

FLORENCE AREA BIKEWAY MASTER PLAN



FINAL REPORT

Prepared for:
Florence Area Transportation Study
October 2004

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SECTION 1: INTRODUCTION

The benefits of bicycling are becoming more meaningful in our hectic lives. We need exercise; we need more time to ourselves and with our families and friends; we need to prioritize our spending so we have funds for a rainy day. Bicycling can accomplish all of these things if there is the infrastructure in place to safely bicycle in the Florence County area. The objectives of the Bikeway Master Plan are straightforward:

- Reach out to the public to identify their needs in terms of bicycle improvements (and at the same time educate the general public about the benefits of bicycle transportation);
- Determine what improvements can be made, map them, and cost them; and
- Prioritize improvements based on potential usage, geographic coverage and costs.

The focus is primarily on on-street facilities. Off-street paths will also be considered when on-street connections are not possible. On-street facilities can take the form of striped bike lanes, paved shoulders or wide outside lanes.



Bike Lane

Wide Outside Lane

Separated Path

Images courtesy of www.pedbikeimages.org / Dan Burden

Successful bikeway planning is a grassroots effort. It must reflect local community needs in terms of what type of facilities are needed and where they should be located. Therefore, the foundation of the Florence Area Bikeway Master Plan is public outreach.

To facilitate this outreach, a Bicycle Summit was held. This event was geared toward stakeholders – members of the cycling community, transportation planners, roadway engineers, health professionals, major employers and others – who have a vested interest in some form in bikeway development and usage. The findings of the Summit are discussed in Section 2.

Section 3 details the proposals for bikeway facilities, based on the needs expressed during the Summit as well as through other meetings and discussion. Extensive field reviews were conducted to determine current conditions and major issues to be addressed during project implementation.

Section 4 discusses a series of policies and strategies that must be incorporated into the planning process to develop a more supportive environment for bicycling in the region. Adequate facilities are important, but the full potential of these facilities will not be realized without supportive strategies to promote bicycling and educate residents about bicycling.

Appendix A contains detailed information on the unit costs used to estimate project costs, and the costs of each individual project (overall costs are given in Section 3), and Appendix B summarizes the final public forum that was held at the conclusion of this planning effort.





SECTION 2: SUMMARY OF FIRST BICYCLE SUMMIT

FLORENCE AREA BICYCLE SUMMIT

**Lynches River County Park
Wednesday, September 10, 2003
10:00 AM – Noon**

Approximately 45 people attended the Florence Area Bicycle Summit, including representatives from major employers, local hospitals, school systems, the bicycling club, fitness facilities, advocacy groups, government officials, and others. The session began with opening remarks from Robbie Ervin and Pat Bresnan, and was followed by a presentation by Linda Carpenter regarding the benefits of being a bicycle-friendly community and the various elements that are involved in becoming more bicycle friendly. The summit continued with a general discussion of bicycling needs and issues in the Florence area, moderated by Ms. Carpenter. After general discussion, attendees divided into one of five breakout groups, in which each group discussed more specific needs and concerns. At the conclusion of the session, each breakout group addressed their findings in a summary session.

There were several common elements that were mentioned by multiple breakout groups, but the most consistent theme was the need for safety and awareness education, focusing on bicycles as well as automobiles. Several groups noted that these types of programs, as well as other supporting policies, should be in place before efforts are made to implement bikeway facilities. The groups noted several destinations that would be desirable to serve with dedicated bikeway facilities, including downtown Florence and local parks. Specific findings from each of the breakout sessions are summarized below.

Table 1

- Rules of the road / Safety education for both bicycles and automobiles is important.
- Important destinations to serve via a bikeway connection:
 - Downtown Florence, including the new Library
 - Rail Trail connection to Timmonsville
 - Connection to Francis Marion University
- Bicycle parking is needed at destinations.

Table 2

- Education and safety is most critical issue.
 - A media campaign is needed as part of an education program.
 - Encouragement programs (e.g. Bike-to-Work) are needed.
- Important destinations to serve via a bikeway connection:
 - Downtown Florence focus
 - Bikeway network focus on connecting to parks
 - Connection between Lake City and Lynches River County Park is needed.
- Route maps and signage will be needed with a bikeway network.

Table 3

- Safety first!!
- Would like to see extension of rail trail to area near proposed Wal-Mart development.
- Awareness of routes will be needed (i.e. signage, maps).



- Traffic calming along proposed routes may be beneficial.
- Pursue outside funding sources (i.e. grants) as much as possible.

Table 4

- Would like to see individual community plans devised.
- Proposed subdivision plans should be reviewed to ensure that bicycles are accommodated appropriately.
- Examine the potential for assessing impact fees for bikeway connections to new developments.

Table 5

- Focus on policies before facilities – begin to change attitudes before facilities are constructed.
- Policy changes need to focus on changing the attitudes of non-riders toward bicyclists.
- Promotion and safety awareness efforts are important. These efforts should focus on children as well as adults.





SECTION 3: FACILITY PROPOSALS

This Section provides information on the specific facility projects that are proposed. A series of “fact sheets” presents information about the characteristics of each project, and the recommendations for enhancement.

It is not intended for this Master Plan to be accomplished in its entirety in the short-term; several projects have substantial costs associated with them and will require significant time to implement. However, the projects have been categorized by level of priority (High, Medium, and Low) to allow decision-makers to focus in the short-term on the projects that will have the most benefit to area residents. Lower-priority projects could be implemented later.

An overall map illustrating the entire proposed network is shown following the Summary of Costs below. More information on individual projects can be found in the fact sheets following the overall map.

SUMMARY OF COSTS

Conceptual costs were developed for each project, based on recent cost data for bicycle projects in other areas. The unit costs, as well as a more detailed cost spreadsheet showing costs by project, are included in Appendix A.

The following overall costs are estimated by level of priority:

- High priority projects: \$3,386,900
- Medium priority projects: \$3,320,500
- Low priority projects: \$8,662,400
- **Total project costs: \$15,369,800**

High Priority Projects

The following projects are categorized as “High Priority Projects” (details are provided in the fact sheets following this summary):

Project	Type of Facility	Conceptual Cost (excluding right-of-way)
Darlington Street Bikeway (ID #1)	Signed bike route, shoulder / bike lane, off-street bike path	\$327,400
Rail Trail Spur (ID #3)	Off-street multi-use path	\$605,700
South Rail Trail Extension (ID #4)	Off-street multi-use path	\$1,970,100
Parks Connector (ID #6)	Bike lane, signed bike route, striped shoulder	\$186,000
McLeod Park Bikeway (ID #7)	Off-street multi-use path	\$209,900
Downtown Connector (ID #12)	Bike lane, signed bike route, wide outside lane	\$87,800
TOTAL		\$3,386,900



Medium Priority Projects

The following projects are categorized as “Medium Priority Projects” (details are provided in the fact sheets following this summary):

Project	Type of Facility	Conceptual Cost (excluding right-of-way)
Church Street Bikeway (ID #2)	Wide outside lane	\$94,100
Palmetto Connector (ID #5)	Shoulder / bike lane, signed bike route	\$144,300
Third Loop Connector (ID #9)	Signed bike route, striped bike lane / shoulder, wide outside lane	\$1,583,200
Freedom Florence Bikeway (ID #10)	Off-street multi-use path	\$1,485,000
Francis Marion Connector (ID #13)	Signed bike route	\$11,000
South Cashua Bikeway (ID #14)	Signed bike route	\$2,900
TOTAL		\$3,320,500

Low Priority Projects

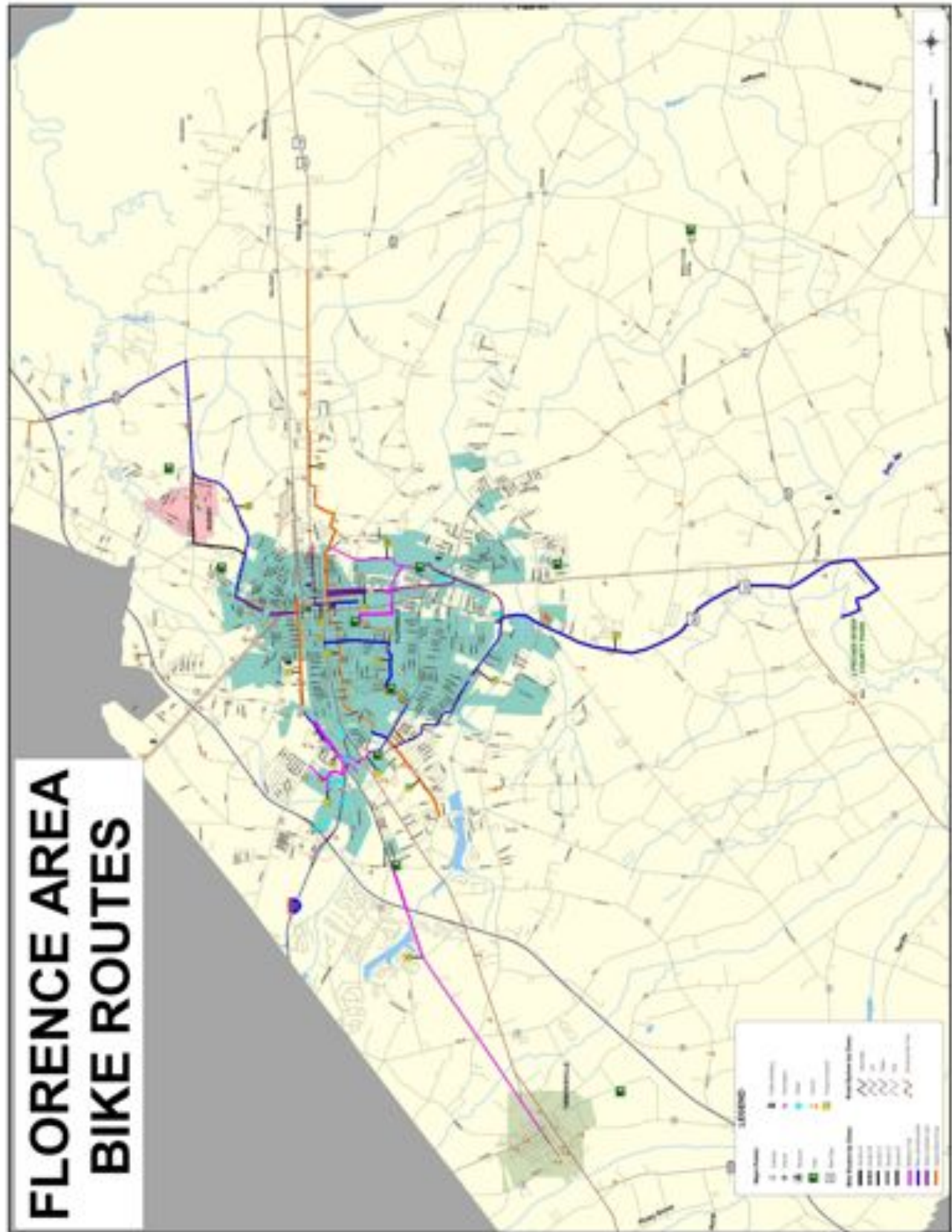
The following projects are categorized as “Low Priority Projects” (details are provided in the fact sheets following this summary):

Project	Type of Facility	Conceptual Cost (excluding right-of-way)
North Rail Trail Extension (ID #8)	Off-street multi-use path	\$495,000
Lynches River Connector (ID #11)	Striped shoulder	\$4,565,000
Northeast Connector (ID #15)	Wide outside lane, striped shoulder, signed bike route	\$3,602,400
TOTAL		\$8,662,400

PROJECT DESCRIPTIONS

An overall map of proposed facilities is given on the next page, followed by details on each specific route.





SHEET 1 OF 4

Routing: Darlington Street from Church to McLeod Fitness Center

- Type of facility: Section A: Signed bike route
Section B: Shoulder / bike lane (widening required)
Section C: Off-street bike path (use abandoned rail bed where possible)
- Potential users within half-mile of facility: Northeast Florence residents for commuting to shopping, post office, future Wal-Mart, and Fitness Center
- Priority Level: Section A: High
Section B: High
Section C: High
Entire Project Priority: High
- Conceptual Cost (excluding right-of-way costs): \$327,400



DARLINGTON STREET BIKEWAY (ID #1)

SHEET 2 OF 4

Section 1A: Darlington Street from Church to Cashua (2.15 miles)

Current Conditions: 5-lane section with no parking allowed; sidewalks on both sides. Speed limit = 40-45 mph.

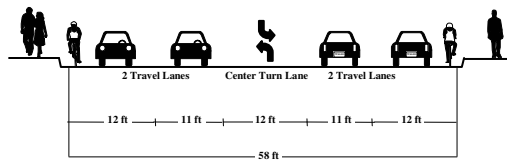
Major Issues: Generally low traffic volumes, but some truck traffic from nearby industries

Proposed Action: Provide “Bike Route” signage only. The addition of a bike lane would require roadway widening and sidewalk reconstruction. Consider widening as a possible long-term improvement, but it is not cost-effective compared to other projects.

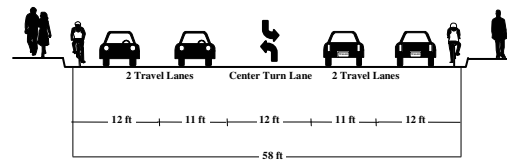
Conceptual Cost: \$3,400



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION (No Change)



DARLINGTON STREET BIKEWAY (ID #1)

SHEET 3 OF 4

Section 1B: Darlington Street from Cashua to Hoffmeyer (0.72 miles)

Current Conditions: 2-lane section with no shoulder and no curb & gutter. Speed limit = 35 mph. Abandoned rail bed located parallel to Darlington for part of section but post office site is on top of rail bed near Cashua.

Major Issues: None

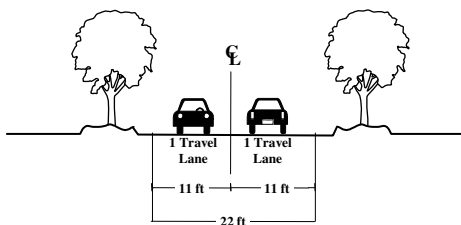
Proposed Action: Widen to provide 4-foot paved shoulder / bike lane on each side. Bike lane also serves as a shoulder with no curb & gutter. Consider joint sidewalk / bike lane project if roadway is widened.

Conceptual Cost: \$324,000

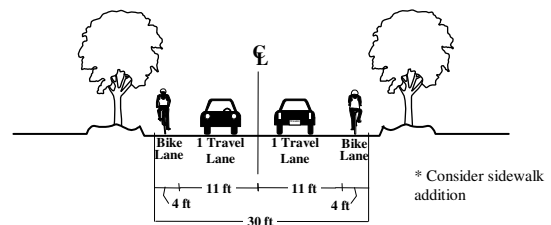


Darlington St. near Jody St.

EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



DARLINGTON STREET BIKEWAY (ID #1)

SHEET 4 OF 4

Section 1C: Darlington Street at Hoffmeyer to McLeod Fitness Center via Dozier and Bentree (0.85 miles)

Current Conditions: Dozier is a 3-lane section with curb & gutter, crossing McLeod Blvd. at a traffic signal to go to the Fitness Center. Sidewalk on both sides, speed limit = 30 mph. A signed connection to the existing Rail Trail is needed through the parking lot at the Fitness Center.

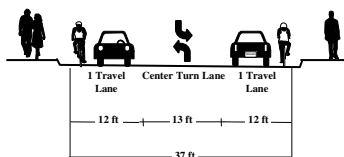
Major Issues: Dogleg intersection between Dozier and Darlington at Hoffmeyer is a challenge. Realignment and provision of a traffic signal may be needed. If realignment is not possible, an off-street path could be used to transition from Darlington to Dozier.

Proposed Action: Implementation of a bike lane would require roadway widening. Thus, suggested action is to utilize the abandoned rail bed for an off-street path parallel to Dozier. See Project #8 for more details. If an off-street path is not possible, a signed route on Dozier should be implemented.

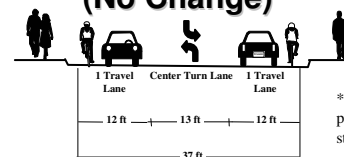
Conceptual Cost: \$0 (Costs shown as part of Project #8).



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION (No Change)



* Implement parallel path instead of on-street facility

CHURCH STREET BIKEWAY (ID #2)

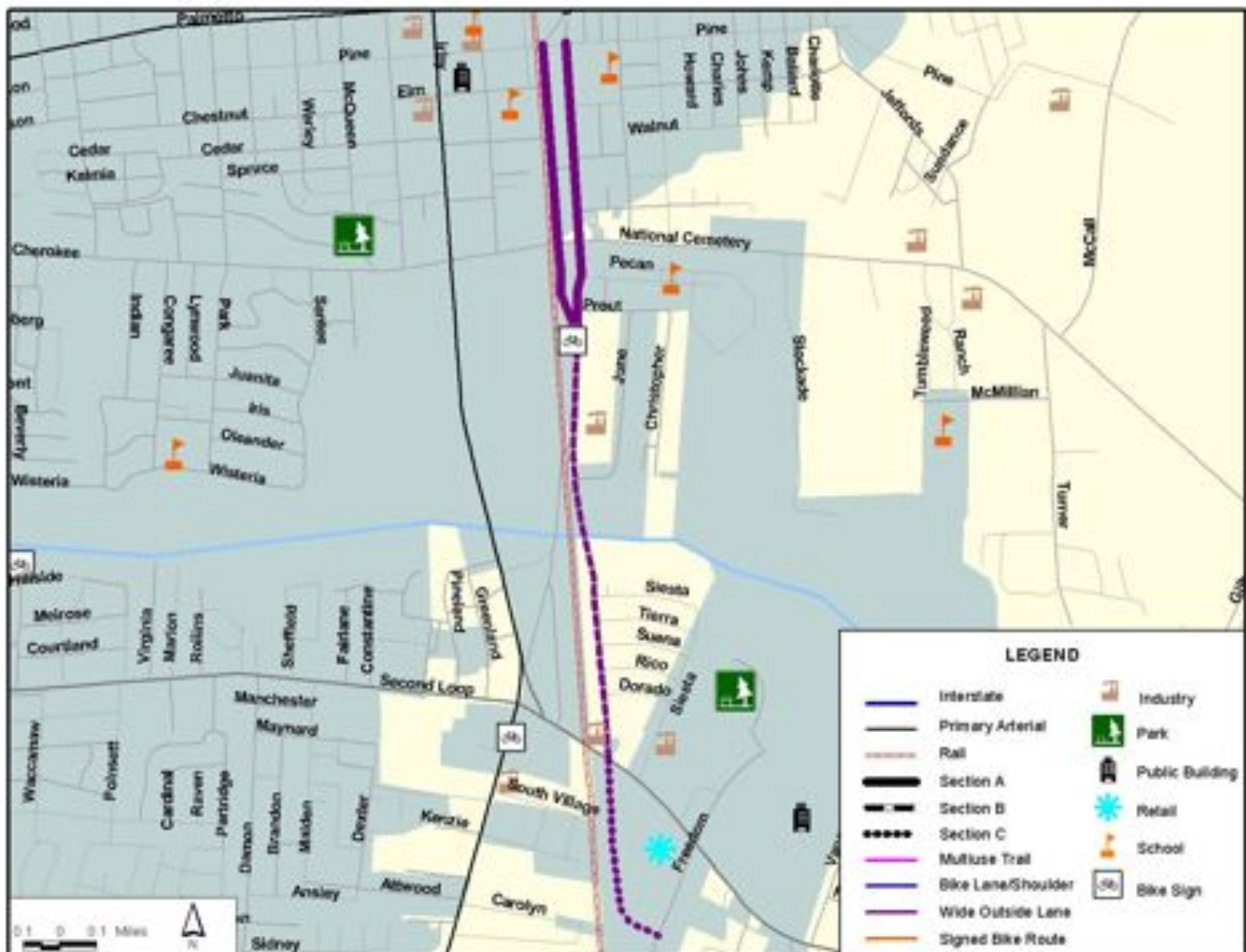
SHEET 1 OF 4

Route Distance: 2.48 miles

Routing: Church Street from Pine to Freedom

OVERALL CHARACTERISTICS

- Type of facility: Section A: Wide outside lane
Section B: Wide outside lane
Section C: Wide outside lane
- Potential users within half-mile of facility: Northeast Florence residents to employment / shopping on Pamplico Highway; provides a north / south connection
- Priority Level: Section A: Medium
Section B: Medium
Section C: Medium
Entire Project Priority: Medium
- Conceptual Cost (excluding right-of-way costs): \$94,100



CHURCH STREET BIKEWAY (ID #2)

SHEET 2 OF 4

Section 2A: Church / Railroad St. from Pine to Prout (0.77 miles on a one-way pair)

Current Conditions: 3 lanes on each segment of pair. Speed limit = 35 mph. High traffic volumes, high speeds. Sidewalk on both sides of Church, on one side of Railroad.

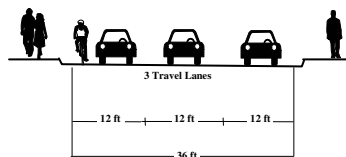
Major Issues: None

Proposed Action: Restripe to provide wide outside lane. A bike lane is not recommended due to high speeds and lack of potential demand as compared to other recommended projects.

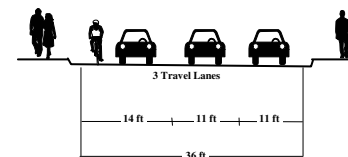
Conceptual Cost: \$29,200



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



CHURCH STREET BIKEWAY (ID #2)

SHEET 3 OF 4

Section 2B: Church St. from Prout to Pamplico Highway (1.17 miles)

Current Conditions: 5-lane curb-and-gutter section (with two-way left-turn lane); sidewalk on one side. Speed limit = 40 mph.

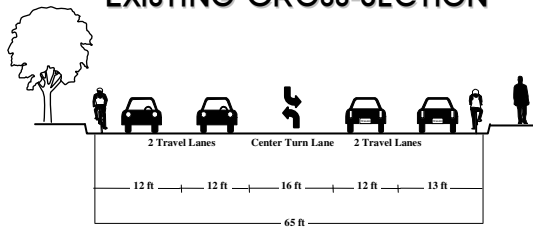
Major Issues: High traffic speeds

Proposed Action: Restripe to provide wide outside lane. A bike lane is not recommended due to high speeds and lack of potential demand as compared to other recommended projects.

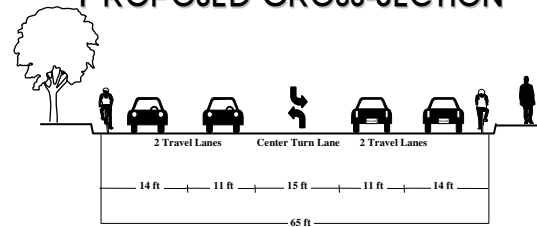
Conceptual Cost: \$44,400



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



CHURCH STREET BIKEWAY (ID #2)

SHEET 4 OF 4

Section 2C: Church St. from Pamplico Highway to Freedom (0.54 miles)

Current Conditions: 5-lane curb-and-gutter section (with two-way left-turn lane); sidewalk on both sides. Speed limit = 45 mph. Fairly low traffic volumes.

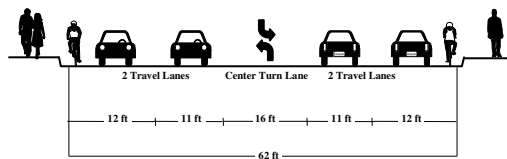
Major Issues: High traffic speeds

Proposed Action: Restripe to provide wide outside lane. A bike lane is not recommended due to high speeds and lack of potential demand as compared to other recommended projects.

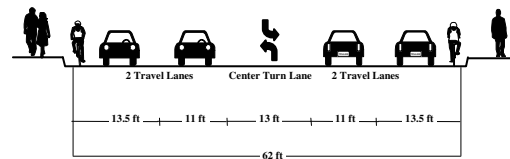
Conceptual Cost: \$20,500



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



RAIL TRAIL SPUR (ID #3)

SHEET 1 OF 4

Route Distance: 1.34 miles

Routing: Off-street connection from potential Rail Trail Extension to Hoffmeyer via Beltline; spur to Magnolia Mall

OVERALL CHARACTERISTICS

- Type of facility: Off-street multi-use path
- Potential users within half-mile of facility: Provides access for Rail Trail users to shopping / employment at Lowe's, Sam's Club, future Wal-Mart, and Magnolia Mall. Also provides access to West Florence High School.
- Priority Level: Section A: High
Section B: High
Section C: High
Entire Project Priority: High
- Conceptual Cost (excluding right-of-way costs): \$605,700



Section 3A: From potential Rail Trail Extension (ID #8) to Beltline at West Florence High School (0.61 miles)

Current Conditions: Wooded area between Lowe's and old Lowe's building; ravine in same area. Topography is flat in the Sam's Club / Beltline area.

Major Issues: Engineering obstacles related to topography between Lowe's buildings

Proposed Action: Provide off-street path; an on-street connection via Frontage Road and Beltline is an alternative if engineering obstacles can not be solved adequately.

Conceptual Cost: \$241,600



Wooded area between Lowe's buildings

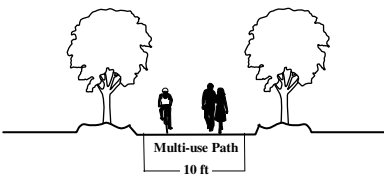


Wooded area between Lowe's buildings

EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



RAIL TRAIL SPUR (ID #3)

SHEET 3 OF 4

Section 3B: On Beltline from West Florence High School to Hoffmeyer (0.43 miles)

Current Conditions: 2-lane section with no curb & gutter, no sidewalks. Speed limit = 35 mph. Proposed Super Wal-Mart located across from West Florence High School.

Major Issues: Availability of right-of-way for parallel path

Proposed Action: Provide off-street path parallel to Beltline (on WFHS side of street). It is desirable to provide a continuous separated facility (especially on a roadway with frequent turning movements), so a path is recommended instead of an on-street facility. A multi-use path also benefits pedestrians around the High School.

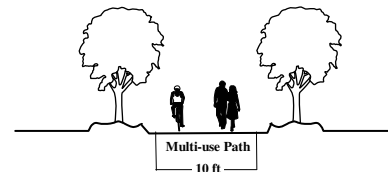
Conceptual Cost: \$170,300



EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



RAIL TRAIL SPUR (ID #3)

SHEET 4 OF 4

Section 3C: From Beltine to Magnolia Mall
(0.30 miles)

Current Conditions: Wooded area between West Florence High School athletic fields and Magnolia Mall. There are several unpaved paths in the area, and a creek / wetlands area separates the High School area and the Mall.

Major Issues: Construction of a bridge will be needed to cross the creek / wetlands areas. Some grades are relatively steep.

Proposed Action: Construct off-street path

Conceptual Cost: \$193,800 (includes conceptual cost of 50' bridge)



Existing unpaved trail near West Florence H.S.

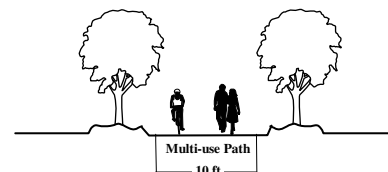


Existing unpaved trail near Magnolia Mall

EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



SOUTH RAIL TRAIL EXTENSION (ID #4)

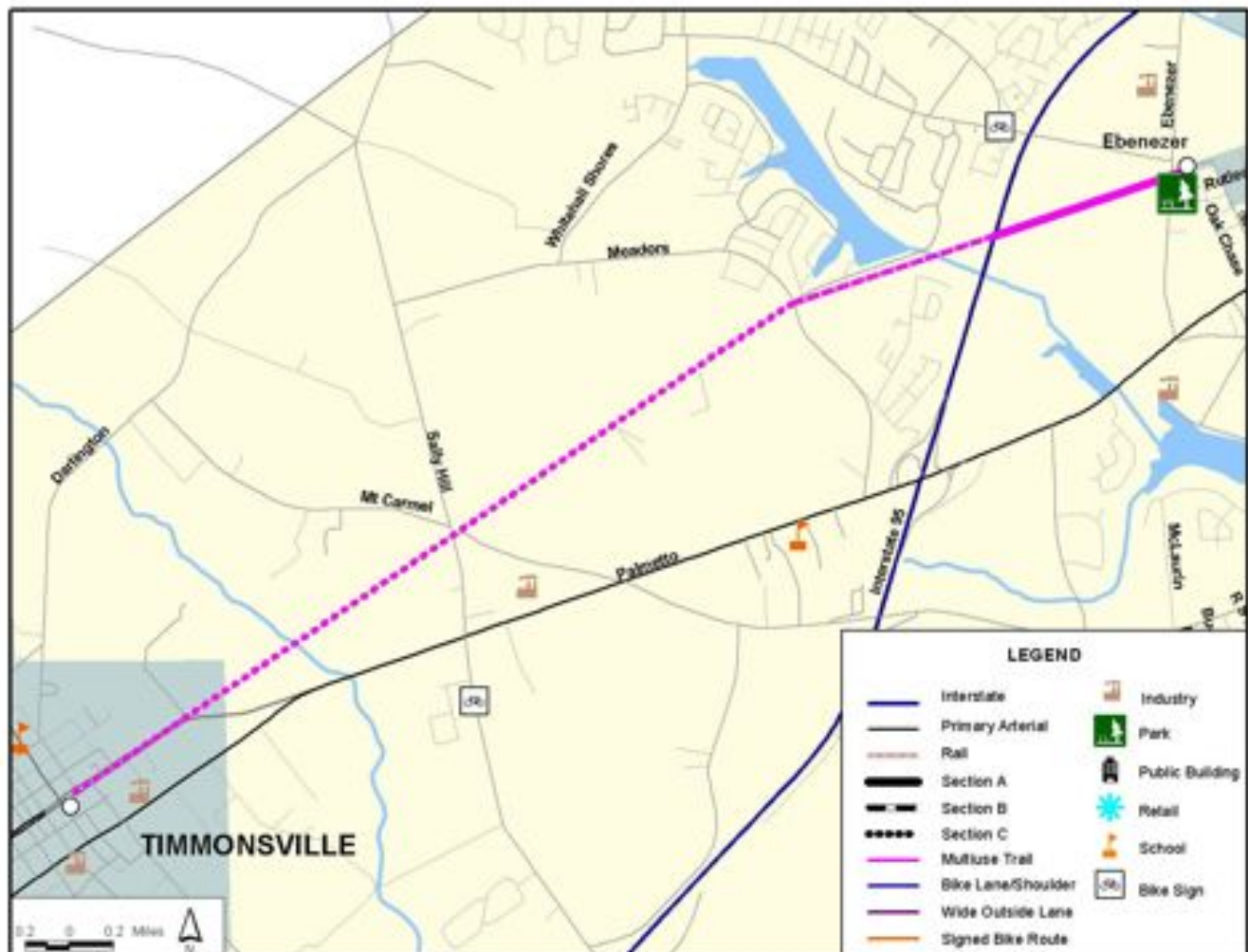
SHEET 1 OF 4

Route Distance: 5.79 miles

Routing: from current Rail Trail terminus near Ebenezer Road to Timmons ville

OVERALL CHARACTERISTICS

- Type of facility: Section A: Off-street multi-use path
Section B: Off-street multi-use path
Section C: Off-street multi-use path
- Potential users within half-mile of facility: Housing developments near Stratton Drive, residents of Timmons ville
- Priority Level: Section A: High
Section B: High
Section C: Medium
Entire Project Priority: High
- Conceptual Cost (excluding right-of-way costs): \$1,970,100



SOUTH RAIL TRAIL EXTENSION (ID #4)

SHEET 2 OF 4

Section 4A: From Ebenezer Road to I-20 underpass (0.90 miles)

Current Conditions: Existing rail bed owned by property owner currently not willing to grant easement for trail. An option is to bypass most of the property via a path parallel to Pine Needles Road to the power line corridor, then use an easement in the power line corridor to connect to the rail bed. An easement would still be required from the property owner, but this routing may be less intrusive and thus more acceptable to the property owner.

Major Issues: Right-of-way availability for trail

Proposed Action: Construct off-street path. The preferred path is along the former rail bed, but a path parallel to Pine Needles Road, connecting to the rail bed through the utility corridor, should be explored if right-of-way acquisition continues to be an issue.

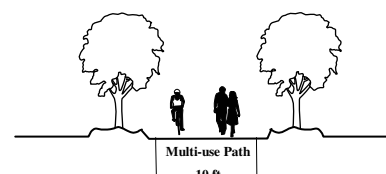
Conceptual Cost: \$356,400



EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



SOUTH RAIL TRAIL EXTENSION (ID #4)

SHEET 3 OF 4

Section 4B: From I-20 underpass to Meadors Road (0.97 miles)

Current Conditions: Current property owner will allow easement for trail in existing rail bed over most of this section; however, close to Meadors where rail bed is close to Stratton Drive the owner has not given permission for an easement. There is an existing trestle over a swamp in this area. It appears that the trestle remains usable for a trail.

Major Issues: Right-of-way availability (especially near Meadors)

Proposed Action: Construct off-street path

Conceptual Cost: \$320,100



EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



SOUTH RAIL TRAIL EXTENSION (ID #4)

SHEET 4 OF 4

Section 4C: From Meadors Road to Timmons ville (3.92 miles)

Current Conditions: Abandoned rail bed; multiple property owners. Willingness of property owners to grant easements is unknown.

Major Issues: Right-of-way availability

Proposed Action: Construct off-street path

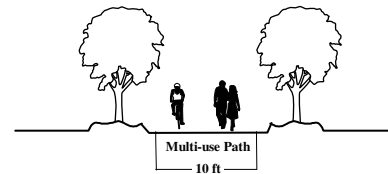
Conceptual Cost: \$1,293,600



EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



PALMETTO CONNECTOR (ID #5)

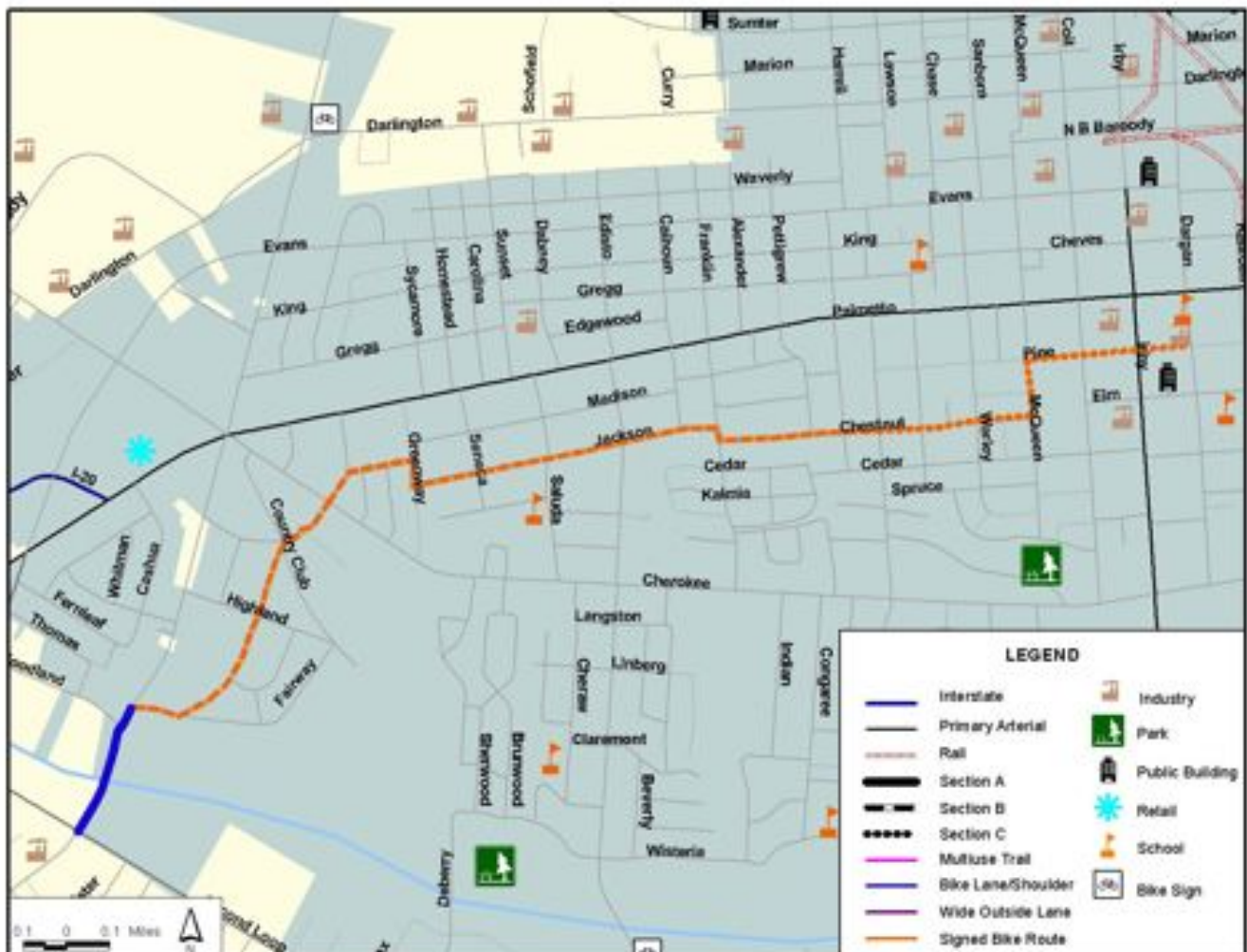
SHEET 1 OF 4

Route Distance: 3.33 miles

Routing: Second Loop to Dargan via Cashua, Rosewood, Pineland, Greenway, Jackson, Franklin, Chestnut, McQueen, and Pine

OVERALL CHARACTERISTICS

- Type of facility: Section A: 4-ft. shoulder / bike lane
Section B: Signed bike route
Section C: Signed bike route
- Potential users within half-mile of facility: Provides connection from residential areas south of Palmetto to Downtown area, including the new Library and the Fitness Forum. Connects to other facilities to enable longer-distance trips.
- Priority Level: Section A: Medium Entire Project Priority: Medium
Section B: Medium
Section C: Medium
- Conceptual Cost (excluding right-of-way costs): \$144,300



PALMETTO CONNECTOR (ID #5)

SHEET 2 OF 4

Section 5A: Cashua from Second Loop to Rosewood (0.31 miles)

Current Conditions: 2-lane roadway with no curb & gutter, no sidewalk. 12-ft. travel lanes, speed limit = 35 mph.

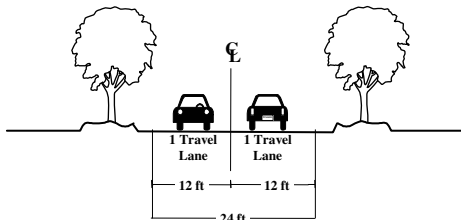
Major Issues: None

Proposed Action: Construct 4-ft. shoulder / bike lane on each side of roadway. Also consider constructing a sidewalk on at least one side of the roadway.

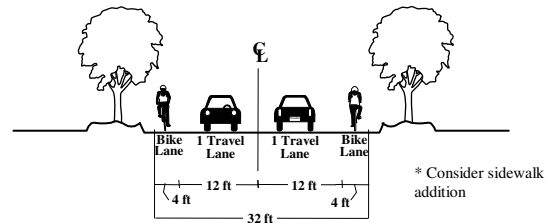
Conceptual Cost: \$139,500



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



Section 5B: Rosewood, Pineland, Greenway, Jackson, Franklin, and Chestnut between Cashua and Park St. (2.15 miles)

Current Conditions: Low-volume residential roadways. Jackson and Rosewood are two-way median-divided streets (each lane approx.. 16 feet wide), and the other streets are two-way streets without medians. Traffic speeds are low. There are no sidewalks in this area.

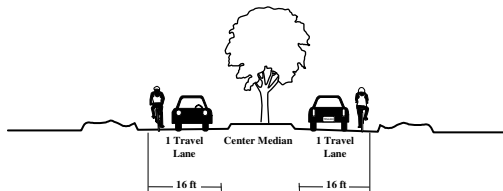
Major Issues: Cyclists must cross Cherokee, which is a busy two-lane thoroughfare. An actuated bicycle traffic signal is recommended.

Proposed Action: Provide a signed “Bike Route” along this section. Due to the low traffic volumes, widening to provide a striped bike lane (on non-median-divided roadways) is not necessary.

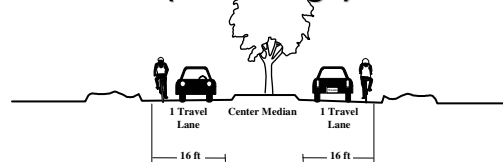
Conceptual Cost: \$3,400



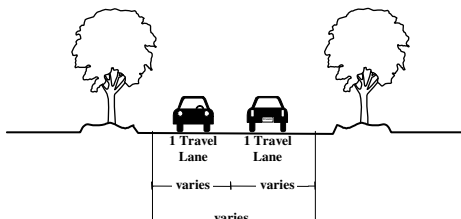
EXISTING CROSS-SECTION



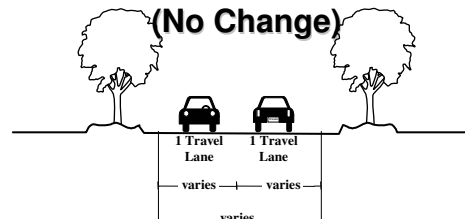
PROPOSED CROSS-SECTION
(No Change)



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION
(No Change)



Section 5B: Chestnut, McQueen, and Pine between Park St. and Dargan St. (0.87 miles)

Current Conditions: Low-volume residential roadways. McQueen and Pine have curb & gutter and sidewalks. There is on-street parking on McQueen, but it is not a major issue because traffic volumes are low.

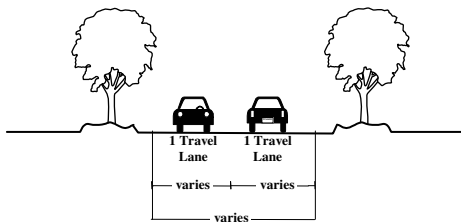
Major Issues: Cyclists must cross Irby, which is a busy five-lane thoroughfare. However, there is a traffic signal at the intersection of Pine and Irby.

Proposed Action: Provide a signed “Bike Route” along this section. Due to the low traffic volumes, widening to provide a striped bike lane is not necessary.

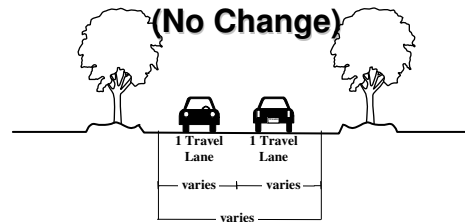
Conceptual Cost: \$1,400



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION (No Change)



PARKS CONNECTOR (ID #6)

SHEET 1 OF 5

Route Distance: 4.93 miles

Routing: From McLeod Park to Palmetto St. (via Second Loop, Fairfax, Deberry, Wisteria, Park).

OVERALL CHARACTERISTICS

- Type of facility: Section A: Bike lane
Section B: Signed bike route
Section C: Striped shoulder (no bike lane stencil)
Section D: Signed bike route
- Potential users within half-mile of facility: Provides access for area residents to Jeffries Creek Park, Lucas Park, and Timrod Park. Also provides access to schools on Wisteria and commercial destinations and apartments on Second Loop.
- Priority Level: Section A: High
Section B: High
Section C: High
Section D: High
Entire Project Priority: High
- Conceptual Cost (excluding right-of-way costs): \$186,000



Section 6A: Park St. from Palmetto to Wisteria; Wisteria from Park St. to Brunwood (2.10 miles)

Current Conditions: 2-way median divided roadway. Each side of roadway is 16-18 feet wide. Low volumes, low traffic speed. A small segment north of Cherokee is two-lane with no median or shoulders. A traffic light is installed at the intersection of Park and Cherokee.

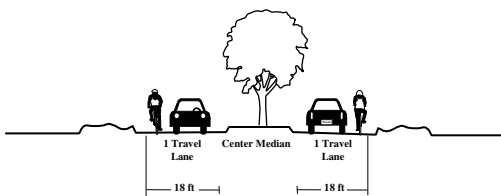
Major Issues: Widening of segment north of Cherokee is needed to provide bike lane. Also, crossing across Edisto St. may be difficult, due to the traffic volumes and speed on Edisto. An actuated traffic signal, or at least warning signs / lights, should be provided.

Proposed Action: Provide striped bike lane. Over most of the section, no widening is needed. A striped lane is recommended to enhance visibility of bicycling facilities. A short segment north of Cherokee will require widening.

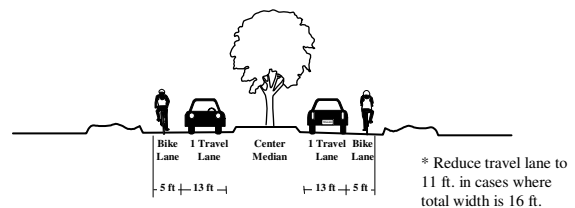
Conceptual Cost: \$118,400



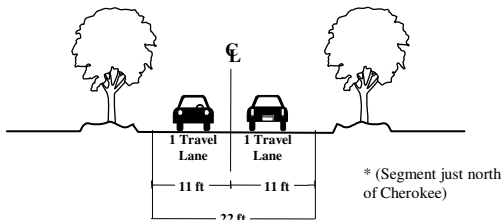
EXISTING CROSS-SECTION



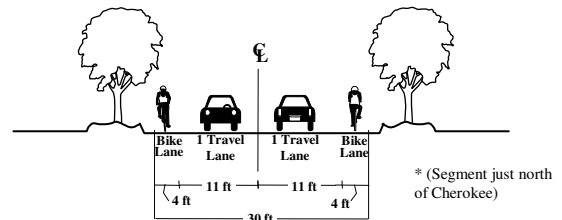
PROPOSED CROSS-SECTION



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



PARKS CONNECTOR (ID #6)

SHEET 3 OF 5

Section 6B: Wisteria / Deberry / Fairfax from Brunwood to Second Loop (0.72 miles)

Current Conditions: These streets are residential roadways with no median, and 12-ft. lanes in each direction. Traffic volumes are low.

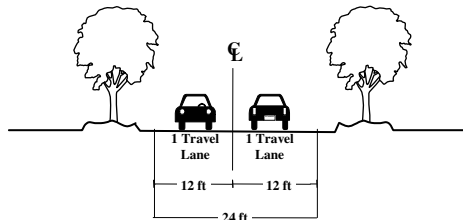
Major Issues: None

Proposed Action: Provide a signed “Bike Route” on this section. The low traffic volumes do not justify widening on Fairfax or Deberry to provide a striped lane.

Conceptual Cost: \$1,200

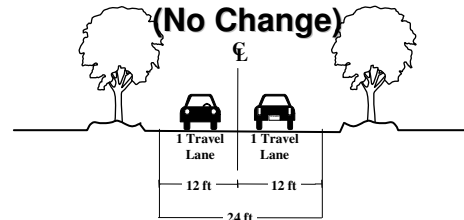


EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION

(No Change)



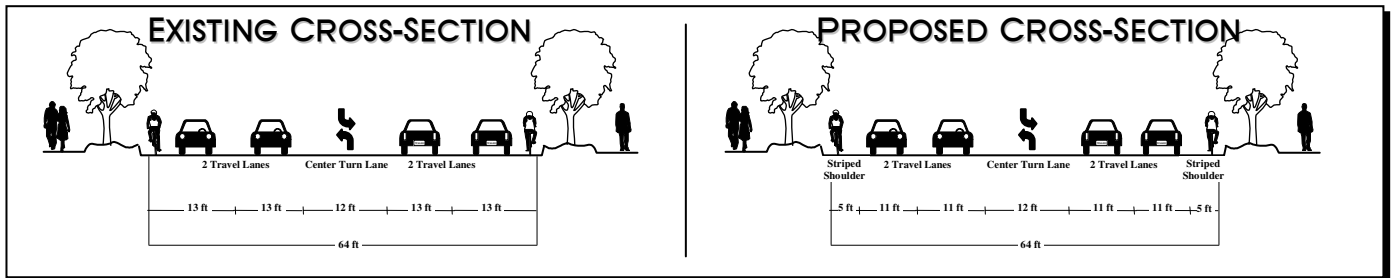
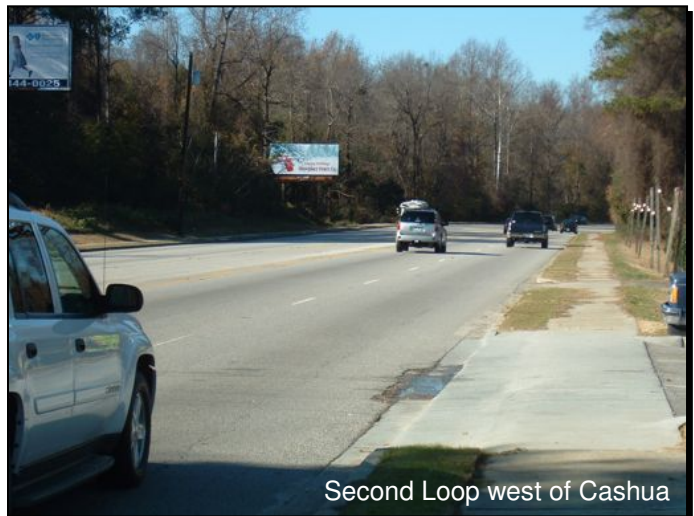
Section 6C: Second Loop from Fairfax to proposed new entrance to Jeffries Creek Park (1.15 miles)

Current Conditions: Second Loop is a heavily-traveled 5-lane roadway, with curb & gutter and sidewalks. There is significant commercial development. Speed limit = 40 mph.

Major Issues: Heavy, fast traffic must be negotiated. It will be difficult for cyclists to make left turns across the busy roadway.

Proposed Action: Provide striping for a shoulder on both sides of the roadway. The shoulder will function like a bike lane, but will not be designated as such (i.e. no stencil markings). However, the striped shoulder will provide a measure of safety for experienced cyclists. "Bike Lane" stencils are not recommended on this facility because it may encourage usage by cyclists who do not have the experience needed to safely negotiate a large, heavily traveled roadway.

Conceptual Cost: \$64,900



PARKS CONNECTOR (ID #6)

SHEET 5 OF 5

Section 6D: Wisteria / Santee / Seminole / Mohawk from Park to Cherokee (0.96 miles)

Current Conditions: These streets are residential roadways with no median, and 12-ft. lanes (or wider) in each direction. Traffic volumes are low. A portion of Wisteria is a wide 2-way median divided roadway.

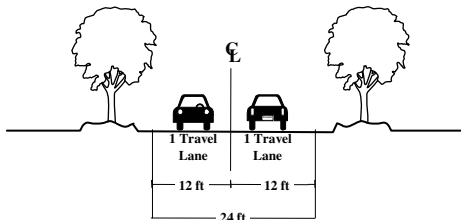
Major Issues: None

Proposed Action: Provide a signed "Bike Route" on this section. The low traffic volumes do not justify widening to provide a striped lane.

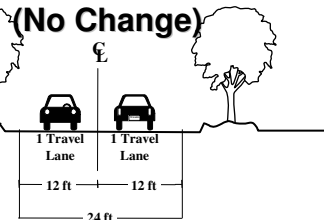
Conceptual Cost: \$1,500



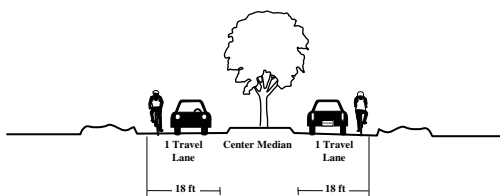
EXISTING CROSS-SECTION



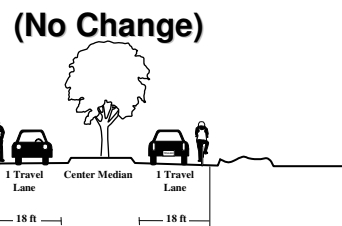
PROPOSED CROSS-SECTION



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



MCLEOD PARK BIKEWAY (ID #7)

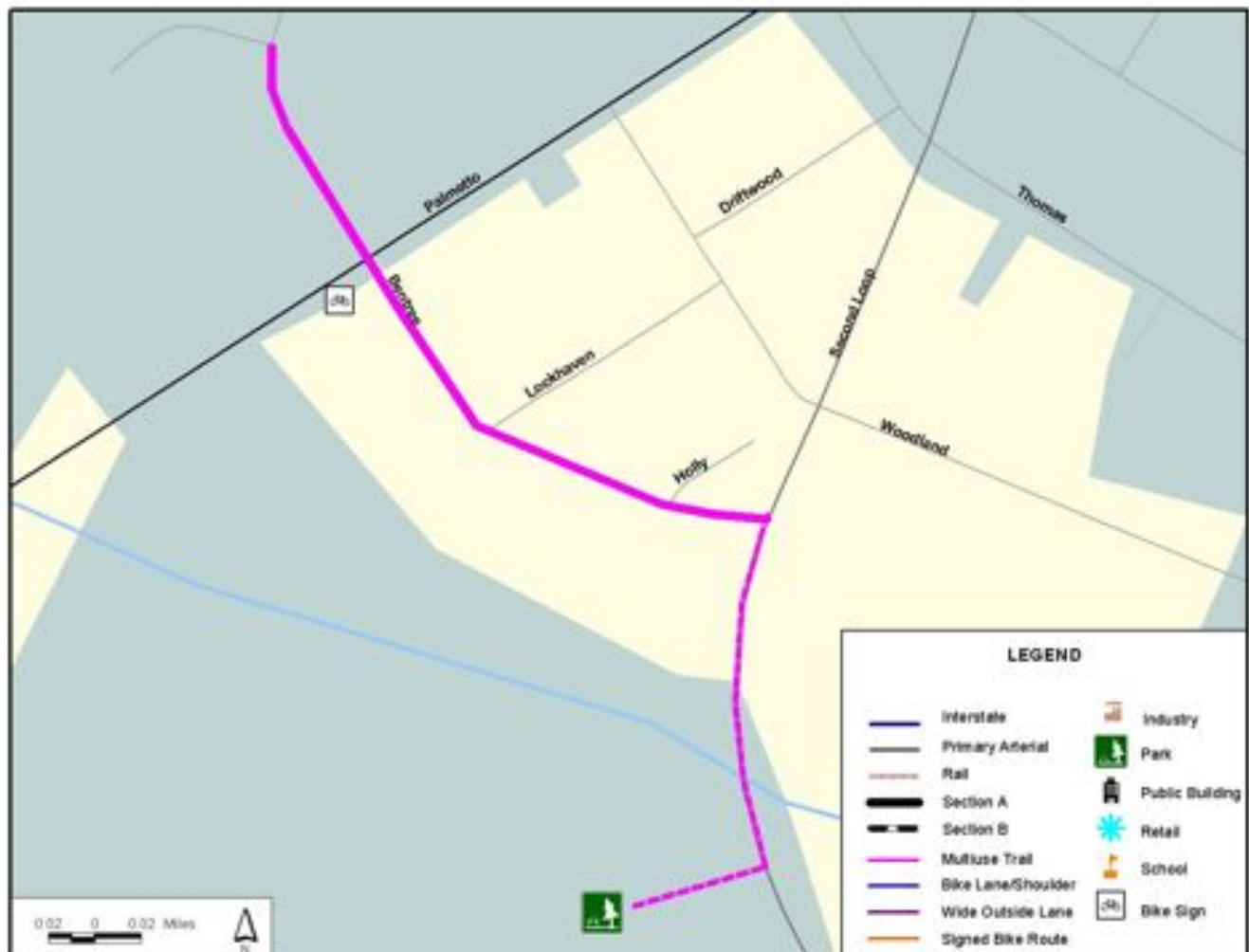
SHEET 1 OF 3

Route Distance: 0.53 miles

Routing: from McLeod Fitness Center to McLeod Park via Bentree, Holly, and Second Loop to new trail connection into Park

OVERALL CHARACTERISTICS

- Type of facility: Section A: Off-street multi-use path
Section B: Off-street multi-use path
- Potential users within half-mile of facility: Provides connection from Rail Trail and McLeod Fitness Center to McLeod Park. Connects with other proposed projects for longer-distance trips.
- Priority Level: Section A: High
Section B: High
Entire Project Priority: High
- Conceptual Cost (excluding right-of-way costs): \$209,900



MCLEOD PARK BIKEWAY (ID #7)

SHEET 2 OF 3

Section 7A: Bentree / Holly Circle from McLeod Fitness Center to Second Loop (0.32 miles)

Current Conditions: Bentree between the Fitness Center and Palmetto is a 3-lane roadway with curb & gutter and sidewalks on both sides. The traffic lanes are each 12-ft. wide. Speed limit = 30 mph. Holly Circle is a 2-lane roadway with no curb & gutter or sidewalks. Lanes on Holly Circle are also 12-ft. wide.

Major Issues: There is limited right-of-way for a separated path between the Fitness Center and Palmetto. An alternative solution would be to widen the sidewalk to serve a multi-use function. There may also be some engineering obstacles associated with path construction resulting from topography along Holly Circle. There is a major roadway crossing at Palmetto.

Proposed Action: Construct a separate multi-use path. Such a facility has been discussed by the City, and would be an optimal solution to provide a high-level facility connecting to the existing Rail Trail.

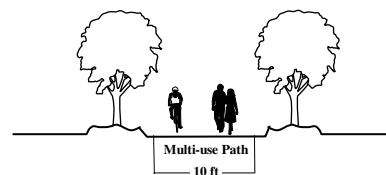
Conceptual Cost: \$126,700



EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



Section 7B: Second Loop from Holly Circle to proposed entrance to McLeod Park (0.21 miles)

Current Conditions: Second Loop is a heavily-traveled 5-lane roadway, with curb & gutter and sidewalks. Speed limit = 40 mph.

Major Issues: The City has discussed constructing a separated path along Second Loop, turning onto Park property to provide a new entrance. The path should be constructed with materials that enable usage by cyclists.

Proposed Action: Construct a separate multi-use path. Such a facility has been discussed by the City, and would be an optimal solution to provide a high-level facility connecting to the existing Rail Trail.

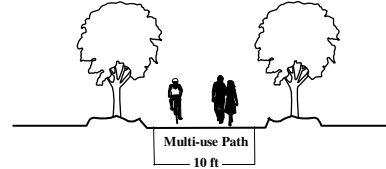
Conceptual Cost: \$83,200



EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



NORTH RAIL TRAIL EXTENSION (ID #8)

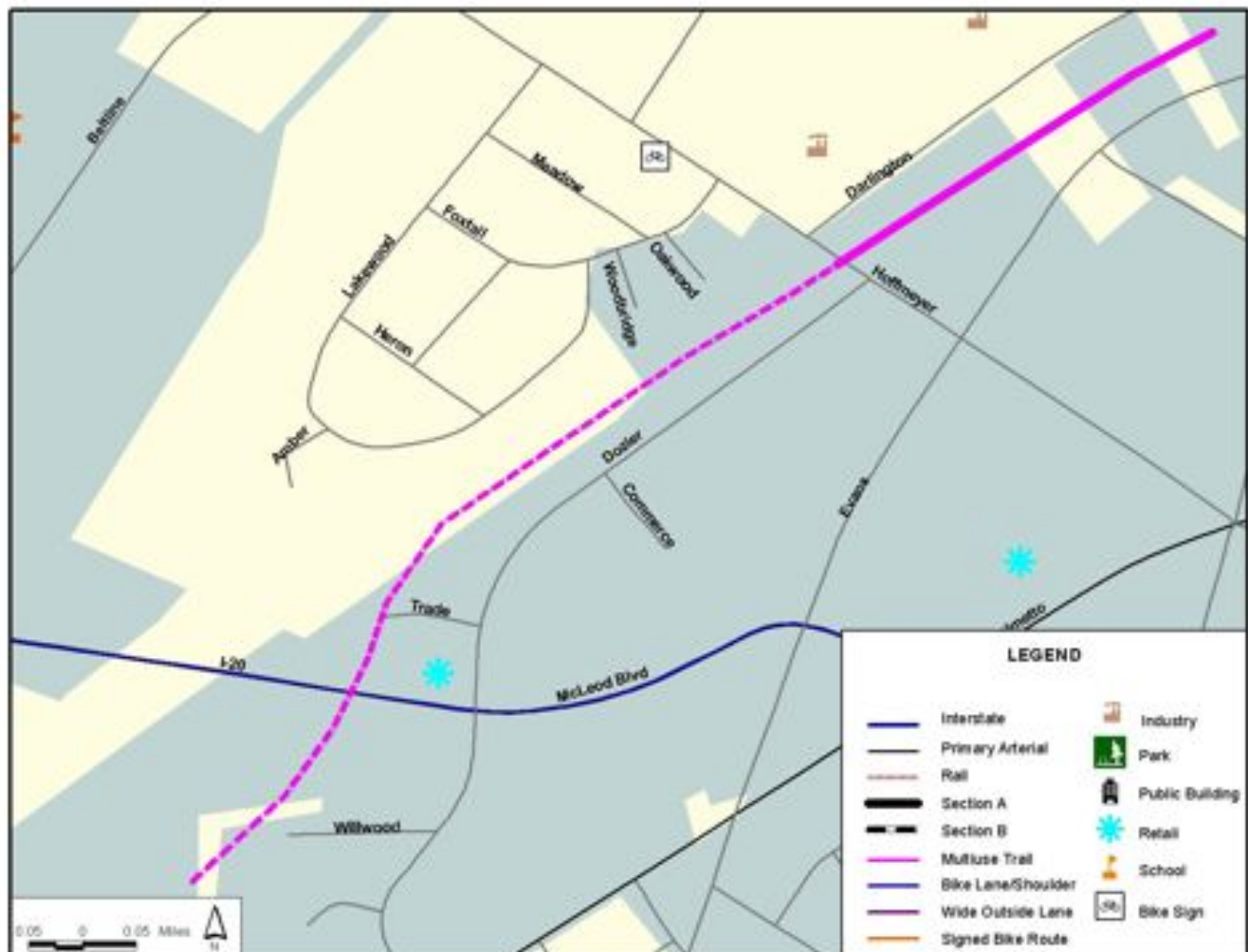
SHEET 1 OF 3

Route Distance: 1.25 miles

Routing: Between the existing terminus of the Rail Trail and the area behind commercial developments on Evans St.

OVERALL CHARACTERISTICS

- Type of facility: Section A: Off-street multi-use path
Section B: Off-street multi-use path
- Potential users within half-mile of facility: Provides extension of existing Rail Trail, connecting to additional commercial developments. Also provides connection (along with proposed Project #3) to West Florence High School.
- Priority Level: Section A: Low
Section B: Low
Entire Project Priority: Low
- Conceptual Cost (excluding right-of-way costs): \$495,000



Section 8A: From near Cashua to Hoffmeyer, parallel and very close to Darlington St. (0.41 miles)

Current Conditions: The abandoned rail bed runs parallel to Darlington St., and is intact over much of this section. However, the rail bed has been fenced off in the area near Cashua (behind the post office and neighboring commercial developments).

Major Issues: The rail bed is not available all the way to Cashua, because it has been fenced off. The availability of easements from current property owners for a path (where the rail bed is still intact) is also unknown. Because the rail bed is not available all the way to Cashua, a portion of the trail would have to be constructed outside of the abandoned rail bed (or utilize the on-street connection via Darlington St.).

Proposed Action: Construct an off-street multi-use path. The recommended path is in very close proximity to the proposed shoulder / bike lane on Darlington St. (Project #1). If a separate path along the rail bed is not implementable, the bike lane / shoulder along Darlington St. should be given a higher priority.

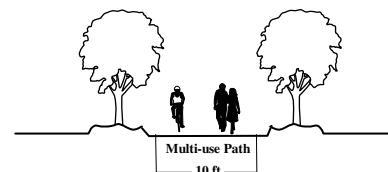
Conceptual Cost: \$162,400



EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



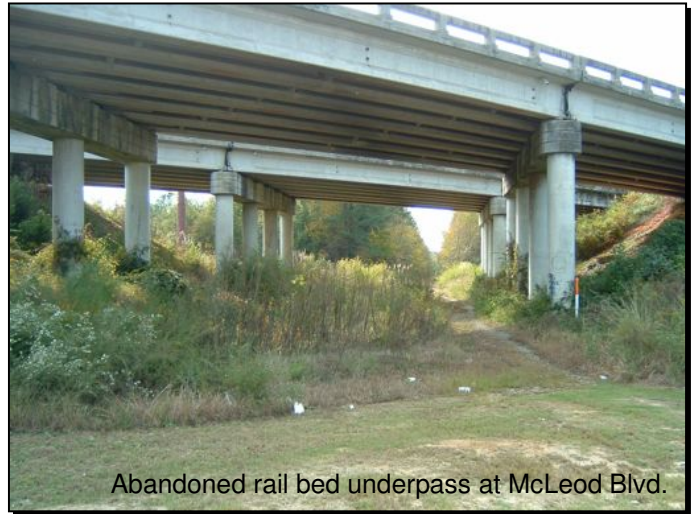
Section 8B: From Hoffmeyer to existing terminus of Rail Trail behind McLeod Fitness Center (0.84 miles).

Current Conditions: The abandoned rail bed is intact over much of this section, with the significant exception of the new Lowe's building, which has been constructed on top of the rail bed. A bridge is in place carrying McLeod Blvd. over the rail bed.

Major Issues: The new Lowe's building has been constructed on the rail bed, so a path would have to be constructed around this facility. The availability of easements from current property owners for a path (where the rail bed is still intact) is also unknown. However, discussions have occurred with property owners closest to the terminus of the existing Rail Trail.

Proposed Action: Construct an off-street multi-use path. First priority should be given to extending the current Rail Trail under McLeod Blvd. At this point, a spur (Project #3) would lead to West Florence High School, and an alternative path (perhaps using the spur route for a portion of the way) would need to be created to bypass the Lowe's building.

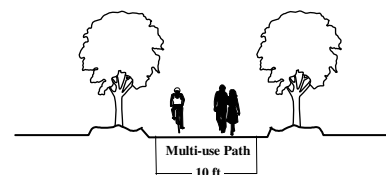
Conceptual Cost: \$332,600



EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



SHEET 1 OF 4

Routing: On Third Loop between Cashua and Irby. A signed connection to Second Loop is also proposed.

- Type of facility: Section A: Signed bike route
Section B: Striped bike lane / shoulder
Section C: Wide outside lane
- Potential users within half-mile of facility: Serves as a collector for residents in neighborhoods adjacent to Third Loop. Also provides a connection to Freedom Florence.
- Priority Level: Section A: Medium Entire Project Priority: Medium
Section B: Low
Section C: Medium
- Conceptual Cost (excluding right-of-way costs): \$1,583,200



THIRD LOOP CONNECTOR (ID #9)

SHEET 2 OF 4

Section 9A: Langley from Second Loop to Third Loop (0.32 miles)

Current Conditions: This street is a low-volume residential street. There is no curb & gutter, no sidewalk, and no center line marking. Speed limit = 30 mph.

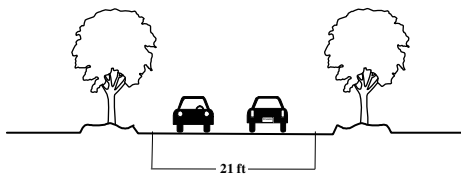
Major Issues: None

Proposed Action: Provide a signed "Bike Route" on this section. The low traffic volumes do not justify widening to provide a striped lane. This street serves as a connection between the proposed facilities on Second Loop and Third Loop.

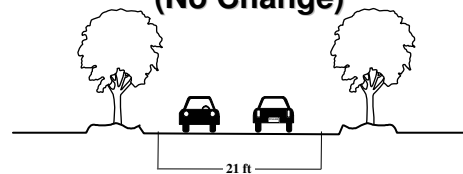
Conceptual Cost: \$500



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION
(No Change)



THIRD LOOP CONNECTOR (ID #9)

SHEET 3 OF 4

Section 9B: Third Loop from Cashua to Irby (3.51 miles)

Current Conditions: 2-way roadway functioning as a major collector for neighborhoods along the route. Each lane is 12 ft. wide, and there is no curb & gutter or sidewalk. There are no shoulders, and drainage ditches are located close to the roadway. Traffic volumes are heavy, and are growing as neighborhoods continue to build out.

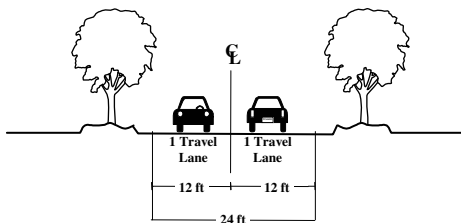
Major Issues: Right-of-way availability for widening is uncertain. There are a number of residences abutting the roadway. Drainage would have to be reworked with any widening project.

Proposed Action: Widen to provide a 4-ft. striped bike lane / shoulder on both sides of the roadway. Installation of a sidewalk (on at least one side of the road) should be considered along with any widening project. Public input is vital to determine if such an investment is acceptable to the area neighborhoods.

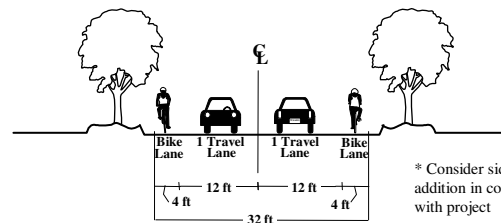
Conceptual Cost: \$1,579,500



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



* Consider sidewalk addition in conjunction with project

THIRD LOOP CONNECTOR (ID #9)

SHEET 4 OF 4

Section 9C: Third Loop from Irby to Pamlico Highway; Freedom from Pamlico Highway to Freedom Florence (2.01 miles)

Current Conditions: 5-lane thoroughfare with curb & gutter and sidewalk on both sides. Outside (curb) lanes are 14 ft. wide. Speed limit = 50 mph. Fast traffic.

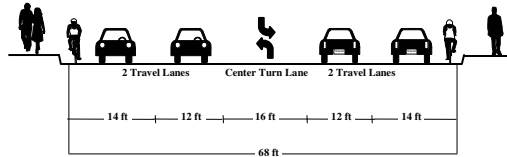
Major Issues: None. Roadway already includes a wide (14 ft.) outside lane.

Proposed Action: No roadway improvements are needed. A striped bike lane is inappropriate on this type of roadway due to the high traffic speeds. Provide "Bike Route" signage to improve awareness of bicycling along roadway.

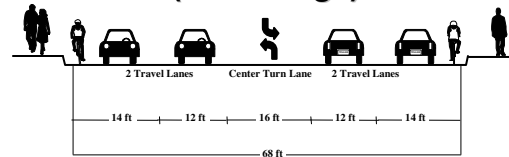
Conceptual Cost: \$3,200



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION (No Change)



FREEDOM FLORENCE BIKEWAY (ID #10)

SHEET 1 OF 4

Route Distance: 3.75 miles

Routing: Between Timrod Park, Freedom Florence, and Levy Park via off-street paths

OVERALL CHARACTERISTICS

- Type of facility: Section A: Off-street multi-use path
Section B: Off-street multi-use path
Section C: Off-street multi-use path
- Potential users within half-mile of facility: Provides connection between Timrod Park, Freedom Florence, and Levy Park. Residential development adjacent to the proposed path is limited.
- Priority Level: Section A: Medium Entire Project Priority: Medium
Section B: Medium
Section C: Medium
- Conceptual Cost (excluding right-of-way costs): \$1,485,000



Section 10A: From Timrod Park to Irby St. just north of Jeffries Creek (0.95 miles)

Current Conditions: Wooded area behind strip commercial development on Irby St. No trails or roadways cross the area. One property owner possesses much of the subject property, and the City has discussed with the property owner the potential for inclusion of a path as part of redevelopment opportunities. A short stretch would run adjacent to Cherokee.

Major Issues: Much of the land behind the commercial development appears suitable for a path, but construction will become more difficult near Jeffries Creek due to wetlands areas. Options for safely crossing Irby St. are limited. Right-of-way acquisition along Cherokee may be needed.

Proposed Action: Provide off-street path, but the usefulness of a path for transportation purposes is diminished unless Section B is also implemented.

Conceptual Cost: \$376,200



EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



FREEDOM FLORENCE BIKEWAY (ID #10)

SHEET 3 OF 4

Section 10B: From Irby St. to Freedom Florence Park along Jeffries Creek (1.30 miles)

Current Conditions: Dense wooded area with significant wetlands areas along Jeffries Creek. Area is difficult to access.

Major Issues: Construction of a path will be very difficult due to the terrain and wetlands areas. More detailed investigation is needed to determine the potential for path construction in this area. A bridge over Jeffries Creek will be needed for access to Freedom Florence.

Proposed Action: Provide off-street path, pending investigation of the potential for path construction.

Conceptual Cost: \$514,800

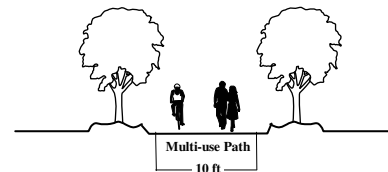


Bridge over Jeffries Creek on Irby St.

EXISTING CROSS-SECTION

New facility

PROPOSED CROSS-SECTION



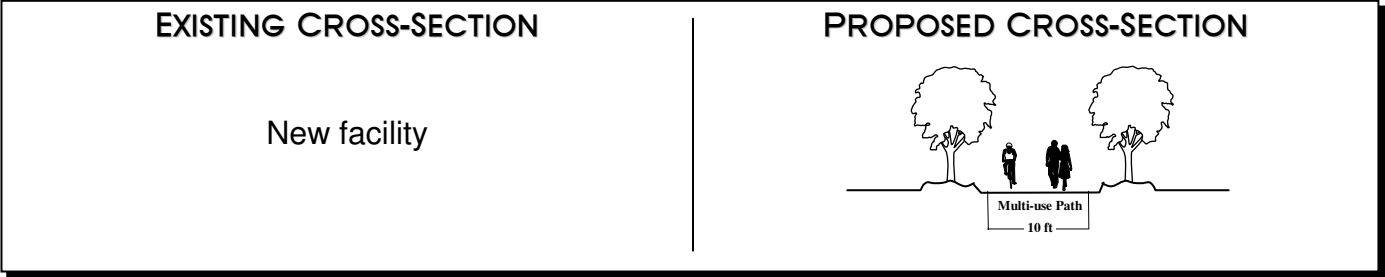
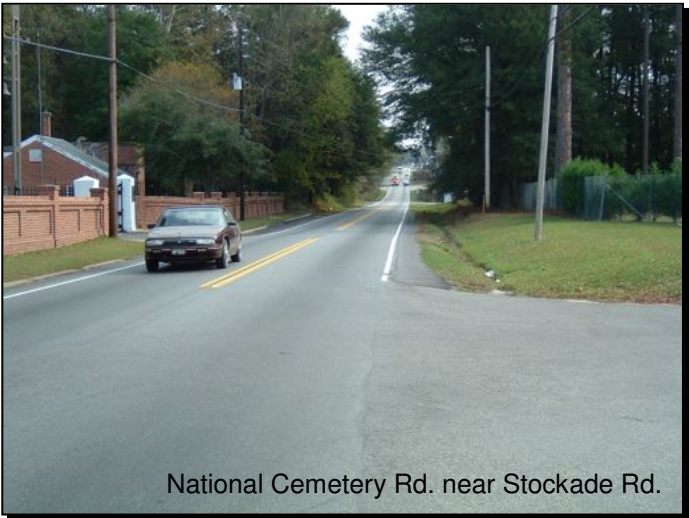
Section 10C: From connection to Freedom Florence (Project 10B) to Levy Park via off-street connection (1.50 miles)

Current Conditions: Dense wooded area between Jeffries Creek and National Cemetery Rd. Houses and other structures are located in the general corridor between National Cemetery Rd. and Levy Park.

Major Issues: More detailed investigation is needed to determine the potential for path construction in this area. Potential obstacles include wetlands and existing structures.

Proposed Action: Provide off-street path, pending investigation of the potential for path construction.

Conceptual Cost: \$594,000



LYNCHEs RIVER CONNECTOR (ID #11)

SHEET 1 OF 2

Route Distance: 9.13 miles

Routing: US 52 from Third Loop south to Lynchess River County Park

OVERALL CHARACTERISTICS

- Type of facility: Section A: Striped shoulder (no bike lane stencil)
- Potential users within half-mile of facility: Few residential areas close to facility, but route provides a connection to Lynchess River County Park.
- Priority Level: Section A: Low Entire Project Priority: Low
- Conceptual Cost (excluding right-of-way costs): \$4,565,000



LYNCHES RIVER CONNECTOR (ID #11)

SHEET 2 OF 2

Section 11A: From Third Loop south on US 52 to Lynch River County Park (connecting to County Park via Old Number 4 Highway) (9.13 miles)

Current Conditions: US 52 is a heavily-traveled 4-lane divided highway. Each lane is 12 ft. wide. Speed limit = 50-60 mph. There is no curb & gutter, no sidewalk, and very little shoulder area. There is only sparse development south of Florence.

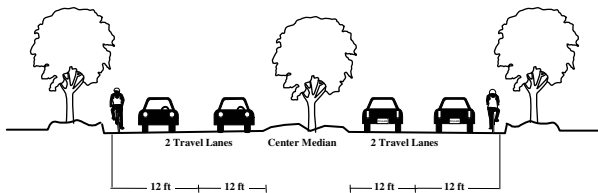
Major Issues: Significant cost associated with shoulder widening (due to the length of the project).

Proposed Action: Provide paved, striped shoulder (4 ft. wide) in each direction. Such a shoulder would have safety benefits for motorists as well as cyclists. The shoulder would not be identified as a "Bike Lane" because of the high speeds and volumes on the roadway.

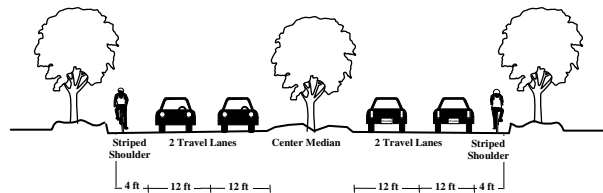
Conceptual Cost: \$4,565,000



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



DOWNTOWN CONNECTOR (ID #12)

SHEET 1 OF 4

Route Distance: 2.27 miles

Routing: Dargan from National Cemetery Rd. to Darlington St.; Cheves from Dargan to Palmetto

OVERALL CHARACTERISTICS

- Type of facility: Section A: Bike lane
Section B: Signed bike route
Section C: Wide outside lane
- Potential users within half-mile of facility: Connects with other proposed projects to provide access to the new Library, Fitness Forum, McLeod Medical Center, and Downtown area.
- Priority Level: Section A: High
Section B: Medium
Section C: Medium
Entire Project Priority: High
- Conceptual Cost (excluding right-of-way costs): \$87,800



DOWNTOWN CONNECTOR (ID #12)

SHEET 2 OF 4

Section 12A: Dargan from National Cemetery Rd. to Cheves St. (0.80 miles)

Current Conditions: Wide 2-lane street with curb & gutter and sidewalks on both sides. The individual lane widths vary, but the entire street is 40 ft. wide. Parking is not prohibited, but is lightly used. Speed limit = 30 mph. Traffic volumes are relatively low, but increase closer to Downtown. The opening of the new Library will also increase traffic.

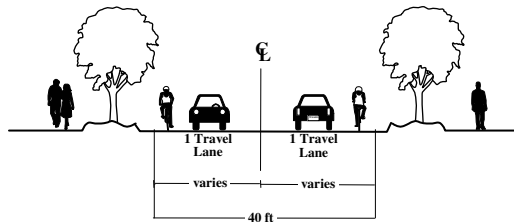
Major Issues: Provisions for on-street parking need to be addressed as part of any restriping efforts.

Proposed Action: Provide striped bike lane in each direction. No widening is needed to provide bike lanes.

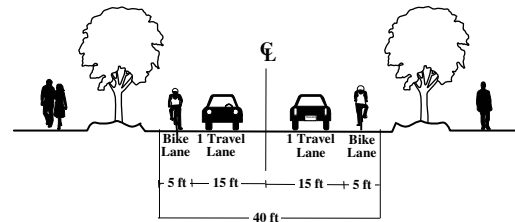
Conceptual Cost: \$45,100



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



DOWNTOWN CONNECTOR (ID #12)

SHEET 3 OF 4

Section 12B: Dargan from Cheves St. to Darlington St. (0.36 miles)

Current Conditions: Wide 2-lane street (40 ft total width) with on-street parking in the Downtown area. Sidewalks are present on both sides, and the street has curb & gutter. Parking is heavily used. There is a relatively large amount of bicycling activity in this area. Speed limit = 25 mph.

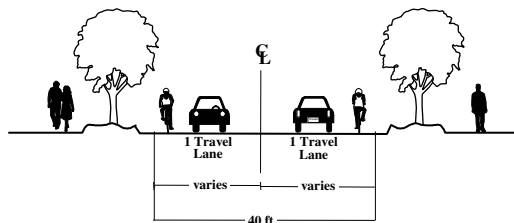
Major Issues: On-street parking (and the heavy use thereof) creates a safety hazard for cyclists related to car doors opening and cars pulling in and out of parking spaces.

Proposed Action: Provide a signed bike route through the area. There is insufficient width for a travel lane, on-street parking, and a bike lane, and the on-street parking is heavily used.

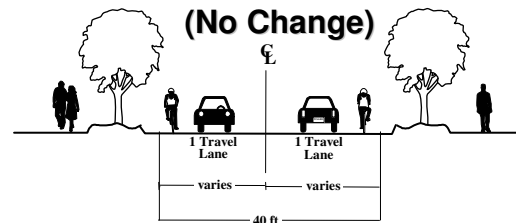
Conceptual Cost: \$600



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION
(No Change)



Section 12C: Cheves St. from Darlington St. to Palmetto (1.11 miles)

Current Conditions: 4-5 lane street with curb & gutter and sidewalks on both sides. Each lane is generally 12 ft. wide. Speed limit = 30 mph, although traffic appears to be going faster. Traffic is relatively heavy.

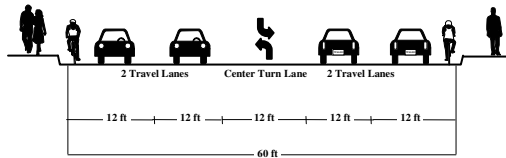
Major Issues: Utility poles are located within the sidewalk. Right-of-way would be a major concern with any widening effort.

Proposed Action: When resurfacing occurs, provide a wider outside lane by striping the outside lane as 13 ft. and the inside lane as 11 ft. Narrowing the inside lane further is not recommended because of the trucks and emergency vehicles that regularly use the road. This level of improvement does not warrant a separate restriping effort - it can be done as part of routine resurfacing.

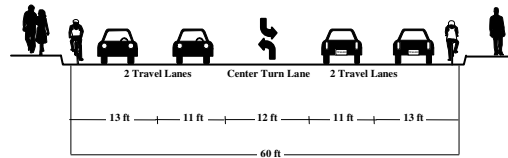
Conceptual Cost: \$42,100



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



FRANCIS MARION CONNECTOR (ID #13)

SHEET 1 OF 4

Route Distance: 6.83 miles

Routing: Dargan St. to Francis Marion University via Pine St., McCall, Missile St., Frontage Rd., and Palmetto.

OVERALL CHARACTERISTICS

- Type of facility: Section A: Signed bike route
Section B: Signed bike route
Section C: Signed bike route (existing wide shoulder)
- Potential users within half-mile of facility: Provides connection for City residents to Francis Marion University. Also provides collector route for residents in the Pine St. area and a connection to Levy Park.
- Priority Level: Section A: Medium Entire Project Priority: Medium
Section B: Medium
Section C: Medium
- Conceptual Cost (excluding right-of-way costs): \$11,000



FRANCIS MARION CONNECTOR (ID #13)

SHEET 2 OF 4

Section 13A: Pine St. from Dargan to McCall; McCall from Pine St. to Missile St. (2.22 miles)

Current Conditions: Pine St. between Dargan and Levy Park is a wide collector with lane widths of 13-14 ft. in each direction. It has curb & gutter and sidewalks on both sides. Speed limit = 35 mph. Past Levy Park, there are no curb & gutter sections or sidewalks, and the lane widths reduce to approximately 12 ft. McCall is a 2-lane roadway with no curb & gutter and no sidewalks. Lanes are 12 ft. wide.

Major Issues: None for a signed route. Implementing a bike lane would require roadway widening.

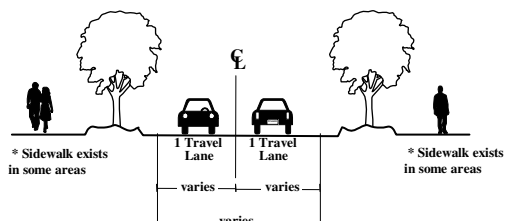
Proposed Action: Provide a signed bike route. This route provides a safer way to access Francis Marion University than Palmetto St. through town, but the potential level of use does not warrant expensive roadway widening needed to provided a striped lane.

Conceptual Cost: \$3,600



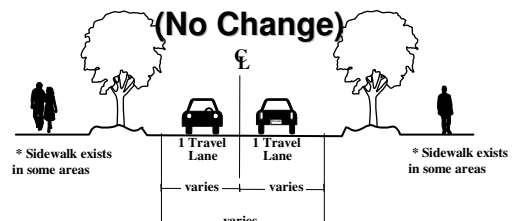
Pine St. east of Church St.

EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION

(No Change)



FRANCIS MARION CONNECTOR (ID #13)

SHEET 3 OF 4

Section 13B: Missile St. from McCall to Frontage Rd (past Airport entrance road); Frontage Rd from Missile St. to Palmetto (near McCurdy) (1.79 miles)

Current Conditions: Missile St. and Frontage Rd. are very lightly traveled roadways. Each is a 2-lane roadway with lane widths of 11-12 ft. There are no curb & gutter sections or sidewalks on either roadway. This route parallels the much busier US 76 (Palmetto St.)

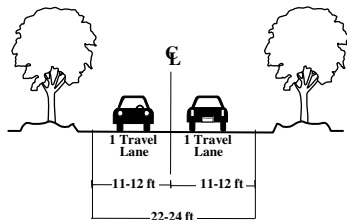
Major Issues: The Frontage Road ends at Palmetto several hundred yards before the intersection with McCurdy, and the wide shoulder on Palmetto does not begin until the far side of the McCurdy intersection. Thus, cyclists must ride on Palmetto for several hundred yards with no shoulder. It is also difficult for inbound (toward Downtown) cyclists to turn left onto the Frontage Road across Palmetto.

Proposed Action: Provide a signed bike route. This route provides an alternative to Palmetto until cyclists reach McCurdy, after which a wide shoulder provides a safe cycling area on Palmetto.

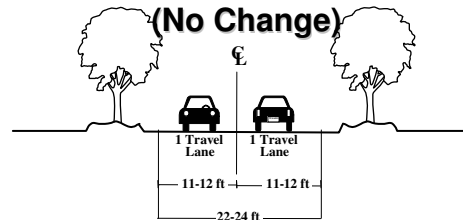
Conceptual Cost: \$2,900



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION
(No Change)



FRANCIS MARION CONNECTOR (ID #13)

SHEET 4 OF 4

Section 13C: US 76 from McCurdy to Francis Marion University (2.82 miles)

Current Conditions: 4-lane, median-divided roadway with wide shoulders in both directions. Heavy traffic along roadway. Speed limit = 50 mph.

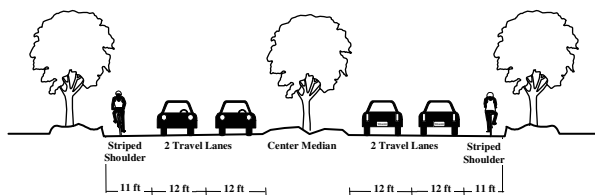
Major Issues: None.

Proposed Action: Provide a signed bike route. Roadway improvements are not needed because of the existing wide shoulders that provide a safe area for longer-distance cyclists.

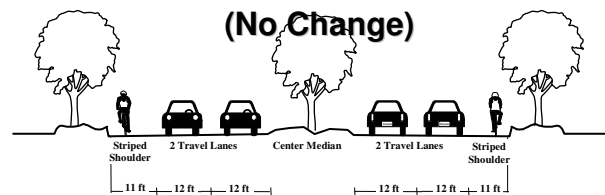
Conceptual Cost: \$4,500



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION (No Change)



SOUTH CASHUA BIKEWAY (ID #14)

SHEET 1 OF 2

Route Distance: 1.79 miles

Routing: S. Cashua St. between Second Loop and Knollwood Rd.

OVERALL CHARACTERISTICS

- Type of facility: Section A: Signed bike route
- Potential users within half-mile of facility: Serves as a collector for residents of neighborhoods adjoining S. Cashua. This route would connect with other proposed projects for longer-distance trips.
- Priority Level: Section A: Medium Entire Project Priority: Medium
- Conceptual Cost (excluding right-of-way costs): \$2,900



SOUTH CASHUA BIKEWAY (ID #14)

SHEET 2 OF 2

Section 14A: S. Cashua from Second Loop to Knollwood (1.79 miles)

Current Conditions: 3-lane roadway (one lane in each direction plus center turn lane) between Second Loop and Parkland. This section has curb & gutter and a sidewalk on one side. South of Parkland, the road narrows to 2 lanes, although there is a turn lane at several intersections. There is no curb & gutter (or sidewalks) in the 2-lane section. The lanes are 13 ft. wide in the 3-lane section, and 12 ft. wide in the 2-lane section. Traffic is fairly heavy.

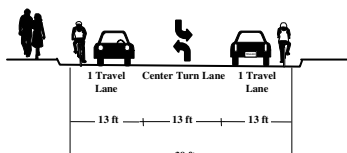
Major Issues: None.

Proposed Action: Provide a signed bike route. Roadway widening would be needed to provide a striped bike lane. Although this level of investment may not be warranted now, this roadway should be reevaluated in the future as growth continues in the area.

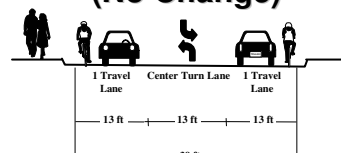
Conceptual Cost: \$2,900



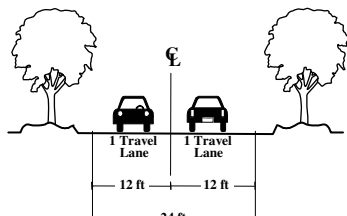
EXISTING CROSS-SECTION



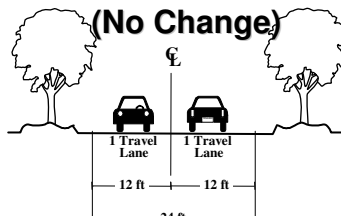
PROPOSED CROSS-SECTION
(No Change)



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION
(No Change)



NORTHEAST CONNECTOR (ID #15)

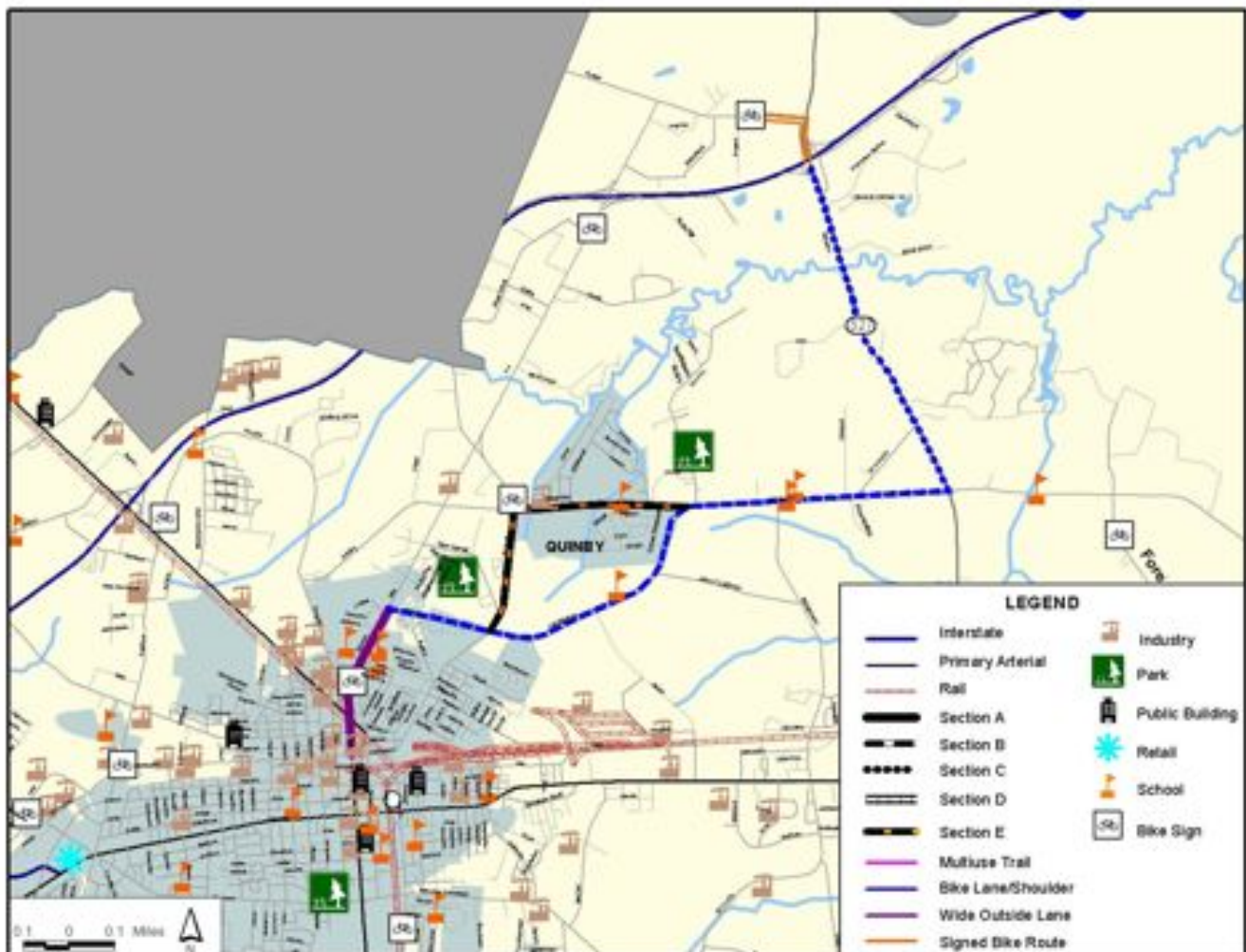
SHEET 1 OF 6

Route Distance: 12.22 miles

Routing: From Downtown Florence to Pocket Rd. via Irby, Wilson, Old Marion, and SC 327; connection to Quinby from Old Marion Rd.

OVERALL CHARACTERISTICS

- Type of facility: Section A: Wide outside lane
Section B: Striped shoulder (no bike lane stencil)
Section C: Striped shoulder (no bike lane stencil)
Section D: Signed bike route
Section E: Signed bike route
- Potential users within half-mile of facility: Provides access for Northeast Florence residents to downtown Florence and Wilson High School; provides connection to Quinby; increases safety for cyclists in developing SC 327 corridor.
- Priority Level: Section A: Low
Section B: Low
Section C: Low
Section D: Low
Section E: Low
Entire Project Priority: Low
- Conceptual Cost (excluding right-of-way costs): \$3,602,400



NORTHEAST CONNECTOR (ID #15)

SHEET 2 OF 6

Section 15A: Irby St. from Darlington to Wilson Rd. (1.24 miles)

Current Conditions: 5-lane curb-and-gutter section (with two-way left-turn lane); sidewalk on both sides. Speed limit = 40 mph.

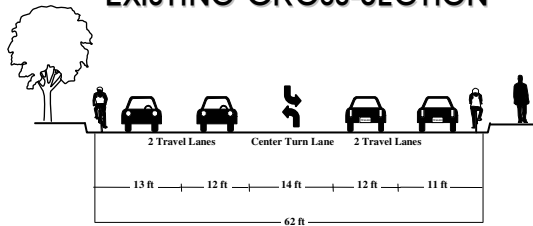
Major Issues: High traffic speeds

Proposed Action: Restripe to provide wider outside lane. Widening to provide a bike lane would require a much higher level of investment. Restriping should be done only when resurfacing; the level of improvement is not enough to warrant an independent project.

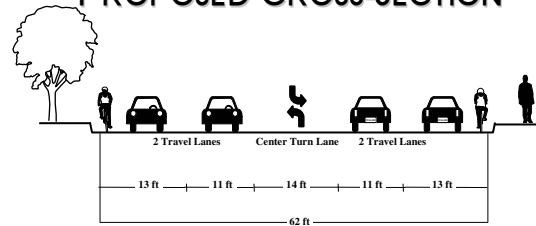
Conceptual Cost: \$47,000 (shown for consistency; but costs should be included in future roadway maintenance project).



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



Section 15B: Wilson Rd. / Old Marion Hwy.
from Irby St. to SC 327 (5.00 miles)

Current Conditions: 2-lane roadway with no curb and gutter, no shoulder, and no sidewalks. Speed limit varies from 35 mph to 55 mph. There is residential development closer to Irby St., and open space toward SC 327. Roadway lane width is typically 11 feet, but increases to 12 feet near Wilson High School.

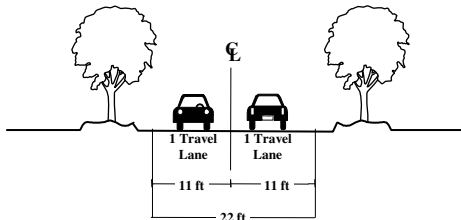
Major Issues: Drainage ditches are close to the current roadbed. Length of roadway results in need for extensive investment.

Proposed Action: Widen to provide 4-foot paved shoulder / bike lane on each side. Bike lane also serves as a shoulder with no curb & gutter. Consider joint sidewalk / bike lane project if roadway is widened.

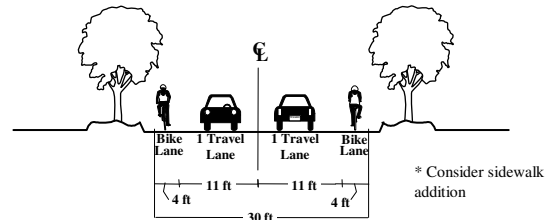
Conceptual Cost: \$2,250,000



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



Section 15C: SC 327 from Old Marion Hwy. to I-95 (2.89 miles)

Current Conditions: SC 327 is a heavily-traveled 4-lane divided highway. Each lane is 12 ft. wide. Speed limit = 60 mph. There is no curb & gutter, no sidewalk, and very little shoulder area. The land use is predominantly open space, but the corridor is being developed with commercial, industrial, and residential uses.

Major Issues: Significant cost associated with shoulder widening (due to the length of the project).

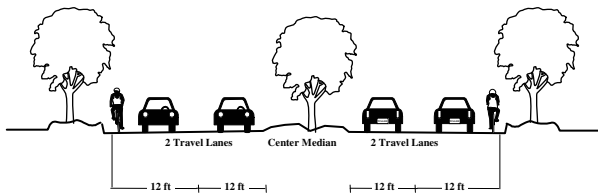
Proposed Action: Provide paved, striped shoulder (4 ft. wide) in each direction. Such a shoulder would have safety benefits for motorists as well as cyclists. The shoulder would not be identified as a "Bike Lane" because of the high speeds and volumes on the roadway.

Conceptual Cost: \$1,300,500

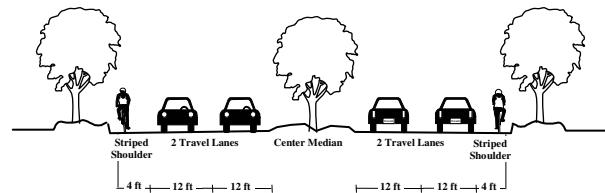


SC 327 north of Old Marion Hwy.

EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



Section 15D: SC 327 from I-95 to Pocket Rd.; Pocket Rd. from SC 327 to Old School House (0.71 miles)

Current Conditions: 2-lane roadway with no curb and gutter and no sidewalks. There is 24 feet of asphalt, with 12' lanes in some areas and 10' lanes with 2' shoulders in other areas. There is little traffic or development. These roadways connect to the primary meeting place for recreational bike rides. Portions of the roadway were recently resurfaced.

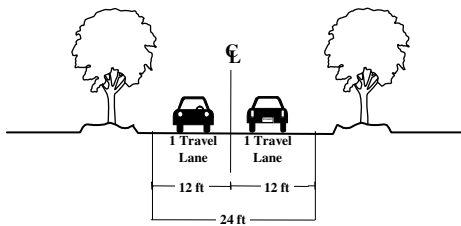
Major Issues: None.

Proposed Action: Provide a signed bike route, and if as additional sections are resurfaced, narrow the travel lanes to provide a 2' shoulder area (but do not incur restriping costs as an independent project).

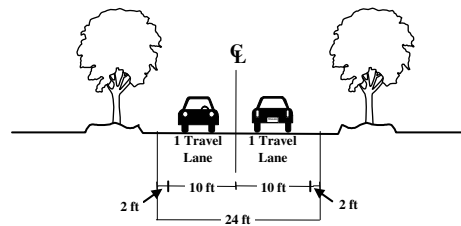
Conceptual Cost: \$1,100



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION



NORTHEAST CONNECTOR (ID #15)

SHEET 6 OF 6

Section 15E: McIver Rd. from Old Marion Hwy. to Ashby Rd.; Ashby Rd. from McIver Rd. through Quinby to Old Marion Rd. (2.38 miles)

Current Conditions: Ashby Rd. is a 2-lane thoroughfare with no curb and gutter and a sidewalk on one side separated by a planting strip. McIver Rd. is also a 2-lane thoroughfare. The speed limit is 35-45 mph.

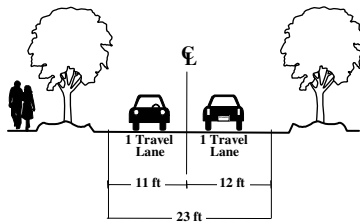
Major Issues: None.

Proposed Action: Provide a signed "Bike Route" on this section. The low traffic volumes do not justify widening to provide a striped lane.

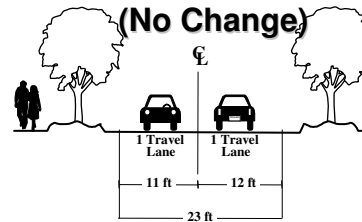
Conceptual Cost: \$3,800



EXISTING CROSS-SECTION



PROPOSED CROSS-SECTION
(No Change)





SECTION 4:

POLICIES AND STRATEGIES TO SUPPORT BICYCLING

At the Florence Area Bicycle Summit held in September 2003, participants noted that the need exists not only for improved bicycle facilities, but also for supportive policies that will educate residents and increase awareness of bicycle usage and safety. The Florence area currently does not have an institutional framework to support bicycle transportation, and such a framework is necessary to enable positive, continuing change to occur.

Summit participants noted that bikeway facilities can not reach their potential if local residents are not educated about bicycle usage and safety; likewise, if residents (cyclists and non-cyclists alike) are not aware of bicycle transportation issues, there will not be the local support needed to spur additional development of bikeway facilities. Therefore, policies to support bicycle transportation go hand-in-hand with the development of bikeway facilities, and the policies and strategies described in this Section serve as a foundation for improving the bicycling environment in the Florence area.

Overall policies have been developed for five major subject areas:

- Planning;
- Facilities;
- Awareness;
- Promotion; and
- Funding.

An overall policy is defined for each of these subject areas, and more specific implementation strategies are provided for each policy. These strategies are the action items that should be implemented to promote a more bicycle-friendly environment in the Florence area. Where appropriate, references for additional resources are given for more detailed information.

POLICY AREA 1: PLANNING

Policy:

Incorporate bicycle facilities in transportation planning activities.

Strategies:

1.1. Appoint a bicycle representative to the MPO's Technical Coordinating Committee.

A representative of bicycle interests, such as the DHEC Trails Coordinator, should be included as a representative on the Florence Area Transportation Study's (FLATS) Technical Coordinating Committee. Such an appointment would ensure that bicycle interests are represented when discussing transportation projects throughout the region.



1.2. Establish a Bicycle / Pedestrian Advisory Committee as a function of the Florence Area Metropolitan Planning Organization.

The communities that have been the most successful at accommodating and encouraging bicycle transportation have a high level of citizen support, through a formal Advisory Committee. There are several groups in the region that advocate for bicycle interests, but the establishment of a formal Bicycle / Pedestrian Advisory Committee (BPAC) would provide a framework to ensure consideration of these interests within the metropolitan planning process. The Committee should have government representatives (from the County as well as local municipalities) as well as local citizen positions. The local citizen positions should be appointed by the City Council and County Commissioners based on recommendations provided by the DHEC Trails Coordinator (or designated Bicycle Coordinator). The main responsibilities of the BPAC would be to support the Trails Coordinator's efforts and help coordinate activities involving local advocacy groups. The committee should meet monthly to discuss current projects and upcoming opportunities.

Resources:

- Information on strategies for successful Bicycle / Pedestrian Advisory Committees (as published by the National Center for Bicycling and Walking) is available at http://www.bikewalk.org/assets/Reports/effective_bike_ped_committees.doc.

1.3. Require that bicycle issues be considered in all roadway plan reviews.

Currently, there is no mechanism within City and County staff to ensure that bicycle accommodations are included in roadway projects. Thus, many opportunities for bicycle improvements are being lost. The inclusion of the Trails Coordinator (or other designated Bicycle Coordinator) in the plan review process is of utmost importance. This Coordinator will be responsible for ensuring that plans for future roadway projects include the appropriate bicycle accommodations, and that the adopted design standards for roadway improvements with bicycle accommodations are being followed. It should be made mandatory that all roadway plans are reviewed and approved by the designated Bicycle Coordinator. This review will not delay the overall site plan review.

1.4. Review and amend subdivision ordinances to incorporate bicycle-friendly policies and requirements.

Although most major roadways in the Florence region are maintained by the State, there are a number of privately-developed roadways in subdivisions and other developments. In addition to the major thoroughfares, these privately-developed roads should also incorporate bicycle-friendly design features where appropriate. The current subdivision ordinances should be reviewed to determine opportunities to enhance bicycle-friendliness as new developments come online.



1.5. Incorporate prioritized bikeway improvements into annual Transportation Improvement Program (TIP).

This Bikeway Master Plan includes a listing of proposed Bikeway Improvements. However, the BPAC and designated Bicycle Coordinator (e.g. the DHEC Trails Coordinator) must each year select projects to be moved forward in the funding cycle, through the State's Transportation Improvement Program (TIP). Although the Bicycle Coordinator should lead this process, input from the BPAC is critical. The BPAC must decide on the criteria used to select projects, and then use the criteria to select projects, based on realistic funding levels. All applicable guidelines for selecting projects and including them in the TIP must be followed.

1.6. Periodically update the Bikeway Master Plan.

It is entirely possible that bikeway improvements not considered to be priorities now may become priorities in the future if rapid development occurs in a particular area or opportunities for improvements in conjunction with other projects are presented. As the bicycle program develops, the policies introduced in this Plan may need to be amended, or new policies may need to be added. New facility improvements may be proposed. Due to these considerations, the Bikeway Master Plan should be updated periodically - approximately every three years. Updating the plan will be a primary responsibility of the designated Bicycle Coordinator and the Bicycle / Pedestrian Advisory Committee.

1.7. Coordinate bikeway planning with local trails / greenway planning.

The City of Florence has initiated planning activities associated with potential trails development as part of their open space planning. The facilities proposed as part of this Bikeway Master Plan have been coordinated with these other efforts, but because planning is dynamic, efforts should continue to ensure that bikeway facility planning is coordinated with any related planning activities that may occur at the local level. Representation of various planning interests on the proposed Bicycle / Pedestrian Advisory Committee is a good avenue through which to facilitate communication regarding on-going planning efforts.

1.8. Conduct annual bike counts / surveys on bikeway facilities.

As bikeway facilities are constructed, the DHEC Trails Coordinator and the Bicycle / Pedestrian Advisory Committee should take the lead in monitoring the level of usage of the facilities. Conducting annual bicycle counts and user surveys would provide data that would be useful for continuous planning. Assessing trends in usage over time can also help determine the impact of any associated awareness programs to encourage safe bicycle usage.



POLICY AREA 2: FACILITIES

Policy:

Design and build new and reconstructed roadways to be bicycle-friendly.

Strategies:

2.1. Implement on-road bikeway facilities as part of roadway widening projects.

Priorities for roadway widening projects can change quickly, and it is not possible to explicitly include every potential roadway project in this Bikeway Master Plan. However, this policy is intended to serve as an overall statement that bikeway facilities should be implemented as part of ALL roadway widening projects.

The most appropriate type of bikeway facility (wide outside lane, striped bike lane, paved shoulder, parallel path, etc.) should be determined in consideration of the characteristics of the specific roadway project. The DHEC Trails Coordinator (or designated Bicycle Coordinator) should work closely with SCDOT and other local / state planning interests to ensure that bicyclists are safely accommodated in the roadway design. The burden should not be on justifying why bicyclist accommodations should be made in roadway expansion projects; instead, special circumstances only should dictate why bicyclist accommodations can not be made.

2.2. Increase level of accommodation for bicyclists in conjunction with routine resurfacing and maintenance activities.

Bicycle projects should be incorporated with other roadway projects to the extent feasible. Roadway projects such as resurfacing and the construction of sidewalks may enable bicycle facilities to be implemented in conjunction with the project, thus reducing the costs of the bicycle project.

As thoroughfares and collectors are resurfaced, there is the opportunity to restripe lanes to provide bikeways. If a roadway that is being resurfaced or reconstructed has a specified improvement proposed in the Bikeway Master Plan, the specified bicycle improvement should be made in conjunction with the roadway improvement. Some proposed bikeway projects require minor widening that may be feasible during routine resurfacing operations. Even if there is no specified improvement, consideration should be given to providing wide outside lanes (14-foot width) whenever feasible. If full widening to 14 feet is not feasible, outside lanes should be widened as much as possible to improve conditions for cyclists.

When narrowing of inside lanes is necessary to provide wide outside lanes, the amount of daily and peak-hour traffic and the percentage of heavy truck traffic must be taken into consideration in determining the feasibility of a wide outside lane.



2.3. Implement bicycle-friendly maintenance procedures and maintain bikeway facilities.

Implementation of bicycle facilities is important, but without proper maintenance practices, these facilities can become useless. Improved roadway maintenance practices on all roads will greatly improve the conditions for cyclists, even if the roadway does not have a designated bicycle facility.

In urbanized areas, every foot of usable space is important. However, the area near the gutter seam is often dangerous, particularly if the roadway has been resurfaced and there is a drop-off from the roadway surface to the gutter. Bicycle standards indicate that a vertical displacement between the pavement and the gutter of greater than 3/8 inch is hazardous to cyclists. Ideally, the tolerance should be within 1/4 inch. When Florence area roadways are resurfaced, the asphalt should be milled and resurfaced to be within a tolerance of 1/4 inch at the gutter seam to prevent dangerous drop-offs at the gutter seam. Care should also be taken during resurfacing to avoid creating sunken drainage grates, which pose a significant hazard to bicyclists.

2.4. Establish a Spot Improvement Program for implementation of low-cost improvements to enhance conditions for bicyclists.

Even before new bikeways are developed, there is the need to keep roads in good condition for bicycling. What may constitute a hazard for a bicyclist usually is not a concern to a motorist, and thus is not addressed in routine maintenance operations. Many cities have adopted Spot Improvement Programs to deal with hazards and keep roadways well maintained. Actions typically addressed in a Spot Improvement Program include sweeping, pothole patching, drain grate repair, repairing sunken manholes, railroad crossing maintenance, signing and striping, bicycle rack installation, and traffic signal modifications. A Spot Improvement Program serves to correct problems and maintain the bikeway system.

A standard Spot Improvement Request Form can be developed and a supply provided to local bicycle shops for bicyclists to complete and mail or fax back. An electronic version of the same form can be part of a web page for requests via e-mail. The form should request location, street, cross street, address or landmark, type of suggestion, and contact information of the person making the request. An appropriate initial funding level to devote to the Spot Improvement Program is a minimum of \$50,000 per year. As more bikeways are built, funding requirements may increase.

Grate repair is likely to be a major element of the Spot Improvement Program. While grates and gutters are necessary features of many roadways, they have a significant impact on the safety of bicyclists using the road. During routine maintenance such as resurfacing or patching, hazardous grates (those that are sunken or those with bars parallel to the curb) should be replaced with bicycle-friendly grates.

Another feature of the Spot Improvement Program is likely to be maintenance of at-grade railroad crossings. Rough crossings can cause control problems for bicyclists. Regular maintenance and/or the use of rubberized railroad crossings will be needed.



Resources:

- The City of Portland (OR) has an on-line Spot Improvement Request Form at <http://www.trans.ci.portland.or.us/bicycles/maintain.htm>.
- A similar on-line Facility Improvement Request form for the City of Bend, OR is available at http://www.bend.or.us/cityservices/publicworks/Bicycle_program.htm.
- Information about the City of Seattle's Spot Improvement Program is available at <http://www.seattle.gov/transportation/bikespot.htm>.

2.5. Work with local organizations to develop an "Adopt a Bikeway" program to keep bikeway facilities clear of debris and litter.

It is recommended that an "Adopt a Bikeway" program be implemented as a complementary approach to bikeway maintenance. This program would work similarly to a typical "Adopt a Highway" program, except that organizations would adopt specific bike lanes or bike paths and would be responsible for periodically manually cleaning the facilities. "Adopt a Highway" programs have been a huge success, and the same opportunity for success exists with this program. Not only would this program help keep bike lanes usable, but it would allow the community to show its support for the bicycle transportation program.

The DHEC Trails Coordinator (or designated Bicycle Coordinator) should take the lead in establishing this program. A large-scale marketing effort will be necessary at the outset of the program to encourage organizations and companies to participate. This is an excellent example of public/private partnerships to improve the bicycling environment.

Resources:

- The Village of Schaumburg, IL has an on-line brochure describing its Adopt-A-Bike Path program, available at <http://www.ci.schaumburg.il.us/vos.nsf/schaumburg/MJFT-5MYNQA>.
- Metro Atlanta has an "Adopt-A-Path" program described at <http://www.pathfoundation.org/join/adopt.cfm>.

POLICY AREA 3: AWARENESS

Policy:

Promote safe bicycle travel.

Strategies:

3.1. Encourage bicycle education programs in schools.

Children are involved in a significant percentage of bicycle accidents, indicating the need for bicycle safety education. A number of states and cities across the country have developed bicycle education programs for schools. It is recommended that the Florence area explore adapting some of these programs for use in Florence area schools. Several consistent messages should be taught to school-age children:

- Wear a helmet.



- Obey all traffic laws.
- Look both ways before crossing streets.
- Always ride with the flow of traffic.
- Be predictable.
- Be visible.

Resources:

- The North Carolina Department of Transportation (NCDOT) has developed a “Basics of Bicycling” curriculum that is geared toward fourth- and fifth-graders. More information is available at http://www.ncdot.org/transit/bicycle/safety/programs_initiatives/curriculum.html.
- FHWA authored a “Good Practices Guide” for Bicycle Safety Education, which is available at <http://www.bicyclinginfo.org/ee/bestguidedoc.html>.
- The Maine Department of Transportation conducts a statewide Bicycle Safety Education Program in public schools. More information is available at <http://www.bikemaine.org/bsep.htm>.

3.2. Work with local law enforcement agencies and community organizations to promote bicycle safety through increased helmet usage.

“Wear a helmet” must be a message incorporated into any bicycle-related program. All bicycle safety education efforts, from elementary school programs to adult education courses, should consistently teach this message. Any special bicycle promotion events should also emphasize the importance of wearing a helmet. Donations from area corporations and injury prevention organizations should be sought to help make free or low-cost helmets available to bicycling children, as well as adults.

A well-designed helmet ordinance is a vital part of a comprehensive education and encouragement program. Cities and counties with successful ordinances rely on rewarding those that do use helmets, and for those that do fine violators, the fine can be dropped if the child does obtain a helmet. The League of American Wheelman (now LAB) authored a model helmet ordinance, referenced below. This model law could be used as a starting point to encourage dialogue between the local elected officials, Police Departments, and other affected groups.

Resources:

- The League of American Wheelman (now League of American Bicyclists) authored a model helmet ordinance, available at <http://www.bhsi.org/labposit.htm> (scroll down to model helmet bill).

3.3. Support and encourage programs that promote motorist awareness of bicyclists’ rights.

Based on bicyclists’ personal experiences recounted during the Bicycle Summit and other discussions, there appears to be a misconception about the rights of bicyclists to share the road with motorists. Distribution of brochures is a step in the right direction of educating both motorists and bicyclists about bicycle rights. SCDOT can provide information about these materials.



These materials need to be targeted to the general population and should be available in public libraries and in utility company mailings. Information presented should be consistent and concise, concentrating on the messages of remaining alert, being predictable, being patient, and obeying traffic laws. Efforts should not be limited strictly to brochures. Public service radio and television announcements are a good means of reaching a diverse audience. Video announcements are also effective, but obviously more costly. Local resources should be reviewed for video public service announcements suitable for the Florence area environment.

Resources:

- The League of American Bicyclists has published a variety of “fact sheets” at <http://www.bikeleague.org/educenter/factsheets.htm>.
- The Pedestrian and Bicycle Information Center maintains a variety of resources at http://www.bicyclinginfo.org/ee/ed_motorist.htm.

3.4. Support and encourage programs that educate bicyclists of responsibilities and safe riding habits.

Not only do motorists need to be educated about the rights of bicyclists, but also adult bicyclists need to be reminded about their responsibility to ride safely. A number of organizations have brochures and other information focusing on this issue. The most appropriate method to disseminate this information is through bike shops, bike organizations, schools and universities as well as through bike rodeos. Public service announcements are also needed to target adult cyclists that do not participate in organized events.

Resources:

- The League of American Bicyclists has published a variety of “fact sheets” at <http://www.bikeleague.org/educenter/factsheets.htm>.
- The Pedestrian and Bicycle Information Center maintains a variety of resources at <http://www.bicyclinginfo.org/ee/education.htm>.

POLICY AREA 4: PROMOTION

Policy:

Encourage increased bicycle transportation ridership.

Strategies:

4.1. Provide bicycle racks at major destinations.

Bicycle trips have two major components: the journey from point A to point B, and the facilities available at each end of the trip. The most significant end-of-trip facilities are adequate parking areas for bicycles. If adequate, convenient, and safe parking is not available, making the trip by bicycle suddenly becomes much less attractive, even if roadway facilities are adequate. In a 1992 bicycle user survey in Portland, 21 percent of the



respondents cited a lack of end-of-trip facilities as a reason for not riding a bicycle to the downtown area.

Some cities with high bicycle usage require bicycle parking in their planning and zoning codes. San Francisco requires one bicycle parking space for every 20 off-street automobile spaces provided. Portland's recent Master Plan proposed revising the zoning code to require a minimum number of long-term and short-term spaces based on floor area or number of dwelling units.

As the overall bicycle program develops, the timing of various elements needs to be considered. Programs that promote safety are appropriate at any time. Requiring bicycle parking to where bicyclists are already riding is appropriate now as well. However, requiring multiple parking racks at all new developments before many bikeway improvements are implemented may be premature and could result in negative publicity as developers are required to pay to install parking which few use.

Adequate bicycle parking should also be provided at county parks, libraries, and museums. The number of spaces at each particular location should be determined through plan review by the designated Bicycle Coordinator and Bicycle / Pedestrian Advisory Committee.

Resources:

- Denver's bicycle parking regulations are available on-line at http://www.denvergov.org/Bicycle_Program/template2606.asp.
- The Association of Pedestrian and Bicycle Professionals authored a set of Bicycle Parking Guidelines available at <http://www.bicyclinginfo.org/de/parkguide.htm>.

4.2. *Prepare bicycle route maps.*

As the Bikeway Master Plan is implemented, there is the need for bike route maps indicating how to bicycle to the area's libraries, museums, schools, colleges, parks, and other attractions. Either a countywide map or smaller individual route maps can be reproduced. The route maps would be available in all government centers as well as at schools, libraries, parks and recreational areas, and commercial establishments.

Resources:

- The City of Portland has a number of bicycle route maps available at <http://www.trans.ci.portland.or.us/bicycles/bicyclemaps.htm>.
- NCDOT's Bicycle and Pedestrian program web site contains links to several bicycle maps for communities in North Carolina, and additional maps can be ordered. See http://www.ncdot.org/transit/bicycle/maps/maps_regional.html for more information.

4.3. *Initiate and hold annual bike events such as bike-to-work and bike-to-school days.*

Encouragement activities and education efforts work together to improve skills and raise awareness. For example, a bike-to-work day encourages more people to use a bicycle for transportation, and it also teaches urban riding skills and the importance of wearing a helmet. Teaching cycling skills to both children and adults (through mechanisms such as



bike rodeos, in-school education, and Effective Cycling courses) helps to build confidence and encourages them to ride.

Encouragement activities should occur year-round, but special events should be emphasized in May, which is National Bike Month. Specific events could include the following:

- Bike-to-shop day, in which cyclists get vouchers or coupons for items in the store.
- Bike-to-the-movies day, in which cyclists receive free popcorn or a discount on admission or refreshments.
- Bike-to-the-video-store day, in which local video rental stores offer 2 for 1 rentals to all those who arrive by bicycle.
- Bike-to-school day, in which parents help children to choose appropriate routes and can reinforce the rules of the road. This event could be expanded to create a month-long or yearlong contest to recognize students that make the highest number of trips to school by bike.
- Bike-to-work day, including a “corporate challenge” in which employers compete for the highest percentage of bike commuters. The winning company employees are awarded free prizes donated by a local vendor, and the winning company receives a commemorative plaque and is featured in a press conference.
- A multi-day BikeFest, in which residents are encouraged to replace one car trip per week with a bicycle trip.
- An annual “family fun ride” that showcases bicycle routes passing popular destinations, to demonstrate how to get to points of interest.

The League of American Bicyclists offers information giving step-by-step planning guidance for National Bike Month activities. It is important to consider the availability of bicycle parking at destinations in conjunction with the events listed above. Adequate and secure parking must be available for the event to be successful.

Resources:

- The League of American Bicyclists has established a comprehensive website with information for promoting National Bike Month activities at <http://www.bikemonth.com>.

POLICY AREA 5: FUNDING

Policy:

Pursue a variety of funding options to implement bikeway projects.

Strategies:

5.1. Implement bikeway improvements as part of new roadway project costs.

A substantial number of roadways in the Florence area are resurfaced, widened, or otherwise improved on a regular basis. Opportunities to improve the bicycling environment as part of these improvements must not be missed. SCDOT is becoming more receptive to



including bicycle accommodations as part of these improvement projects, and costs associated with bicycle facilities are included in the overall project costs.

The designated Bicycle Coordinator should maintain close contact with SCDOT to determine upcoming resurfacing schedules and widening plans, to ensure that bicycle accommodations are incorporated in these projects.

5.2. Utilize TEA-21 Enhancements funding for bicycle project implementation.

Enhancements funding from the Federal Highway Administration is used to help implement bicycle-related projects across the country. Although the available funding is limited, every funding resource helps, and Enhancements funds for the FLATS area should be maximized in the implementation of the high-priority projects described in this Master Plan.

5.3. Seek funding support from private foundations and other grant sources.

Private funding has already contributed to significant bicycling-related improvements in the Florence area, as demonstrated through support for the DHEC Trails Coordinator position. These organizations realize the benefits of bicycling as related to both their specific interests as well as the community at large, and should continue to play a key role as partner in the development of bicycle infrastructure.

There may be other private entities (large employers, health care providers, insurance companies, etc.) that may consider participating in funding for bicycle-related projects, and other grant opportunities through specific organizations. These opportunities should be fully explored by the DHEC Trails Coordinator (or designated Bicycle Coordinator). Funding from private sources could be used to help implement specific projects, and could also be used as the local match for Enhancements or other Federal / State funding.

Resources:

- The Pedestrian and Bicycle Information Center maintains information on a variety of funding sources at <http://www.bicyclinginfo.org/pp/funding/index.htm>.
- The Project for Public Spaces also describes a variety of potential funding sources at http://pps.org/topics/funding/greenway_sources.

5.4. Provide an annual allocation in City / County budgets to leverage other funds for bikeway projects.

Local support is critical in funding bikeway infrastructure projects. Local funding can support a Spot Improvement Program, serve as local match for other funding sources, and help implement independent facilities projects. Demonstrating the benefits of bicycling-related investments will be critical in obtaining the continuing financial support of local governments.

It will be more difficult for the smaller municipalities in the area to establish annual allotments for bicycle improvements. These areas should focus on implementing the bicycle improvements in conjunction with planned roadway improvements as well as seeking State and federal funds for other improvements.





APPENDIX A: UNIT COSTS AND COSTS BY PROJECT

UNIT COSTS

Conceptual Costs for this Plan are based on recent cost data from planning projects in other areas. The data used are shown below.

Conceptual Bikeway Facility Costs					
Type of Facility	Component	Number	Number Per Mile (both sides of road)	Unit Cost	Cost Per Mile (both sides of road)
Signed Route	Signs	4/mile	8	\$200	\$1,600
Wide Curb Lane (4 lane street)	Removal of Lane Markings	linear feet (lf)	5000 lf each side	\$1.50	\$15,000 ⁽¹⁾
	New Lane Markings	lf	5000 lf each side	\$1.50	\$15,000 ⁽¹⁾
	Signs	4/mile	8	\$200	\$1,600
	Subtotal				\$31,600
Bike Lane	Bike Lane Markings	4/mile	8	\$50	\$400
	Bike Lane Striping - Thermoplastic	lf	5000 lf each side	\$1.50	\$15,000
	Signs	4/mile	8	\$200	\$1,600
	Subtotal - No Lane Restriping				\$17,000
	If Restriping of Lanes to Accommodate Bike Lane	lf	5000 lf each side	\$3	\$30,000
	Subtotal - With Lane Restriping				\$47,000
Shoulder Widening	Assume 4 feet per side (5000 lf per mile each side)	square yard (sy)	4444.4	\$75	\$333,330
Paved Off-Street Path	excludes right-of-way - 10-foot wide path	lf	5280	\$50	\$264,000
Path Bridge		square foot (sf)		\$100	

⁽¹⁾ per stripe to be removed (i.e., if only one lane stripe on each side - \$11,000; if 2 lane stripes on each side are to be removed - \$22,000)

PROJECT COSTS

The unit costs shown above were applied to each project. In addition, a contingency factor ranging between 0% and 50% was also incorporated. The contingency factor was zero for simple signage-related solutions, but was increased for more complicated projects, particularly off-street trail projects that may require complex engineering solutions. Thus, these costs are purposefully conservative in nature. Note that the cost figures have been rounded for inclusion in the fact sheets.



APPENDIX A: UNIT COSTS AND COSTS BY PROJECT

Type Facility and Opinion of Probable Cost								
Facility	Section	Length	Type Improvement	Typical Unit Cost/Mile	Pre-contingency Costs	Contingency Factor	Total Cost	Total Cost (Rounded)
1	A	2.15	signed route	\$ 1,600	\$ 3,440	1.00	\$ 3,440	\$ 3,400
	B	0.72	add 4-foot shoulder	\$ 333,330	\$ 239,998	1.35	\$ 323,997	\$ 324,000
	C	0	bike path *	\$ 264,000	\$ -	1.50	\$ -	\$ -
	Total	2.87			\$ 243,438		\$ 327,437	\$ 327,400
2	A	0.77	wide outside lane	\$ 31,600	\$ 24,332	1.20	\$ 29,198	\$ 29,200
	B	1.17	wide outside lane	\$ 31,600	\$ 36,972	1.20	\$ 44,366	\$ 44,400
	C	0.54	wide outside lane	\$ 31,600	\$ 17,064	1.20	\$ 20,477	\$ 20,500
	Total	2.48			\$ 78,368		\$ 94,042	\$ 94,100
3	A	0.61	bike path	\$ 264,000	\$ 161,040	1.50	\$ 241,560	\$ 241,600
	B	0.43	bike path	\$ 264,000	\$ 113,520	1.50	\$ 170,280	\$ 170,300
	C	0.3	bike path (plus bridge - assume 50')	\$ 264,000	\$ 129,200	1.50	\$ 193,800	\$ 193,800
	Total	1.34			\$ 403,760		\$ 605,640	\$ 605,700
4	A	0.90	bike path	\$ 264,000	\$ 237,600	1.50	\$ 356,400	\$ 356,400
	B	0.97	bike path	\$ 264,000	\$ 256,080	1.25	\$ 320,100	\$ 320,100
	C	3.92	bike path	\$ 264,000	\$ 1,034,880	1.25	\$ 1,293,600	\$ 1,293,600
	Total	5.79			\$ 1,528,560		\$ 1,970,100	\$ 1,970,100
5	A	0.31	add 4-foot shoulder	\$ 333,330	\$ 103,332	1.35	\$ 139,499	\$ 139,500
	B	2.15	signed route	\$ 1,600	\$ 3,440	1.00	\$ 3,440	\$ 3,400
	C	0.87	signed route	\$ 1,600	\$ 1,392	1.00	\$ 1,392	\$ 1,400
	Total	3.33			\$ 108,164		\$ 144,331	\$ 144,300
6	A	2.1	bike lane	\$ 47,000	\$ 98,700	1.20	\$ 118,440	\$ 118,400
	B	0.72	signed route	\$ 1,600	\$ 1,152	1.00	\$ 1,152	\$ 1,200
	C	1.15	striped, but no lane designation	\$ 47,000	\$ 54,050	1.20	\$ 64,860	\$ 64,900
	D	0.96	signed route	\$ 1,600	\$ 1,536	1.00	\$ 1,536	\$ 1,500
	Total	4.93			\$ 155,438		\$ 185,988	\$ 186,000
7	A	0.32	bike path	\$ 264,000	\$ 84,480	1.50	\$ 126,720	\$ 126,700
	B	0.21	bike path	\$ 264,000	\$ 55,440	1.50	\$ 83,160	\$ 83,200
	Total	0.53			\$ 139,920		\$ 209,880	\$ 209,900
8	A	0.41	bike path	\$ 264,000	\$ 108,240	1.50	\$ 162,360	\$ 162,400
	B	0.84	bike path	\$ 264,000	\$ 221,760	1.50	\$ 332,640	\$ 332,600
	Total	1.25			\$ 330,000		\$ 495,000	\$ 495,000
9	A	0.32	signed route	\$ 1,600	\$ 512	1.00	\$ 512	\$ 500
	B	3.51	add 4-foot shoulder	\$ 333,330	\$ 1,169,988	1.35	\$ 1,579,484	\$ 1,579,500
	C	2.01	wide outside exists - put signs	\$ 1,600	\$ 3,216	1.00	\$ 3,216	\$ 3,200
	Total	5.84			\$ 1,173,716		\$ 1,583,212	\$ 1,583,200
10	A	0.95	bike path	\$ 264,000	\$ 250,800	1.50	\$ 376,200	\$ 376,200
	B	1.3	bike path	\$ 264,000	\$ 343,200	1.50	\$ 514,800	\$ 514,800
	C	1.50	bike path	\$ 264,000	\$ 396,000	1.50	\$ 594,000	\$ 594,000
	Total	3.75			\$ 990,000		\$ 1,485,000	\$ 1,485,000
11		9.13	add 4-foot shoulder	\$ 333,330	\$ 3,043,303	1.50	\$ 4,564,954	\$ 4,565,000
12	A	0.80	bike lane	\$ 47,000	\$ 37,600	1.20	\$ 45,120	\$ 45,100
	B	0.36	signed route	\$ 1,600	\$ 576	1.00	\$ 576	\$ 600
	C	1.11	wide outside lane	\$ 31,600	\$ 35,076	1.20	\$ 42,091	\$ 42,100
	Total	2.27			\$ 73,252		\$ 87,787	\$ 87,800
13	A	2.22	signed route	\$ 1,600	\$ 3,552	1.00	\$ 3,552	\$ 3,600
	B	1.79	signed route	\$ 1,600	\$ 2,864	1.00	\$ 2,864	\$ 2,900
	C	2.82	signed route - shoulder exists	\$ 1,600	\$ 4,512	1.00	\$ 4,512	\$ 4,500
	Total	6.83			\$ 10,928		\$ 10,928	\$ 11,000
14		1.79	signed route	\$ 1,600	\$ 2,864	1.00	\$ 2,864	\$ 2,900
15	A	1.24	wide outside lane	\$ 31,600	\$ 39,184	1.20	\$ 47,021	\$ 47,000
	B	5	add 4-foot shoulder	\$ 333,330	\$ 1,666,650	1.35	\$ 2,249,978	\$ 2,250,000
	C	2.89	add 4-foot shoulder	\$ 333,330	\$ 963,324	1.35	\$ 1,300,487	\$ 1,300,500
	D	0.71	signed route	\$ 1,600	\$ 1,136	1.00	\$ 1,136	\$ 1,100
	E	2.38	signed route	\$ 1,600	\$ 3,808	1.00	\$ 3,808	\$ 3,800
	Total	12.22			\$ 2,674,102		\$ 3,602,429	\$ 3,602,400
TOTAL		64.35			\$ 10,955,813		\$ 15,369,592	\$15,369,800

* Included in Project #8





APPENDIX B: SUMMARY OF FINAL PUBLIC FORUM

FINAL PUBLIC FORUM FOR BIKEWAY MASTER PLAN

**DHEC Auditorium
Thursday, August 26, 2004
4:00 PM – 6:30 PM**

A final public forum was held to “unveil” the Bikeway Master Plan. This event was attended by approximately 50 people, including representatives from stakeholder groups in the community as well as interested citizens. State and Federal planning officials were also in attendance.

This “drop-in” event was held to introduce the Plan to the community. Large display boards illustrated the proposed bikeway network, as well as the associated bicycle policies that are recommended in the Plan. Consultant staff and local planning staff were available to discuss individual Plan elements with attendees, and full copies of the Plan were available for review. Handouts summarizing major plan elements were provided, and door prizes were also offered as a result of generous contributions from a local bicycle shop.

Nearly all the comments received at the forum were supportive and positive. The forum attendees were excited about the possibility of expanded facilities for bicycling, and were anxious to begin the implementation process.

