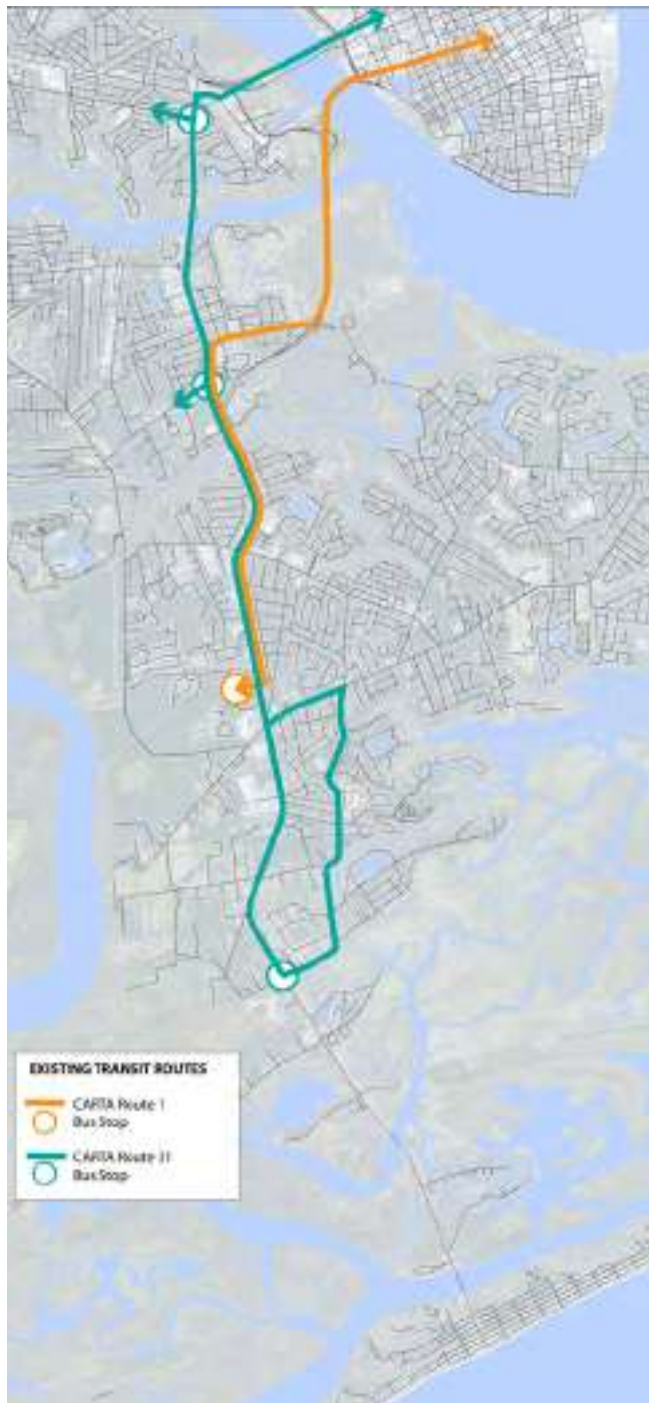
The easiest and most reliable way to decrease headways is to increase the number of buses on a route. The number of buses on CARTA Route 31 should be increased until it reaches the two desired headways and bus schedules should be updated.

Another important factor for transit riders is on-time performance. By reducing the number of motor vehicles and by relieving congestion through signal coordination, bus arrival times can be more accurately determined.

### Integrate New Routes

In addition to reducing the headway on CARTA Route 31, two new routes are proposed to encourage transit usage on the Folly Road corridor. These routes will be express routes, utilizing fewer stops, creating faster routes to key destinations.

The first proposed route is the Downtown to North James Island Park and Ride Express. Park and ride express routes allow users to park their cars or bikes at a designated location and take the bus to their final destinations. This particular route is designed to allow



above: Existing transit routes



above: Proposed transit routes and stops

commuters working in the downtown area to have additional parking away from downtown, where they can be shuttled to their work areas. This will reduce the amount of parking demand in the downtown area and will also alleviate the amount of traffic travelling across the Wappoo Cut bridges and the James Island Expressway Bridge, which are both congested corridors. This route can be seen in the diagram at left. It will service five transit centers, two of which will be downtown and one will be a park and ride.

The second route will be the Downtown to South James Island Connector Route. This route will service the majority of the Folly Road corridor, including ten transit centers, and be available to bring riders anywhere from downtown to the beachfront. Of the ten transit centers, two will be park and ride centers, allowing more users to conduct intermodal travel, making the route more available to neighborhoods outside of its route and increasing the transit service area.

### Bus Only Lanes

As the transit routes become more popular and the motor vehicle traffic volumes reduced, the transit routes should be treated with higher priority. Eventually, this can result in the creation of bus only lanes. Bus only lanes are designed to give buses their own space on the roadway. This will also help reduce headways and increase on-time performance as the buses will not be impacted by the delays caused by other traffic. Bus only lanes can be introduced in segments, the first in areas with the highest transit user volumes and the segments with the lowest motor vehicle volumes. These lanes can be introduced as time specific bus only lanes as well, by restricting lane use to buses only during peak hours. As volumes decline and transit ridership increases, these lanes can then become full-time bus only lanes and restrict access from motor vehicle traffic completely. These lanes can also be treated as bike-bus only lanes as well, giving higher priority to both transit users and cyclists. The final form of the bus lanes would be completely separated lanes, with a small curbed median in between them and the motor vehicle lanes. The cross-sections in section 4 show proposed reconfigured sections of Folly Road with designated bus and bike only lanes.

## REPURPOSING LANES

With the occurring paradigm shift in transportation, a number of changes can and should be made to transportation networks. One of the primary changes will be the use of “road diets”. Many of the proposed improvements to Folly Road require additional space. Road diets are a way to get that additional space. Road diets are the process of narrowing vehicular lanes or reducing the number of motor vehicle lanes on segments of roads. It generally will be done so that the underutilized motor vehicle lanes can give way to a growing mode of transportation, such as bike lanes, multi-use paths, cycle tracks, or bus only lanes. Since there are less miles being driven, there are less cars on the road at any given time. This means that less of the roads’ volumes are meeting capacity, the number of lanes can be reduced, and road diets can take place.

Road diets and lane reductions will be key to increasing the overall mobility of Folly Road. Over time, as cycling, walking, and transit riding become more popular ways to

travel, street space should become more highly dedicated to these forms of travel. The images below show existing conditions on Folly Road and proposed conditions after the road diet.

The first sections of Folly Road recommended to have lane reductions are those south of Riverland Drive, as they already have volumes lower than 15,000 vehicles per day. All other sections should transition to three lanes as motor vehicle traffic volumes go down.

Several entities will need to work together to implement the proposed Folly Road improvements, including staff at each of the municipalities and County, transportation agencies, neighborhood groups, and others. Responsibilities will need to be assigned to evaluate traffic patterns, and make decisions on when to move forward with different phases of each proposed project. More information on implementation is included in Section 5.

*right:* Existing conditions, Folly road just north of South Grimball Road



*below:* Proposed reconfiguration of Folly Road to three lanes; without the outside travel lane, landscaping and a shared-use path can be installed.



# GREEN INFRASTRUCTURE

Green infrastructure, and inclusion of environmental health as a priority is often a missed opportunity in roadway design. Properly designed and integrated green infrastructure should reinforce a vibrant, valuable public realm aligned with the identified community values and vision for the neighborhood and corridor's future character and form. Complete streets convey pedestrian, bicyclists, motorists, transit riders, and stormwater runoff.

The vision for a new Folly Road on James Island offers an opportunity to utilize green infrastructure systems to treat stormwater runoff as a resource, prioritizing systems that celebrate water while also providing dual water quality, flood control, and traffic calming and street beautification functions.

The Folly Green approach is organized into three main elements:

1. Preserve existing tree canopy & add real street trees (pg 3.26)
2. Green infrastructure: livable, lovable stormwater management (pg 3.28)
3. Better landscape & open spaces in each context (pg 3.32)

## WHY FOLLY GREEN?

Each stakeholder group invested in the future of Folly Road brings a different viewpoint to the table, with varying interests, responsibilities, and constraints:

### General Public

- Fix problems (i.e. flooding)
- Beauty, happiness, and comfort
- Traffic calming and safety

### Municipal/Political Stakeholders

- Fix problems (i.e. flooding)
- Replace aging infrastructure
- Compliance with Municipal Separate Storm Sewer System (MS4) requirements
- Increase land values
- Benefit local economy
- Eco-tourism
- Respond to public demand

### Environmental Stakeholders

- Water quality
- Address flooding
- Wildlife habitat

## STAKEHOLDER FEEDBACK AND OBJECTIVES

Environmental and green infrastructure stakeholder feedback included meetings with the project steering committee, public input during the charrette, and specific input from environmental and green infrastructure stakeholder meetings. Stakeholders identified the following opportunities and challenges:

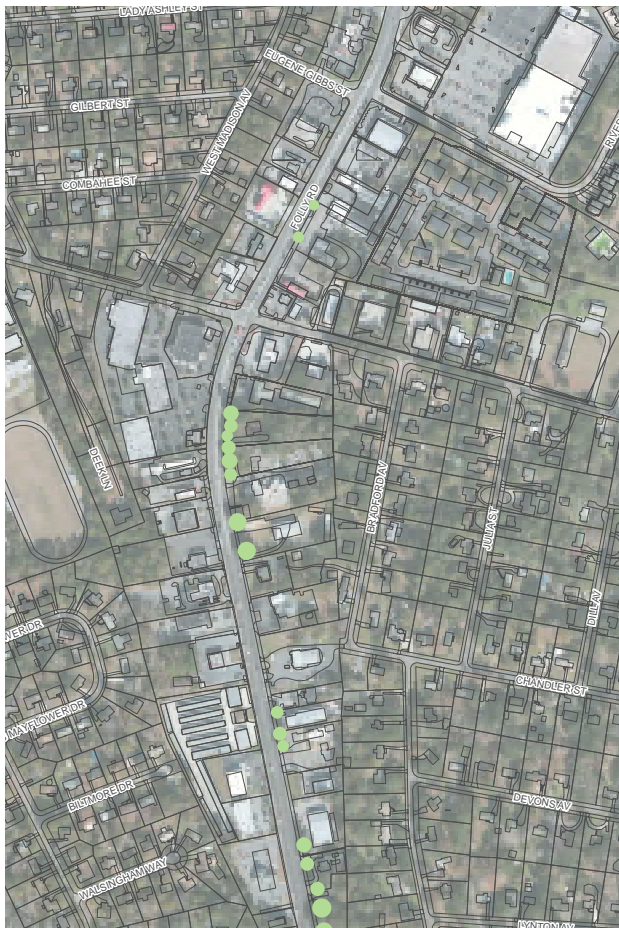
- Trees and additional green within the Folly Road corridor are a key priority for all stakeholders. Benefits desired by stakeholders included beautification, stormwater management value, and traffic calming.
- Preservation of existing trees is a challenge. Adopt a tree programs and tree funds supported by mitigation costs should be supported and supplemented.
- Retention ponds are overused, increased infiltration should be sought.
- High intensity rainfall and widespread poorly draining soils creates issues for stormwater management. Street tree watering is not a concern.
- Integration and cooperation between jurisdictions/agencies has been a challenge to implementation of environmental and infrastructure objectives.
- Conflict between "urban" and "rural" drainage systems is perceived.
- Maintenance of green infrastructure and plantings is a concern. Current maintenance is sometimes appropriate, but potential changes in maintenance requirements and jurisdictional cooperation is difficult.
- The Folly Road Corridor Overlay zones are a foundation for additional planning, design, and landscape analysis. It is important to calibrate to "what makes James Island special" as a whole, while also being sensitive to varying built and natural conditions within the corridor. Buffer requirements are a welcomed first step, but could be reduced for buildings in town context.
- A separate multi-jurisdictional design review board for the corridor was suggested to provide and enforce comprehensive and consistent design guidelines.
- Environmental stakeholders consistently voiced support for safer and better connected sidewalks and bicycle infrastructure.

## PRESERVE EXISTING TREE CANOPY & ADD REAL STREET TREES

Adding green to Folly Road, and maintaining the green that currently exists, was a consistent and clear theme during the stakeholder visioning process. The opinions voiced were often from a visual aesthetic perspective desiring a “more pleasant Folly Road”, but appropriately designed and planted trees increase community happiness, health, and value in a wide range of ways<sup>1</sup>:

- Reduced traffic speeds
- Safer walking environment
- Aesthetics, placemaking, & security
- Rain, sun, heat, and skin protection
- Reduced tailpipe emissions
- Emotional and physical health
- Pollutant adsorption & lower ozone
- Lower urban air temperatures
- Improved local economy
- Added value & tax base
- Longer pavement life

<sup>1</sup> Adapted from Burden, Dan “22 Benefits of Urban Trees”, August 2006.



Some segments of the corridor, such as the Neighborhood Preservation overlay, include more abundant tree cover and private vegetated buffer conditions. Charleston County, the City of Charleston, City of Folly Beach, and Town of James Island all have tree protection regulations for grand trees and protected trees. Maintaining strong enforcement of these existing tree protection regulations is critical.

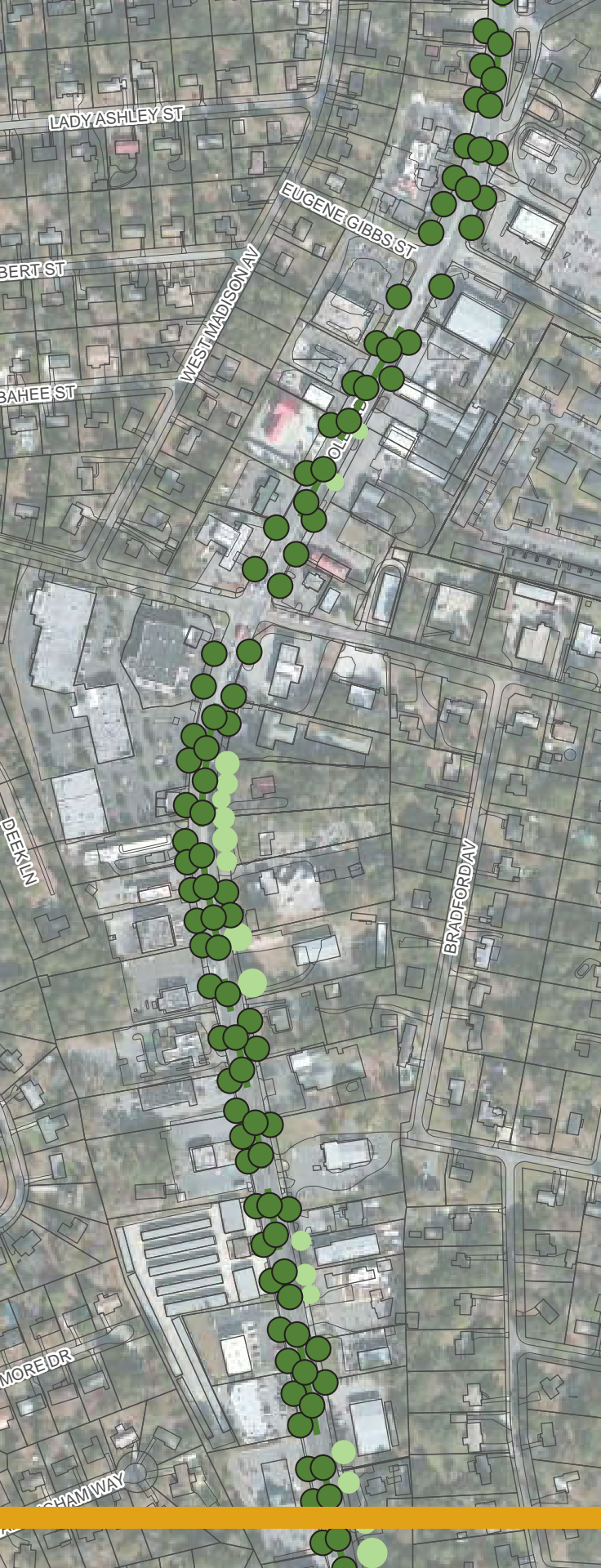
Segments of the corridor with lower existing tree cover and vegetated buffers, such as the Commercial Core, will especially benefit from integration of shade trees and landscape “greening” into comprehensive complete streets solutions, especially in conjunction with the proposed shared-use path. The first step, as previously noted, is preservation of existing trees to the maximum extent practicable.

Approach to greening within Commercial Core right-of-way:

*left:* “Good” – Preserve Existing Trees  
*below:* “Better” – Add Planted Median







Improvements within the right-of-way should prioritize gray-to-green conversions as a minimum first step towards environmental healing. Improved vehicular access management, reduction of curb cuts, and construction of the proposed shared-use path will provide the opportunity for removal of excess pavement and replacement with contiguous planted buffers between the travel way and path as well as introduction of a planted median. These gray-to-green improvements alone (as shown to the left for the Commercial Core, assuming construction of a median and vegetated strips along both edges for 50% of the length) could result in a 15-18% impervious area reduction within the right-of-way.

Expanding upon incremental gray-to-green land cover conversion, the addition of new shade trees and utilization of vegetated areas for green infrastructure will maximize investments and expand the range of value provided to all stakeholders. The benefits of and desire for shade trees in the Folly Road corridor have been well established. Designing new green landscape improvements and trees to also filter and infiltrate stormwater runoff provides double-duty, creating livable, lovable stormwater infrastructure.

Approach to greening within Commercial Core right-of-way:  
"Best" – Preserve Existing Trees (light green), Add Planted Median, Plant New Shade Trees (dark green) and Utilize GI

# GREEN INFRASTRUCTURE – LIVABLE, LOVABLE STORMWATER MANAGEMENT

## Background: What is Green Infrastructure?

As defined by the Environmental Protection Agency, green infrastructure (GI) uses natural hydrologic features to manage water and provide environmental and community benefits. The term generally refers to site planning and stormwater management practices that mimic nature to infiltrate, evaporate, or harvest and use stormwater runoff as close to its source as possible. The GI approach is based on four fundamental principles:

1. Treat stormwater as a resource rather than a waste product;
2. Preserve and/or recreate natural landscape features;
3. Minimize the effects of impervious cover; and
4. Implement stormwater control measures that rely on natural systems to manage runoff.

In other words, GI emphasizes simple site design techniques and natural stormwater practices to get rainfall filtered and back into the atmosphere and ground as close to where it falls as possible. GI is very often a more cost-effective stormwater management alternative compared to more highly engineered structural practices, and provides additional community benefits ranging from traffic calming to increase in aesthetics and property value. GI is often less expensive, simpler, and adds value, especially when compared to conventional highly engineered “pipe and pond” stormwater management approaches



## Lowcountry Stormwater Management

As with any stormwater management design, green infrastructure Best Management Practice (BMP) selection and design on James Island must be carefully designed to the existing soil conditions, seasonal high groundwater elevation, and topography. This is especially challenging within the Folly Road corridor because many areas are constrained by flat topography, high groundwater, and poorly draining soils typical of a coastal plain. Because conditions vary from site to site within the corridor, proper field determination of existing soil characteristics and groundwater elevation is a required for proper site and stormwater management design. Some sites with sandy soils and relatively greater depth to groundwater may accommodate infiltration BMPs such as bioretention systems and enhanced site and/or neighborhood scale flood control solutions such as underground recharge systems. Sites with high groundwater or poorly draining soils are likely still appropriate for decentralized water quality filtration BMPs such as shallow bioretention systems, planted wet swales, or created wetland systems designed to mimic natural systems.

Depending on design intent, the addition of a perforated pipe underdrain to bioretention or permeable pavement systems in areas of poorly draining soils can help ensure the system provides flow-through water quality filtration of runoff without standing water or saturated soil conditions. In areas of high groundwater, wet systems such as the wet swale shown for the Coastal Flood Plain and Coastal Beach context (pg 4.3) and bioretention system for high groundwater zones (pg 4.17) intentionally stay wet because the bottom of the swale is below the water table, encouraging the growth of water loving plants and providing water quality treatment.

GI can be implemented as part of public and private development projects, and at a wide range of scales, in place of or in addition to more traditional stormwater control elements. Common green infrastructure tools, or “Best Management Practices (BMPs)”, include:

**Bioretention systems** are shallow (typically 6 to 9-inch) landscape depressions that utilize soils and plants to remove pollutants from storm water runoff and provide decentralized infiltration to groundwater. Stormwater runoff is directed to the bioretention or bioswale system for filtration, and filtered runoff may be collected and returned to the conveyance system or allowed to infiltrate into the soil. Typically systems are designed to manage runoff from frequent, small magnitude storm events, which bypass to larger flood control systems during major storm events.

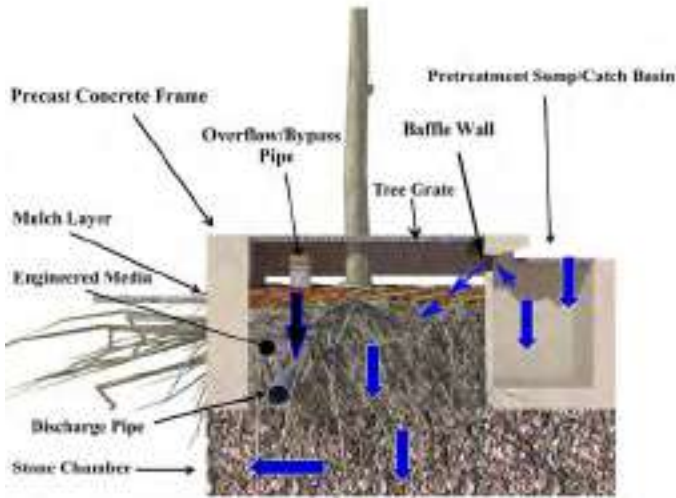
Bioretention is a versatile GI tool and can be constructed in a variety of ways within the Folly corridor:

- As part of right-of-way complete streets design, which retrofits portions of new grassed strips at the curb/gutter edge to receive, filter, and infiltrate stormwater runoff.
- As a retrofit of existing public or private vegetated buffers.
- As private parking lot retrofits, adding vegetated, treed islands to existing parking lots including bioretention. These would also increase safety, value, and positively impact the local economy.
- As flow-through systems with impermeable liners near building foundations or in areas of poorly draining soils, providing water quality filtration without infiltration to groundwater.

Bioretention systems must be designed according to the built and environmental context within the corridor. Within town sections, bioretention design must accommodate pedestrian and bicycle circulation within a more constrained mixed-use setting with accommodation for retail visibility and access. Town bioretention will typically utilize narrower widths, linear edges, reduced depths to top of soil media, and pedestrian accommodation such as crossings, bollards, and fences. Bioretention systems between town centers and within the coastal floodplain can “relax” with more flowing curb-less edges, flexible dimensions, and simpler wetland planting choices.



*right:* Bioretention within the right-of-way



**Trees** are stormwater machines. In addition to providing a host of other environmental, economic, and community benefits, trees draw moisture from the ground and intercept and store rainfall, which can significantly reduce local flooding, delay the onset of peak flows, and lessen requirements for additional stormwater infrastructure. Street trees can also be planted within “tree box filters”, which are in-ground tree “containers” designed to receive, naturally filter, and infiltrate runoff from adjacent impervious areas such as streets and/or walks. Some tree box filter systems include pre-treatment sumps/catch basin to increase pollutant removal and simplify long-term maintenance. Tree box filters with side and bottom openings in conjunction with structural soils can help encourage infiltration and promote healthy root growth.



**Green roofs** are covered with vegetation and a growing medium installed over a waterproof membrane. Green roofs absorb rainwater, provide insulation, create wildlife habitat, and help to mitigate urban heat island effects and lower urban air temperatures. Green roofs become more financially viable within higher intensity and space-constrained town center areas, and should be considered as a demonstration project for new municipal buildings.

*top:* Tree box filters – Source: Stormtree  
*middle:* Green Roof – Source: Wikimedia Commons  
*bottom:* Permeable pavement - private parking and public right-of-way applications

**Permeable pavement** refers to a range of materials and techniques applied to streets, parking areas, plazas, and walks designed to allow infiltration of stormwater through the surface into the soil below where the water is naturally filtered. Systems include porous concrete, permeable bituminous asphalt, permeable brick or paver systems, and stabilized grass areas. The proposed shared-use path is an excellent opportunity for permeable pavement within the Folly corridor. Other near-term opportunities include new sidewalks, pedestrian plazas, and overflow parking areas.



## GI Maintenance and Lifespan Concerns

Green Infrastructure practices including bioretention and permeable pavement systems are engineered systems designed to mitigate stormwater runoff quality and quantity. Similar to other infrastructure elements, maintenance expectations and responsibilities must be defined up-front. Conventional highly-engineered systems such as catch basins, detention basins, and hydrodynamic water quality structures often carry advanced maintenance requirements needing specialized equipment. Since the accumulation of sediment and debris is out of sight, out of mind – these practices are often neglected over time leading to more costly maintenance at a later date. In comparison, green infrastructure is readily accessible and easily maintained by landscape contractors as part of routine site or right-of-way maintenance activities. Removal of accumulated leaves, sediment, and debris, replacement of dead vegetation, erosion repair especially near the inflow point and pretreatment elements, are typical green infrastructure maintenance practices. Assumed lifecycle of bioretention systems before replacement of soil media and vegetation ranges from 10 to 25 years, depending on design, implementation, and proper maintenance. Standard facility maintenance agreements within the right-of-way and with private commercial, industrial, and multi-family residential owners should ensure responsible entities and budgets are defined, with modifications as necessary.

Consideration of permeable pavement is recommended for the proposed shared use path, on-street bicycle lanes, shoulders, sidewalks, on-street parking spaces, and public or private parking spaces within parking lots. Alternative

maintenance programs must be established, including limiting application of sand, salt and periodic vacuuming especially after winter and fall seasons. Systems should be clearly designated using signage to ensure awareness and a commitment to alternative maintenance over time.

Permeable pavement concerns include possibility of clogging and potential for introduction of automobile pollutants to the underlying aquifer. A recent study by the University of Rhode Island in partnership with the Rhode Island Department of Public Health compiled available data, and found properly designed, constructed, and maintained pervious bituminous and porous concrete systems retain suspended solids, lead, copper, and zinc, and lead to a higher attenuation of pollutant loads. The Environmental Protection Agency recommends four-foot separation between the bottom of a porous pavement system and water table, which may reduce the implementation potential of these systems within the Folly Road corridor.

Annual vacuuming of porous bituminous asphalt with a commercial cleaning unit is recommended. As stated above, sanding of porous pavement is not recommended. If sanding is conducted then the surface must be vacuumed at the end of the sanding season. Full porous pavement replacement is typically recommended every 15-20 years, or as determined necessary due to field conditions. Lifecycle costs are often significantly lower than typical bituminous pavement, including offsetting costs to install and maintain other typical stormwater management BMPs.

## Lovable Infrastructure

Infrastructure has a better chance of functioning properly over time if it is visible, simple, easily understood, and most important, lovable. The most technologically advanced stormwater management solutions lose value quickly if they are abandoned because they were too complicated or costly for the end user to maintain. Even more effective, reducing impervious area wherever possible via pavement to green conversions and reductions in parking requirements leads to less runoff to mitigate and fewer BMPs to maintain in the first place.

- **Visible:** surface filters, bioretention, tree filters, green roofs, pervious paving
- **Simple:** bioretention, vegetated swales, natural filtration systems and erosion control measures, roof downspout daylighting
- **Lovable:** multifunction landscapes that provides stormwater management, habitat and beauty, green roofs
- **Less is More:** less impervious cover in the watershed allows for more green space and less stormwater management infrastructure, compact development, redevelopment/infill, shared parking and reduced parking requirements, road diets

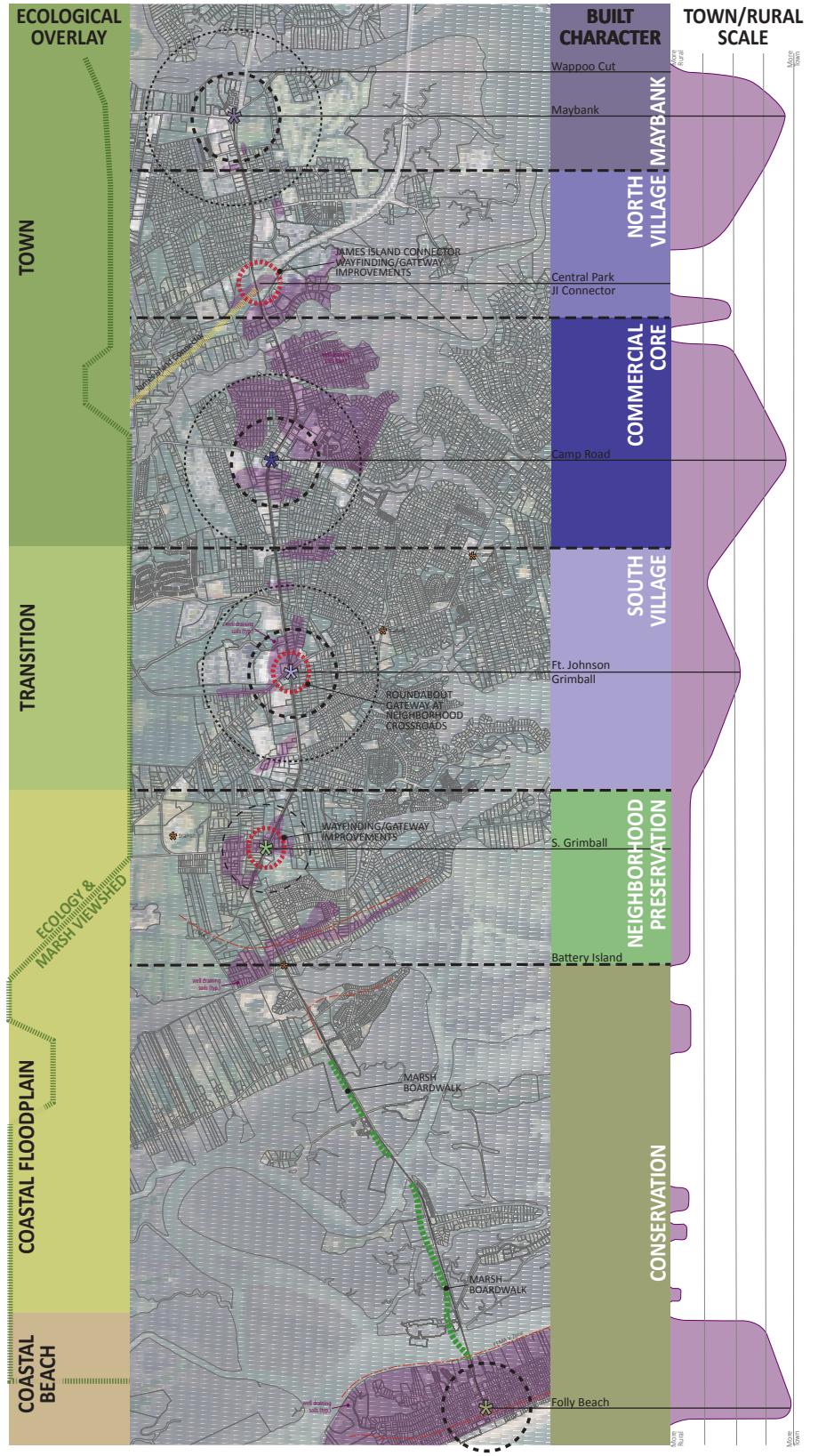


# BETTER LANDSCAPE & OPEN SPACES IN EACH CONTEXT

James Island’s environmental and ecological context helps define the island’s identity in the public consciousness. Ecology, landscape, and connection to the water are intertwined with the rich history of the island; however, decades of auto-oriented expansion on Folly Road combined with ordinary strip development practices are eroding this identity over time. It is clear that James Island’s connection to nature is a unique asset and steps to reinforce these connections with future improvements will align with community values and objectives.

The Folly Road corridor is a transition of experiences, beginning with the visual cues serving as “introductions” to James Island, such as McLeod Plantation just south of the Wappoo Cut. The experiences continue through a series of town nodes, identified by the Corridor Overlay as the North Village, Commercial Core, South Village, and Folly Beach.

Between town nodes the intensity of the built environment scales down, and the presence of nature returns – concentrating sense of place within the town spaces and emphasizing connection to nature during transitions. These built/natural transitions are guided in large part by natural constraints – topography, wetland/marsh systems, creeks, and rivers. Future improvements should be aligned to reinforce this series of experiences using ecology to help define place.



## OVERHEAD UTILITIES

James Island and surrounding areas are served by three South Carolina Electric & Gas (SCE&G) electric transmission lines which carry the bulk of electricity to the area. One of the three, the Faber Place-Bayfront line, parallels the Folly Road corridor to the Bayfront Substation near Highland Avenue. The line continues paralleling the Folly Road corridor past Camp Road to George Griffith Boulevard, with an extension to the James Prioleau Substation. The system operates at 115kV with the various substations stepping down the voltage to 23kV to serve primarily residential and some commercial load. The original corridor was used for a distribution line with various easements and public agency permits. In the late 1960's the first part of the 115kV line was built to serve the developing electric load in the area. Most of the line was built along the edge of the SCDOT right of way with varying easements widths and a claim to some prescriptive rights. Over the years the line has been relocated for road improvements, intersection improvements, and in each case easements have been acquired to protect the integrity of the line and the service to the area. Any construction that took place after Hurricane Hugo in 1989 would have been in accordance with the established new coastal wind loading standards, hence the larger metal poles through much of the corridor.

SCE&G has faced threats to continuous service on James Island due to fast growing vegetation and wind loading. Due to James Island's vulnerability, SCE&G has statutory vegetation (tree) maintenance requirements. Vegetation within easements is acceptable contingent on meeting their planting guidelines. SCE&G does have some flexibility within requirements; however a 15-foot mature height is a typical standard.

SCE&G generally supports shared use off-road paths within maintenance easements underneath their overhead wires, as it improves maintenance access. SCE&G representatives reviewed the proposed Folly Road shared use path concept, noting it is feasible and would likely be approved. Specific construction details, vegetation schemes, and access requirements within existing easements will require negotiation and coordination with SCE&G. Local precedents include the West Ashley Greenway, which runs in an old rail bed also containing the SCE&G Church Creek – St. Andrews 115 kV electric line.

Burying of existing overhead utilities, wherever possible, is an element of the Folly Road future "best" vision. Based on conversations with SCE&G's representatives, burying of Folly Road overhead utility lines is feasible and preferable to reduce vulnerability to storm damage. The cost to underground will be especially high in the corridor because Folly Road includes an existing high-transmission radial line meaning redundancy might be required for underground replacement (2 pipe types). This may double the cost depending on site conditions. There could be a technical allowance for having just one pipe instead of two, but that would require significantly more due diligence to make a final determination. Based on pricing of recent undergrounding of overhead utilities in the area, and assuming a technical allowance for a single pipe, undergrounding cost on Folly Road is expected to be in the range of \$7-10 million per mile. Costs on the higher end of the range will include transmission as well as distribution. SCE&G would also be responsible for street lighting in the area and would need to coordinate with communication companies that have the right to attach to SCE&G poles via federal jurisdiction.

West Ashley Greenway under SCE&G 115 kV line – US 17 & Corguburg Road, Charleston



## IMPLEMENTATION – GOOD / BETTER / BEST PHASING

As with the mobility improvements, green infrastructure upgrades can similarly be phased according to good, better, and best:

<p><b>GOOD</b> GET STARTED</p>	<p><b>BETTER</b> INCREMENTAL CHANGE &amp; MORE EFFECTIVE REPLACEMENT OF AGING INFRASTRUCTURE</p>	<p><b>BEST</b> CORRIDOR SCALE INTEGRATION WITH COMPLETE STREETS SOLUTIONS</p>
<ul style="list-style-type: none"> <li>• Strengthen tree protection regulations &amp; enforcement</li> <li>• Increase street sweeping &amp; catch basin cleaning</li> <li>• Address immediate flooding concerns</li> <li>• Create corridor-wide design review board to address design consistency</li> <li>• Develop corridor-wide site design &amp; GI stormwater management guidelines/checklists calibrated to unique James Island character</li> </ul>	<ul style="list-style-type: none"> <li>• Convert pavement to green: insert planted medians, consolidate curb cuts to increase linear edge planted areas, plant extraneous residual paved parking lot area</li> <li>• Add new shade trees</li> <li>• Construct marsh boardwalk</li> <li>• Add branded wayfinding &amp; landscape/public art improvements at gateways</li> <li>• Build a green infrastructure demonstration project</li> <li>• Use plantings to screen &amp; shield overhead utility wires/poles &amp; consolidate to reduce visual clutter</li> <li>• Adjust regulations to minimize excess parking and require permeable systems for 50-75% of parking spaces as part of new / redevelopment</li> <li>• Map current tree canopy coverage and ambient air temperature to serve as a baseline for measurement of long-term change</li> </ul>	<ul style="list-style-type: none"> <li>• Integrate lovable green infrastructure stormwater management into corridor ped/bike solutions</li> <li>• Develop eco-tourism brand</li> <li>• Bury overhead utility wires within town context zones</li> </ul>

### Get Started

A green infrastructure demonstration project would be a low-cost first step to demonstrate public commitment, build momentum, and test alternatives with low risk. Municipal site retrofits, such as a town hall parking lot or park, are often highly visible first steps that are easily monitored and maintained. A potential pilot project is detailed on page 4.10; other potential “get started” projects include:

- Neighborhood tree planting events and programs
- New green incorporated as part of branded wayfinding and gateway improvements
- Green roof bus shelters
- Bioretention parking lot retrofits
- Municipal building downspout disconnection, flow-through planters, and green roofs
- Pavement to parks initiatives to repurpose unnecessary pavement to usable amenities such as parklets or pocket parks



# 4 TOUR OF THE CORRIDOR

Section 3 provides guidance for improvements that should be implemented throughout the corridor. By contrast, this Section travels segment by segment, from south to north along Folly Road, offering recommendations that are specific to the five unique, principal segments of the 7.87-mile corridor. These are the Folly Beach/ Conservation Area; the Neighborhood Preservation Area; the South Village; the Commercial Core; and the Maybank/North Village Area.



**FOLLY BEACH/  
CONSERVATION AREA** **4.2**

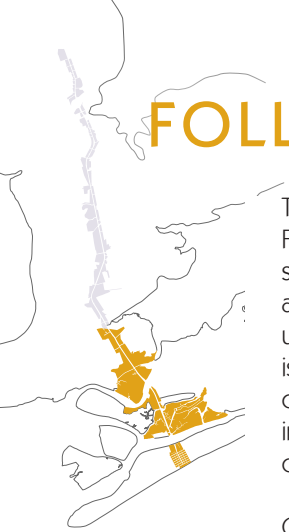
**NEIGHBORHOOD  
PRESERVATION AREA** **4.6**

**SOUTH VILLAGE** **4.14**

**COMMERCIAL CORE** **4.22**

**MAYBANK/  
NORTH VILLAGE AREA** **4.28**

# FOLLY BEACH / CONSERVATION AREA



The southern terminus area of Folly Road leads onto Folly Beach, a popular destination. Parcels here are split amongst the City of Charleston, Charleston County, and City of Folly Beach. The preservation of long, unobstructed views across the natural, open spaces is a primary concern. The marshes and the beach community can be made even more desirable through infrastructure and mobility improvements that provide options and increase access for all.

Corridor-wide strategies applied in this area include installation of a continuous shared-use path that makes travel to and from the beach easier for anyone traveling on foot or on bike. Through marsh areas, this could take the form of a boardwalk that has a light touch on the land, and offers pedestrians and cyclists enhanced views. On Folly Beach, planned improvements for Center Street can include sharrow markings, reinforcing the dual function of the road to move both vehicles and cyclists. The introduction of a seasonally dedicated transit lane and trolley service from a new park-and-ride lot (located north of this segment) can make accessing the beach via transit an appealing option. As beachgoers choose to use transit or bicycles, the number of vehicles on the road will be reduced, alleviating congestion and improving travel for all.



*top:* Existing long views across open space

*above:* Existing conditions on Folly Road

*below:* Proposed improvements in this area include a shared-use path on a separated boardwalk, and introduction of the “Folly Trolley”

TOUR OF THE CORRIDOR



RETHINK FOLLY ROAD: A COMPLETE STREETS STUDY



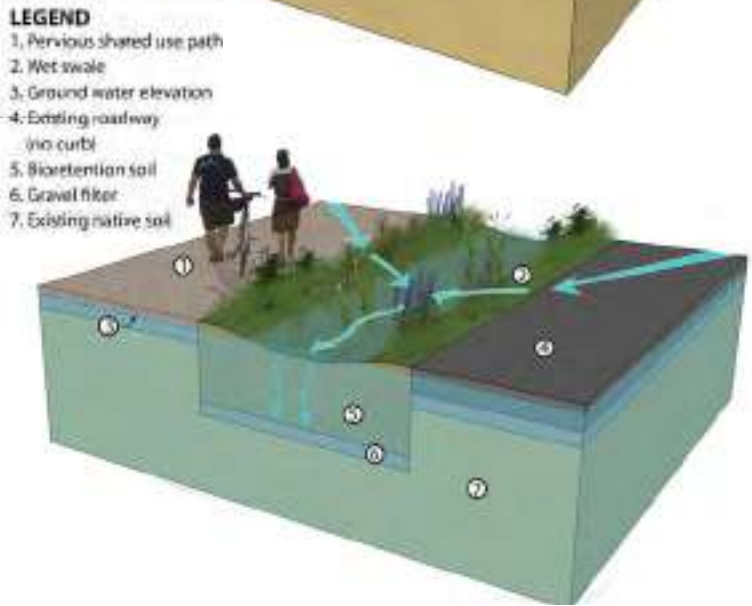
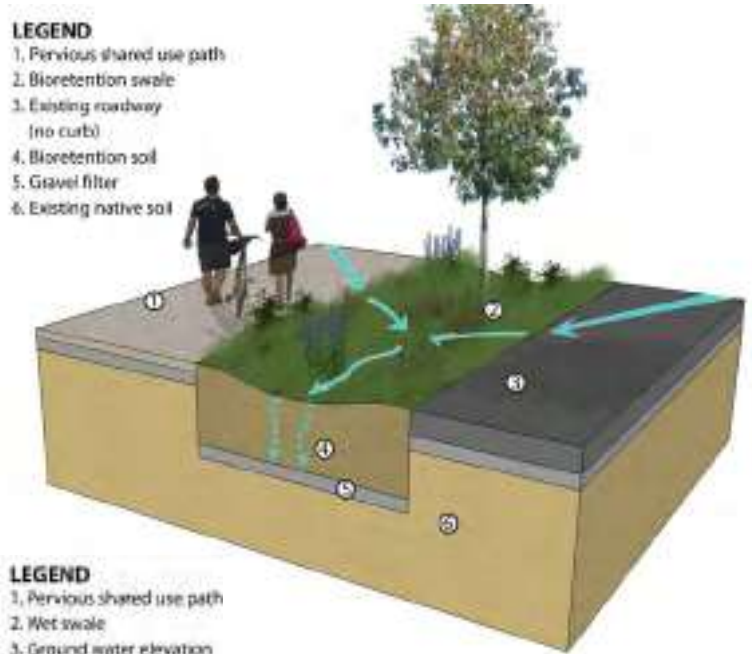
# FOLLY GREEN: COASTAL FLOOD PLAIN & COASTAL BEACH

James Island’s diverse built and ecological contexts – from town to nature – help to form the island’s image and identity. Recommended “green infrastructure” improvements have been calibrated for each unique context along the corridor, to reinforce the diversity of experiences and further define sense of place. In Folly Beach, the Coastal Beach approach should be applied; the Coastal Flood Plain approach applies to the Conversation and Neighborhood Preservation areas. In all areas, native plant selection appropriate to climate, soils, rainfall, and wildlife is encouraged

The Coastal Flood Plain ecological approach reinforces wetland plantings with limited new trees to preserve views and open swale curbless drainage systems. A wooden boardwalk on helical piles is recommended here as a potential low-impact solution to accommodate separated public pedestrian and bicycle connectivity through the conservation marsh system to and from Folly Beach.

The Coastal Beach ecological approach utilizes beach plantings and palmetto street trees to reinforce the special character of Folly Beach. Typically sandy, well-draining soils can accommodate infiltration stormwater tools including bioretention and permeable parking lots. The planned conversion from four travel lanes to three lanes, coupled with narrowing of the travel lanes as much as practicable, will result in extra space within the right-of-way for appropriate green infrastructure planting.

*right.* Coastal Flood Plain approaches include curbless bioswale systems to maximize filtration and preserve views

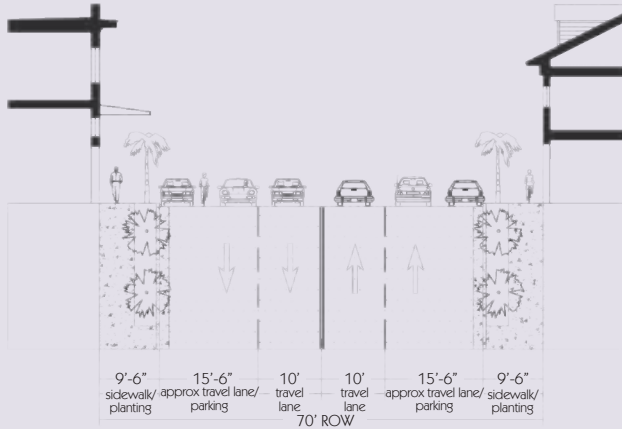


Coastal Beach Plantings: Palmetto, Switchgrass, Muhly Grass

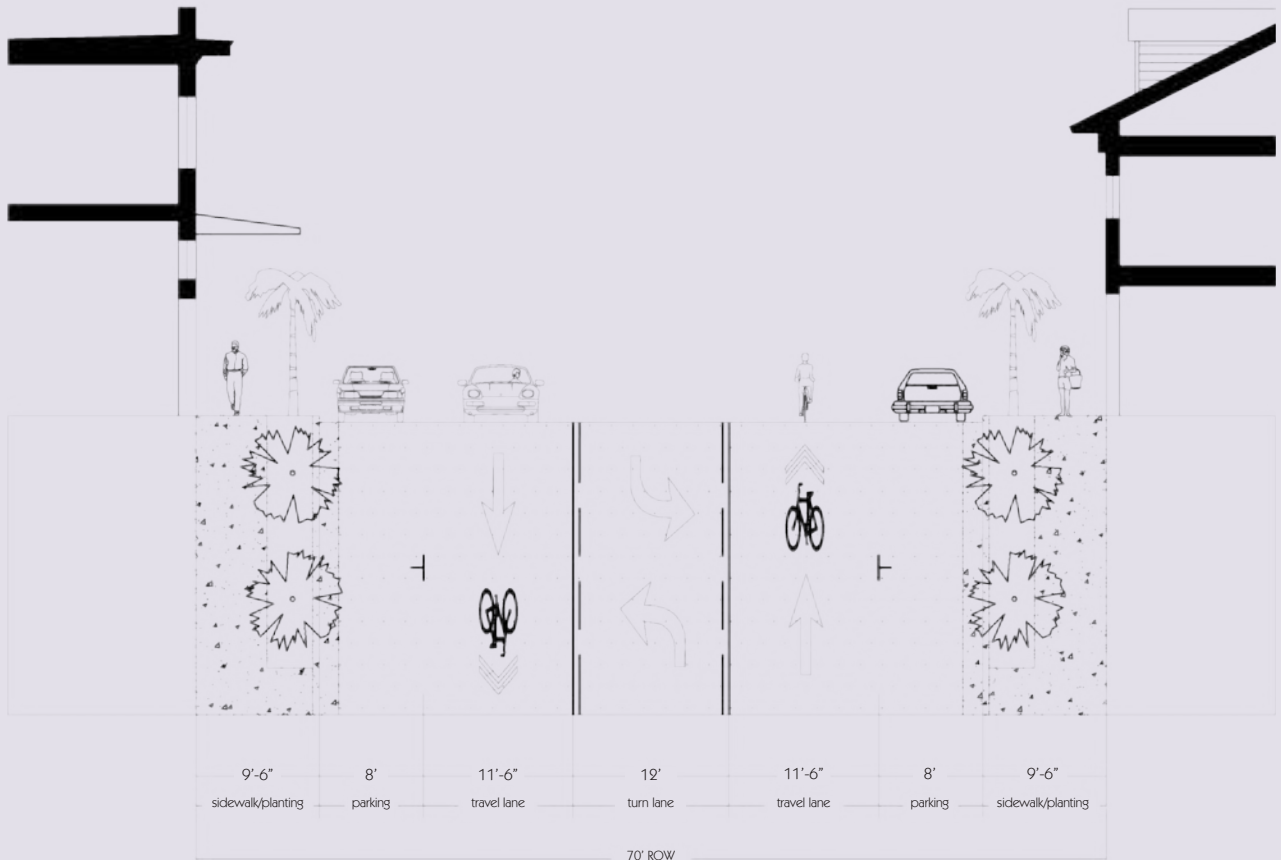


Coastal Flood Plain Plantings: Palmetto (limited), Black Gum (limited), Wax Myrtle, Muhly Grass, Switchgrass

# COMPLETE STREET DESIGN: FOLLY BEACH/CONSERVATION AREA



CENTER STREET (EXISTING)

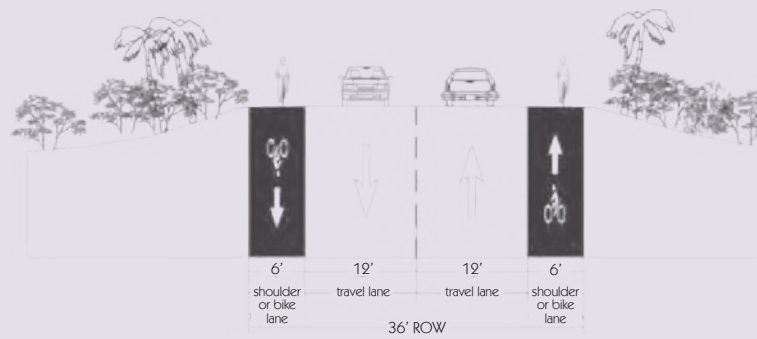


CENTER STREET (PROPOSED)

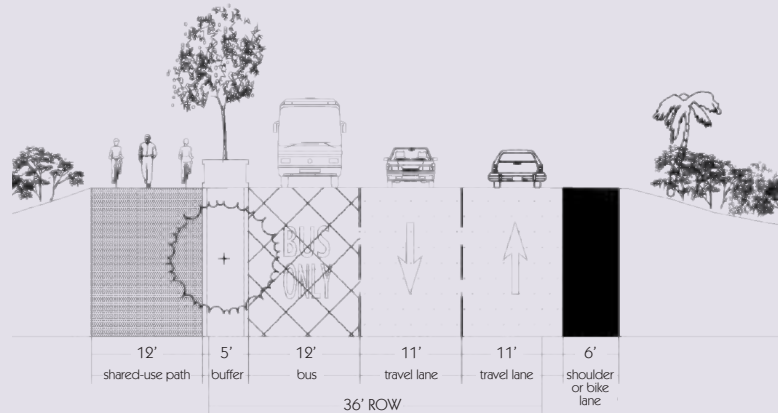
On Center Street (Folly Beach), the street is proposed to be reduced to three lanes with a center turning lane and on-street parking on either side. This roadway reconfiguration has been proposed by others (Stantec). In addition to the lane reallocation, the proposed section above recommends shared lane markings be added to the travel lanes. On-street parking could be permeable pavement material.

The Conservation Area's phase 1 ("good") recommendation consists of a shared-use path being installed adjacent to the road with a buffer zone that consists of a walled planting area. The road is separated into three lanes, one of which is the bus only lane for the "Folly Trolley". To accomplish this transit option through the two-lane section while maintaining bike lanes, the pavement will need to be widened on the causeway.

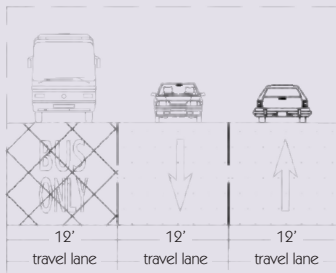
Conservation Area's phase 2 ("better") recommendation includes widening the causeway to provide a shared-use path adjacent to the roadway. This allows the additional existing roadway width to be utilized for transit and provides a comfortable walking and bicycling facility. Conservation Area's phase 3 ("best") recommendation includes installing a boardwalk to the west of Folly Road. The boardwalk will offer a route for cyclists and pedestrians that is separated from the road and also provides a scenic view of the marshes. The paved shoulders can be maintained as bike lanes on either side of the road or the additional width can be used as the seasonal bus only lane. In all phases, the shoulder, bike lane, or path could be permeable materials; however, pavers should be avoided for bike facilities as they may experience upheaval or sinking.



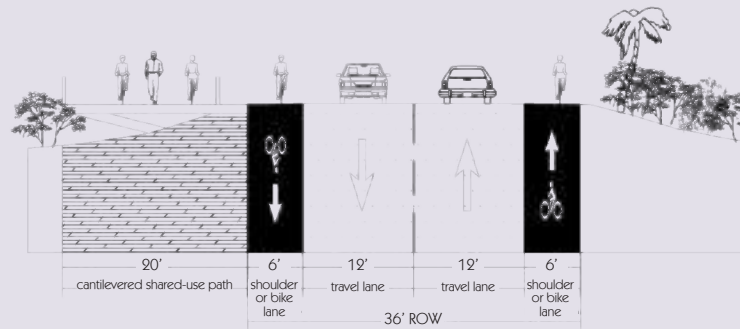
**CONSERVATION AREA (EXISTING)**



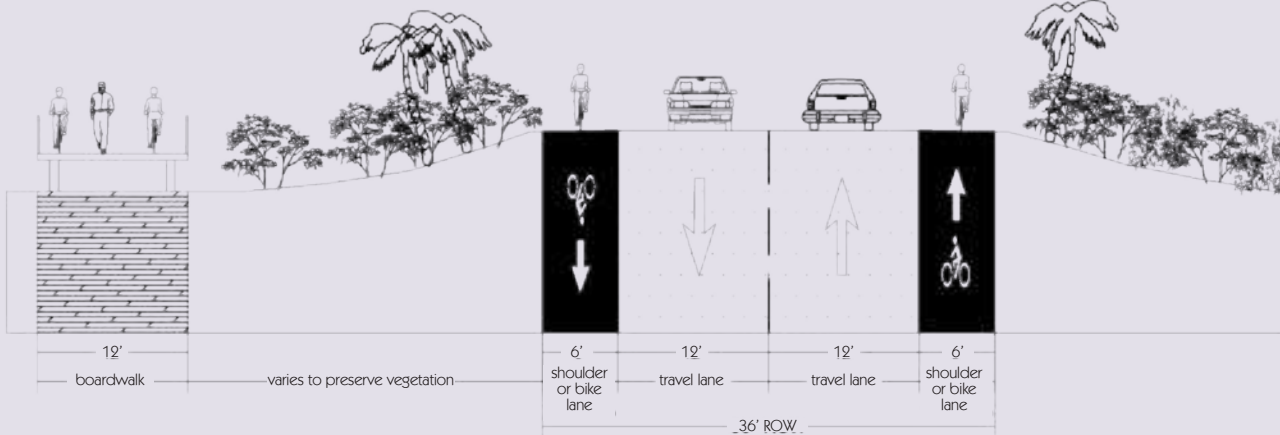
**CONSERVATION AREA ("GOOD")**



**SEASONAL TRANSIT OPTION**



**CONSERVATION AREA ("BETTER")**



**CONSERVATION AREA ("BEST")**

# NEIGHBORHOOD PRESERVATION AREA

The Neighborhood Preservation Area contains land in the City of Charleston and Charleston County, primarily in low-intensity residential development. Parcels are irregularly shaped, and some of the parcels may be subject to heirs' property title concerns. Overhead utilities and open drainage swales line the corridor.

The recently-adopted zoning overlay permits "neighborhood commercial" development in addition to residential uses. The ordinance limits the size of new buildings to a scale compatible with surrounding residences; however, there is not as much direction on building design. New commercial development could be undesirable if in an auto-oriented pattern. To be consistent with the multimodal vision for Folly Road, new commercial buildings should follow the urban design basics outlined in Section 3, including buildings that face the street to facilitate pedestrian activity, with parking to the side or rear. Parking lots should connect between adjacent lots, as feasible, to reduce curb cuts on Folly Road. New buildings should be carefully located so as to preserve mature trees on-site, where possible; street trees and other landscaping should be used to define an attractive, complete streetspace. And last, building wall materials should respect the lowcountry vernacular character of the Neighborhood Preservation Area.

Those residing in or traveling through the Neighborhood Preservation Area will benefit from the mobility improvements recommended for the corridor, including the continuous shared-use path that provides non-motorized travel options for users that span a range of ages, abilities, and mobility interests. Travel to and from the beach will be facilitated through seasonal trolley service on a dedicated lane from a park-and-ride lot in the South Grimball area. A reduction in the number of vehicular lanes will yield more space for green infrastructure approaches that address stormwater concerns while positively contributing to this area's identity and sense of place. Slower vehicular speeds, appropriate for a pedestrian- and bike-friendly neighborhood, will make the corridor safer for all.

This study concentrates on the corridor itself; however, the neighborhoods beyond contain large amounts of undeveloped or underdeveloped land. A Small Area Plan could identify a vision for this area, and include maps of priority areas for conservation and minimized change as well as areas for development in addition to the form that development should take. Previously undeveloped and underdeveloped land should be developed in a way that is sensitive to the needs of the existing community and not unwieldy, auto-dependent sprawl. If left unaddressed, merely building more development in an auto-dominated, conventional suburban pattern in this area could result in undesirable effects for the Folly Road corridor, including more car trips, congestion, and unsafe conditions for pedestrians and bicyclists.

## KEY RECOMMENDATIONS

- a** Include a new tree-lined shared-use path on west side of corridor
- b** Respect the scale and character of the neighborhoods with small-footprint development
- c** Re-establish civic spaces as socially-healthy gathering places for neighborhood residents
- d** Build new street-facing buildings on the corridor with parking at the rear of the lot
- e** Connect parking lots; lots may have informal layouts to also preserve existing trees
- f** Include crosswalks at all signalized intersections; include sidewalks on at least one side of the street
- g** Preserve mature trees on-site; plant new street trees
- h** Reduce vehicular lanes to three; utilize extra width for shared-use path and green infrastructure

	EXISTING BUILDINGS
	PROPOSED BUILDINGS
	GREEN/OPEN SPACES



S GRIMBALL RD

FOLLY ROAD

GRIMBALL RD EXD



# VISUALIZING NEIGHBORHOOD-SCALE COMMERCIAL



New commercial uses in the Neighborhood Preservation area should be in a form that complements and fits with the scale and character of residences. Visualizations at the Folly Road / South Grimball intersection study the potential form of new structures following the urban design basics outlined in Section 3.

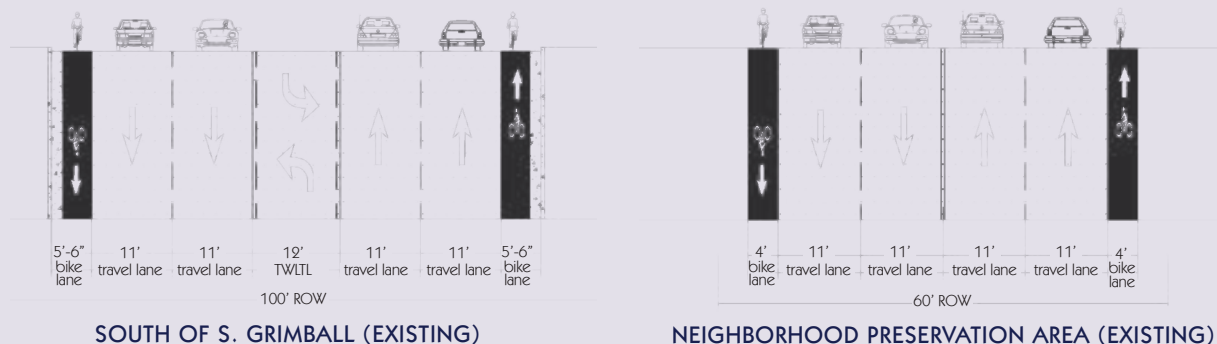
*top:* The tradition of Lowcountry informal roadside commerce could be re-initiated on Folly Road; these vendors are compatible with the scale of surrounding residences, and provide amenities to users of the shared-use path.

*right:* Existing conditions, southwest corner of Folly Road and South Grimball



## COMPLETE STREET DESIGN: NEIGHBORHOOD PRESERVATION AREA

The mobility recommendations in the Neighborhood Preservation Area include a lane reduction from four or five lanes to three lanes with a center turn lane. A shared-use path on the east side of the roadway is proposed utilizing the existing roadway width as well as the existing utility easement. A seasonal, dedicated bus lane could be added in place of the center turn lane. The shoulder, bike lane, or path could be permeable material; however, pavers should be avoided for use in bike facilities.







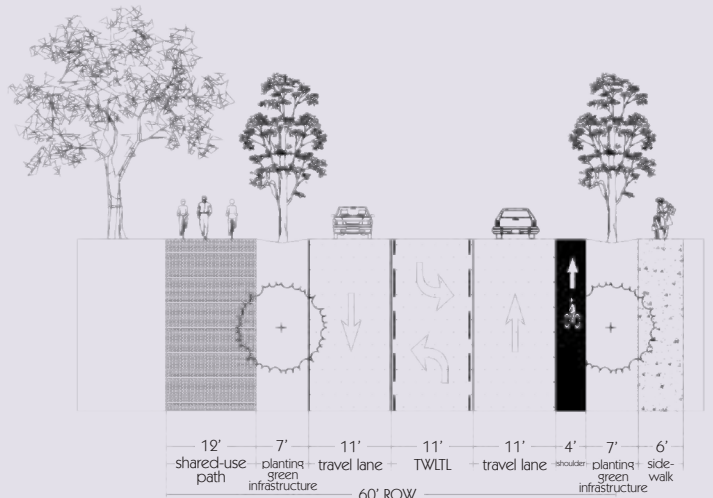
top: View of a potential new building at the northeast corner of Folly Road and South Grimball



left: Existing conditions, northeast corner of Folly Road and South Grimball



SOUTH OF S. GRIMBALL (PROPOSED)



NEIGHBORHOOD PRESERVATION AREA (PROPOSED)

## A GREEN INFRASTRUCTURE PILOT PROJECT

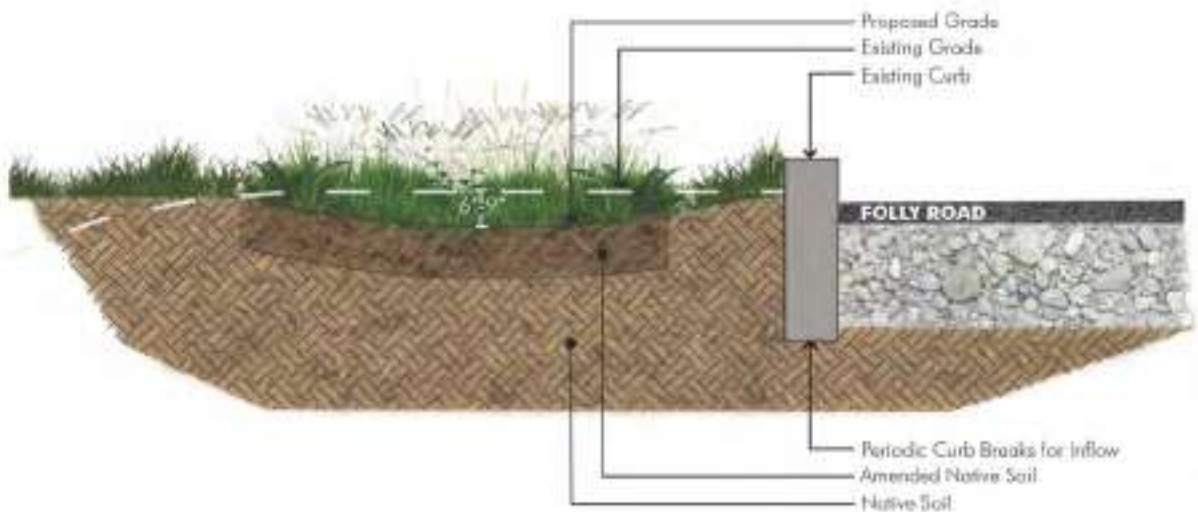
Construction of a green infrastructure (GI) pilot project within the Folly Road corridor north of South Grimball Road will build momentum for implementation of green solutions throughout the corridor. The GI pilot project should be simple and visible, providing an incremental step towards improved watershed health by filtering and infiltrating stormwater runoff while increasing aesthetics and neighborhood value. Public awareness about the impacts of stormwater runoff and the multiple benefits of GI solutions can help build support for GI improvements throughout the corridor over time, influencing public infrastructure investments as well as design of private development.

The intersection of Folly Road and South Grimball Road was selected as the pilot location because this is one of the segments of the corridor that has the needed width to implement the proposed green infrastructure improvement and shared-use path today, within the existing right-of-way. Specific construction-level design details for the proposed shared-use path and potential future road diet, as well as proposals for private development near the intersection, may be on a separate timeline from GI funding and implementation. Therefore good/better/best GI concept recommendations north of the Folly Road/

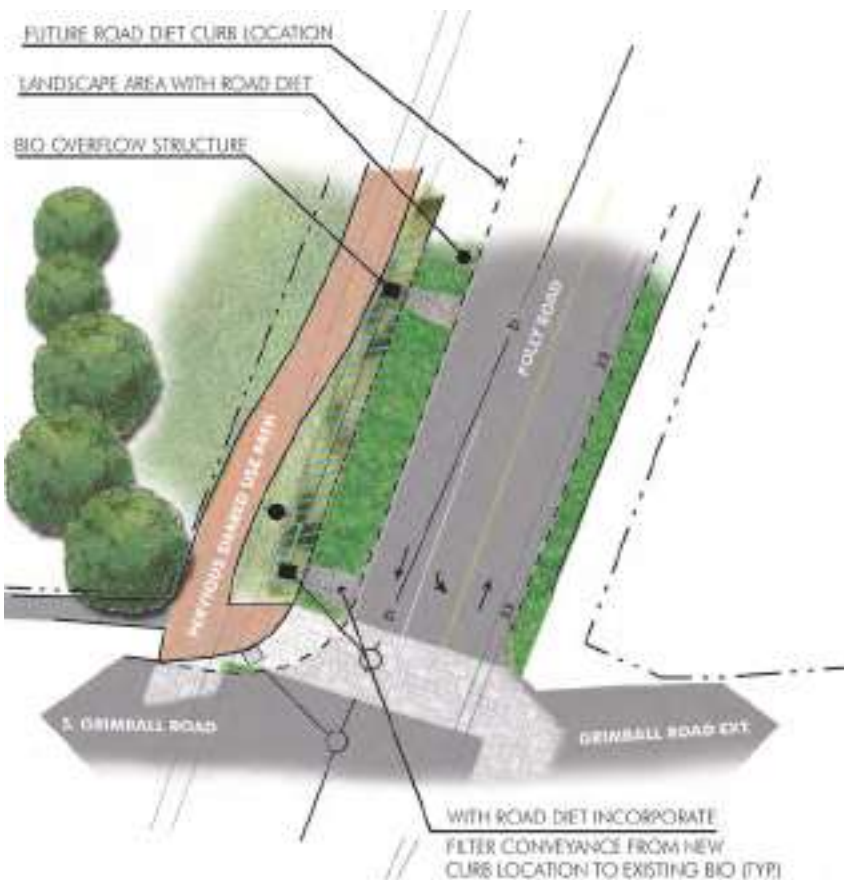
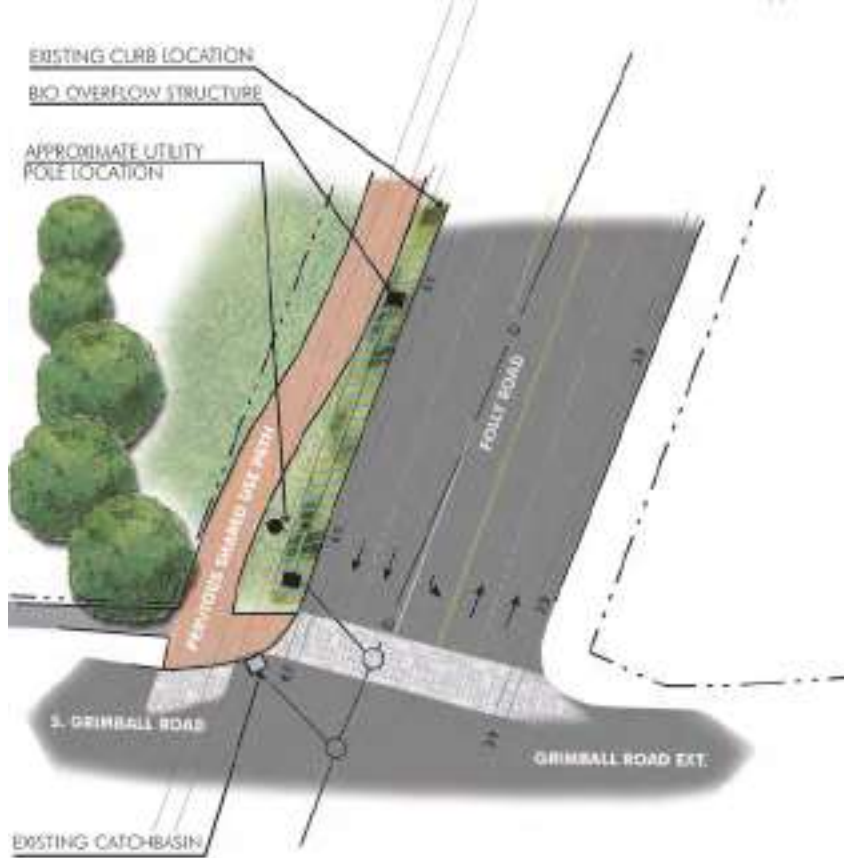
South Grimball intersection must be flexible to enable immediate GI implementation integrated short-term with fast-tracked shared-use path construction, or to efficiently adapt over time as other improvements within the right-of-way are phased.

Before implementation of the shared use path and road diet, a simple bioswale could be constructed behind the current Folly Road curb as a “good” first step. This bioswale system consists of approximately one foot of amended native soil and plantings to filter stormwater runoff as shown in the “good” section. This system could be upgraded to a full bioretention system as proposed in the “best” section for enhanced water quality treatment and infiltration function with or without the shared use path.

As shown in the “better” plan, construction of the bioretention system between the existing Folly Road curb and the shared use path with the current Folly Road curb location (before road diet) requires the shared use path to be shifted west of the existing overhead utility poles. Upon implementation of the road diet, new channel conveyances can connect the shifted edge of pavement with the previously constructed bioretention systems for conveyance of runoff, and the shared use path can remain.



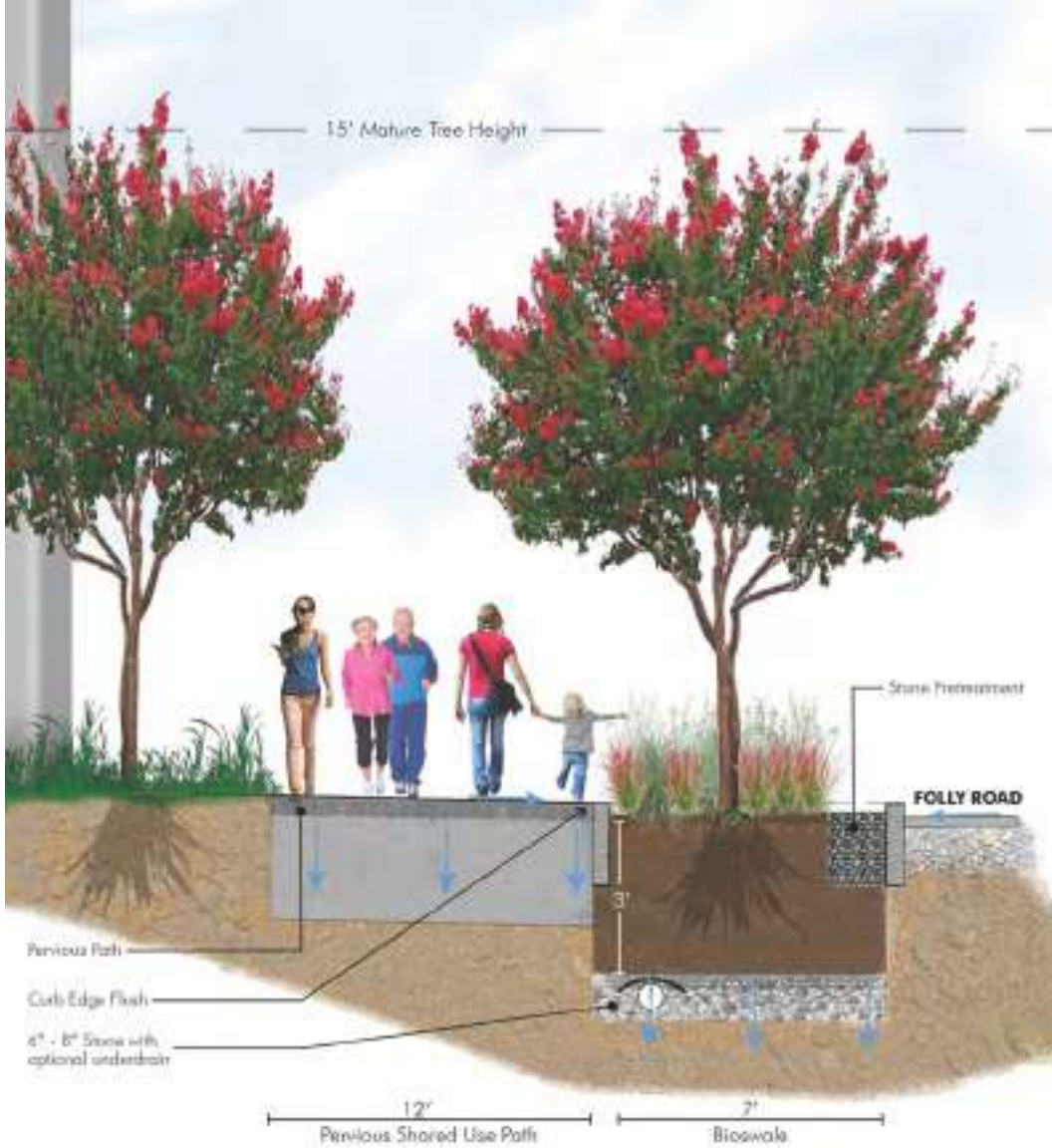
above: Good Approach. Simple bioswale is constructed behind the existing Folly Road curb with amended native soil and plantings.



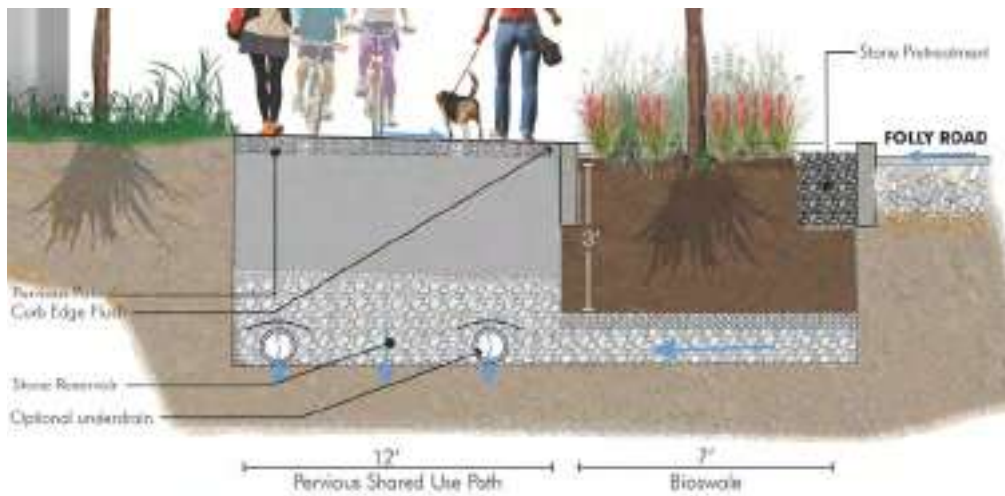
*left: Better Approach*

*above left: Bioretention system is constructed between the pervious shared use path and the existing Folly Road curb prior to implementation of a road diet.*

*below left: Upon implementation of the road diet, new channel conveyances connect the shifted edge of pavement with the previously constructed bioretention systems.*



left: Best Approach, Section A

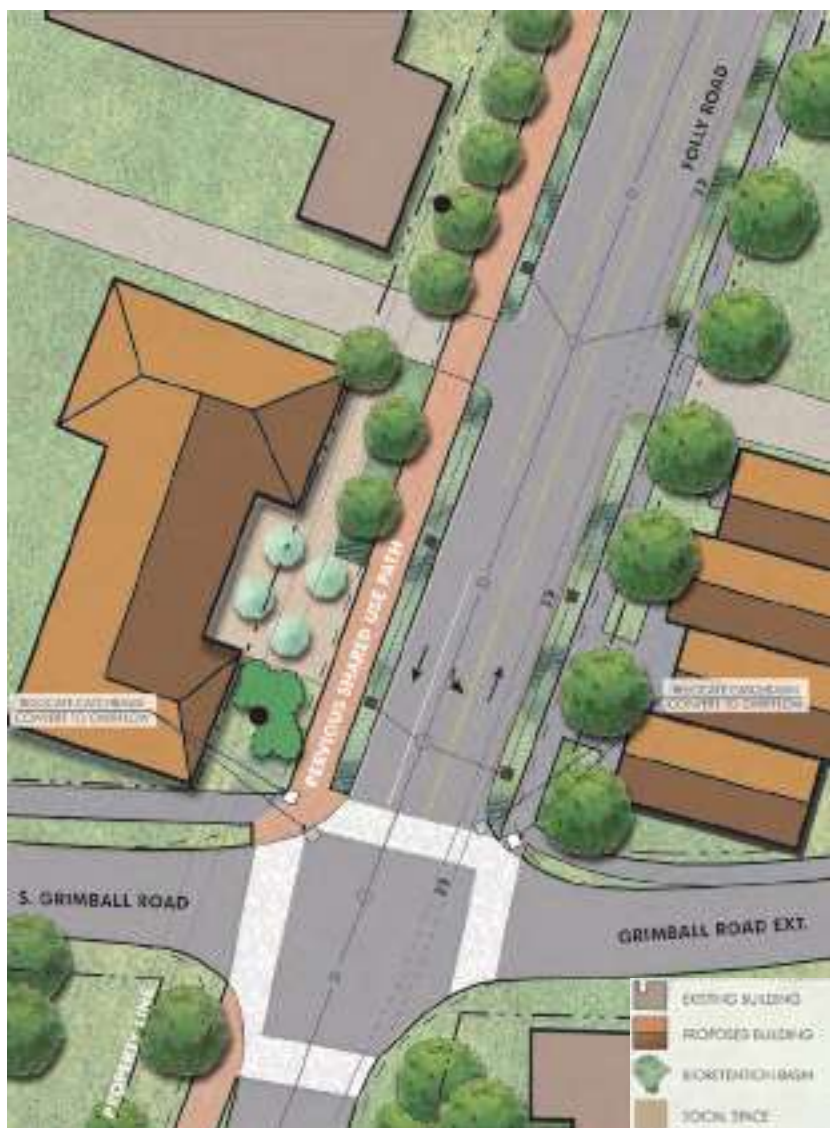


left: Best Approach, Section B

The “best” scenario pilot concept includes a 7-foot wide linear bioretention system between a pervious shared use path and the adjusted road diet Folly Road curb location. Impervious area and stormwater runoff is reduced by approximately one-third with the removal of two travel lanes as part of the proposed road diet. Periodic two-foot breaks in the Folly Road curb allow stormwater runoff to enter the bioretention system for filtration and infiltration.

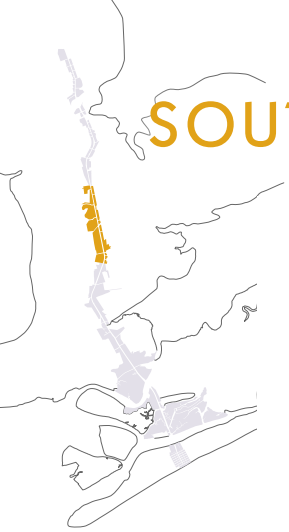
The proposed bioretention system shown in Section A consists of several feet of biosoil over a stone base with an optional pipe underdrain and pipe overflow connection to the existing drainage system, depending on specific soil conditions. A 24” by 24” stone pretreatment filter traps sediment before it enters the full system, enhancing the system’s function and simplifying maintenance operations over time. Plantings include low grasses and trees consistent with the ecological placemaking approach. Trees near overhead powerlines must be limited to maximum 15-foot height at maturity consistent with SCE&G requirements. An alternative “best” Section B includes an expanded crushed stone reservoir under the pervious shared use path to maximize infiltration and contribute towards mitigation of runoff quantity in addition to quality.

The proposed bioretention systems are preliminarily sized to accommodate runoff from half of the Folly Road travel way, assuming a crowned pavement section. Further design development requires soil evaluation to evaluate site-specific soil conditions and seasonal high groundwater elevation. Biosoil depth, stone reservoir design, plantings, and underdrain design can be tailored to adapt to various site conditions – potentially including “wet” systems in areas of high groundwater.



above: Best Approach. Proposed bioretention system is constructed concurrent with the proposed road diet, enabling construction of the pervious shared use path in the preferred location.

# SOUTH VILLAGE



The South Village area consists primarily of large, commercially-zoned parcels in the City of Charleston and smaller, office residential or neighborhood commercial parcels in the Town of James Island. The larger shopping centers on the west side of the road present unique opportunities to retrofit the existing urban pattern. The size of the parcels allow for the introduction of new street networks as well as new vibrant public open spaces and buildings that contribute to the public realm, with parking lots behind buildings rather than at the front. The installation of a roundabout at the intersection of Folly Road and Fort Johnson Road is a placemaking opportunity that can enhance local character and beauty, while providing for safe, continuous traffic flow and an easy transition from five vehicular lanes to three.

These neighborhood-specific recommendations are coupled with proposed corridor-wide mobility initiatives for the continuous shared-use path, slower vehicular speeds, transition from five vehicular lanes to three, consolidation of curb cuts and insertion of a planted center median (where turns are not needed), enhancements to transit (new shelters, increased headways, potentially a dedicated transit lane), as well as new green infrastructure approaches, to achieve a multimodal transformation in the South Village.

*right (next page):* Existing conditions, and a potential first phase of infill development on a large parking lot at the intersection of Folly Road and Fort Johnson Road.




*below (next page):* Potential future phase, complete retrofit of the parking area.

## KEY RECOMMENDATIONS

- a** Implement corridor-wide strategies for improvements on Folly Road, which include sidewalks, a shared-use path, crosswalks, and street trees
- b** Insert a roundabout at the intersection of Folly Road / Grimball / Fort Johnson to make a good transition from five lanes to three, as well as a new civic feature
- c** Create new civic spaces as socially-healthy gathering places
- d** Construct new street connections to create alternative ways to circulate
- e** Build street-facing buildings on the corridor with parking at the rear
- f** Infill large parking lots with new streets, to create blocks of a walkable scale. Street-oriented buildings can screen parking structures at the center of the block
- g** Incorporate and preserve existing mature trees as a part of improvements





-  EXISTING BUILDINGS
-  PROPOSED BUILDINGS
-  GREEN/OPEN SPACES



# VISUALIZING A NEW DEVELOPMENT FORM FOR THE SOUTH VILLAGE



*top:* Existing conditions, north of Folly Road and Grimball/Fort Johnson Road intersection

*middle:* A shared-use path along the utility easement can be in a first phase of mobility improvements.

*below:* Potential future phase, showing infill in the parking lot of the existing strip shopping center. Over time, the urban settlement pattern can be reversed to include buildings that face Folly Road, maximizing the accessibility for pedestrians, bicyclists, and transit riders, with parking located to the rear.





## FOLLY GREEN CASE STUDY: FORT JOHNSON ROAD INFILL SITE

Infill of the existing retail parking lot northwest of the Folly Road and Fort Johnson Road intersection is an environmentally positive move for the corridor as a whole because the site is highly impervious and is already served by existing transportation and utility infrastructure. Addition of new buildings, parking, and landscape improvements will require minimal addition of new impervious area – in fact, it is likely that with careful planning, urban design, and utilization of permeable surfaces the total impervious area will decrease.

The existing site features mature shade trees aligned with existing parking access drives and parking bays. The proposed infill design concept aligns new streets and pedestrian plazas with the existing parking access drives and parking bays in order to prioritize preservation of the existing trees and to maximize their value as an amenity to the parcel. A pedestrian “green spine” is also

proposed through the center of the site, connecting the Folly shared-use path west through the infill site. This spine can incorporate a shaded pedestrian way through green bioretention areas, creating a pleasant pedestrian welcome as well as a visual cue to drivers entering the site’s parking area from the shared street access.

Green infrastructure design at the site scale requires a careful synthesis of topography, soils, and the urban design vision. There are significant areas of well-draining soils on the site, and location of infiltration practices (bioretention and/or created wetlands systems) should be strategically located to maximize infiltration. Bioretention and permeable pavement systems should be designed with an underdrain in areas of poorly draining soils, where they can still serve water quality function as a flow-through infiltration practice with overflow.



# FORT JOHNSON ROAD ROUNDABOUT

A key to reducing the number of lanes along a corridor is to ensure that locations where these transitions take place offer a smooth and intuitive route that does not result in undesirable vehicle traffic conditions or reduced levels of service. On Folly Road, the first lane reduction/ transition point is proposed to occur at the intersection of Grimball Road, Fort Johnson Road, and Folly Road. Implementing a roundabout at this location will provide the smooth transition between the numbers of lanes. Since a high percentage of traffic is entering and exiting Folly Road on these adjacent roadways, a roundabout would offer a good alternative to the current traffic signal for flow and operation of this intersection.

The conceptual plan on this page shows how the proposed roundabout would fit into this intersection. The roundabout will have 2 lanes in order to accommodate the existing volumes. Each approach will have two-stage

crosswalk in order to accommodate and increase the comfort of the pedestrian traffic. The curbed planted median along Folly Road is the “best” and final phase of implementation; intermediate stages (“good”) could consist of a center turn lane on both the north and south side. Additional detailed studies, including traffic volume studies and crash history studies, should be conducted before this conversion takes place. Roundabouts have many safety benefits including 24-hour enforcement, speed reduction, reducing the crossing distance for pedestrians, reducing the delays and associated illegal maneuvers such as running red lights by motorists. Roundabouts can also be used as places for public art or gateway features. Consideration should be given to not design the roundabout for the peak period as it could then be over designed and encourage higher speeds and unsafe maneuvers during the off-peak hours.

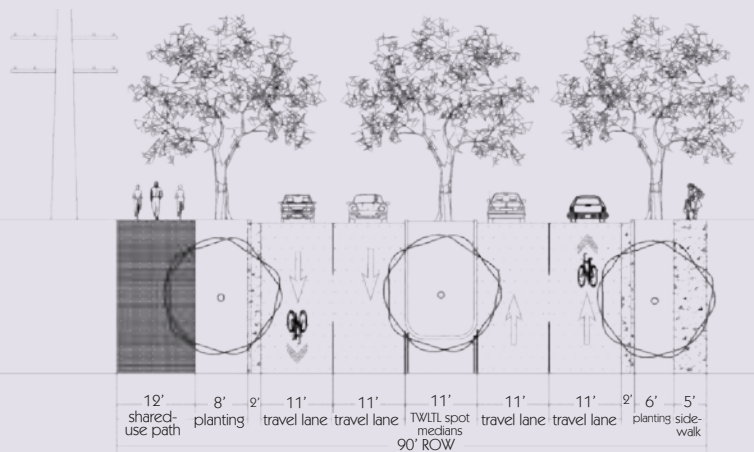


# COMPLETE STREET DESIGN: SOUTH VILLAGE



**SOUTH VILLAGE (EXISTING)**

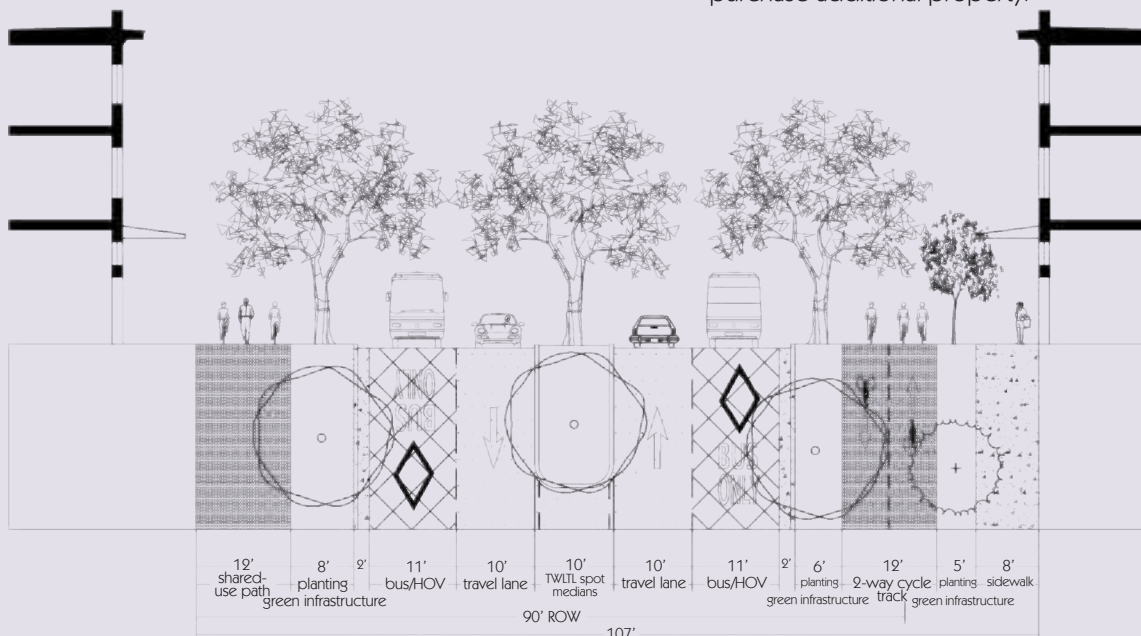
In the South Village area, phase 1 (“good”) street design improvements would entail installing missing sidewalks and bike lanes. The existing right-of-way is wider than in other areas of the corridor; therefore, improvements could more easily move forward to also include phase 2 (“better”) recommendations. The proposed “better” section works within the existing right-of-way, includes a spot median, shared lane markings on the two exterior lanes, a shared-use path on the west side of the corridor and a sidewalk on the east side. The shared-use path and sidewalks could be permeable pavement; however, pavers should be avoided for the path.



**SOUTH VILLAGE (“BETTER”)**

For phase 3 (“best”), the recommendation includes a two-way separated bicycle facility (cycle track), a bus only lane, as well as the shared-use path. It also includes a spot median which will alternate between a curbed median and a center turn lane. This extends beyond the existing right-of-way and will rely upon the use of the existing utility easement and/or the attainment of additional easements.

A pilot of the shared-use path, beginning with a shorter segment and utilizing the existing utility easement, can begin in Phase 1. An ideal location for this pilot would be between Grimball Road and George L. Griffith Boulevard. This would connect the path on George L. Griffith Boulevard to the proposed path on Grimball and make way for the expansion of the path along the majority of Folly Road in phase 2. With the proposed re-allocation of lanes and use of the utility easement, this pilot project would fit within the right-of-way without having to purchase additional property.



**SOUTH VILLAGE (“BEST”)**

# FOLLY GREEN: TOWN & TRANSITION APPROACHES

Town ecological placemaking, applied to the Commercial Core and Maybank/North Village areas, focuses on preservation of existing shade trees, maximizing new shade trees for beauty, safety, and to buffer shared-use path, and addition of a treed median wherever possible. Shade trees within the right-of-way should be planted with consistent spacing as street trees, and green bioretention systems and permeable pavement for stormwater management should take a more formal design aesthetic, prioritizing pedestrian/bicycle circulation and mixed-use placemaking. Stormwater can be celebrated as a part of the public realm, potentially utilizing creatively designed runoff conveyances, spillways, and materials choices as pedestrian-scaled public art.

Within town center nodes, pockets of well draining soils have been mapped and should serve as a neighborhood-scale guide to site and properly design stormwater infiltration tools. Flood-control BMPs could be shared at the neighborhood scale, placed using soils and topography as a guide.

Gateways, or simple improvements to key intersections announcing arrival/departure, should be strategically integrated with this framework and include branded wayfinding, public art, enhanced crosswalks and street furniture, and enhanced landscaping. These gateways

will be most effective if implemented using a consistent corridor-wide brand and materials language across jurisdictions while calibrated to each local place. Gateway locations are identified at Central Park/James Island Connector, Fort Johnson/Grimball, and at the proposed South Grimball roundabout. Gateways are excellent locations for pilot green infrastructure projects, pedestrian/transit amenities, or temporary art installations to continue public outreach momentum.

The Transition approach, applied to the South Village area, is a variation on the Town approach, preserving existing shade trees, maximizing new shade trees for beauty, safety, and buffering the shared-use path, and adding to the treed median wherever possible. Transitioning to a more rural section with open drainage, where appropriate, this segment connects the Town and Coastal Floodplain ecological types.

TOUR OF THE CORRIDOR

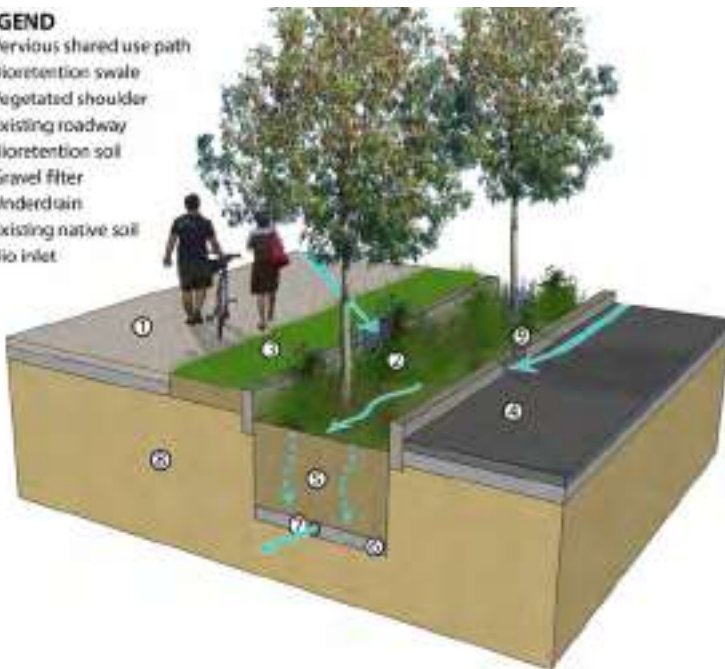
RETHINK FOLLY ROAD: A COMPLETE STREETS STUDY



Town & Transition Planting: Live Oak, Willow Oak, Fringetree, White Fringetree, Wax Myrtle, Southern Magnolia, Black Gum

**LEGEND**

- 1. Pervious shared use path
- 2. Bioretention swale
- 3. Vegetated shoulder
- 4. Existing roadway
- 5. Bioretention soil
- 6. Gravel filter
- 7. Underdrain
- 8. Existing native soil
- 9. Bio inlet



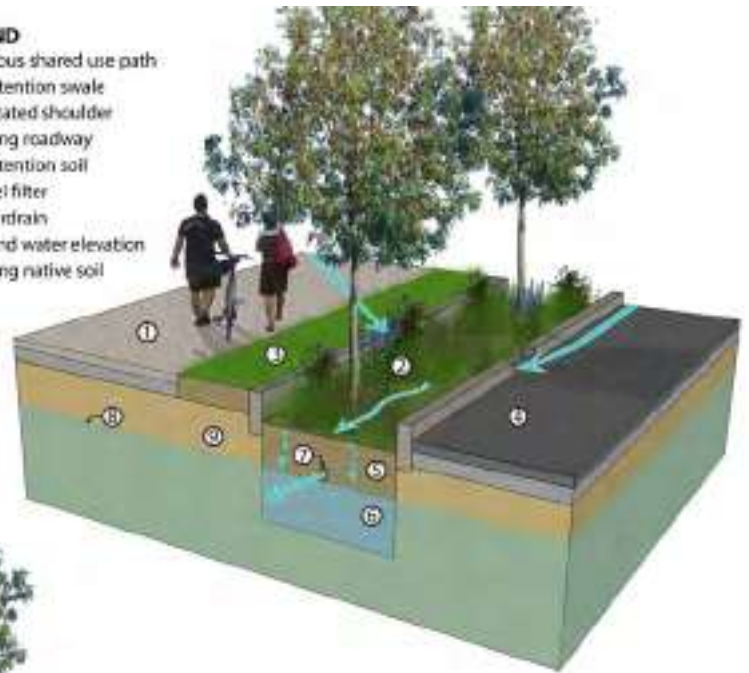
above: Town bioretention “typical” – encourages infiltration in areas of well draining soils

right: Town bioretention in high groundwater zones – “wet system”

below: Town tree trench – directs stormwater runoff from catch basins to a sub-grade gravel filter for infiltration, with an overflow pipe to the main

**LEGEND**

- 1. Pervious shared use path
- 2. Bioretention swale
- 3. Vegetated shoulder
- 4. Existing roadway
- 5. Bioretention soil
- 6. Gravel filter
- 7. Underdrain
- 8. Ground water elevation
- 9. Existing native soil



**LEGEND**

- 1. Pervious shared use path
- 2. Enhanced tree trench
- 3. Catch basin
- 4. Existing roadway
- 5. Bioretention soil
- 6. Inflow pipe for tree trench
- 7. Gravel filter
- 8. Overflow pipe
- 9. Existing native soil





# COMMERCIAL CORE

Folly Road's busy Commercial Core area is a popular draw for area residents. Parcels are primarily in the Town of James Island; the central location provides an opportunity to create of a true "town center" for James Island that is walkable, mixed-use, and of a scale and character appropriate for this area. In order to reach this potential, challenges must be addressed. The area's inconsistent sidewalk network needs to be completed. Additional signalized intersections will allow for better spacing for lights for traffic flow, more streets on which to distribute trips, and more crosswalks. Increased vehicular and pedestrian connectivity between parcels on Folly Road and surrounding residential neighborhoods are recommended. Access management upgrades are proposed, including the consolidation of curb cuts coupled with installation of planted medians (as the need for turns are reduced), and the creation of a continuous vehicular circulation network behind commercial buildings. Corridor-wide infrastructure and green mobility recommendations, including the installation of a shared-use path, cycle track, upgraded transit service and facilities, and new green infrastructure, would make the area easier to navigate, cleaner, and more attractive.

This central location should be explored for opportunities for new public open spaces, as well as for community gathering places, and even potential sites for a new town hall, farmer's market or other community uses. Of particular interest is the intersection of Folly Road and Highland Avenue, where a parcel of land has been isolated in between two vehicular rights of way, in a prominent location. The town should consider buying the site and converting it to a lushly-landscaped park, potentially with an open-air structure for a farmer's market or other active civic use.

Current zoning requires a 15-foot vegetated buffer from the road. While this distance between the road and building can remain the same, it should be treated as more than merely a buffer. The space in the front of the building should be required to be designed as a complete public streetspace containing elements such as a cycle track, sidewalk, street trees, and active open spaces. A change in the zoning language for this area should require the streetspace to be used as a more vibrant public use.



## KEY RECOMMENDATIONS

- a** Implement corridor-wide strategies for improvements on Folly Road, which include sidewalks, a shared-use path, cycle track, new crosswalks, and street trees
- b** Consolidate curb cuts and create a planted center median where turns are not needed
- c** Reestablish civic spaces as socially-healthy gathering places for neighborhood residents
- d** Build new street-facing buildings on the corridor with parking at the rear of the lot
- e** Connect new streets with parallel routes and surrounding neighborhoods to provide more ways to circulate
- f** Include crosswalks at all signalized intersections; create more intersections to help circulation and flow
- g** Incorporate and preserve existing mature trees as a part of improvements
- h** Connect parking lots to provide alternative ways to circulate



-  EXISTING BUILDINGS
-  PROPOSED BUILDINGS
-  GREEN/OPEN SPACES
-  CIVIC



FOLLY ROAD

HIGHLAND AVE



## VISUALIZING JAMES ISLANDS' NEW WALKABLE CENTER



*left:* Existing conditions, Folly Road in the Commercial Core  
*below:* The vision for a pedestrian-oriented center for James Island. Buildings face the street, with parking located to the rear. The space between building facades and the street is reconfigured as high-quality public space, including street trees, a two-way cycle track, and sidewalk wide enough for outdoor dining.







## CONNECTIVITY IN THE COMMERCIAL CORE

Greater connectivity, including the creation of new access points and neighborhood roads, can enhance the functionality of Folly Road. This concept was analyzed in detail for the Commercial Core in the area surrounding the Camp Road/Folly Road intersection.

This intersection has large volumes coming from and leaving each approach and there are relatively few intersections surrounding it for users to utilize alternative routes. Adding these new roads and connection points to Folly Road and the surrounding neighborhoods will turn this single intersection into a large grid area of connected streets. Through the extension of four roadways or access driveways, three additional signalized intersections are proposed. These additional signals take pressure off of the already congested Folly Road and Camp Road intersection by providing alternative routes to access local roads and developments.

Folly Road has only two signalized intersections in this area, with a spacing of 1000 feet between them. The next closest signalized intersections are between  $\frac{3}{4}$  and 1 mile to the north or south. If more frequent spacing were applied, vehicular platoons could be more appropriately controlled and separated, resulting in less concentrated congestion at a single intersection and larger gaps between the platoons. These proposed signals would reduce spacing between signals to  $\frac{1}{4}$  mile for this section of Folly Road. The increased signal spacing proposed could also allow for shorter green signal times along Folly Road by decreasing the travel distance space between vehicles as they move through this area. To effectively consolidate driveways, provide enhanced connectivity within the commercial core, and take advantage of existing driveway and street locations, signals may need to be located at a distance slightly less or greater than  $\frac{1}{4}$  mile such as the 1000 feet spacing identified below.

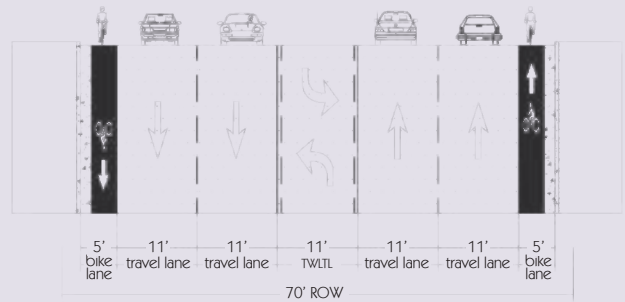


# COMPLETE STREET DESIGN: COMMERCIAL CORE

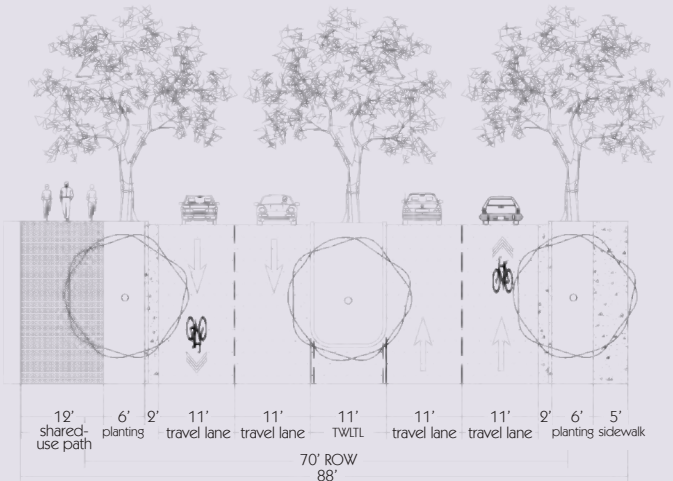
The phase 1 (“good”) recommendation in the commercial core includes the installation of bike lanes and completion of sidewalk gaps wherever possible. If funding and development opportunities allow, phase 2 recommendations should be implemented instead.

The Commercial Core phase 2 (“better”) recommendation includes shared markings on the two outermost travel lanes, a shared-use path on the west side, and a sidewalk on the east side. There will also be another spot median that becomes a center turn lane at key locations to allow left turns. Reducing the number of curb cuts along the commercial core will assist the implementation of this median. The proposed sidewalk is outside the right-of-way if current curb locations are to be maintained. Easements for the installation of the sidewalk will likely be more cost effective. The bike lanes, shared-use path, and sidewalks could all be done with permeable pavement; however, pavers should be avoided for bike facilities as they may experience upheaval or sinking.

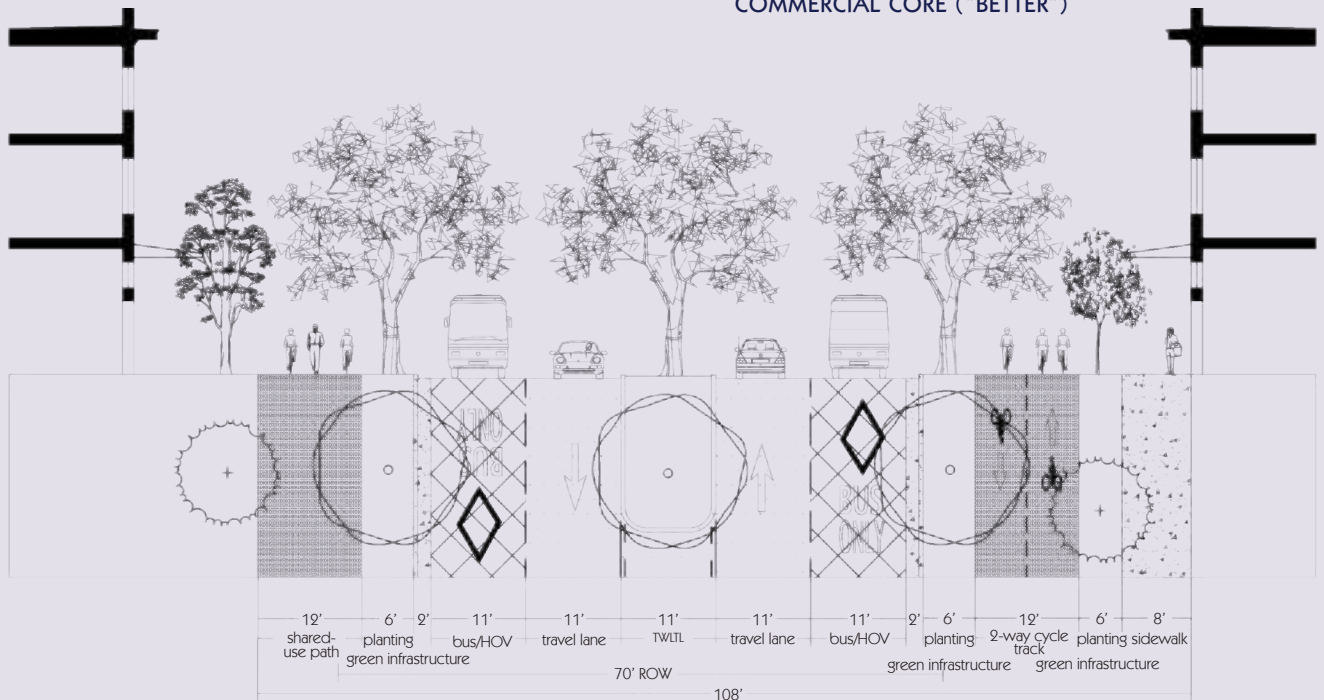
The Commercial Core phase 3 (“best”) is the same as the South Village phase 3 recommendations, but this area has less existing right-of-way, meaning easements or property acquisition would be required to realize this configuration.



COMMERCIAL CORE (EXISTING)



COMMERCIAL CORE (“BETTER”)



COMMERCIAL CORE (“BEST”)



# MAYBANK/NORTH VILLAGE

The Maybank Highway intersection and the North Village area are the northern terminus of the study area. This area is primarily in the City of Charleston with some parcels in the County. The Wappoo Cut Bridge and McLeod Plantation provide a sense of entry; the introduction of additional new gateways through landscaping, public art and building design can signal arrival to James Island.

The existing street network in this area is inadequate; an unintended consequence of the lack of an effective network is that relatively small amounts of development seem to produce inordinate amounts of traffic congestion. The vision for this area proposes new street connections to facilitate movement for all travel modes. Also in this area, the corridor-wide multimodal improvements (such as continuous sidewalks, consolidation of curb cuts and addition of a planted median, shared-use path, and cycle track) will begin, providing enhanced mobility options.

Community participants identified the Wappoo Cut Bridge as a mobility constraint; recommended improvements include a protected pedestrian/bike lane in the near term, and bridge redesign and replacement in the longer term as budget permits. In addition, the schedule of bridge openings should be evaluated to ensure it is consistent and optimized for the needs of all users (including boaters, pedestrians, cyclists, drivers, and transit users).

The Ellis Oaks area has established an important precedent for the preservation of mature street trees along Folly Road that bring value to the community. Future tree planting or preservation efforts could be complemented by adjacent development that maximizes the visual appeal of mature oak trees. In such cases, the physical form of new buildings should be compact and walkable, resulting in memorable “placemaking” that seamlessly incorporates the trees into the overall fabric of the neighborhood.



## KEY RECOMMENDATIONS

- a** Implement corridor-wide strategies for improvements on Folly Road, including sidewalks, a shared-use path, cycle track, and street trees
- b** Reestablish civic spaces as socially-healthy gathering places for neighborhood residents
- c** Build new street-facing buildings on the corridor with parking at the rear of the lot
- d** Connect new streets with surrounding streets and neighborhoods to provide more ways to circulate
- e** Include crosswalks at all signalized intersections; explore opportunities for additional crosswalks
- f** Incorporate and preserve existing mature trees as a part of improvements

MAYBANK HIGHWAY

TATUM STREET

CROSSCREEK DRIVE

FOLLY ROAD

-  EXISTING BUILDINGS
-  PROPOSED BUILDINGS
-  GREEN/OPEN SPACES
-  CMC

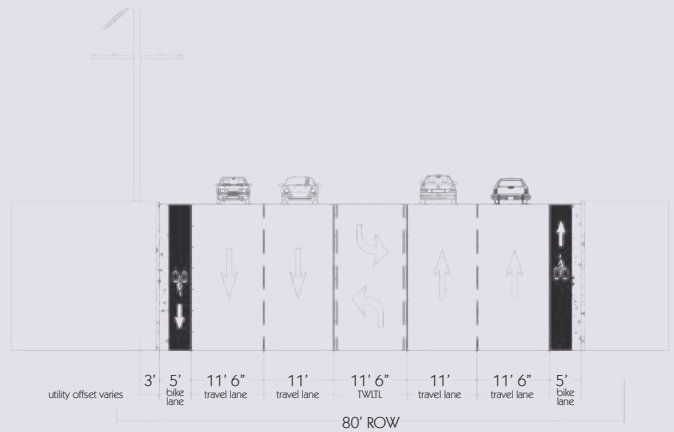


# COMPLETE STREET DESIGN: MAYBANK/NORTH VILLAGE AREA

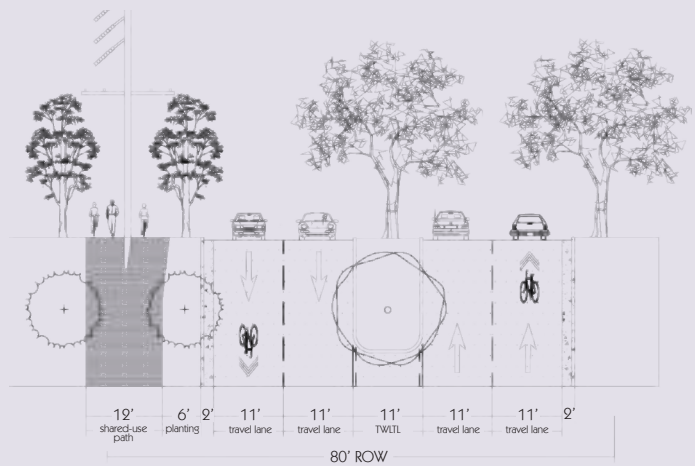
The phase 1 (“good”) recommendation in the North Village includes the completion of sidewalk gaps wherever possible. If funding and development opportunities allow, phase 2 recommendations should be implemented instead.

The “better” phase 2 recommendations for the North Village includes a spot median, a shared-use path, and shared lane markings on the outermost travel lanes. The use of the utility easement will allow for the installation of the shared-use path; all other improvements fit within the right-of-way.

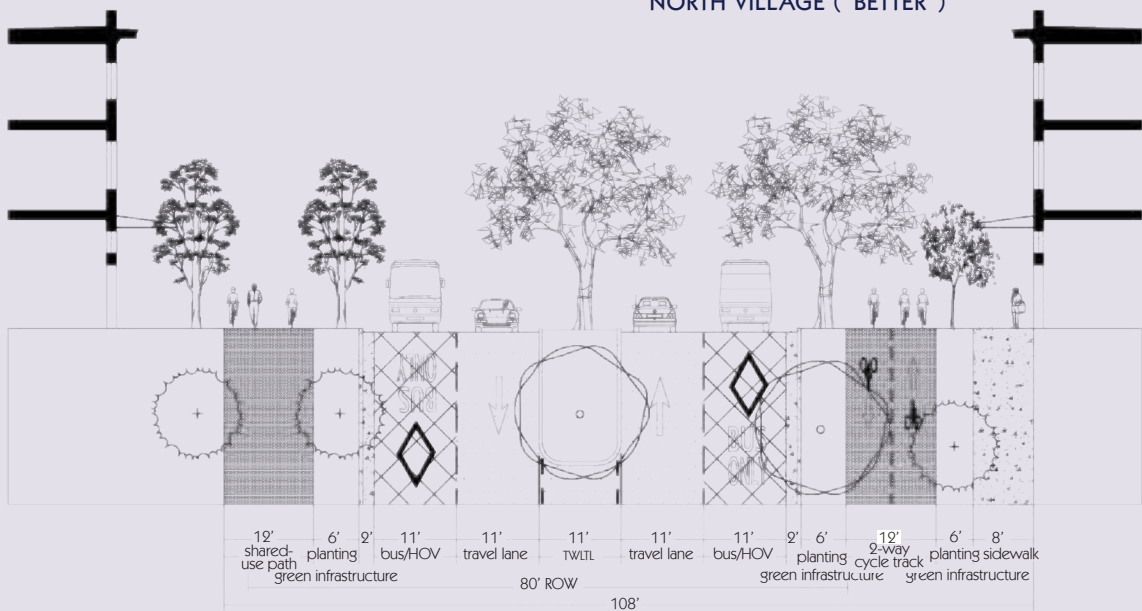
The North Village phase 3 (“best”) is the same as that of the Commercial Core and South Village, including a two-way cycle track and bus-only lanes. The utility easement can be used to install the shared-use path on the west side, and property acquisition or easement will be needed for the east side. As an alternative, the installation of the sidewalk and two-way separated bicycle facility could become a requirement along with new development, but this will have a longer timeframe for completion and lack of connectivity during interim phases. Bike lanes, shared-use path, 2-way cycle track, sidewalks could all utilize permeable pavement materials; however, pavers should be avoided for bike facilities.



**NORTH VILLAGE (EXISTING)**



**NORTH VILLAGE (“BETTER”)**



**NORTH VILLAGE (“BEST”)**

# 5

# IMPLEMENTATION

The Rethink Folly Road Plan provides recommendations for the physical improvement of Folly Road so it can become a complete, connected mixed-use corridor that supports a more walkable, livable, and sustainable community with multimodal forms of transportation. Steps for implementation are described in this Section.



**STRATEGY** 5.2

**IMPLEMENTATION MATRIX** 5.10

**FUNDING SOURCES** 5.15

# STRATEGY

The Rethink Folly Road Plan addresses problems of congestion, connectivity, pedestrian- and bicycle-friendliness, and retrofit of the existing suburban fabric. It details a comprehensive strategy for growth and redevelopment, seeking to improve the safety and operational efficiency for all modes of travel, while increasing economic productivity, sustainability, and livability. The plan recognizes a fundamental tension between the need to move traffic into and out of downtown Charleston and the desire to create a multimodal environment that will lead to increases in economic competitiveness, neighborhood livability, and sustainability in the overall Charleston Region.

Corridor redevelopment or retrofit plans represent arguably one of the most complex implementation schemes as the majority of the tasks involve coordinating an already developed private realm with the public realm. The Rethink Folly Road Plan is one that maintains a high level of ambition complemented by a myriad of complex components, which will build upon each other

to continuously upgrade and improve the corridor's character and functionality. As a result, perhaps the easiest way to qualify the implementation of such a plan becomes the generalization of improvements that realize the plan over time. The transition of conditions from "good" to "better" to "best" should be phased to coincide with the availability of funding and opportunities created by various stakeholders associated with the corridor (government agencies, private property owners, advocacy groups, etc.) as well as the feasibility of implementation given changing conditions. The recommendations of this study include not only a list of improvements but also a need to establish a cyclical system of monitoring, modeling, validating, analyzing, and addressing the changing landscape that is a dynamic Folly Road. This will require regular traffic analyses, modeling data for new developments, and assessing the fluctuations in vehicle miles driven and as well as new mobility choices, over time.

The *Rethink Folly Road* implementation steps should concentrate on four areas of focus:

1

## **Adoption of Policy Initiatives**

The adoption of policies by the various jurisdictions establishes the framework to guide public and private actions to continually advance toward the vision;

2

## **Coordination of Stakeholders**

Stakeholders should create an organizational structure that facilitates joint action toward the common goal;

3

## **Ability to Adapt to Funding Sources**

The elements and policies of the plan should be robust and comprehensive so that they are able and ready to obtain diverse funding opportunities; and

4

## **Remaining Realistic**

A plan as robust, detailed, and complex as this one will not happen overnight, and that is acceptable.



## CHANGE OVER TIME

The Complete Street mobility strategies described in this report are not designed to be, and in some cases should not be, implemented immediately. While the “best” approaches are ideal outcomes for Folly Road, they represent conditions that may only be possible to achieve when completed over time and installed in increments.

The “good, better, best” approaches suggest paths toward a desired outcome – ensuring Folly Road becomes a complete street for all roadway users. Some of the “good” or “better” steps can be bypassed. The end goal should be to reach the “best” stage across the entire corridor for bicyclist and pedestrian infrastructure, vehicle enhancements, transit initiatives, streetscape improvements, storm drainage, and the eventual road diets. Focusing on what “can” be done is key to the success of any complete streets project, rather than the component that “can’t” be done yet.

Some road segments, particularly the southern corridor, may be ready for “best” improvements now. Conversely, the northern corridor (with higher current traffic volumes) may require years of monitoring and change before certain techniques – such as road diets and bus-only lanes – can be implemented. It is critical that, first, initial steps be taken to bring the corridor into a “process of improvement.” These first steps can include off-street improvements, the installation of the new CARTA facilities, and improvements to sidewalks, crosswalks, and bike facilities, to encourage the use of different modes of transportation. First steps might also include a review of current practices and policies, comparing them with the state of the industry for Complete Streets, as well as establishing a cycle of transportation analyses so that Folly Road can be continually assessed for opportunities to continue to progress.

More choices and options can result in less private automobile congestion over time as people shift when and how they move, which in turn will open up new possibilities for additional improvements. The key to eliciting these shifts is to actually have viable alternatives to the personal motor vehicle in place; in the case of Folly Road, these are the recommended initiatives in the “good, better, best” palette of recommendations, in concert with a shift in development patterns and form that supports walking, biking, and transit. Larger projects such as the roundabout are considered part of the “best” scenario as there may not be funding to implement these immediately. This long-term improvement can similarly benefit from interim changes; the addition of new local streets nearby as well as some shift in travel modes will be a key to its success.

## CHANGING THE RULES

In order for improvements along Folly Road to progress, current standards, processes for measuring success, and priorities should be reassessed. Often, transportation design practices are primarily concerned with moving vehicles, usually (and certainly in the case of Folly Road) at the expense of other modes. This practice must be altered if advancements for other user groups are to be made. Implementing this project will require a rethinking of the rule book, and an updated method of analysis, observation, and reporting to accurately evaluate and predict how changes will affect traffic, to make decisions and monitor progress.

To assess the impact to motor vehicle movement that new multimodal facilities embody, traffic should be monitored and documented on an annual basis, or three months after the implementation of a major initiative (“good” approaches first). In this way, a database can be established to identify if the initiatives are having the desired results of shifting travel patterns, and eliminating a portion of the vehicle trips on Folly Road.

Second, modeling and forecasting procedures should be adjusted based on the results of the monitoring program. To be most informative, modeling should reflect and have increased sensitivity to the addition of roadway network that yields trip routing alternatives, the mix of uses and newly constructed walkable building/site design, increases in the capture rate of transit based on ridership observations as transit enhancements are made, and trip reductions due to cycling and walking based on counts conducted as facilities are implemented. These metrics are measurable, and data collected post-implementation will reflect the impact of that initiative on travel patterns and volume on Folly Road.

An adaptive system of metrics can be developed to more accurately assess the corridor, changing the rules upon which success is measured. These will rely on the following:

- Tolerance for peak hour congestion, and change in Level of Service (LOS) thresholds;
- Change in LOS approach to a multi-modal and multi-performance metric approach;
- Change in cross-access easement requirements;
- Change in connectivity requirements;
- Consolidation of driveways with new development;
- Connections to transit stops from businesses and residential units;

- Implementation of transit, bike, and pedestrian amenities; and
- Integrated land uses – including vertical or horizontal mixed use - in certain areas to create internal trip opportunities.

### Reevaluate Current Practices

Current standards for traffic operations in the region reject any design that does not meet a Level of Service of D or higher. A road’s Level of Service is based upon the flow of vehicles that travel on that road, and the speed at which they travel. It is a grading system with 6 different levels (A-F). A Level of Service of F means that the roadway has exceeded its theoretical vehicle-carrying capacity. However, a Level of Service of E or higher means that the

road has not yet reached its capacity and, as such, has not “failed.” Continually designing for a Level of Service of D is not a financially sustainable or feasible option, as it is costly and often disregards the needs, safety, and connectivity of different choices and modes of transportation such as walking, biking, or using transit. However, designing for a Level of Service of E still creates a functioning roadway that has not breached its vehicle capacity. In addition, introducing improved vehicle flow through improved signal spacing and signal coordination will also alleviate the impact of a lower level of service for individual intersections.

This may mean accepting certain levels of vehicle congestion on Folly Road in a trade-off for providing safe and equitable accommodation for other modes of travel

## IMPLEMENTATION BARRIERS

Given the complexity of implementation of the *Rethink Folly Road Plan*, it becomes important to be cognizant of a number of potential barriers to implementation as well as possible solutions:

### Right of Way Acquisition, Coordination with the Private Property Owners, SCG&E, and SCDOT

In portions of the corridor where existing right-of-way is limited, improvements such as sidewalks, trees, and the shared use path will require use of easements or additional land through dedication or acquisition. If acquisition is necessary, legal complexities can result in additional costs and time in the overall implementation of projects. Innovative and proactive approaches such as advance qualification and single agent (acquisitions below a certain amount) should be a part of the overall right-of-way acquisition strategy for Folly Road.

### Property Owner Coordination associated with Proposed Redevelopment Plans

The comprehensive nature of shopping center retrofit requires great coordination among the owner of the center and the various tenants. The property owner and project manager should discuss and coordinate such site planning matters as planned redesign of parking lots via planned expiration of existing leases, street section design for Folly Road, and rights-of-way donation and exchanges related to improvements.

### Potential SCDOT Design Exceptions for Proposed Improvements to Folly Road

Several of the proposed improvements may require some level of design exception from the SCDOT. Early discussion and agreement regarding these exceptions can reduce the time involved in permitting.

### General Funding for Projects

As always, funding remains a challenge for the costly improvement projects. Leveraging any existing funding with creative funding sources can alleviate this challenge.

### Property Owner, Neighborhood Coordination associated with Proposed Street Connections

Property rights should be preserved, and incentives given to property owners for assisting in the creation of new street and driveway connections. In addition, these connections could be viewed undesirably by neighbors due to potential for “cut through” traffic. Community outreach should be conducted to address issues; installation of neighborhood traffic calming in conjunction with improvements should be explored as one way to mitigate this concern.

## STEP 1: PLAN INITIATION: ADOPT & TAKE OWNERSHIP

**Timeframe: 0 — 4 months (IMMEDIATE)**

and mobility in the corridor. The facts remain that road space is a sparse resource, and the demand for road space is much higher than any supply that can be produced. Transportation planning studies have demonstrated that even small increases in the capacity of corridors can lead to an increase in driving habits, which brings forth congestion, often more than before. Expanding roads and adding lanes may be suitable solutions for certain projects in order to meet capacities, but it should not be considered the only solution. A tolerance for accepting a Level of Service of E for different links and intersections along corridors should be evaluated; a level of peak hour congestion should also be tolerated to best meet goals for a balanced, multimodal system. Finally, consideration of a multi-modal Level of Service analysis criteria to replace the auto-centric analysis methodology currently used would be appropriate as the vision and goals for the Folly Road corridor are reached.

### Measuring Success

One performance measure that could measure success is a “connectivity” metric that identifies how many local trips are occurring on James Island, and how many of those trips are being made by private, single occupant automobiles versus other modes (bike, walking, bikeshare, carshare, transit, and carpool to name a few). As pedestrian and bike facilities are installed and Folly Road is monitored, it is anticipated that the percentage of local trips will increase as new destinations are provided, and how those local trips are being made will change as well.

Implementing change over time, monitoring the impacts of this change, integrating results into further analysis, and changing how success is measured will, in the long run, develop a corridor that is more suitable for all user-types, including motorists. The initiatives and design recommendations do more than just make a space for cyclists and pedestrians; they create a more livable, complete, connected, economically prosperous and aesthetically-pleasing James Island. As Folly Road evolves, more trips will be to the destinations along Folly Road rather than beyond Folly Road. Shorter trips have greater potential for alternative modes, which in turn can take more vehicles off of the road and reduce congestion. Designing corridors for all forms of transportation produces a higher level of mobility and livability for all users, and allows for vehicle trips to be substituted by the now-viable modes of walking, biking, or transit.

The foundation of policy of the Rethink Folly Road Plan involves the immediate agreement of all governmental jurisdictions of the study area (Charleston County, City of Charleston, City of Folly Beach, and Town of James Island) as well as DOT and CARTA that the Rethink Folly Road Plan is the appropriate master plan that will guide all future, detailed planning, design, and funding initiatives. Thus, all of the jurisdictions should adopt the plan within the context of their planning and policy framework, which may involve an approval by Memorandum of Understanding (MOU) resolution, a comprehensive plan amendment, or a small area plan. The importance of this adoption becomes the initial pledge of each jurisdiction to work together to realize the grand vision of the plan.

The aforementioned jurisdictions may elect to enter into an MOU parallel to the adoption of the Rethink Folly Road Plan. The benefit of entering into the MOU at the time of the adoption becomes the opportunity for the jurisdictions to work together to begin to outline policy items such as funding, project management, the role(s) of a steering committee, and coordinated zoning and development standard review to provide clarity and certainty for appropriate development and redevelopment along the corridor. The MOU may not include the very detailed elements related to matters such as zoning ordinance amendments but could benefit each jurisdiction by establishing the parameters of such amendments, for example.

Just as important as the approval of the various local governments is the commitment of stakeholders and the general public to support the initiatives proposed for Folly Road. It is possible to secure and maintain support from the onset by inviting the public to participate and encouraging their input at each step of the way. Early in the process it is pivotal to initiate a branding and marketing campaign, including both traditional and social media, to draw attention to the road and its brighter future underway. One-time, “low-hanging-fruit” events designed to generate positive publicity by showing rapid progress should also be organized. These include: neighborhood tree plantings to increase canopy; mass bike rides to the beach; and food truck rodeos that showcase the corridor as an appealing outdoor activity venue. These events may gain such popularity that the public may want them to be repeated.

## STEP 2: CODIFY THE PLAN Timeframe: 0 — 9 months (IMMEDIATE)

Once the Rethink Folly Road Plan has been adopted by the various governmental jurisdictions, the detailed amendments to existing land development regulations should occur in a coordinated fashion. Each jurisdiction will need to calibrate these revisions within the context of its respective zoning and comprehensive planning frameworks. The existing Folly Road Corridor Overlay Zoning District provides a commendable structure to further develop in the codification of the Rethink Folly Road Plan.

A disconnect often exists between the guiding principles of comprehensive/master plans and the related zoning and land development regulations that guide the built environment. The codification of smart growth principles often requires detailed reform of existing standards to achieve the desired results. Regardless of how the revisions to land development regulations are codified by each jurisdiction, new provisions should demand a sustainable settlement pattern that is promoted by zoning and development standards as well as public-private partnerships.

At last, a coordinated design review process serves as another element of policy that was discussed in great detail during the charrette planning process. The design review process could be governed by more detailed guidelines than exist today and may serve as an opportunity to create a new James Island/Folly Road Design Review Board constructed in a manner which reacts to “lessons learned” from other design review boards around the region.

## REFINING THE ZONING & DEVELOPMENT STANDARDS

Refinements to zoning and development standards can be used to implement the multimodal vision described in the preceding chapters. In this way, as individual projects and improvements are proposed and implemented following the updated rules, they will contribute toward and complement the ultimate vision. Zoning and development standard revisions and refinements that should be explored include:

### Building Design Standards

As described on pages 3.4 - 3.5, establishing standards that regulate the elements of building design that contribute to shaping a high quality public realm is an essential component of the vision. The standards should specify desired materials and configurations that form James Island’s unique character. Elements to be described include:

- **Building orientation**, or requiring that the front door faces the primary street (Folly Road). Specific build-to locations where the front wall of the building must be placed can be used in locations where greater pedestrian activity is desired (to replace setbacks that yield less predictability).
- The design and dimensions of **building appurtenances** should be included to ensure they are functional as shading devices for pedestrians.
- **Building materials** can be specified to ensure they are consistent with the Lowcountry architectural vernacular.
- Minimum **building transparency** should be specified to ensure that doors, windows, and habitable space (and not blank walls or parking) face streets and public spaces.

### Site Design Standards

Site design standards should be established to advance the multimodal, sustainable design aspects of the vision, including:

- **Parking standards** should address location (to the side or rear of buildings); quantity (lowered ratios to minimize excess and reflect shared parking in mixed-use areas); and material (including permeable paving for a percentage of surface lots).
- **Signage standards** should be adjusted in areas where high pedestrian activity is desired. Signs should be placed on buildings; monument signs oriented to vehicles should be avoided.

- **Landscaping standards** should be established that regulate the type of plantings utilized based on context (town, transition, and coastal, as further described on pages 4.3 and 4.16).
- Standards for buffers on Folly Road should be replaced with standards that proactively prescribe high-quality **public frontages** for new buildings, including sidewalks, plazas, street trees, and dooryards.
- **Public open spaces** should be required with new development on larger parcels, to increase the amount of public spaces in the corridor. A percentage can be established, as well as standards for the desired landscaping of plazas, squares, and parks.
- **Tree preservation** standards should be strengthened to ensure that the existing tree canopy that establishes character in segments of the corridor remains.
- **Stormwater management** regulations should incorporate green infrastructure guidelines/checklists.

### Street Design & Mobility

New standards should also address improvements to streets and mobility:

- **Street standards** can require that new or redesigned streets include street trees, sidewalks and crosswalks, as well as transit and bike facilities.
- The existing corridor overlay addresses **vehicular access**; this could be strengthened to further define access management and include requirements for access between parcels as well as reduction of curb cuts on Folly Road.

### Drafting a Form-Based Code

The above coding elements could be integrated into each jurisdiction's zoning framework. Alternatively, a potentially effective and useful strategy would be to create a coordinated Folly Road Corridor Form-Based Code (FBC) that regulates these elements. A FBC places primary emphasis on the physical form of the built environment with the end goal of producing a specific type of "place" as illustrated in the plan, describing buildings not in terms of their use or simple statistical measures but in terms of their form and relationship to the street. FBCs often integrate both private (building and site design) and public (street design) standards. These codes enable and require development to build upon and strengthen the unique characteristics of a community, helping preserve the character of place and assuring quality development.

The Folly Road Corridor Form-Based Code would provide clarity and certainty for appropriate multimodal transformations and physical development along the corridor. It would allow by-right development of property consistent with standards set forth in the code and be designed to streamline the project approval process, because of the investment in public process and consensus that the Rethink Folly Road Plan incorporates. This type of approach demonstrates to potential funders that the jurisdictions involved with the Rethink Folly Road Plan are serious and committed to the future of this corridor.



### STEP 3: MANAGE & MAINTAIN THE PLAN

**Timeframe: 6 months — CONTINUOUS (IMMEDIATE, NEAR-TERM, LONG TERM)**

Detailed, day-to-day project management is needed to ensure the improvements of this Plan are executed in a suitable manner. Existing staffs of the jurisdictions are limited in their ability to take on additional responsibilities, which makes the hiring of a project manager critical. The duties and responsibilities of the project manager should include, but not be limited to, the following:

- Focus day-to-day on the implementation matrix;
- Identify and pursue funding sources;
- Monitor current and long-range development plans for properties within the corridor to establish and cultivate public-private partnerships that yield coordinated improvements (new connections, consolidation of curb cuts, coordination with utility companies, etc.);
- Conduct design review of horizontal improvements within the corridor;
- Market and promote business development opportunities within the Folly Road Corridor;
- Conduct procurement activities associated with overall corridor improvements;
- Negotiate maintenance and operations agreements with various entities along the corridor (public, private, and non-profit) as improvements are realized (stormwater infrastructure, pathways, transit stop furnishings);
- Disseminate information to all jurisdictions and the steering committee established by the MOU; and
- Monitor and coordinate current and long-range growth management plans of all jurisdictions every

five years. Implementation of plan improvements, including newly connected street networks, design standards that specify walkable building forms, and increased access to multimodal mobility options can complement and help to accommodate future development in the corridor.

The project manager position should be a third-party/consultant position; management of the project manager should fall under the steering committee leadership. Funding for the project manager should be a pro-rata share by all of the governmental jurisdictions involved to ensure that each has a level of ownership and accountability.

The many infrastructure improvement projects inherent in the plan will need an implementation entity experienced in designing, bidding and managing such projects. In implementing the RoadWise program funded by the half-cent sales tax, the Charleston County Transportation Development Department has developed an experienced staff and effective process. The steering committee should consider contracting with the County to manage the Rethink Folly Road Plan infrastructure projects.

The individual actions of Folly Road businesses will contribute to success. Such organizations as the Service Corps of Retired Executives (SCORE), the Charleston Area Small Business Development Center and the Charleston Metro Chamber of Commerce provide customized technical assistance to entrepreneurs. Linking corridor businesses to such assistance could help them to develop and operate more successfully, contributing to the corridor's vitality.



## STEP 4: PRIORITIZE & MONITOR THE PLAN

**Timeframe: 6 months — CONTINUOUS (IMMEDIATE, NEAR-TERM, LONG TERM)**

To believe that the implementation of the Rethink Folly Road Plan happens overnight would be imprudent. All involved with plan implementation should remain realistic and identify various phases of improvements categorized as immediate, near-term, or long term. The implementation matrix includes a section related to cost ranges. It is important to note that these cost ranges are based upon past project implementation and the context and scale of improvements proposed to Folly Road. As the projects are defined in more detail during the design and permitting of the project, detailed cost estimates should be developed.

The implementation matrix also includes the need for future, detailed transportation and feasibility studies for the Folly Road Corridor. These studies will be multimodal in nature and should be conducted within the first year of implementation in order to inform the overall implementation strategy. Each jurisdiction should consider the feasibility of utilizing a Comprehensive Transportation Analysis Program to evaluate the impacts of potential future development and proposed improvements in selected segments of the corridor. This comprehensive study can replace the analysis normally required of each individual property owner, and ensure a coordinated effort. At the time of submittal, property owners would make a payment-in-lieu of the typically required transportation study, which could then be applied directly to fund public improvements in the Folly Road corridor.

The most important near-term step remains the identification and prioritization of those near-term catalytic opportunities that will promote the plan's initial implementation, demonstrate visible improvements to

users of the corridor, and generate momentum via lighter/quicker/less expensive improvements that directly involve and engage the Folly Road Community. Once users experience tangible improvements along the corridor and not just the renderings associated with the plan document itself, the more likely they become champions of the implementation of the plan. Finally, as with any plan, it becomes imperative for the steering committee, the jurisdictions, and the community to continuously monitor the plan and its overall effectiveness as an agent for complete street implementation.

Once projects have been identified and selected to implement, a funding source should be identified as well. Projects that are built using federal funds are required to comply with the National Environmental Policy Act (NEPA). The NEPA requires agencies to assess the effects of their plans before making decisions and taking action. Public involvement is a required component of the NEPA process. In addition to going through the NEPA analysis, transportation projects must be approved by agencies with authority over sensitive resources in the vicinity and issued a permit. In South Carolina, one of the permits typically needed for transportation projects is a Section 404 permit, which is issued by the US Army Corps of Engineers and relates to impacts to waters of the United States (including wetlands). During the process there are multiple points of coordination with resource agencies and with public stakeholders. At last, local jurisdictional permits (Charleston County, City of Charleston, City of Folly Beach, Town of James Island) will need to be obtained for the respective project. Specific timelines for permitting should be assigned to the implementation of each project based upon the steps involved in order to obtain permits.

# IMPLEMENTATION MATRIX

## GOVERNANCE, POLICY, PROCESS AND MARKETING

Project Name/Description		Timeframe
1	Adopt the Rethink Folly Road Plan	Immediate
2	Enter into a Memorandum of Understanding and create a Steering Committee of elected officials	Immediate
3	Adopt zoning amendments	Immediate
4	Fund and hire a day-to-day project manager	Immediate
5	Establish communication mechanism among jurisdictions	Immediate
6	Agree on and implement a design review process	Immediate
7	Prioritize first projects	Immediate
8	Develop a joint contracting mechanism for future studies and construction by Charleston County	Immediate
9	Establish a timeline with milestones	Immediate
10	Negotiate a joint maintenance agreement for paths, green infrastructure, etc.	Immediate
11	List projects on Long Range Transportation Plan and Transportation Alternatives Program	Immediate
12	Adopt incentives for property owner participation	Immediate
13	Conduct corridor transportation study that includes access management plans for Neighborhood Preservation, South Village, Commercial Core, and North Village/Maybank areas	Immediate
14	Conduct engineering analysis for link to W. Ashley Trail from Folly Road	Immediate
15	Prepare Small Area Plan for Neighborhood Preservation Area	Immediate
16	Prepare feasibility study for TIGER grant projects (environmental review)	Immediate
17	Negotiate access easement agreements with SCE&G to permit multi-use pathways, sidewalks, etc within existing SCE&G overhead power line utility easements along the Folly Road Corridor	Immediate
18	Create a Folly Road brand, marketing and social media campaign	Immediate
19	Institute regular public meetings and events	Immediate
20	Build public support	Immediate
21	Create a community funding mechanism	Immediate
22	Conduct a mass bike ride to the beach	Immediate
23	Organize a food truck rodeo	Immediate
24	Link local property and business owners to technical assistance providers	Immediate
25	Work to amend state laws regarding Heirs Property using the Center for Heirs Property Preservation as a resource	Near-term
26	Monitor and update the Plan	Near-term / Longer-term
27	Monitor and coordinate current and long-range growth management plans of all jurisdictions every five years	Longer-term



\$	Under \$200,000
\$\$	\$200,000-\$999,999
\$\$\$	\$1,000,000-\$4,999,999
\$\$\$\$	\$5,000,000-\$9,999,999
\$\$\$\$\$	\$10,000,000 and over

Acronyms: TIGER=Transportation Investment Generating Economic Recovery grant program; LRTP=Long Range Transportation Plan; TAP=Transportation Alternatives Program; CIP=Capital Improvement Program

	Responsible Party	Cost Range	Potential Funding Source
	City of Charleston; Town of James Island; City of Folly Beach; Charleston County	--	N/A
	City of Charleston; Town of James Island; City of Folly Beach; Charleston County; BCDCOG	--	N/A
	City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$	N/A
	Steering Committee	\$	City of Charleston, Town of James Island; City of Folly Beach; Charleston County
	Steering Committee	--	N/A
	City of Charleston; Town of James Island; City of Folly Beach; Charleston County	--	N/A
	Steering Committee	--	N/A
	Steering Committee	\$	City of Charleston, Town of James Island; City of Folly Beach; Charleston County
	Project Staff; Steering Committee	--	N/A
	Steering Committee	\$	City of Charleston, Town of James Island; City of Folly Beach; Charleston County; James Island Public Service District; municipal service district
	Steering Committee; SCDOT	--	N/A
	City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$\$\$\$	City of Charleston, Town of James Island; City of Folly Beach; Charleston County
	City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$\$	City of Charleston, Town of James Island; City of Folly Beach; Charleston County
	BCDCOG	\$\$	Sales tax; TAP
	Charleston County	\$ - \$\$	Charleston County
	City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$\$	City of Charleston, Town of James Island; City of Folly Beach; Charleston County
	Project Staff	\$	City of Charleston, Town of James Island; City of Folly Beach; Charleston County
	Project Staff; Friends of Folly Road	\$	Friends of Folly Road
	Project Staff; Friends of Folly Road	\$	Friends of Folly Road
	Project Staff; Friends of Folly Road	\$	Friends of Folly Road, Charleston Moves
	Steering Committee; Project Staff; Friends of Folly Road	\$	Friends of Folly Road
	Project Staff; Charleston Moves	\$	Charleston Moves; Friends of Folly Road
	Project Staff; Friends of Folly Road	\$	Friends of Folly Road
	Project Staff	--	N/A
	Private owners and developers	\$\$	Private funding, The Center for Heirs' Property Preservation
	Project Staff; Steering Committee	\$\$	City of Charleston, Town of James Island; City of Folly Beach; Charleston County
	Project Staff; Steering Committee	\$\$	City of Charleston, Town of James Island; City of Folly Beach; Charleston County

## CORRIDOR-WIDE: PHYSICAL IMPROVEMENTS

	Project Name/Description	Timeframe	Good/ Better/Best
28	Optimize traffic signal timing, update on annual or biannual intervals	Immediate	Good
29	Clean drains and gutter/bike lanes, and institute regular street sweeping	Immediate	Good
30	Reduce speed limits and provide traffic calming	Immediate	Good
31	Install crosswalks at signalized intersections	Immediate	Good
32	Complete continuous sidewalk (minimum one side)	Immediate	Good
33	Continue sidewalk construction on side streets	Immediate	Good
34	Connect bike lane gaps by paving shoulders and marking as bike lanes, provide shared lane markings and connect mixed-use paths on alternative routes	Immediate	Good
35	Construct a demonstration bus stop with green roof	Immediate	Good
36	Install bus stop improvements: signage, shelters	Immediate	Good
37	Connect pedestrians to bus stops along the entire corridor: connect sidewalks and add crosswalks	Immediate	Good
38	Identify possible park 'n ride lot location	Immediate	Good
39	Organize a tree planting/green infrastructure demonstration project	Immediate	Good / Better
40	Close selected curb cuts and install landscaped medians	Near-term	Good / Better
41	Reduce speed limits and provide traffic calming	Near-term	Better / Best
42	Install additional, mid-block crosswalks at key locations	Near-term	Good / Better
43	Implement "road diet" south of Riverland Drive (reduce number of vehicle lanes, add green infrastructure); evaluate additional opportunities for road diets	Near-term	Good
44	Continuous bike-ped connection(s) on shared use path from West Ashley Greenway to Folly Beach (west side of Folly Road)	Near-term	Better
45	Construct additional side street sidewalks	Near-term	Better
46	Install bike racks and facilities	Near-term	Better
47	Improve the bike network (including Camp Rd, George L Griffith Blvd, Yorkshire Dr, JI Expressway, Fort Lamar Rd, West Ashley Ave)	Near-term	Better
48	Reduce bus headways to 60 minutes	Near-term	Better
49	Explore express bus service to Folly Beach from the Peninsula, possibly private	Near-term	Better
50	Install green infrastructure along shared-use path	Near-term	Better
51	Plant trees	Near-term	Better
52	Commission and install public art	Longer-term	Better
53	Close additional selected curb cuts and install landscaped medians	Longer-term	Better / Best
54	Install adaptive controls for real-time adjustments to traffic signal timing	Longer-term	Better
55	Enable signal prioritization for emergency vehicles and buses	Longer-term	Better
56	Underground utilities in portions of the corridor	Longer-term	Best
57	Install a two-way cycle track on east side of Folly Road, from Grimball Rd to Harbor View Rd	Longer-term	Best
58	Improve the bike network (including Savannah Hwy, Parish Rd, Magnolia Rd, West Oak Forest Drive, Flemming Rd, Stefan St, Dills Bluff Road)	Longer-term	Best
59	Reduce bus headways to 30 minutes	Longer-term	Best
60	Evaluate potential for dedicated transit and carpool lanes, or bus and bike only lanes	Longer-term	Best
61	Plant additional trees	Longer-term	Best

\$	Under \$200,000
\$\$	\$200,000-\$999,999
\$\$\$	\$1,000,000-\$4,999,999
\$\$\$\$	\$5,000,000-\$9,999,999
\$\$\$\$\$	\$10,000,000 and over

Acronyms: TIGER=Transportation Investment Generating Economic Recovery grant program; LRTP=Long Range Transportation Plan; TAP=Transportation Alternatives Program; CIP=Capital Improvement Program

Responsible Party	Cost Range	Potential Funding Source
City of Charleston	\$\$	SCDOT
Steering Committee; SCDOT	\$	SCDOT
SCDOT	\$\$	SCDOT
SCDOT; City of Charleston; Town of James Island; Charleston County	\$	SCDOT
Charleston County for the Steering Committee	\$\$\$	TIGER Grant; sales tax; TAP
Town of James Island	\$\$	Town CIP
City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$-\$	TIGER; sales tax; TAP
City of Charleston; CARTA	\$	City of Charleston, CARTA
City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$\$	City of Charleston, Town of James Island; City of Folly Beach; Charleston County; CARTA
City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$\$	TIGER; sales tax; TAP
Steering Committee; CARTA; Major Employers	\$	CARTA
Project Staff; Friends of Folly Road	\$	Foundation grant
Charleston County for the Steering Committee	\$\$\$	TIGER; sales tax
SCDOT	\$\$\$	SCDOT
SCDOT	\$\$	SCDOT, Sales Tax, TAP
City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$\$	TIGER Grant; sales tax; TAP
City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$\$\$	TIGER; sales tax; TAP
Town of James Island; Charleston County; City of Charleston	\$\$	County, Town and City CIPs
City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$	TIGER; sales tax; TAP
City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$\$	TIGER Grant; sales tax; TAP
CARTA	\$\$\$	CARTA
City of Folly Beach; CARTA; private bus/tour operators; major hotels	\$\$	Sales tax; municipal service district; hospitality tax; private funding
Charleston County for the Steering Committee	\$\$	TIGER; sales tax; Clean Water Act 320
10,000 Trees for Charleston	\$\$	TIGER; TAP; 10,000 Trees for Charleston; Town and County tree funds; ACTrees; foundations
City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$	Sales tax; foundation; private donations
City of Charleston; Town of James Island; City of Folly Beach; Charleston County; SCDOT	\$\$	Sales tax
City of Charleston	\$\$\$	Sales tax
City of Charleston	\$\$	Sales tax
SCE&G	\$\$\$\$\$	Sales tax
Charleston County for the Steering Committee	\$\$\$\$	TIGER; sales tax; TAP
City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$\$	TIGER Grant; sales tax; TAP
CARTA	\$\$\$	CARTA
Steering Committee; BCDCOG; SCDOT; CARTA	\$\$	TIGER Grant; sales tax; TAP
10,000 Trees for Charleston	\$\$	TAP; sales tax; 10,000 Trees for Charleston; Town and County tree funds; ACTrees; foundations

## SPECIFIC AREAS: PHYSICAL IMPROVEMENTS

\$	Under \$200,000
\$\$	\$200,000-\$999,999
\$\$\$	\$1,000,000-\$4,999,999
\$\$\$\$	\$5,000,000-\$9,999,999
\$\$\$\$\$	\$10,000,000 and over

Project Name / Description	Timeframe	Good / Better / Best	Responsible Party	Cost Range	Potential Funding Source
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### Folly Beach & Conservation Area

62	Construct Center Street improvements	Near-term	Good	City of Folly Beach	\$\$	CIP (partial funding allocated)
63	Introduce a seasonal, dedicated transit lane and "Folly Trolley" shuttle service from park 'n ride to the beach	Near-term	Better	City of Charleston; Charleston County for the Steering Committee	\$\$	Sales tax; hospitality tax; Folly Beach municipal service district; private funding
64	Install continuous shared-use path on detached boardwalk in Conservation Area	Longer-term	Best	Charleston County for the Steering Committee	\$\$\$\$	TIGER; sales tax; TAP

### Neighborhood Preservation

65	Build a farm stand near South Grimball	Immediate	Good	Private operator	\$	Private funding
66	Pursue a pilot project for shared-use path between Grimball Road and George L Griffith Blvd	Near-term	Good	City of Charleston; Charleston County	\$	CIP
67	Create a park 'n ride lot to serve beach traffic	Near-term	Better	City of Charleston; Charleston County for the Steering Committee	\$\$	Sales tax
68	Introduce a seasonal, dedicated transit lane and "Folly Trolley" shuttle service from park 'n ride to the beach	Near-term	Better	City of Charleston; Charleston County for the Steering Committee	\$\$	Sales tax; hospitality tax; Folly Beach municipal service district; private funding

### South Village

69	Establish farmers market at Fort Johnson Road	Immediate	Good	City of Charleston; Charleston County for the Steering Committee	--	N/A
70	Create a traffic roundabout on Folly Road at Fort Johnson Road	Longer-term	Better	Charleston County for the Steering Committee	\$\$\$\$	Sales tax; L RTP

### Commercial Core

71	Extend streets and create additional signalized intersections at Prescott, Chandler and Kemper	Near-term	Good / Better	SCDOT	\$\$\$	TIGER; sales tax
72	Acquire and improve new public open space along Folly Road	Longer-term	Better	City of Charleston; Town of James Island; City of Folly Beach; Charleston County	\$\$	Sales tax; SC Parks, Recreation and Tourism Commission

### Maybank & North Village

73	Provide protected bicycle and pedestrian access on Wappoo Cut Bridge (minimum one side)	Near-term	Better	Charleston County for the Steering Committee	\$\$	TIGER; sales tax; TAP
74	Improve gateways	Longer-term	Better	Charleston County for the Steering Committee	\$\$	Sales tax
75	Replace Wappoo Cut Bridge	Longer-term	Best	SCDOT	\$\$\$\$\$	L RTP; sales tax; State Infrastructure Bank

# FUNDING SOURCES

Several Federal, State and local funding programs potentially could be tapped to help fund the Rethink Folly Road Plan. Ultimately, the plan's implementation will need to take advantage of a multitude of funding sources, which will change over time as new funding mechanisms and priorities are established. Ideally, Federal programs would fund the entire system of infrastructure components that form the plan; however, funding constraints and the highly competitive nature of many Federal programs make that unlikely. Therefore, the strategy focuses first on Federal and State funding opportunities while pursuing local options simultaneously.

## FEDERAL AND STATE FUNDING OPPORTUNITIES

### **Transportation Investment Generating Economic Recovery (TIGER)**

The U.S. Department of Transportation (US DOT) offers capital grant funding for multi-modal, multi-jurisdictional projects with a local match as low as 20 percent. The program's criteria are closely aligned with the planned Folly Road improvements. This is a highly competitive program. DOT received more than 950 pre-applications for the current funding round, which requested \$14.5 billion in funding. The current round will award \$500 million in funding.

### **Federal/State Guideshare**

DOT's traditional transportation funding for highways and other roads is administered through the Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) as part of its role as the Metropolitan Planning Organization for the region. The Federal money is supplemented by some State gas tax revenues. The Long-Range Transportation Plan (LRTP) identifies required transportation improvements and prioritizes their funding. The LRTP will be updated this year for the next five-year period. Local jurisdictions will identify projects in August or September.

### **Transportation Alternatives Program (TAP)**

TAP funds transportation alternatives, including pedestrian and bicycle facilities, pedestrian access to public transit, recreational trails, safe routes to school and other projects. BCDCOG allocates these funds, which require a 20-percent local match. Some funds are still available from prior year allocations. There will be a three-year call for new projects this Fall. The program's funding for 2016 has not been determined yet. New transportation authorization is

required to replace the current authorization that expires this year.

The Recreational Trails Grant Program, funded by the Federal Highway Administration, is managed locally by the South Carolina Department of Parks, Recreation and Tourism. It funds development of trails for off-road motorcycles, ATVs, mountain bikes, equestrians, hikers and watercraft. The two-year grants are awarded in a competitive process and require a 20-percent local match.

### **Bus Livability Discretionary Grants**

DOT's Federal Transit Administration (FTA) Bus Livability Discretionary Grant Program funds projects that fulfill the Interagency Partnership for Sustainable Communities' six livability principles. This includes projects that increase transportation options, provide access to jobs and affordable housing, encourage economic development and improve transportation accessibility. Program grants have been used to install bus shelters and benches, increase bus frequency, improve pedestrian access to a Bus Rapid Transit station, provide real time schedule information and other projects. No funds are currently allocated to this program.

### **Clean Water Act Section 319 and State Revolving Fund**

The U.S. Environmental Protection Agency funds State of South Carolina projects to control and treat polluted runoff under the Nonpoint Source Management Program created through Section 319 of the Clean Water Act. The South Carolina Department of Health and Environmental Control (SCDHEC) uses 319 funds to implement watershed-based plans for nonpoint source management. SCDHEC also administers the State Revolving Fund to provide low-interest-rate loans for stormwater quality improvement projects.

### **Regional Coastal Resilience Grants**

The National Oceanic and Atmospheric Administration's (NOAA) Regional Coastal Resilience Grants funds coordinated efforts by multiple jurisdictions to plan and implement activities that build resilience to the negative impacts of extreme weather events, climate hazards and changing ocean conditions. The funding guidelines require local matching funds equal to one dollar for every two dollars of program funding.

## CHARLESTON COUNTY FUNDING OPPORTUNITIES

### Half-Cent Sales Tax

Charleston County voters agreed in 2004 to create an additional half-cent sales tax on local purchases to fund a specified set of greenbelt and transportation projects. Administered by the Charleston County Transportation Development Department, the original funding is now fully obligated to specific projects across the county, including the Johnnie Dodds Boulevard improvements, the U.S. 17 / S.C. 61 / Wesley Drive Improvements Project in West Ashley, improvements to the Folly Road/Maybank Highway and other intersections, and other major transportation projects.

Folly Road’s major pedestrian and bike networks; intersection, roadway and access management improvements; and open space investments would be very appropriate projects for sales tax funding. The voters could be asked to approve an additional half-cent sales tax to fund a specific list of investments that includes Folly Road projects.

### Annual Transportation Program

An annual \$5 million allocation funds local road paving, road stabilization and drainage improvements in unincorporated portions of the county.

### Charleston County Accommodations Tax Grants

Charleston County makes available revenues from its accommodations taxes for tourism-related expenditures, including advertising and promotion related to tourism development, maintenance or operation of tourist-related building or facility, construction of a tourist-related building or facility, and beach renourishment. Grants are awarded based on impacts on the economy, media and marketing, and the community.

### Charleston County Tree Fund

Charleston County imposes fines for removing trees and a tree mitigation fee when retention of trees is impractical for the intended site design. The Tree Fund is then used to fund tree planting for public beautification.

## EXISTING LOCAL FUNDING RESOURCES

### City of Charleston Accommodations Tax Grants

The City of Charleston funnels a portion of its accommodations tax revenues to non-profit organizations that support and increase tourism through Accommodations Tax Grants. Eligible activities include promotion of the arts and cultural events and/or operation of facilities for artistic and cultural activities.

### Town of James Island Tree Fund

As does Charleston County, the Town of James Island collects tree mitigation fees and funds planting of trees within the town.

### Town of James Island Sidewalk Funding

The Town of James Island periodically funds the installation of sidewalks on local roads, including streets that access Folly Road.

### 10,000 Trees for Charleston

The volunteer group, 10,000 Trees for Charleston, is committed to planting 10,000 new trees in Charleston. It relies on community and corporate donations and grants to fund tree purchase, planting and first-year maintenance.

## FOUNDATIONS

Some individual foundations have core missions that include environmental protection, trees, public open space, outdoor recreation and/or public art. Though awarded competitively, their grants can fund smaller projects. Tapping these resources requires becoming familiar with individual local, regional and/or national foundations to identify those with compatible interests and then submitting specific grant proposals.

## POTENTIAL LOCAL FUNDING

Though not currently in use in the Folly Road corridor, a few funding tools are potentially available to local jurisdictions that could support some of the proposed improvements: tax-increment financing; municipal service districts; and development impact fees.

### **Tax-Increment Financing (TIF)**

South Carolina law allows jurisdictions to issue bonds backed by the real property tax revenues resulting from property value increases generated by development. The City and County of Charleston, for example, could set aside the incremental taxes generated following redevelopment of a shopping center to repay bonds issued to fund public infrastructure and public space improvements that made the redevelopment possible. To use this tool, a tax-increment district would be formed and a base value established at the then-current level of assessed property values. As the value increased with new development, the incremental taxes would flow to a special fund to repay the bonds. This tool is typically limited to situations where the development would not have occurred “but for” the public investment made possible by the TIF.

### **Municipal Service District**

Local voters can elect to tax themselves to fund services and/or capital improvements. Special assessment districts boundaries are established to include the property owners who will most benefit from the specified service or improvement (e.g., commercial properties fronting on the improvement). An additional property tax is collected to cover all or part of the cost of the services or improvements.

### **Development Impact Fees**

Where a link can be demonstrated between new development and the need for capital investments, many municipalities impose impact fees on that new development. Generally, the cost of the improvement is divided by the number of new units or square feet of anticipated development so that each new project pays its proportionate share of the costs imposed by its development activity. In situations where the need for improvements is triggered by both existing and new development, the impact fee may be calculated based on a portion of the improvement costs.

### **Public/Private Partnerships**

As new development and redevelopment occurs along the corridor, there may be opportunities for joint public/private efforts. Public infrastructure improvements could be installed by the private developer in exchange for additional density or other planning considerations. Public incentives could encourage redevelopment in a form that enhances the corridor’s connectivity and aesthetics.

