

# The City of Rocky Mount Bike Plan



Prepared for the City of Rocky Mount, North Carolina  
Prepared by Alta Planning + Design



October 2018



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# ACKNOWLEDGMENTS

Thanks to the local residents, business leaders, community leaders, and government staff who participated in the development of this study through meetings, events, volunteering, interviews, and review. Special thanks to those stakeholders who participated as steering committee members, listed below.

## Steering Committee Members:

Steve Yetman, Assistant Director of Engineering, City of Rocky Mount  
 JoSeth Bocook, Interim Director of Development Services, City of Rocky Mount  
 David Griffin, Community Services Superintendent, City of Rocky Mount  
 Harriet Buss, Citizen Bicycle Advocate  
 Margie Holt, Citizen Bicycle Advocate  
 Gary Hodges, Citizen Bicycle Advocate  
 Mack Wiggins, Citizen Bicycle Advocate  
 Felisa Bullock, Citizen Bicycle Advocate  
 Jeffery Walston, Human Relations Specialist, City of Rocky Mount  
 Betsy Kane, Transportation Planner II, NCDOT  
 Nicole Westley, Human Services Planner and Evaluator, Johnston County  
 Jimmy Eatmon, Division Program and Schedule Support Manager, NCDOT

## Project Consultants:

Matt Hayes, AICP, Principal, Alta Planning + Design  
 Jennifer Baldwin, Senior Planner, Alta Planning + Design  
 Heather Maloney Seagle, Planner, Alta Planning + Design  
 Erin Convery, Engineer/Planner, Alta Planning + Design  
 Will Roberts, Planner, Alta Planning + Design

## Project Contact:

Bob League, Principal Transportation Planner, City of Rocky Mount  
 bob.league@rockymountnc.gov



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**EXECUTIVE  
SUMMARY**



# EXECUTIVE SUMMARY

VISION: The City of Rocky Mount will offer residents and visitors a low-stress biking experience through a network of connected and well-designed greenway trails and bicycle-friendly streets. People of all ages, abilities, and incomes will be able to safely and conveniently bike to where they live, work, play and learn.

## Goals



Increase Safety



Improve access



Create a positive economic impact



Enhance health



Promote equity



Protect the environment

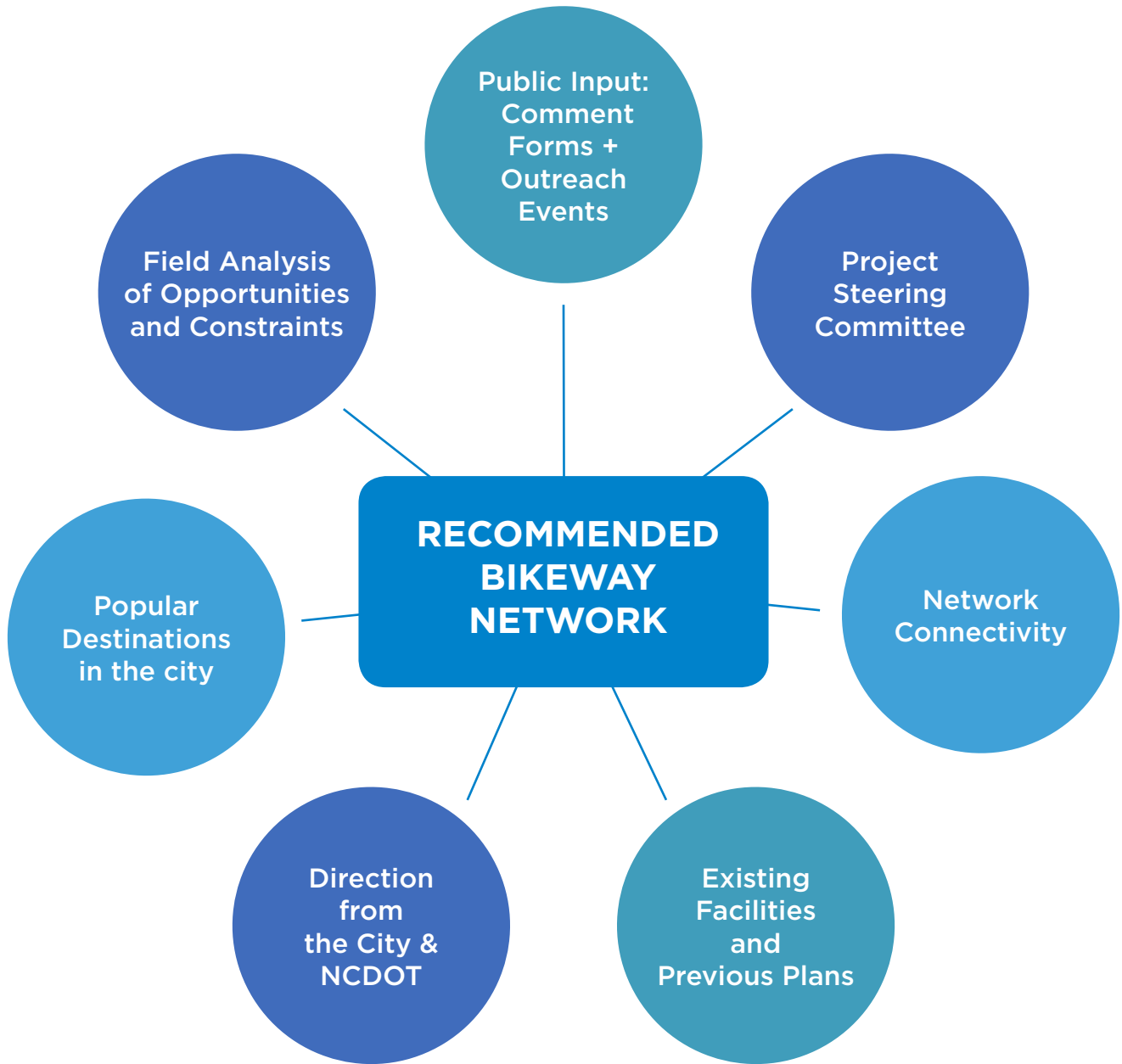
## Community Support

Community input and support for this project was gathered from a steering committee, public outreach events, a public input survey, and public workshops.

Through this input, priorities for projects, programming, and policies were identified for improving the bicycle experience from both an environmental and cultural perspective through infrastructure investments, education, and other strategies. These priorities are outlined on the following pages.

## Recommendation Methodology

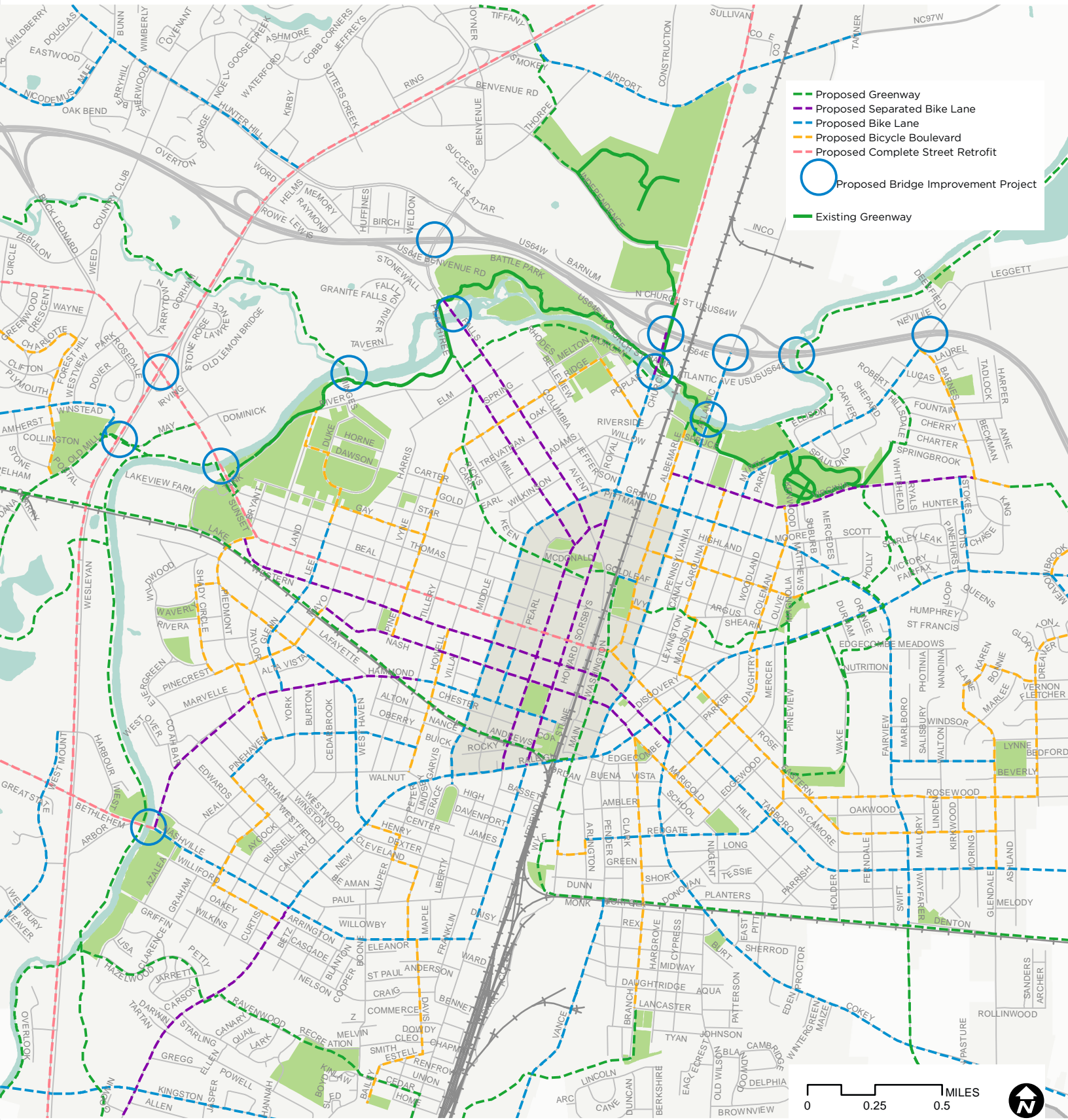
Recommendations were developed based on information from several sources, as highlighted in the graphic below. Fieldwork examined the potential and need for bicycle facilities along and across key roadway corridors to make connections between popular destinations in Rocky Mount.







# Recommendations Map



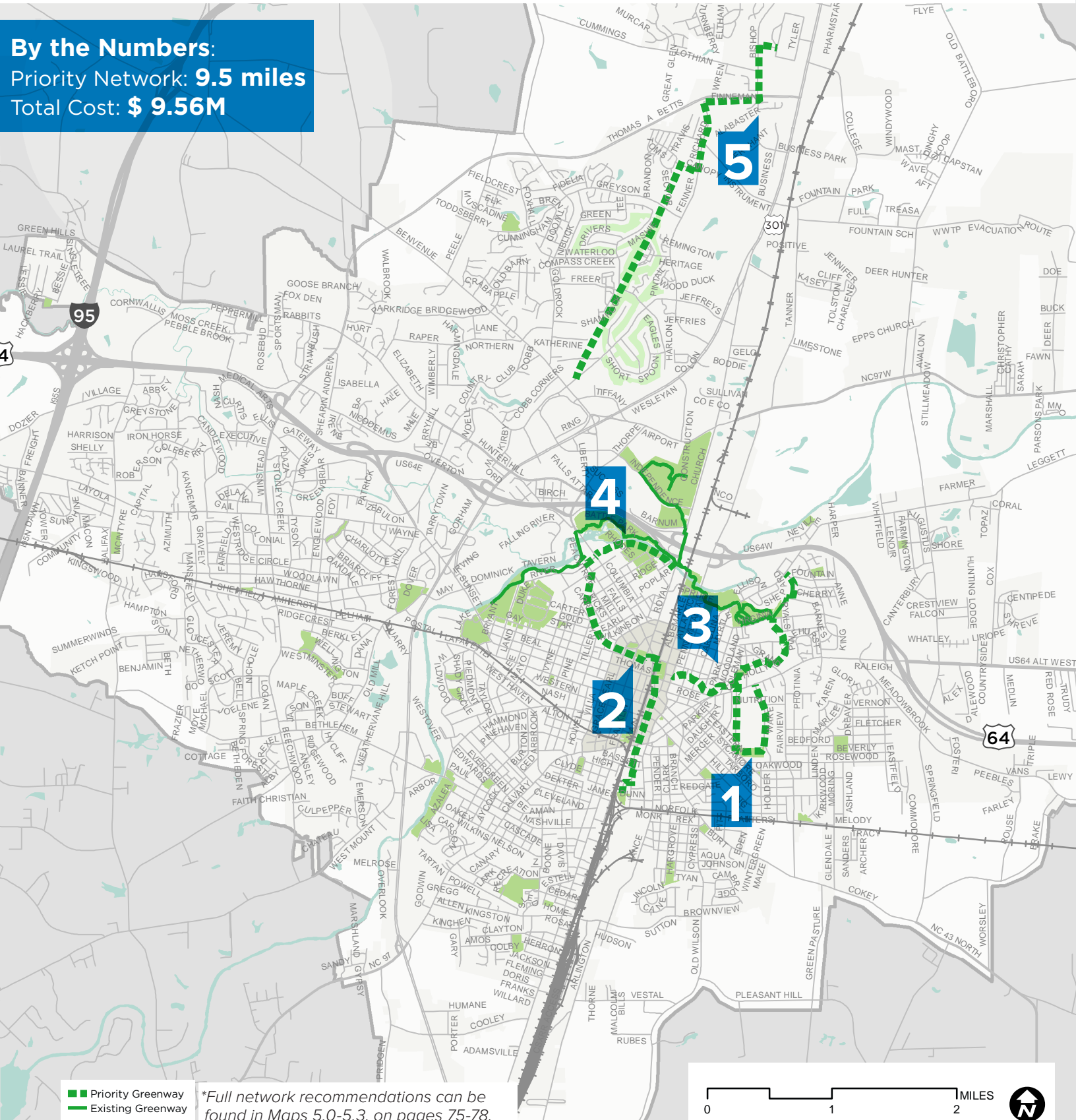
- Proposed Greenway
- Proposed Separated Bike Lane
- Proposed Bike Lane
- Proposed Bicycle Boulevard
- Proposed Complete Street Retrofit
- Proposed Bridge Improvement Project
- Existing Greenway

0 0.25 0.5 MILES



# Short-Term Greenway Trail Priorities

**By the Numbers:**  
Priority Network: **9.5 miles**  
Total Cost: **\$ 9.56M**



■ Priority Greenway  
■ Existing Greenway

\*Full network recommendations can be found in Maps 5.0-5.3, on pages 75-78.



## Greenway Trail Priorities

Five projects are outlined in plan view concepts and photo simulations, depicting recommended bicycle infrastructure improvements for improving mobility, access, and safety for bicyclists in Rocky Mount. These projects were identified through public input from the online survey, during the open house, in consultation with the steering committee and city staff, and in order to develop a connected, low-stress bikeway network.

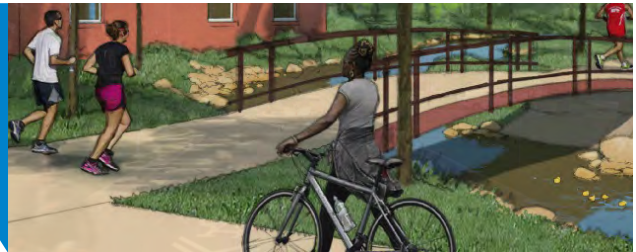
### 1 COWLICK TRAIL

pg. 93



### 2 MONK TO MILL TRAIL

pg. 95



### 3 PARKERS CANAL

pg. 97



### 4 BBQ TRAIL

pg. 98

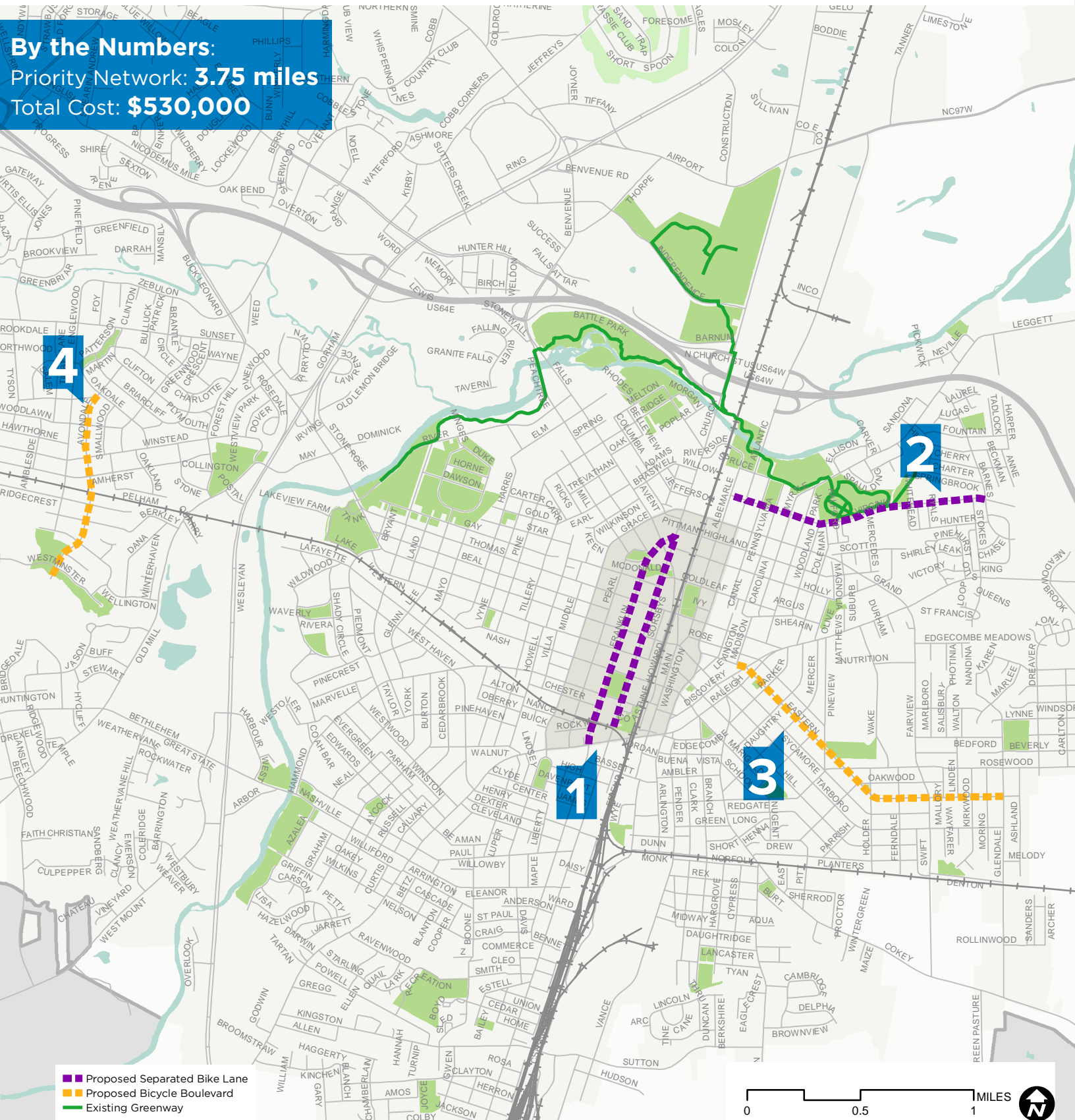


### 5 WESLEYAN COLLEGE TRAIL CONNECTION

pg. 99



# Top Four Bikeway Priorities



**By the Numbers:**  
Priority Network: **3.75 miles**  
Total Cost: **\$530,000**

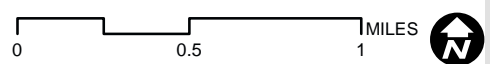
4

2

1

3

- Proposed Separated Bike Lane
- Proposed Bicycle Boulevard
- Existing Greenway





## Top Four Bikeway Priorities

The top four priority projects of Phase 1 are outlined in plan view concepts and photo simulations, depicting recommended bicycle infrastructure improvements for improving mobility, access, and safety for bicyclists in Rocky Mount. These projects were identified through public input from the online survey, during the open house, in consultation with the steering committee and city staff, and in order to develop a connected, low-stress bikeway network.

### 1 FRANKLIN AND CHURCH SEPARATED BIKE LANE pg. 108



### 2 VIRGINIA STREET 2-WAY BIKE LANE pg. 112



### 3 EASTERN AVE BICYCLE BOULEVARD pg. 116

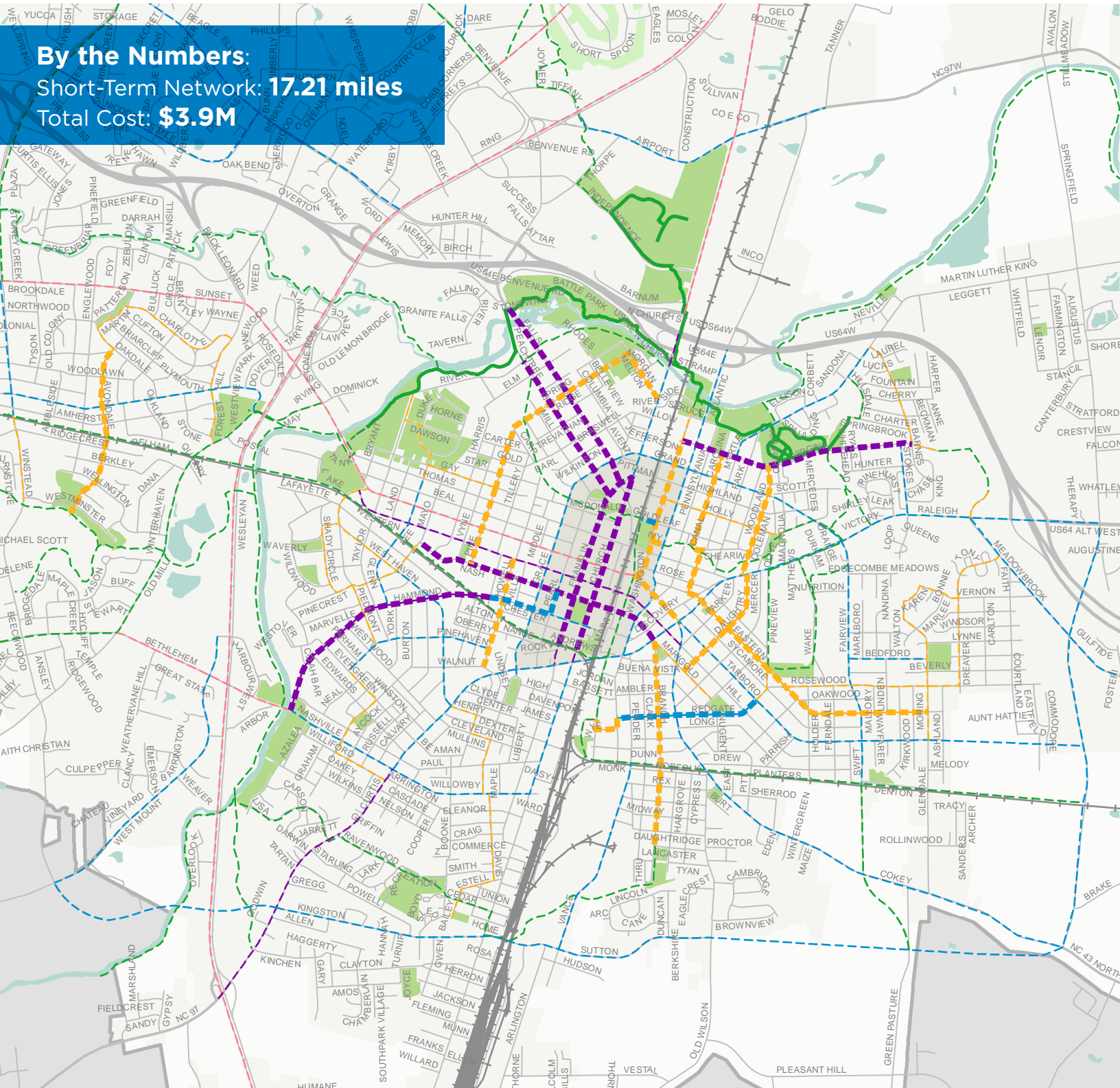


### 4 AVONDALE AVE BICYCLE BOULEVARD pg. 117



# Short-Term Priorities

**By the Numbers:**  
 Short-Term Network: **17.21 miles**  
 Total Cost: **\$3.9M**





# Phasing Plan

Recommendations are organized into the following phases. The phases should be approached by the City of Rocky Mount and its partners with flexibility, taking into account opportunities that may arise after this planning process is complete.

# 1

## SHORT-TERM PROJECTS (0-5 YEARS):

These projects were the most consistently mentioned in committee meetings and public outreach, and ranked high in priority factors (see previous page) and form a priority network within and around downtown Rocky Mount.

Short-Term Priority Projects can be found in Table 7.2 on page 113.

Short-Term Projects Mileage Summary		
Nash County		Edgecombe County
3.07 miles	Bicycle Boulevard	5.63 miles
0.42 miles	Bike Lane	0.78 miles
6.14 miles	Separated Bike Lane	1.16 miles
0.0 miles	Complete Street Retrofit	0.0 miles
<b>9.63 miles</b>	<b>Total</b>	<b>7.57 miles</b>

# 2

## MID-TERM PROJECTS (5-10 YEARS):

These projects were strategically selected to form a cohesive and connected network of greenways and bikeways, serving key destinations just outside the downtown core. Each of the projects scored well in prioritization.

\*Project table found in Appendix B

Mid-Term Projects Mileage Summary		
Nash County		Edgecombe County
6.39 miles	Bicycle Boulevard	4.88 miles
6.41 miles	Bike Lane	14.04 miles
2.04 miles	Separated Bike Lane	0.0 miles
5.56 miles	Complete Street Retrofit	0.0 miles
<b>20.4 miles</b>	<b>Total</b>	<b>18.92 miles</b>

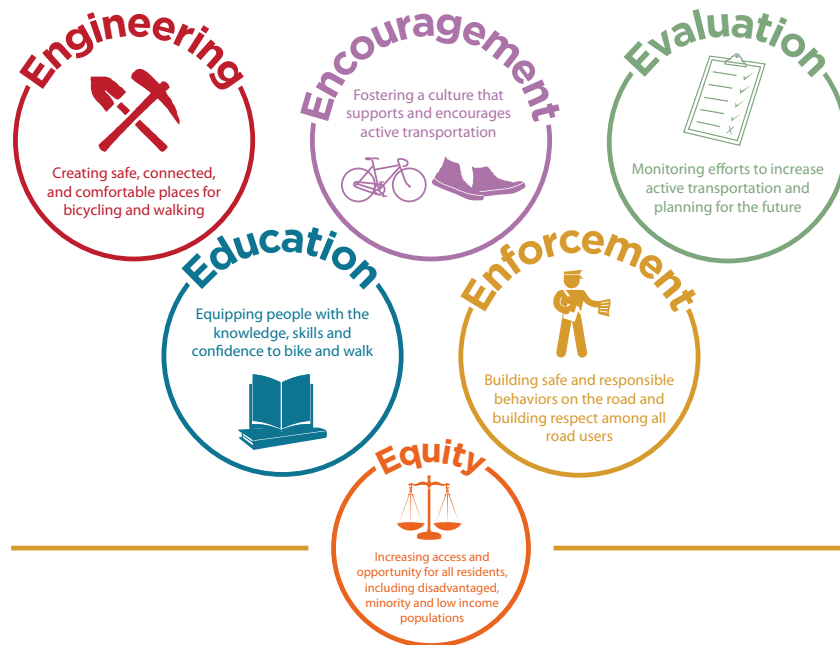
# 3

## LONG-TERM PROJECTS (10+ YEARS):

This map shows all potential greenway and bikeway opportunities in the entire city. It is not expected (or recommended) all of these will be built. They are still an important part of this plan though, as they show what the potential is for any given future development or roadway construction that may provide an opportunity for incorporating a greenway or bikeway.

\*Project table found in Appendix B

Comprehensive Network Mileage Summary		
Nash County		Edgecombe County
0.44 miles	Bicycle Boulevard	0.0 miles
13.29 miles	Bike Lane	11.98 miles
1.18 miles	Separated Bike Lane	0.0 miles
12.31 miles	Complete Street Retrofit	0.0 miles
<b>27.22 miles</b>	<b>Total</b>	<b>11.98 miles</b>



## Programs

A comprehensive bicycle program is often centered around what is known as the 5 E’s: Engineering, Education, Encouragement, Enforcement, and Evaluation (see diagram above). Equity is added here as the non-traditional 6th E to ensure a focus on communities with mobility limitations.

A program toolkit was developed to address the community’s needs in terms of education, encouragement, enforcement, and evaluation.

## Policies

One of the most cost effective implementation strategies for Rocky Mount is to establish land development regulations and street design policies that promote bikeable new development and capital projects. A review and analysis of the city’s ordinances, development standards, and policies was conducted to identify general issues and opportunities impacting the bicycle environments across the city.

Model regulatory and policy language from around North Carolina and the U.S. was identified and should be adopted to strengthen Rocky Mount’s development regulations to improve land use/transportation

integration, connectivity, and the provision of bicycle infrastructure and amenities.

It is also recommended that Rocky Mount adopt **Complete Streets, Vision Zero and Dockless Bike Share** policies to support safe bicycle travel in the city.

## Implementation

Implementing the recommendations within this plan will require leadership and dedication to bicycle facility development on the part of a variety of agencies.

Prioritization, phasing, performance measures, connecting stakeholders, and having a clear vision for key short-term projects are all integral steps in ensuring that this process moves forward with the best possible chances of success.

It will be critical to meet the need for a recurring source of revenue for implementing bicycle infrastructure. Even small amounts of local funding could be very useful and beneficial when matched with outside sources. Most importantly, the City need not accomplish the recommendations of this plan by acting alone; success will be realized through collaboration with regional and state agencies, the private sector, and non-profit organizations.





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# 1. INTRODUCTION





# INTRODUCTION

The Rocky Mount Bike Plan serves as a guiding document and blueprint for implementation and funding of bicycle facilities in the city. The plan was made possible by joint funding from the City of Rocky Mount and the North Carolina Department of Transportation (NCDOT). The planning process kicked off in November 2017 and included a variety of methods to gather public input. This chapter outlines the vision and goals of the project based on that initial public input, as well as the planning process, schedule, and background information on the project.

## Overview

The City of Rocky Mount is located in eastern North Carolina, where the Atlantic coastal plain meets the Piedmont, approximately 60 miles east of Raleigh. It straddles two counties, Edgecombe and Nash, and sits at the crossroads of two major regional corridors—Interstate 95 and US Highway 64. Many of its neighborhoods are characterized by a well-connected, grid-based street network. Creating opportunities for safe bicycling within and between these neighborhoods will be a key focus of this study.

## The Vision

The Rocky Mount Bike Plan aims to identify new opportunities and ongoing initiatives that will create a bicycling environment that connects people of all ages and abilities to where they live, work, play, and learn.

Specifically, the plan addresses how to make the streets safe for Rocky Mount’s youngest and oldest bicyclists, how to improve the bicycle connections between neighborhoods, and how an improved bicycling environment can create a healthier and more livable community. The following is the plan’s vision statement:

**“The City of Rocky Mount will offer residents and visitors a low-stress biking experience through a network of connected and well-designed greenway trails and bicycle-friendly streets. People of all ages, abilities, and incomes will be able to safely and conveniently bike to where they live, work, play and learn.”**

## Plan Goals



### Increase Safety

Address the safety of the transportation system for the most vulnerable users and aim for zero bicycle and pedestrian fatalities and serious injuries.



### Enhance Health

Enhance access to active transportation and outdoor recreation for health and wellness.



### Improve Access

Create connected bikable streets that allow people of all ages and abilities to safely and conveniently get where they want to go.



### Promote Equity

Ensure that bicycling infrastructure is provided in the areas with the greatest need.



### Create a Positive Economic Impact

Recognize the economic benefits of bicycle-friendly communities, and capitalize on increased property values.



### Protect the Environment

Increase air quality by replacing a percentage of automobile trips with bicycling trips; Protect waterways, wildlife habitat, and natural areas along greenways.



# Planning Process

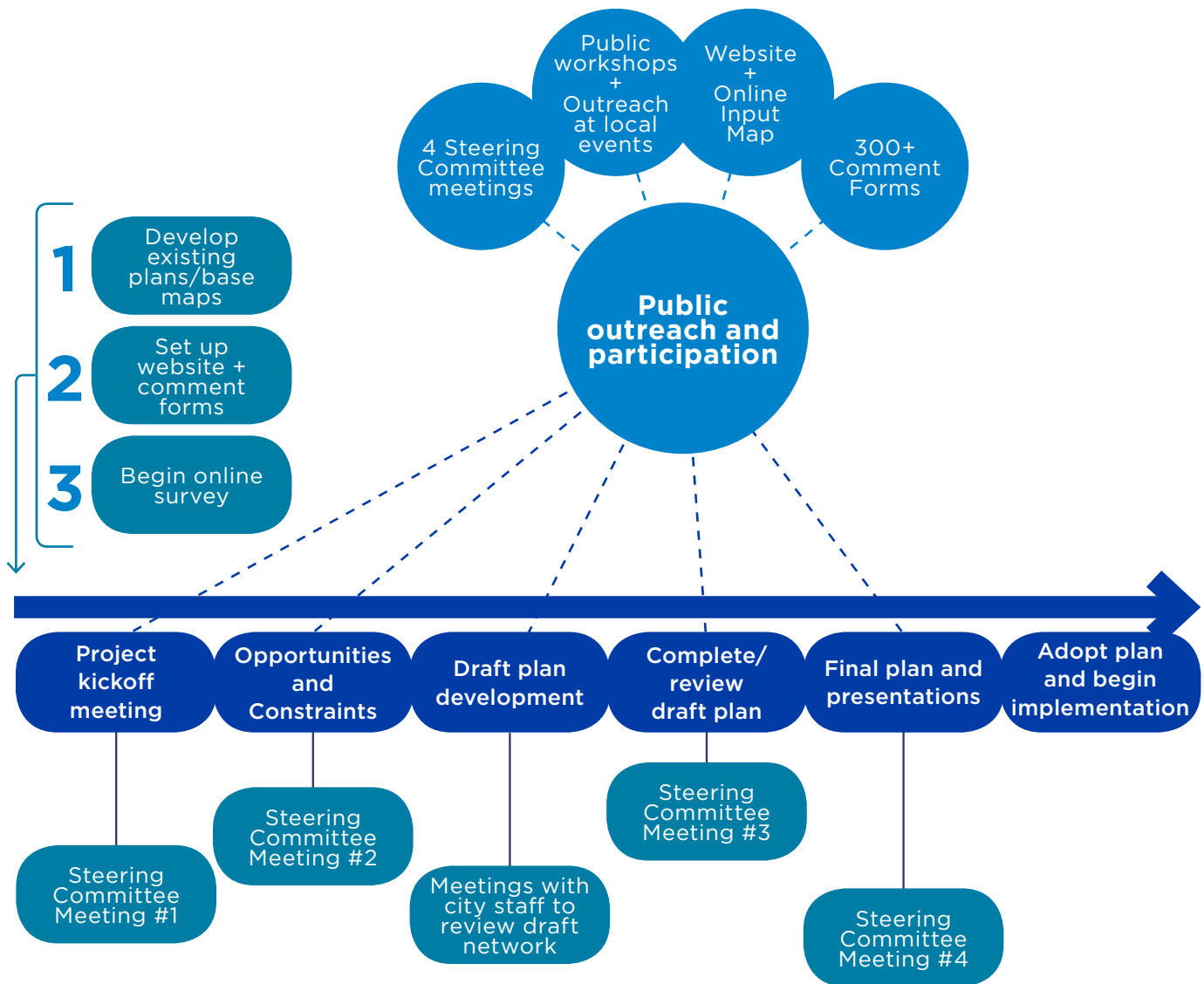
The planning process for the Rocky Mount Bike Plan started in Winter 2017 with the initial Steering Committee meeting and concluded in Summer 2018. Key steps in the planning process are featured in the diagram below.

## PROJECT STEERING COMMITTEE

Key tasks of the Steering Committee included guiding the overall vision of the plan, identifying existing opportunities and constraints for biking, leveraging resources for an expanded public outreach effort, and providing feedback on plan recommendations. The Steering Committee included community members from a variety of backgrounds within Rocky Mount, including business owners, city elected officials, and residents (the names of the Steering Committee members are listed in the Acknowledgments on p.ii).



Rocky Mount residents provide input on where they currently bike or would like to be able to bike at a public event in November 2017.



## CONNECT 2045

The Rocky Mount Metropolitan Planning Organization (MPO), which is the governmental agency responsible for regional transportation planning, was working on its regular update to Rocky Mount’s long-term Metropolitan Transportation Plan, dubbed *Connect 2045*, at the same time that this bike plan was being developed. The Connect 2045 plan, along with this bike plan, will shape the direction of the region’s transportation system and outline a regional strategy for a connected system that accommodates existing and future mobility needs.

Completing this long-term vision for regional transportation at the same time as conducting this bike plan has allowed the City to coordinate the recommendations within the two plans to ensure that they support and facilitate a unified vision for multi-modal transportation throughout the area. For instance, joint public outreach sessions were held for both plans, where residents and community members could review and provide feedback on the recommendations and findings of both plans at the same time. This coordination has resulted in plans that are more consistent and complementary to each other that will hopefully serve Rocky Mount’s transportation needs well into the future.





## Public Input Opportunities

In addition to Steering Committee meetings, the planning process included several other methods of public outreach and involvement.

### PROJECT WEBSITE

The website featured information about the plan and a link to the online survey. The City purchased a user-friendly url to host the project site ([rockymountbikeplan.weebly.com/](http://rockymountbikeplan.weebly.com/)).

### PUBLIC SURVEY

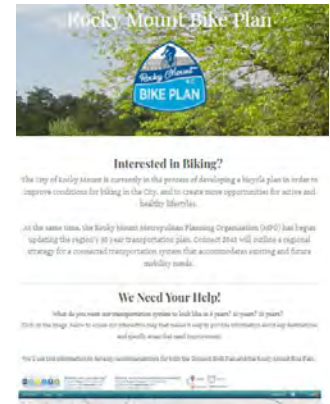
The public survey was offered on-line and in hard copy format. The form asked questions about transportation priorities, facility preferences, barriers to biking, and potential funding sources in Rocky Mount.

### PUBLIC WORKSHOPS

In Fall 2017 and Spring 2018, the project team hosted public workshops at the Imperial Centre and Rocky Mount City Hall, respectively. At these events, the public was invited to help develop network recommendations and to provide further input on the bicycling conditions and needs in Rocky Mount.

### FINAL PLAN PRESENTATIONS

The plan was finalized in Summer 2018. A final report was presented during the June Rocky Mount City Council meeting.



*An image of the project website that allowed the public to provide input about their preferences for improvements to bicycle facilities.*



*Local residents review maps of proposed bicycle facilities.*



*A family of bicycles in Rocky Mount.*

## Why is This Plan Important?

Extensive research has highlighted the multitude of economic, health, mobility, environment, safety, and quality of life benefits of having a bicycle-friendly community.

The following sections highlight the many benefits of planning for and creating more bikeable communities in Rocky Mount. Resources drawn upon in this discussion are listed at the end of this chapter.

## Key Benefits of Bicycle-Friendly Communities







## SAFETY

### *Trends and Challenges*

According to a survey of 16,000 North Carolina residents for the 2011 North Carolina Bicycle and Pedestrian Safety Summit, the most commonly reported safety issue for walking and biking in North Carolina is inadequate infrastructure (75%).<sup>1</sup> A lack of bicycle facilities, such as bike lanes, multi-use paths, and safe intersections, lead to unsafe biking conditions for cyclists.

- » Each year on average (2011-2013), 24 bicyclists are killed in collisions with motor vehicles on North Carolina roads.<sup>2</sup>
- » North Carolina is ranked as one of the most unsafe states for biking (8th) based on per capita bicyclist fatalities.<sup>3</sup>
- » 2% of all North Carolina traffic fatalities from 2005-2013 were bicyclists,<sup>2</sup> despite the fact that only 0.2% of commute trips are made by biking.<sup>4</sup>
- » During the five-year period from 2011 to 2015, a total of 4,750 bicyclist-involved crashes were reported to North Carolina authorities; 62 crashes involving bicyclists were reported in Rocky Mount during that same time period.<sup>5</sup>

### *Improving Safety*

Separate studies conducted by the Federal Highway Administration and the University of North Carolina Highway Safety Research Center demonstrate that installing pedestrian and bicycle facilities directly improves safety by reducing the risk and severity of pedestrian-automobile and bicycle-automobile crashes. For example, installing green painted bike lanes at conflict points reduces the risk of a bicyclist being hit by 39% by increasing the awareness for the potential presence of a bicyclist in that location. Furthermore, according to the aforementioned survey, 70% of North Carolina respondents said they would walk or bicycle more if these safety issues were addressed.<sup>1</sup>

The following web addresses link to more comprehensive research on active transportation and safety:

- » <https://www.ncdot.gov/bikeped/walkbikenc/>
- » [www.pedbikeinfo.org/data/factsheet\\_crash.cfm](http://www.pedbikeinfo.org/data/factsheet_crash.cfm)



## SAFETY

From 2011-2015, there were **62** reported **BICYCLE CRASHES** in Rocky Mount.

### Bicycle Crash Countermeasures<sup>4</sup>

	Bicycle Crash Reduction Factor
» Install bike lanes	36%
» Install buffered bike lanes	47%
» Install cycle track	59%
» Install "bike box" at conflict point/intersection	35%
» Install leading bicycle interval as signalized intersection	37%
» Install bicycle signal	45%



**MOBILITY**

Less than **0.1%** of Rocky Mount residents **CURRENTLY BIKE TO WORK.**

**MOBILITY**

*Opportunity to Increase Walking Rates*

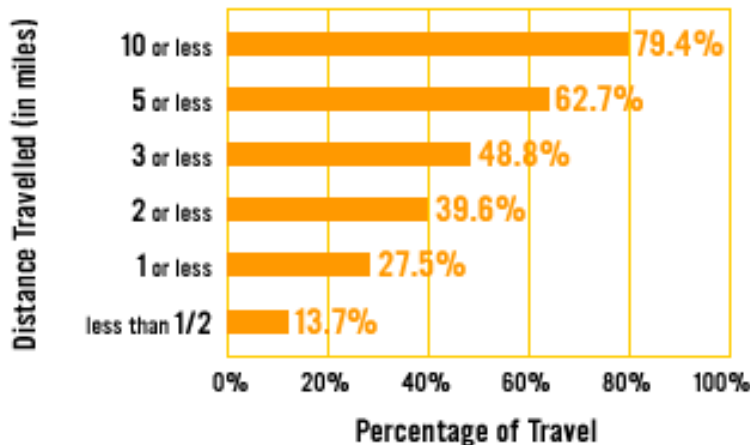
According to the 2011 Bicycle and Pedestrian Safety Survey, at least 70 percent of North Carolinians would bike or walk more for daily trips if biking (and walking) conditions were improved.<sup>1</sup> With appropriate accommodations, biking can provide alternatives to driving for short trips, including trips to work, school, running errands, or other short trips. And even for trips that are made via transit, biking can be involved at either end of the trip, whether it is through one’s neighborhood or down the street, to catch a taxi, bus, or train.

Unfortunately, in many parts of North Carolina, the conditions for biking are unsafe, even for short distances. Over 80% of the respondents to the Bicycle and Pedestrian Safety Survey felt that biking for daily needs was somewhat or very dangerous. These respondents cited lack of on-road bicycle facilities (82%), lack of alternatives to cycling on main arterials (55%), lack of bicycle paths and greenways (53%), and motorists or bicyclists not sharing the road (50%) as contributing factors to the bicycle safety issues.<sup>1</sup>

Commuter rates for bicycling in North Carolina currently fall below the national average, with just 0.25% biking to work, compared to 0.62% biking nationwide. This places North Carolina 45th for biking commute rates in nationwide state rankings.<sup>4</sup>

In many communities, the biking commute rate is used as an indicator of overall biking. An estimated 40% of all trips (commute and non-commute) taken by Americans each and every day are less than two miles, equivalent to a 10-minute bike ride (or a walking trip of 30-40 minutes); however, just 13% of all trips are made by walking or bicycling nationwide.<sup>2</sup> To put these numbers into perspective, 34% of all trips are made by walking or bicycling in Denmark and Germany, and 51% of all trips in the Netherlands are by foot or by bike.<sup>6</sup> Germany, Denmark, and the Netherlands are wealthy countries with high rates of automobile ownership, just like the United States. Yet, an emphasis has been placed on providing quality walking and bicycling environments which has alleviated the reliance on motor vehicles for short trips.

**Daily Trip Distances**



Most driving trips are for a distance of five miles or less. Chart from the Bicycle and Pedestrian Information Center website, [www.pedbikeinfo.org](http://www.pedbikeinfo.org)



## STEWARDSHIP

Stewardship addresses the impact that transportation decisions (both at the government/policy level and individual level) can have on the land, water, and air that Rocky Mount residents and visitors enjoy.

Providing safe accommodations for biking can help to reduce automobile dependency, which in turn leads to a reduction in vehicle emissions – a benefit for residents and visitors and the surrounding environment. As of 2003, 27 percent of U.S. greenhouse gas emissions are attributed to the transportation sector, and personal vehicles account for almost two-thirds (62 percent) of all transportation emissions.<sup>7</sup> Primary emissions that pose potential health and environmental risks are carbon dioxide, carbon monoxide, volatile organic compounds, (VOCs), nitrous oxides (NOx), and benzene. Children and senior citizens are particularly sensitive to the harmful affects of air pollution, as are individuals with heart or other respiratory illnesses. Increased health risks such as asthma and heart problems are associated with vehicle emissions.

Below are some key trends and challenges related to stewardship and transportation in North Carolina:

- » Even a modest increase in biking (in place of motor vehicle trips) can have significant positive impacts. For example, replacing two miles of driving each day with active travel (walking or biking), in one year, prevents 730 pounds of carbon dioxide from entering the atmosphere.<sup>8</sup>
- » According to the National Association of Realtors and Transportation for America, 89% of Americans believe that transportation investments should support the goal of reducing energy use.<sup>9</sup>
- » North Carolina's 2009-2013 Statewide Comprehensive Outdoor Recreation Plan (SCORP) found that 22% of respondents enjoy biking as an outdoor recreational activity.<sup>10</sup>
- » The natural buffer zones that occur along greenways protect streams, rivers, and lakes, preventing soil erosion and filtering pollution caused by agricultural and roadway runoff.<sup>11</sup>

The following web addresses link to more comprehensive research on active transportation and stewardship.

- » [www.ncdot.gov/bikeped/planning/walkbikenc/](http://www.ncdot.gov/bikeped/planning/walkbikenc/)
- » [www.pedbikeinfo.org/data/factsheet\\_environmental.cfm](http://www.pedbikeinfo.org/data/factsheet_environmental.cfm)



## STEWARDSHIP

Rocky Mount has **6 miles** of multi-use trails. There is **STRONG SUPPORT** for **MORE GREENWAYS** and/or multi-use paths.



\* Federal Highway Administration. (1992). *Benefits of bicycling and walking to health*



## ECONOMICS

**PROPERTY VALUES** of homes in the vicinity of the **Carolina Thread Trail** are expected to **INCREASE BY 4%**.<sup>19</sup>

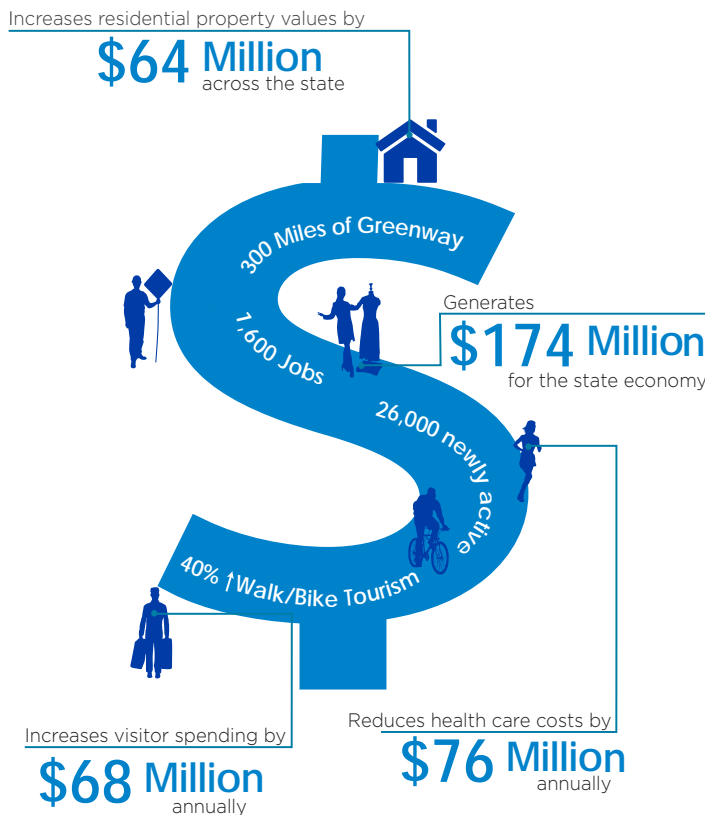
## ECONOMICS

Facilities for bicyclists generate economic returns through improved health, safety, and environmental conditions; **raise property values**; and attract visitors. Below are some key economic trends related to biking in North Carolina and surrounding areas:

- » North Carolina is the 6th most visited state in the United States; visitors spend as much as \$18 billion a year, many of whom partake in activities related to biking (and walking).<sup>18</sup>
- » According to the report, “The Potential Economic Impacts of the Proposed Carolina Thread Trail,” property values of homes in the vicinity of the Carolina Thread Trail alignment are expected to **increase by approximately 4%**, representing **an increase in \$1.7 billion**, which translates into approximately **\$17 million in annual property tax revenues**.<sup>19</sup>
- » In a three-year study of trails in North Carolina, the Institute for Transportation Research and Education is examining the economic and public health impacts of trails throughout the state. Initial findings found that approximately 20% of trail users make purchases related to their trail use. When completed, this study will also evaluate the impacts of trails on property values and tax benefits.<sup>20</sup>
- » Businesses in Travelers Rest, SC, have reported a 10% to 85% increase in sales and revenues following the construction of the Swamp Rabbit Trail.<sup>21</sup> Trails in Virginia, like the Creeper Trail and the New River Trail have also been found to have significant positive impacts on their local economies.<sup>22</sup>
- » Biking is an economically efficient transportation mode. Many North Carolinians

cannot afford to own a vehicle and are dependent on biking or walking for transportation (2.5% of occupied housing units in North Carolina do not have a vehicle; 5.2% of households in Rocky Mount do not have a vehicle).<sup>4</sup>

- » The report, “Walking the Walk: How Walkability Raises Home Values in U.S. Cities”, analyzed data and found that in 13 of the 15 markets, higher levels of walkability, as measured by Walk Score, were directly linked to higher home values.<sup>23</sup>



*An economic impact study, performed as part of the WalkBikeNC Plan, showed significant positive return on investment from the addition of 300 miles of greenways.*



## HEALTH

### Health Trends and Challenges

North Carolina’s transportation system is one of the most important elements of our public environment, and it currently poses barriers to healthy living through active transportation. In 2012, NCDOT’s Board of Transportation revised its mission statement to include “health and well-being” and passed a “Healthy Transportation Policy,” which declares the importance of a transportation system that supports positive health outcomes. Below are some key findings and challenges related to health and transportation in North Carolina:

- » 65% of adults in North Carolina are either overweight or obese.<sup>12</sup> The state is also ranked 5th worst in the nation for childhood obesity.<sup>13</sup>
- » Recent reports have estimated the annual direct medical cost of physical inactivity in North Carolina at \$3.67 billion, plus an additional \$4.71 billion in lost productivity.<sup>14</sup> However, every dollar invested in pedestrian and bicycle trails can result in a savings of nearly \$3 in direct medical expenses.<sup>15</sup>
- » Of North Carolinians surveyed, 60% would increase their level of physical activity if they had better access to sidewalks and trails.<sup>12</sup>

### Better Health Through Active Transportation

Using active transportation to and from school, work, parks, restaurants, and other routine destinations is one of the best ways that children and adults can lead measurably healthier lives. Increasing one’s level of physical activity through walking and bicycling reduces the risk and impact of cardiovascular disease, diabetes, chronic disease, and some cancers. It also helps to control weight, improves mood, and reduces the risk of premature death.<sup>16</sup>



## HEALTH

**31.3%** of adults in **NASH COUNTY** and **40.7%** of adults in **EDGEcombe COUNTY ARE OBESE**, compared to the state average of 29%, and the national average of 25%.<sup>17</sup>

### Active Transportation: Pathway to Health



The graphic above is from the Health Appendix of WalkBikeNC, North Carolina’s statewide bicycle and pedestrian plan from 2013, available at <https://www.ncdot.gov/bikeped/walkbikenc/pictures/Health-Appendix.pdf>. It illustrates the relationship between improvements in the active transportation system (i.e., better walking and bicycling facilities) and health, both in terms of human health and environmental health.

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## 2. EXISTING CONDITIONS





# EXISTING CONDITIONS

This chapter summarizes the existing bicycle environment in Rocky Mount. A summary of the detailed mapping analysis and the public comments received during the planning process is also included.

## Overview

The City of Rocky Mount, North Carolina is a coastal plain community in eastern North Carolina, located approximately one hour northeast of Raleigh. The city lies within the Carolinas Gateway Partnership region that can be considered the gateway to the Carolina coast due to its location along US-64. The City straddles both Nash and Edgecombe Counties and is the principal city of the Rocky Mount, North Carolina Metropolitan Statistical Area. The City is known for its close proximity to the Tar River and for the historic significance of the Rocky Mount tobacco market.

In the face of numerous economic challenges over the last century, Rocky Mount continues to grow and innovate. It is a medium-size community with a 2016 population of 56,165 persons (0.82% decline from 2015). Employment in Rocky Mount grew at a rate of 1.19% between 2015 and 2016, from 22,230 to 22,495 employees. Although the numbers look modest, the City is looking to modernize and diversify its economy with a focus on creative industries, arts, tourism, and craft brewing. This effort is observed in the multiple downtown rejuvenation projects, new event center, and the renovation and reinvention of the Rocky Mount Mills (believed to be the second oldest cotton mill in NC) into a 150-acre development complete with Class A office space, residences, restaurants and a brewery incubator.

The City has committed resources to its transportation network, including a streetscape on Main Street and buffered bicycle lanes from Downtown to the Mills.

## Existing Conditions Map Series

The existing conditions maps on the following pages provide insight into the demographics, environment, and existing bicycle facility network of Rocky Mount. These maps display existing opportunities and constraints throughout the city.

### MAP 2.0 EXISTING BICYCLE FACILITIES

Existing bicycle facilities are limited to two greenway sections near the river and Battle Park (totaling 6.0 miles) and a section of shared-lane markings (“sharrows”) along Albemarle Avenue (0.5 mile). Signed bicycle routes also exist on a handful of downtown streets, but these roadways are just preferred routes for bicyclists, and do not include any bike-specific facility or treatment. The City is currently implementing buffered bike lanes on Falls Road and Peachtree Street to be completed by Spring 2019.

### MAP 2.1 DOWNTOWN EXISTING FACILITIES AND KEY DESTINATIONS

#### Educational Centers and Schools

- » Edgecombe Community College
- » Shaw University
- » Rocky Mount Middle School
- » Braswell Elementary School

#### Parks and Recreation Facilities

- » Battle Park
- » Buck Leonard Park
- » Sunset Park
- » Stith-Talbert Park

#### Government Buildings

- » Rocky Mount City Hall
- » US Postal Service

#### Religious & Cultural Centers

- » First Baptist Church
- » First Presbyterian Church
- » Rocky Mount Senior Center
- » Braswell Memorial Library

### MAP 2.2 BICYCLING DEMAND ANALYSIS

Bicycling demand in Rocky Mount is approximated by using attractors and generators for where people live, work, play, shop, learn, and access transit. Data inputs include population data; employment data; transit routes and stops; and presence of schools, parks, trails, and retail stores. The results for each category (live,

work, play, etc.) are then overlaid to create a composite bicycling demand map. This composite map was used by the project team to identify potential projects and prioritize investments.

### MAP 2.3 EQUITY ANALYSIS

When evaluating the need for bicycle infrastructure and improvements, it is important to understand the areas of Rocky Mount where there is a greater concentration of need. A well-connected bicycle network should be accessible to everyone, especially to populations that rely on biking or transit as modes of transportation. Inputs for the equity analysis were analyzed at the census tract level. The inputs are populations with limited mobility options or access, including: households with no vehicle, households living below the poverty level, limited English proficient populations, children under the age of 18 years, adults over 65 years of age, individuals 25 years or older without a high school diploma, and non-white populations. Rocky Mount is more vulnerable than North Carolina in every metric used in the equity analysis. Findings from the equity analysis were used to inform the bicycle network recommendations.

### MAP 2.4 ROADWAY OWNERSHIP

Knowledge of roadway ownership is important for determining the types of facilities that can be recommended along a roadway, the agency in charge of maintaining the roadway and implementing bicycle facility recommendations, and how improvements are scheduled, funded, and constructed. In Rocky Mount, there are 345 miles of locally-maintained roadways (60% of the total roadway network) and 231 miles of state-maintained roadways (40%), including I-95, US-64, US-301, NC-43, NC-48, and NC-97.

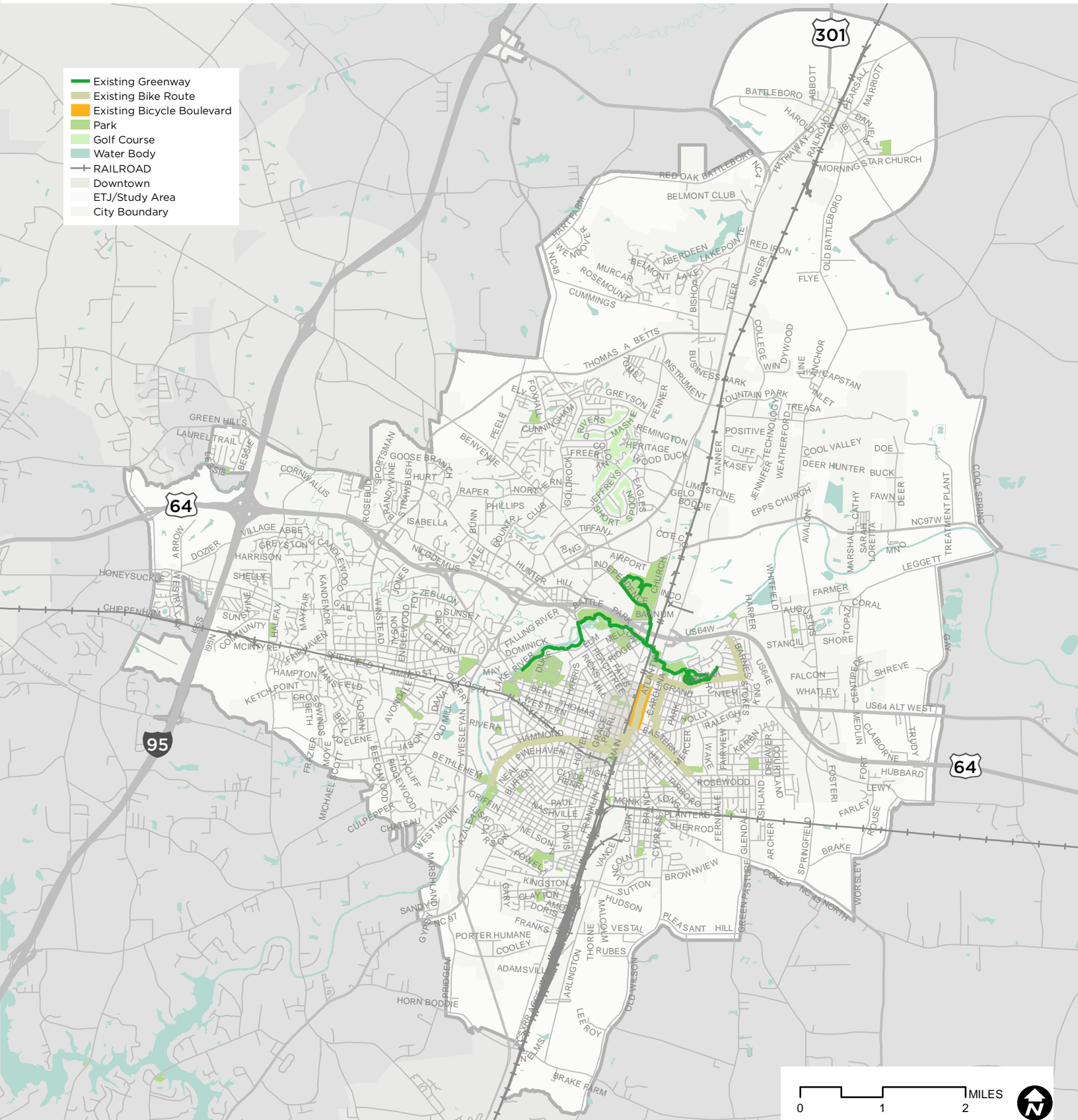
### MAP 2.5 BICYCLE-INVOLVED COLLISIONS (2007-2015)

From 2007 to 2015, there were 146 bicycle-involved collisions in Rocky Mount, 2 of which were fatal. High crash corridors include Raleigh Blvd (27), Sunset Ave (19), Thomas St (8), and Grace St (6).



# Map 2.0 Existing Bicycle Facilities

- █ Existing Greenway
- █ Existing Bike Route
- █ Existing Bicycle Boulevard
- █ Park
- █ Golf Course
- █ Water Body
- RAILROAD
- Downtown
- ETJ/Study Area
- City Boundary



# Map 2.1 Downtown Existing Facilities + Destinations



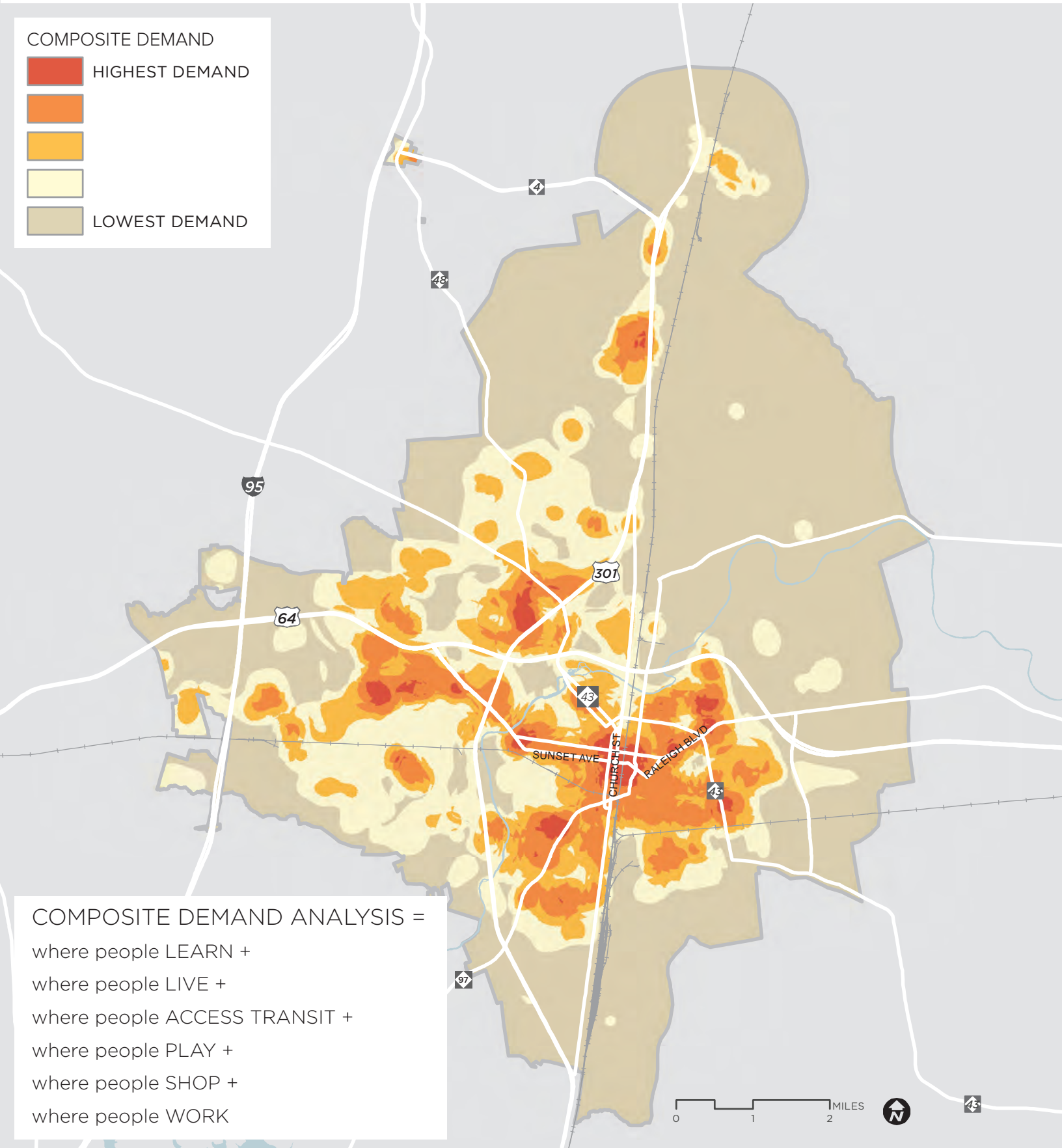
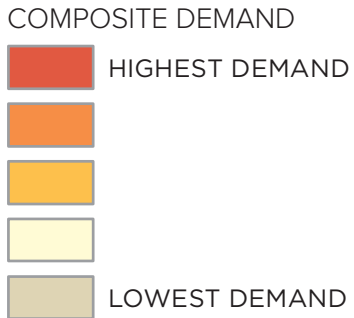
- Existing Greenway
- Existing Bike Route
- Existing Bicycle Boulevard
- School
- College/University
- Park
- Golf Course
- Water Body
- RAILROAD
- Downtown
- ETJ/Study Area
- City Boundary

0 0.25 0.5 MILES





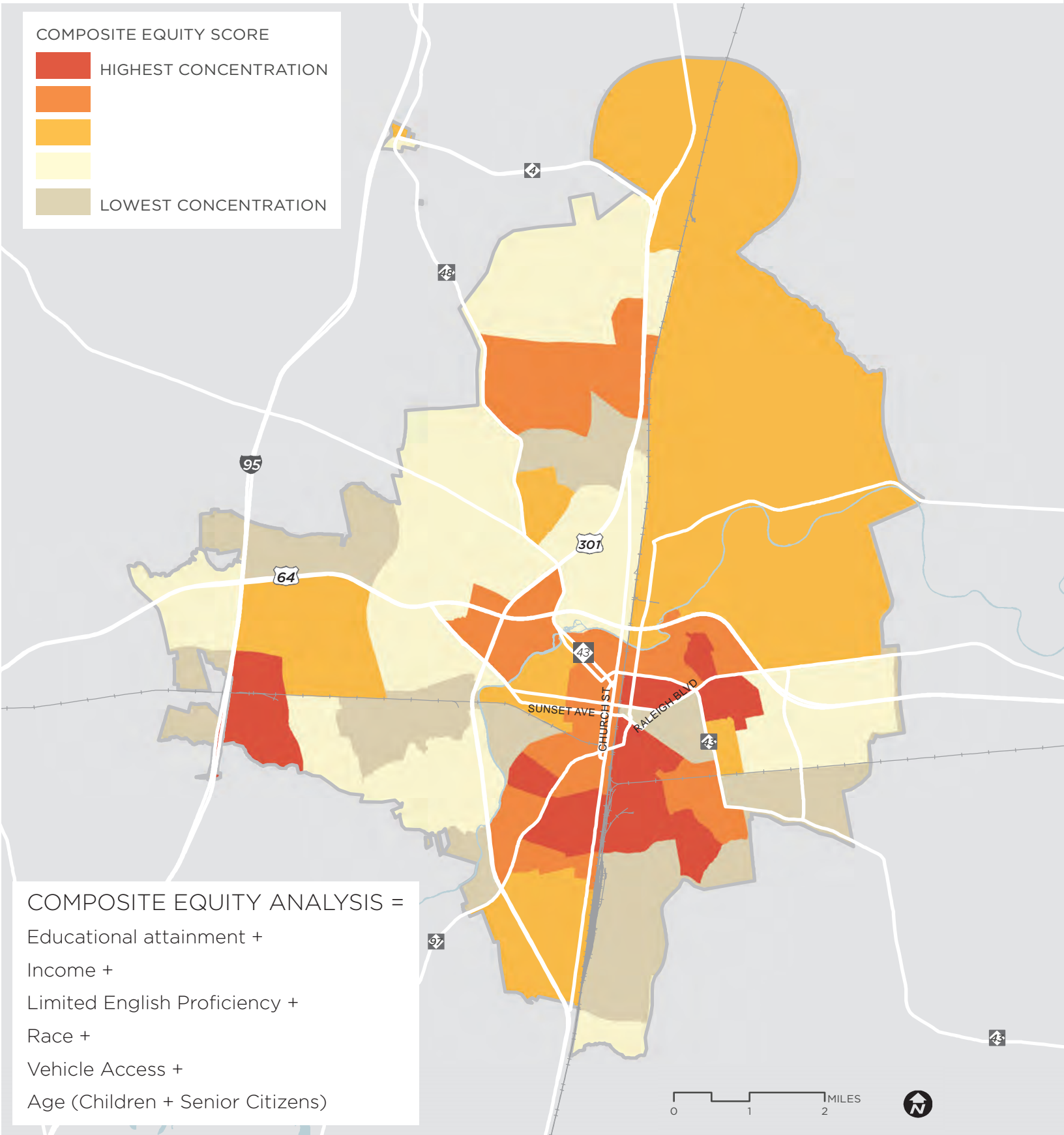
# Map 2.2 Demand Analysis



COMPOSITE DEMAND ANALYSIS =  
where people LEARN +  
where people LIVE +  
where people ACCESS TRANSIT +  
where people PLAY +  
where people SHOP +  
where people WORK

## Map 2.3 Equity Analysis

COMPOSITE EQUITY SCORE



COMPOSITE EQUITY ANALYSIS =

- Educational attainment +
- Income +
- Limited English Proficiency +
- Race +
- Vehicle Access +
- Age (Children + Senior Citizens)

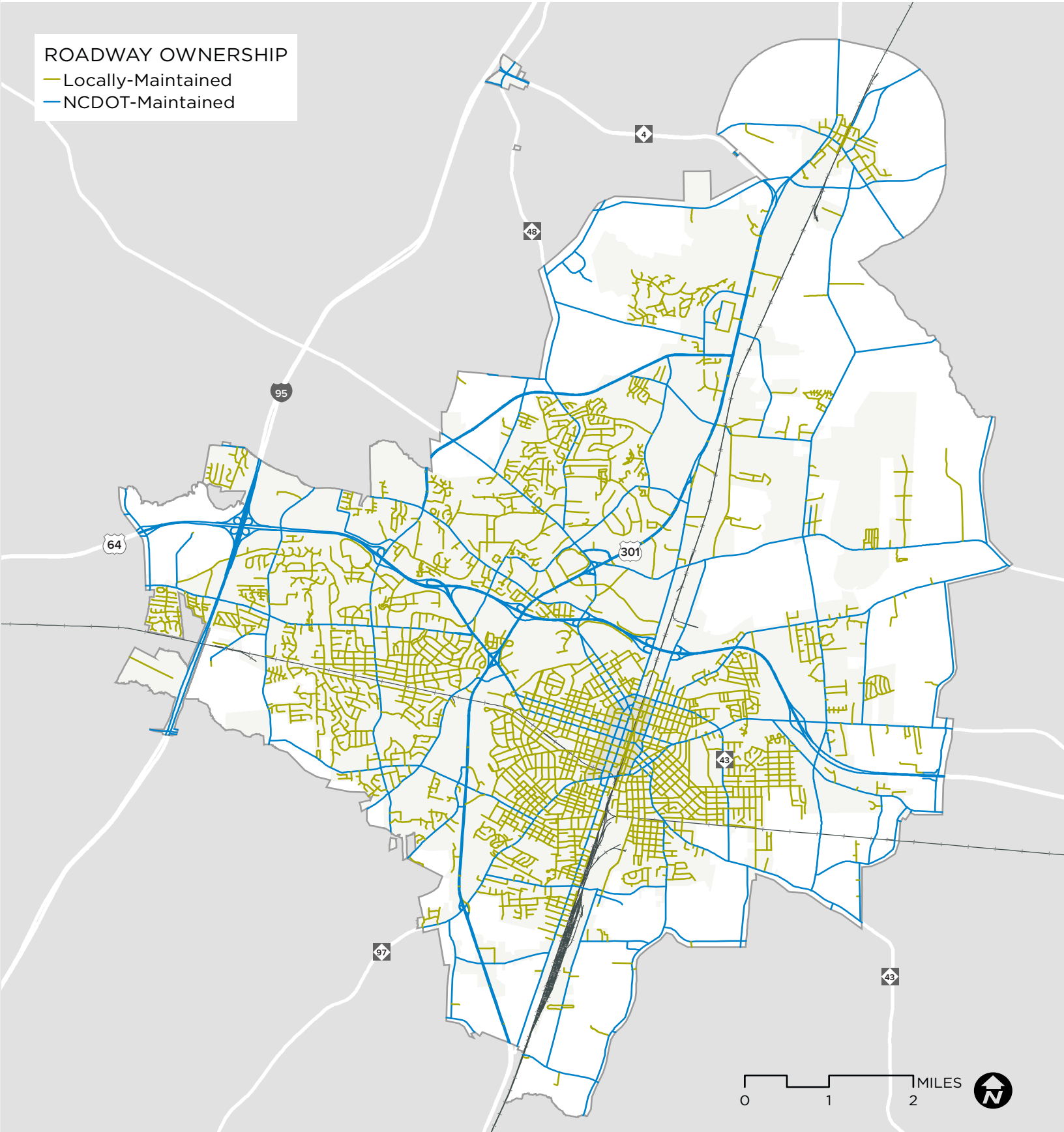




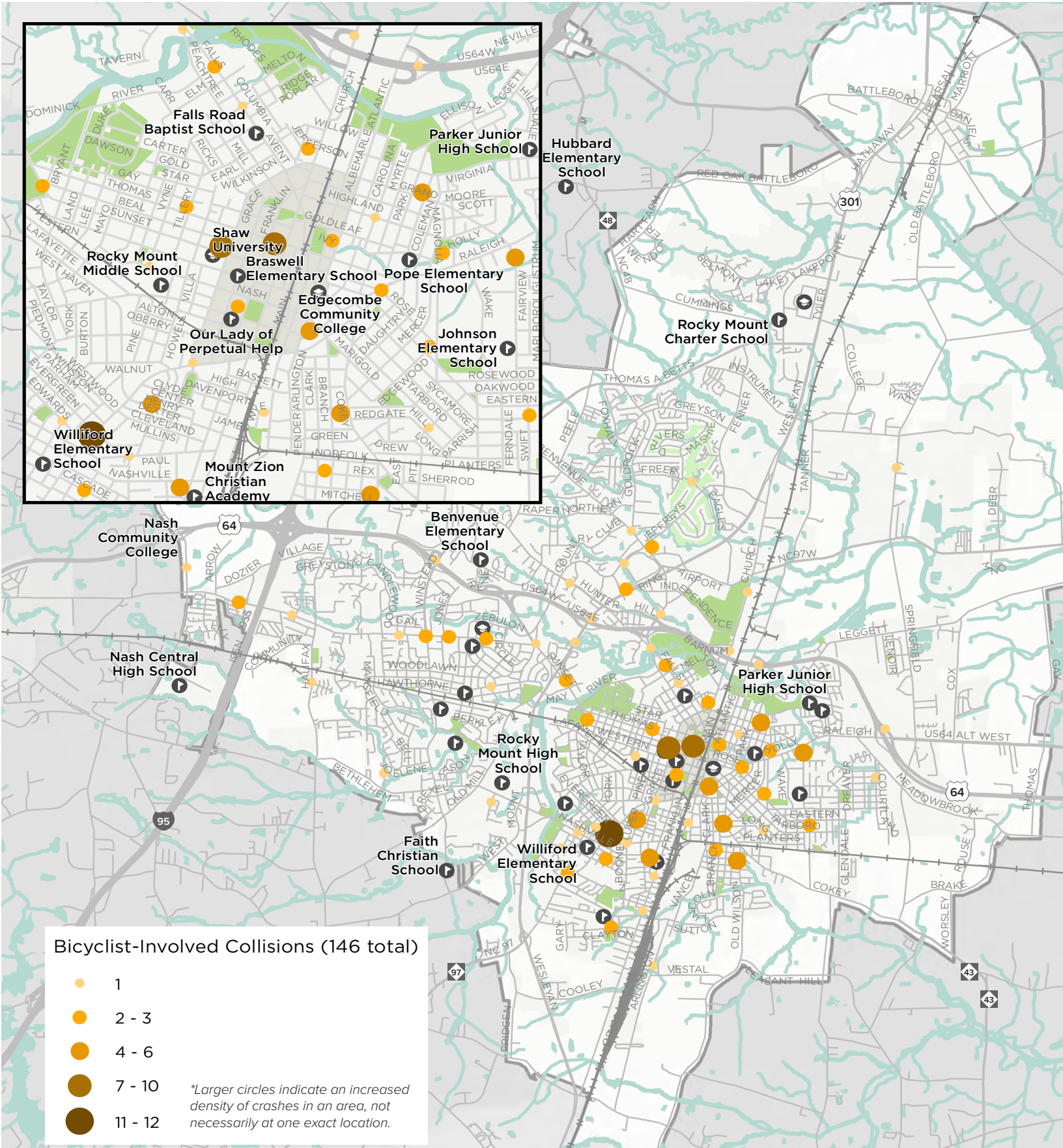
# Map 2.4 Roadway Ownership

## ROADWAY OWNERSHIP

- Locally-Maintained
- NCDOT-Maintained



# Map 2.5 Collision Analysis (2007-2015)



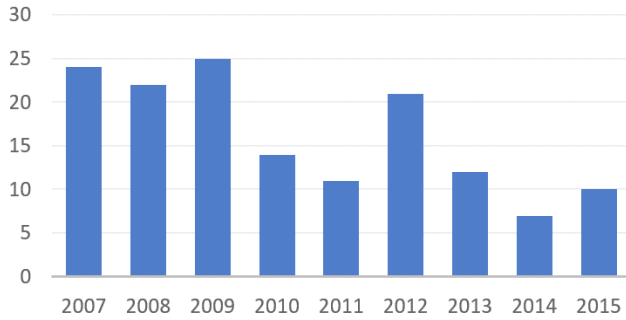




# Bicyclist-Involved Collisions (2007-2015)

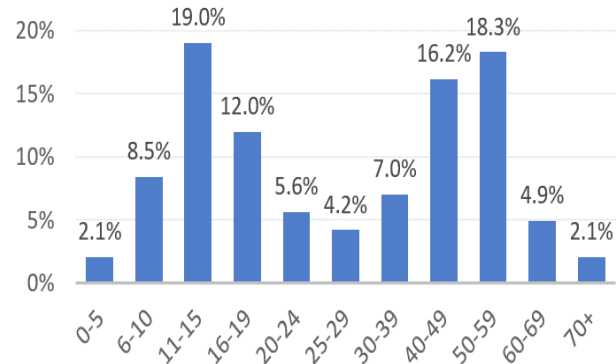
The charts below highlight the major trends of the 146 bicyclist-involved collisions that were reported from 2007 to 2015 in Rocky Mount.

## NUMBER OF BICYCLIST-INVOLVED COLLISIONS PER YEAR (2007-2015)



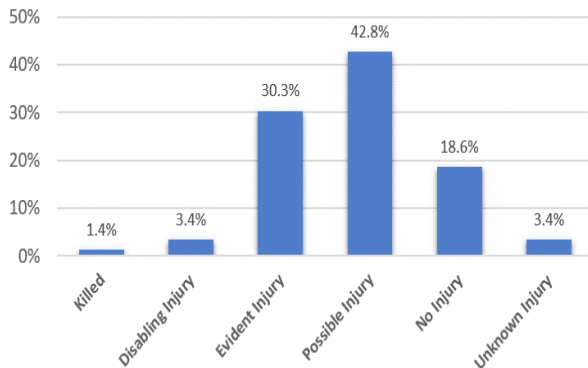
The number of bicyclist-involved collisions in Rocky Mount has generally been on the decline since 2009, but spiked in 2012.

## AGE DISTRIBUTION OF BICYCLISTS INVOLVED IN COLLISIONS



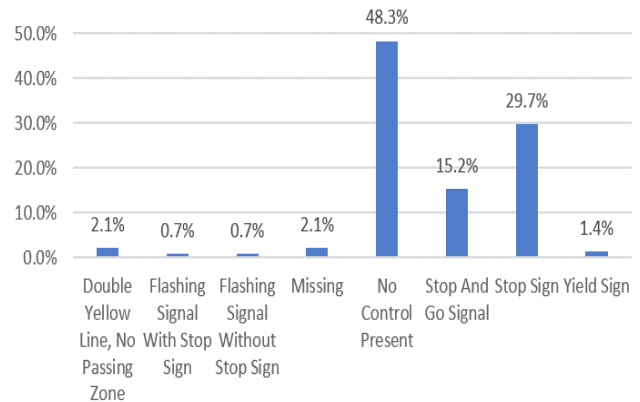
Over 29% of bicyclist-involved collisions involve children under the age of 16, and another 34% are 40-60 years of age.

## INJURY SEVERITY FOR BICYCLIST INVOLVED IN COLLISION



Most crashes resulted in some sort of injury, and only 18.6% had no injury. There were 2 fatalities during the study period, and 5 disabling injuries.

## PRESENCE OF TRAFFIC CONTROLS



A large proportion (48.3%) of bicyclist-involved collisions occurred where there were no traffic controls present.

## TRAFFIC HIGH-FREQUENCY COLLISION CORRIDORS & INTERSECTIONS

- » Raleigh Blvd (27)
- » Sunset Ave (19)
- » Thomas St (8)
- » Grace St (6)
- » Raleigh Blvd & Parham St (6)
- » Grand Ave (4)
- » Wesleyan Blvd (4)
- » Western Ave (4)
- » Sunset Ave & Howell St (3)
- » Rose St & Discovery St/ Raleigh Blvd (3)

## Previous Plan Review

This planning process updates, and builds upon, the Rocky Mount Comprehensive Bicycle Plan that was adopted in 2007. The bike planning process has changed significantly between 2007 and 2018. Because of this, many of the recommendations in the 2007 plan are either no longer relevant or insufficient. Additionally, the City of Rocky Mount has conducted a number of significant studies in previous years that include bicycle infrastructure recommendations. These recommendations reflect a tremendous amount of analysis and public input and are, therefore, important to include in the current bicycle plan. Recent plans are summarized below, and their respective recommendations are highlighted on the map on the facing page.

### PEDESTRIAN PLAN 2012

The Pedestrian Plan provides guidance for improving Rocky Mount’s walkability by identifying intersection improvements, greenway trails and sidewalks. The plan prioritizes improvements and identified the Cowlick Branch Trail, Southeast Trail, and the BBQ Park Trail as top greenway priorities.



### GATEWAY CORRIDOR PLAN 2012

This plan identifies four key roadway corridors and provides recommendations for their enhancements as gateways into downtown Rocky Mount. The recommendations include bicycle/pedestrian treatments, landscaping/aesthetic improvements, and gateway signage. The roadway corridors are:

- » Church Street
- » West Raleigh Boulevard
- » Atlantic Avenue/Arlington Street
- » Grace St/Grand Ave
- » East Raleigh Boulevard



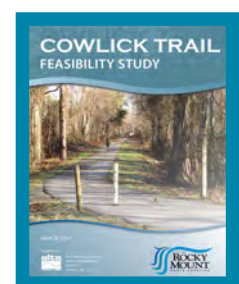
### COMPLETE STREETS FEASIBILITY STUDY 2016 + MONK TO MILL TRAIL FEASIBILITY STUDY 2016

This study looks at ways to implement Complete Streets principles along Peachtree Street and Falls Road in order to make these corridors more pedestrian- and bicycle-friendly. The final preferred alternative was one-way paired streets with a single vehicle travel lane, on-street parking on one side, and a buffered bike lane. Also evaluated was the feasibility of developing a 2.5 mile recreational trail from the existing Monk Park to the site of the former Rocky Mount Mills. This study was identified as a priority by the City, as reflected by the recommendations of a number of previous plans, including the River Falls Park Concept Plan, the 10-year City of Rocky Mount Parks Master Plan, the City of Rocky Mount Pedestrian Plan, as well as the Comprehensive Bicycle Plan.



### COWLICK TRAIL FEASIBILITY STUDY 2014

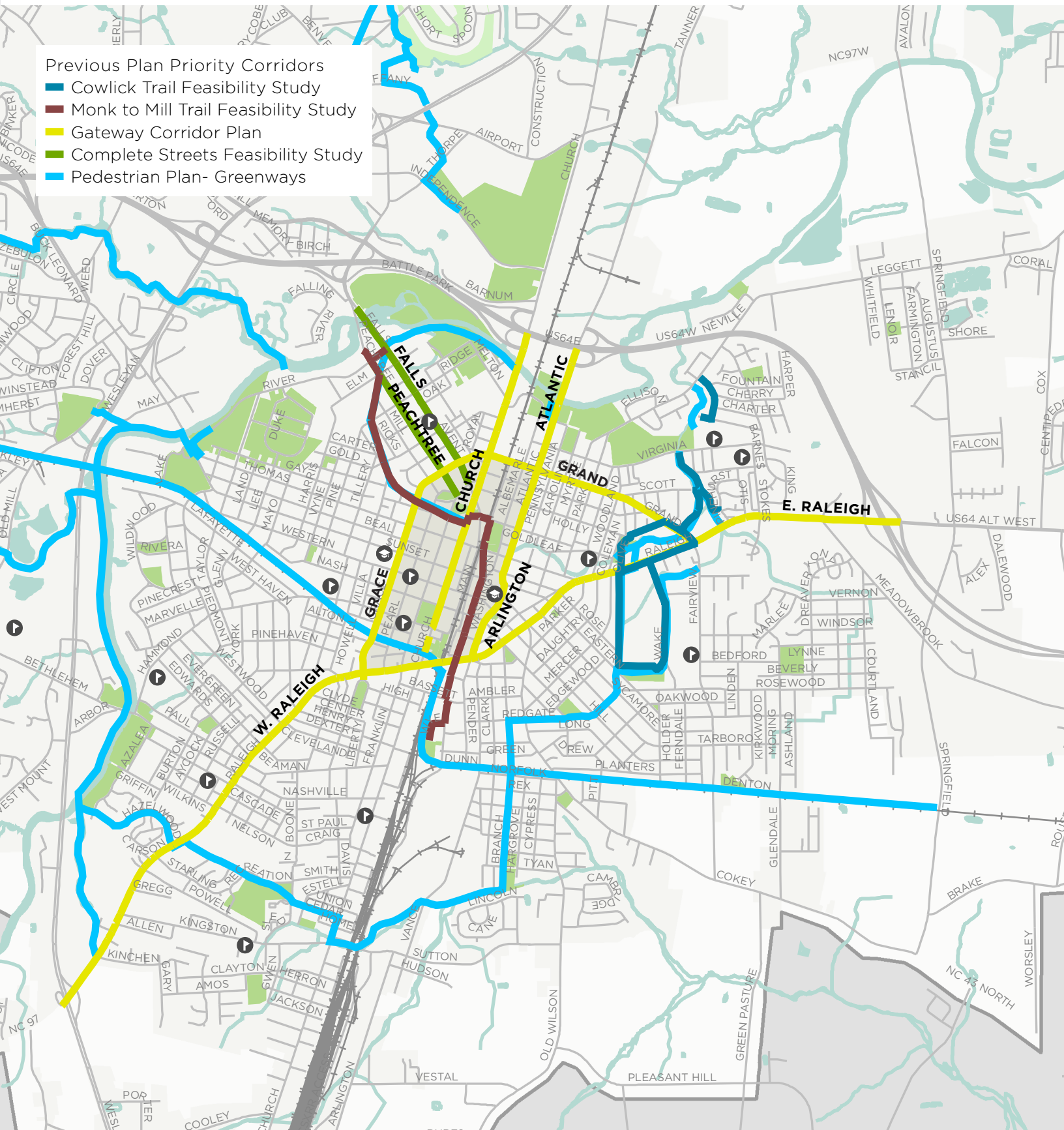
This study was initiated by the City in order to identify alternative transportation, recreation, and healthy-living opportunities and is a follow-up study to the recommendation priorities of the Pedestrian Plan of 2012. This trail segment ranked high in the Pedestrian Plan prioritization because of its connectivity to multiple parks, schools, and other destinations. The trail also connects lower-income, underserved communities in Rocky Mount.





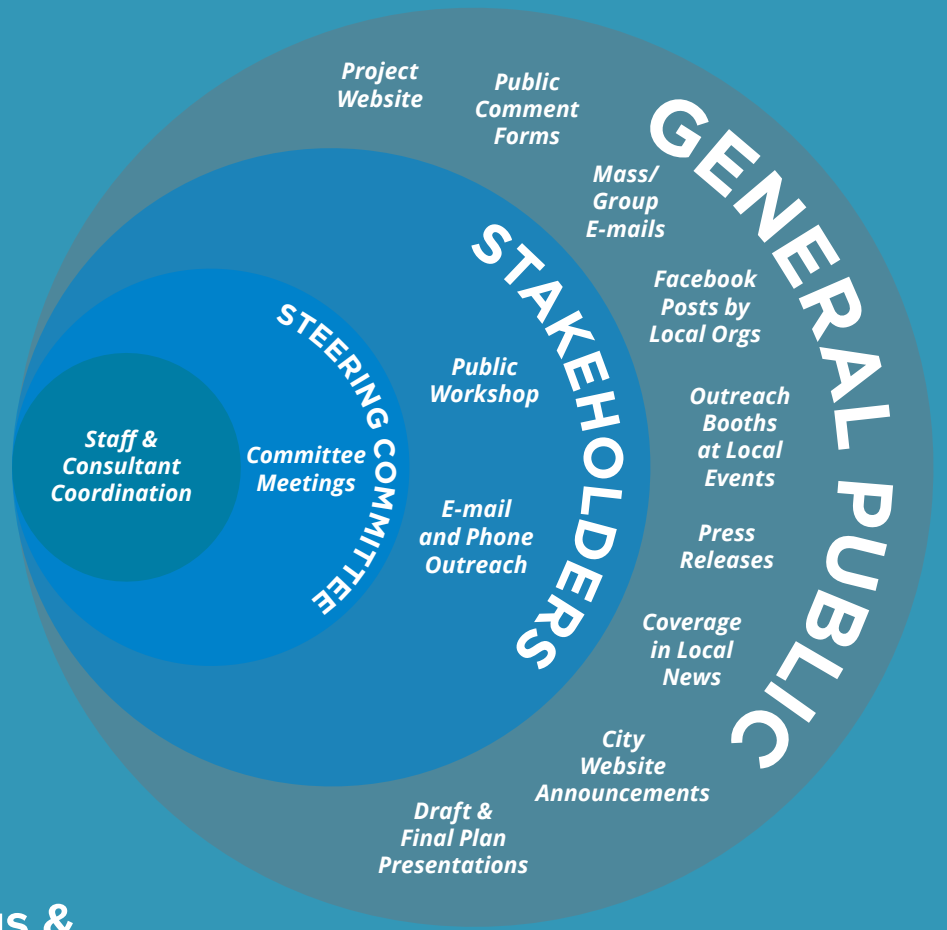
# Map 2.6 Previous Plans - Priority Corridors

- Previous Plan Priority Corridors
- █ Cowlick Trail Feasibility Study
  - █ Monk to Mill Trail Feasibility Study
  - █ Gateway Corridor Plan
  - █ Complete Streets Feasibility Study
  - █ Pedestrian Plan- Greenways



## Public Process

Public input was an overarching component of this plan and was gathered through multiple avenues and outlets. This plan will not only affect those who reside in Rocky Mount, but also those who work, own businesses, play, enjoy leisure activities, and visit the area. Feedback from the public guided this plan's recommendations. A full summary of public outreach can be found in Appendix D.



## Key Types of Meetings & Public Input:

- 13** STEERING COMMITTEE MEMBERS
- 4** STEERING COMMITTEE MEETINGS
- 2** PUBLIC OUTREACH SESSIONS AT LOCAL EVENTS
- 2** DRAFT AND FINAL PLAN PRESENTATIONS
- 180+** USER SURVEYS COMPLETED



## Public Outreach Events



### PUBLIC WORKSHOP PROCESS

The project team set a goal to reach as many residents as possible and to hear from diverse communities. To do this, the team hosted public workshops in Fall of 2017 and Spring 2018. The workshop gave the public the opportunity to participate, provided avenues for detailed project review, and produced draft recommendations that were reviewed by the steering committee. A summary of the feedback received from the public outreach efforts is summarized in Appendix D.

*Images from the public outreach events during the 2017 /2018 planning process.*

# Current Conditions Assessment

Table 2.0 below and the preceding Maps 2.0-2.6 describe key opportunities and challenges in Rocky Mount related to current conditions for biking and provide a basic inventory of existing facilities, destinations, and conditions. The summary table is based on input from the Steering Committee, general public, field review, and available data.

TABLE 2.0 CURRENT CONDITIONS ASSESSMENT	
Opportunities and Challenges	Assessment
<b>General Considerations</b>	
Overall Transportation Network	Rocky Mount is located at the intersection of several major transportation corridors, including Interstate 95 and US-301 running north-south, and US-64 running east-west. NC 43 and NC-97 are two of several state-roads that connect to nearby towns in the region.
Existing On- and Off-street Bicycle Facilities	Bicycle facilities in the city are limited to 2 greenways in the northern part of downtown, near the river, and 2 sections of shared-road markings (“sharrows”) along Albemarle Ave. and Hammond St. (See Maps 2.0 and 2.1, on pages 28 and 29)
Current connectivity/ Gaps	There is virtually no connectivity for biking in Rocky Mount, as the greenways are isolated on the north side of downtown, and the shared-lane marking is disconnected.
Safety Hazards and Problematic Street Crossings/ Intersections	Map 2.5 on page 35 shows bicycle collisions throughout Rocky Mount. High collision corridors include Raleigh Blvd (27), Sunset Ave (19), Thomas St (8), Grace St (6), Grand Ave (4), Wesleyan Blvd (4), and Western Ave (4). High collision intersections include Raleigh Blvd & Parham St (6), Sunset Ave & Howell St (3), and Rose St & Discovery St/Raleigh Blvd (3).
Ownership of Public Road Right-of-Ways	The roadway network in Rocky Mount is mostly locally-maintained roads (60.0% based on mileage). The ownership of the public right-of-way is important for determining the types of facilities that can be constructed in or along a roadway, the agency in charge of maintaining the roadway and implementing bicycle recommendations, and how improvements are scheduled, funded, and constructed. The City will need to coordinate with NCDOT Division 4 and the Division of Bicycle and Pedestrian Transportation to implement this plan’s recommended improvements along these roadways.
Existing Bicycle Use	While the bicycle mode share numbers may be low, there is bicycle traffic present that is evident from the high number of bicycle related crashes and visible bicyclists on key corridors, particularly in the downtown area.
<b>Opportunities</b>	
Density of Key Destinations	Key destinations and targeted areas for bicycling in Rocky Mount are concentrated in the downtown and surrounding area.
Future Development	There is momentum behind the redevelopment in and around the historic Rocky Mount Mill on the north side of town. The development includes a mix of live-work-play space.
Regional Planning	Concurrent to this bike plan, Rocky Mount conducted a study to complete a regular update to its long-term metropolitan transportation plan, “Connect 2045,” which outlines recommendations for transportation investments across all modes. The bicycle-related recommendations have been incorporated into this plan.
<b>Challenges</b>	
Natural Barriers	The Tar River is a major barrier for transportation of any form in Rocky Mount. Providing bicycle facilities across the river along existing roadway crossings is key to ensuring safe access for bicycling.
Man-made Barriers/ Substandard Design	Multi-lane highways and interstates present significant barriers to safe bicycling, especially for less experienced bicyclists and children. Providing off-street bicycling facilities that are safe and accessible for people of all ages and abilities will allow more people to comfortably bicycle away from the high traffic volumes and speeds on major highways.



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# 3. PROGRAMS







# PROGRAMS

Simply adding bicycle infrastructure alone does not create a bicycle friendly community. Rather, it takes a comprehensive effort to create a culture around safe biking. This chapter outlines potential partners to assist in the implementation of programs recommended in the program toolkit.

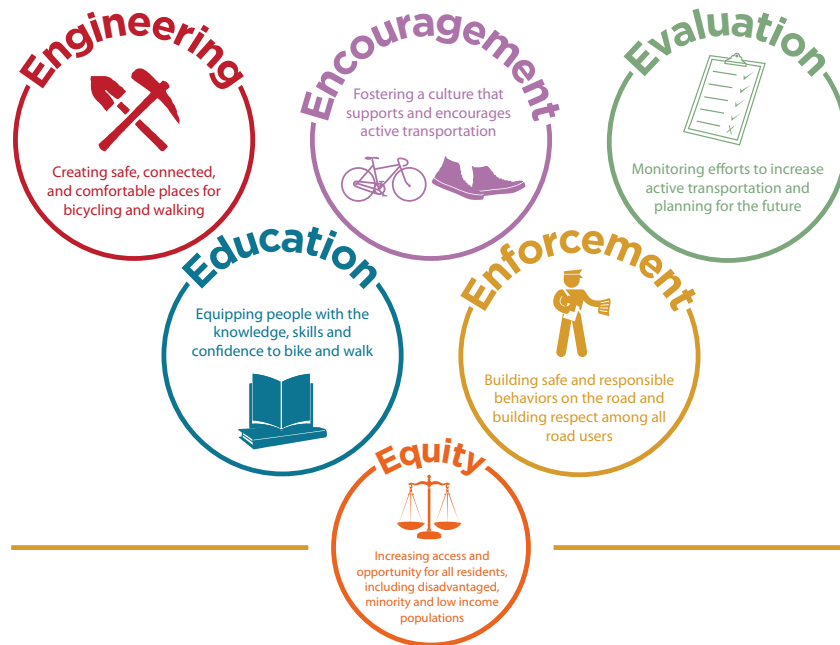
## Overview

A comprehensive program is often centered around what is known as the 5 E's: Engineering, Education, Encouragement, Enforcement, and Evaluation (see diagram on following page). Equity is added here as the non-traditional 6th E to ensure a focus on underserved communities.

Programs will help people of all ages and abilities realize the full potential of Rocky Mount's new and proposed bicycle infrastructure. These types of programs help people learn how to use the city's roads safely, whether traveling as a bicyclist, pedestrian, in an automobile, or on a bus.

A range of strategies and actions, including broad policy and outreach efforts will help the City meet the goals and objectives of this Plan.

The programmatic strategies in this chapter aim to improve safety, increase access to biking, and encourage community and economic development. The actions will increase the visibility of people who bike, communicate that all road users are expected to look out for each other no matter how they travel, create safer streets, and develop a common understanding of traffic safety.



## Potential Stakeholders

Existing and potential partners for the bicycle programs described in this chapter include:

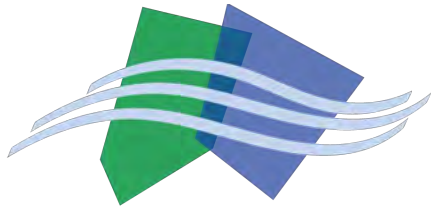
### ACTIVE ROUTES TO SCHOOL

Active Routes to School is a North Carolina Safe Routes to School (SRTS) Project supported by a partnership between the N.C. Department of Transportation and the N.C. Division of Public Health. The Active Routes to School Project creates opportunities for youth to bike and walk to school. Active Routes to School Coordinators are available to provide technical assistance and support to schools and communities in planning Bike and Walk to School day events, building ongoing bike- and walk-to- school programs, offering trainings on Safe Routes to School, building policy support for Safe Routes to School, and addressing safety features near schools. The goal of the project is to increase the number of elementary and middle school students who safely walk and bike to school.

Ten regional coordinators are based at local health departments across the state. Rocky Mount is in Region 7, which includes all of Nash County and several neighboring counties. For more information, visit [www.communityclinicalconnections.com/What\\_We\\_Do/Active\\_Routes\\_To\\_School/index.html](http://www.communityclinicalconnections.com/What_We_Do/Active_Routes_To_School/index.html).

### NASH-ROCKY MOUNT PUBLIC SCHOOLS

The Nash-Rocky Mount Public School District is an important partner for creating safe bicycling environments and programming for schools. Safe Routes to School programming is a vital component of successful bicycle plans so partnering with the school district, as well as individual member schools, is important to creating programs that are appropriate and coordinated with schools' curricula.



## Rocky Mount Area Chamber of Commerce



## Nash-Rocky Mount Public Schools



### PARKS & RECREATION DEPARTMENT

The Rocky Mount Parks & Recreation Department is a center of physical activity for the community, and can be a key partner in creating programs targeted at specific age groups and populations for increasing biking and other forms of physical activity. As a busy hub of community activity, it can also be a centralized location for awareness campaigns and disseminating information related to bicycle programs and events going on in the community. The Parks & Recreation Department can be an important partner for creating educational and encouragement programs for biking in Rocky Mount.

### BUSINESS ASSOCIATIONS

The Rocky Mount Chamber of Commerce and the Carolinas Gateway Partnership are key partners for creating relationships with local businesses and community leaders in order to have buy-in of the City's bicycle programming.

### POLICE DEPARTMENT

The Rocky Mount Police Department is a key partner for creating an enforcement campaign that encourages safe driving practices and bicycling activity. Enforcement campaigns can reduce excessive speeding, encourage proper passing of bicyclists, and generally promote a sense of respect for all travelers regardless of whether one drives, bikes, or walks in Rocky Mount.

### BICYCLE ADVOCACY GROUPS & CYCLING CLUBS

Partnering with groups and organizations that advocate for the needs of bicyclists is important for ensuring that the key constituents of the bicycling community are being represented and accommodated. These groups can be a valuable source of information regarding the routes that bicyclists ride frequently, and where difficult bicycling conditions need improvement.

## Program Toolkit

### WATCH FOR ME, NC

Watch for Me, NC is an awareness campaign aimed at reducing the number of bicyclists and pedestrians hit and injured in crashes with vehicles. The campaign includes education during the months of October and November, and has been followed by targeted enforcement efforts by police departments. Communities across North Carolina are encouraged to apply to implement the program on an annual basis.

» For more information, visit: <http://watchformenc.org/>



*Safety information and gear were distributed to students during the Watch for Me, NC campaign in Corolla, NC.*

### SAFE ROUTES TO SCHOOL (SRTS)

Safe Routes to School (SRTS) programs make biking and walking to school more accessible to children and encourage more children to bike and walk to school. This typically involves examining conditions around public schools and providing programs to improve bicycle/pedestrian safety, accessibility and use.

North Carolina's Safe Routes to School program is managed by the NCDOT Division of Bicycle and Pedestrian Transportation. Safe Routes to School infrastructure projects are eligible to compete for funding through North Carolina's Strategic Transportation Investment (STI) program and other sources of funding for bike and pedestrian projects.

» For more information, visit: [www.ncdot.gov/bikeped/](http://www.ncdot.gov/bikeped/)



*Logo for North Carolina's Safe Routes to School Program.*



## LET'S GO NC!

Let's Go NC!, a Pedestrian and Bicycle Safety Skills Program for Healthy, Active Children, is an all-in-one educational package of lesson plans, materials, activities and instructional videos that encourages children in grades K-5 to learn about and practice fundamental skills that build safe habits.

This program was developed for the NCDOT's Division of Bicycle and Pedestrian Transportation and Safe Routes to School Program by NC State University's Institute for Transportation Research and Education. The curriculum aligns with NC Essential Standards and is endorsed by the NC Department of Public Instruction.

- » All lesson plans and materials are available for free online at [www.ncdot.gov/bikeped/safetyeducation/letsgonc/](http://www.ncdot.gov/bikeped/safetyeducation/letsgonc/).



*Jackson County Public Schools have integrated Let's GO NC! Curriculum and provided teachers with guidance on how to implement the program.*

## SPEED FEEDBACK SIGNS

Speed feedback signs show "Your Speed" and the "Speed Limit" to alert drivers to their actual speed and the posted speed limit (speed trailers serve a similar function, but are portable). They work best if they flash or provide a SLOW DOWN message if drivers exceed a preset speed threshold. Other effective features can include flashing a bright white light that mimics a photo speed camera or a blue and red light that mimics a police car when drivers are moving too fast. Some speed trailers have the capability to collect traffic count data and speed data throughout the day, which can be used to identify the most dangerous traffic times when more enforcement is needed.



*Speed feedback signs can be an effective and low cost tactic to reduce speed along corridors with high bicycling activity.*

## ENFORCEMENT ACTIVITIES

These programs can cover a wide range of focuses including speeding, distracted driving, crosswalk stings, and distracted walking/bicycling. Increasing the presence/enforcement at back-to-school times and/or daylight savings is also advised.

Best Practice Programs:

- » Greenville, NC participated in a distracted driving research project and neighborhood speed watch program, installed speed feedback signs, and increased law enforcement before and after school.
- » Volunteers in Arizona conducted a Neighborhood Speed Watch routine detection event which assisted law enforcement efforts, putting serial speeders on notice and bringing down average speeds.



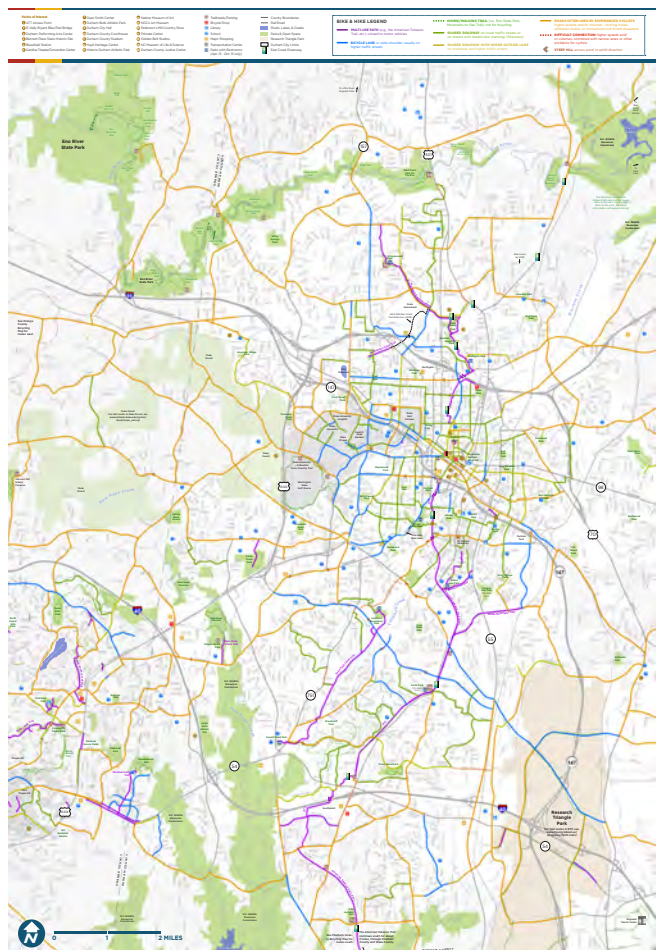
(above) A law enforcement officer ensures a safe biking and walking experience through this busy crosswalk.  
 (right) The Durham Bike & Hike Map.

## BIKE MAPS

An effective bicycle map does more than provide basic wayfinding information to cyclists—it presents a unique opportunity to celebrate and demonstrate the significant investments that a city has made to improve bicycling conditions. Bicycle maps provide the opportunity to display important information such as connections to local hot spots and amenities like multi-use paths, locations of park facilities, stairways, and hiking/walking trails.

Bicycle maps also serve as a source of local pride, and deliver a strong message that bicycling is an important, viable transportation mode. The map becomes a “must have” item for local bicyclists and visitors.

Bicycle maps often include a safety guide with valuable information regarding bicycle facilities and route options, key information such as the rules of the road, tips on safe cycling practices, and other important information such as group rides, bicycle shops, and local government and advocacy agencies.





## BIKE MONTH ACTIVITIES

Cities and towns across the country participate in National Bike Month annually, during May. The League of American Bicyclists (LAB) hosts a website for event organizers. The website contains information on nationwide and local events, an organizing handbook, and promotional materials. These events are well-suited for the Rocky Mount community and are recommended strategies for encouragement.

The Fun Bike Ride that the City hosts every year during bike month is an excellent example of a bike month activity. The ride could be expanded with the help of local cyclists and bike shops.

Events and activities for Bike Month may change from year to year, and the total number of activities should increase each year as the bicycling community in Rocky Mount grows.

Program resources for Bike Month include:

- » National Bike Month,

[www.bikeleague.org/bikemonth](http://www.bikeleague.org/bikemonth)

- » Greenville, SC Bike Month Events,

[www.greenvillesc.gov/ArchiveCenter/ViewFile/Item/187](http://www.greenvillesc.gov/ArchiveCenter/ViewFile/Item/187)



## OPEN STREET EVENTS

Open street events have many names: Sunday Parkways, Ciclovias, Summer Streets, and Sunday Streets. The events are periodic street “openings” (i.e., “open” to users besides just cars; usually on Sundays) that create a temporary park that is open to the public for walking, bicycling, dancing, hula hooping, roller-skating, etc. They have been very successful internationally and are rapidly becoming popular in the United States. Open street events promote health by creating a safe and attractive space for physical activity and social contact, and are cost-effective compared to the cost of building new parks for the same purpose. Events can be weekly events or one-time occasions, and are generally very popular and well attended.

This Plan recommends that the City of Rocky Mount and local partner groups consider hosting open street events annually. The City may choose a two-block section of street, with the intention of growing the spatial coverage of the event over time.

Program resources for open street events include:

- » Cyclovia Marion

<https://www.facebook.com/cycloviamarion/>

- » Atlanta Streets Alive

[www.atlantabike.org/atlanta\\_streets\\_alive](http://www.atlantabike.org/atlanta_streets_alive)

- » San Francisco Sunday Streets

[www.sundaystreetssf.com](http://www.sundaystreetssf.com)

- » Oakland’s Oaklavia

[www.oaklavia.org](http://www.oaklavia.org)

- » Portland Sunday Parkways

[www.portlandoregon.gov/transportation/46103](http://www.portlandoregon.gov/transportation/46103)



(above) Marion, NC’s annual Cyclovia Marion.  
(left) A National Bike Month poster from The League of American Bicyclists.

## POSITIVE MEDIA CAMPAIGN

The term “cyclist” can generate negative stereotypes among members of the public who do not bicycle or do not know someone who does. A media campaign that shows a wide range of ordinary residents using their bicycles for a variety of purposes will help break down those stereotypes and raise awareness of bicycling and geniality towards people who ride bicycles. One excellent example is the “I Ride” campaign from the Community Cycling Center in Portland, Oregon. They have created well-photographed posters showing people in a wide variety of ages, races, body types, and with a wide variety of bicycle types, and each person has been invited to complete the sentence “I ride \_\_\_\_\_.” The images are being distributed as bus stop and bus bench ads, as well as online.

In the City of Rocky Mount, the “I ride” slogan may be considered, or another equally humanizing slogan could be created. Donated media placement should be sought for print media and other public installations (such as benches, billboards, or other locations). A good photographer should be engaged and a well-known community member or local business owner could be invited to be one of the first faces of a media campaign. Other people may be invited to participate because they demonstrate that women, families, or older residents ride bicycles in the community.

Program resources for positive media campaigns include:

- » Portland “I Ride” Campaign
- » <https://www.communitycyclingcenter.org/introducing-the-i-ride-bicycling-campaign/>.



Posters from the Community Cycling Center’s encouragement campaign, “I Ride”.





## YOUTH BICYCLE SAFETY EDUCATION CLASSES

Typical school-based bicycle education programs educate students about the rules of the road, proper use of bicycle equipment, biking skills, street crossing skills, and the benefits of biking. Education programs can be part of a Safe Routes to School program and should be an objective of the Safe Routes to School program. Youth Bicycle Rodeos held during Bike Month (see below) will complement the annual youth bicycle safety education classes held as part of the Safe Routes to School program.

Program resources for youth bicycle safety education classes include:

- » League of American Bicyclists - Community Education - Children and Youth Cycling Education [www.bikeleague.org/content/resources](http://www.bikeleague.org/content/resources)
- » Safe Routes to School Rodeo Manual [www.saferoutestoschools.org/pdfs/lessonplans/RodeoManualJune2006.pdf](http://www.saferoutestoschools.org/pdfs/lessonplans/RodeoManualJune2006.pdf)
- » Bicycle Transportation Alliance - Portland, OR [www.bta4bikes.org/resources/](http://www.bta4bikes.org/resources/)



*Active Routes to School table at a community event in Rocky Mount.*

## FAMILY BIKING CLASSES

This Plan recommends hosting events and activities focused on bicycling education for families. Family Biking Classes are great tools for educating and encouraging families to ride bicycles. The activities provide an avenue for families to understand the differences between bicycling ability levels based on age, learn opportunities for families to safely bike together, and provide parents with the tools they need to build bicycling confidence in their children and to serve as role models for bicycle safety and handling. Educational trainings and encouragement events can include:

- » 'Freedom from Training Wheels' course
- » Classes on how to carry children by bicycle
- » Safety checks and instruction
- » Basic bike maintenance classes
- » Bicycle rodeos
- » Bicycle parades around parks and schools

A family cycling class is organized through the Community Cycling Center in Portland, Oregon. They teach urban riding and bicycle maintenance over five weekly sessions. They work with families to help them achieve the goals of improving fitness, reducing pollution, and having more fun. The San Francisco Bike Coalition organizes a "Freedom From Training Wheels" event. Families meet at a park and attempt to teach their children to ride their bicycles without training wheels. The fun and encouraging atmosphere helps bring confidence to children learning to ride on two wheels.

Program resources for family biking include:

- » Mayor's Family Bike Day (Baton Rouge, LA) [www.brgov.com/dept/mayor/bikeday.htm](http://www.brgov.com/dept/mayor/bikeday.htm)
- » Family Bicycling Series (Minneapolis, MN) [www.ci.minneapolis.mn.us/bicycles](http://www.ci.minneapolis.mn.us/bicycles)
- » San Francisco Bike Coalition (San Francisco, CA) [www.sfbike.org/our-work/youth-family](http://www.sfbike.org/our-work/youth-family)

## POLICE TRAINING PROGRAM

Police training courses provide police officers with safety education related to the rights and responsibilities of bicyclists, pedestrians, and motorists. The training will explain such matters as: common errors in reporting a bicycle collision; laws related to a motorist passing a bicyclist; etc. This Plan recommends that the City of Rocky Mount contact BikeLaw.com to determine if any upcoming police trainings are scheduled within the state. The City should identify available trainers within the region (BikeLaw.com staff, League Cycling Instructors, or others) who could lead a police training course. The City should engage local police agencies in the task of determining training agenda, schedule, and trainers.

Program resources for police training include:

- » Bike Law

[www.bikelaw.com](http://www.bikelaw.com)



*Police officers biking with community members at a public event.*

## BICYCLE STAFF POSITION

The City of Rocky Mount should designate a staff member to “wear the hat” of local bicycle coordinator. While at this point in time, the bicycle coordinator position does not need to be a full-time dedicated staff position, this Plan recommends that the City assign an existing staff member to now dedicate some specified level of time (10-15%) to bicycle issues. The tasks of this staff member would include coordination with NCDOT and regional transportation planners regarding infrastructure improvements for bicyclists. This staff member would also serve as liaison to the permanent bicycle advisory committee (see next page) and to community members and organizations assisting in the development of a more bicycle friendly community.



*A bicycle coordinator presents to stakeholders and city staff members.*



## PERMANENT BICYCLE ADVISORY COMMITTEE

Many cities have an official Bicycle Advisory Committee made of citizen volunteers, appointed by City Council, to advise the city on bicycling issues. An advisory committee establishes the area's commitment to making bicycling and walking safer and more desirable, and has the potential to assist Rocky Mount in getting funding for bicycle projects. Establishing a committee is also desirable for pursuing a Bicycle Friendly Community designation for the city.

The Bicycle Advisory Committee (BAC) should be composed of no more than 15 representatives, and no less than five. Representative bicycling stakeholder groups can include: road bicyclists, greenway cyclists, and mountain bicyclists. The Project Steering Committee already established for the purposes of this Plan provides an existing group of knowledgeable and interested stakeholders who could serve on a permanent Bicycle Advisory Committee.

The charges of the BAC include some to all of the following:

- » Review and provide citizen input on capital project planning and design as it affects bicycling (e.g., corridor plans, street improvement projects, signing or signal projects, and parking facilities)
- » Review and comment on changes to zoning, development code, comprehensive plans, and other long-term planning and policy documents
- » Participate in the development, implementation, and evaluation of updates to the Rocky Mount Bike Plan and bike facility standards
- » Provide a formal liaison between local government, staff, and the public
- » Develop and monitor goals and indices related to bicycling in the jurisdiction
- » Promote bicycling, including bicycle safety and education

## BICYCLE FRIENDLY COMMUNITY DESIGNATION

The Bicycle Friendly Community (BFC) program led by the League of American Bicyclists is intended to assist communities in making bicycling a viable transportation option.

Bicycle friendly community assessments recognize successful efforts that communities have taken to promote biking. They also provide a framework for communities trying to achieve higher bicycling rates.

Comprehensive bike plans should address all five E's (listed below) to effectively advance biking activities in a community. Communities seeking status as BFC's must make relevant advances in each of the Five E's.

The 5 E's

- » Engineering: Creating safe and convenient places to ride and park
- » Education: Giving people of all ages and abilities the skills and confidence to ride
- » Encouragement: Creating a strong bike culture that welcomes and celebrates bicycling
- » Enforcement: Ensuring safe roads for all users
- » Evaluation & Planning: Planning for bicycling as a safe and viable transportation option



*A sign denoting a Bicycle Friendly Community.*

TABLE 3.0 PROGRAM ACTION STEPS				
TASK	LEAD	SUPPORT	DETAILS	PHASE
Initiate a Bicycle Advisory Committee.	Community Stakeholders, Planning & Community Development	NCDOT Bike/Ped Division, Rocky Mount Police Department	A task force should be formed specifically of key stakeholders who have a vested interest in developing bicycle safety programs in Rocky Mount.	Short-term/ Ongoing (2018-onward)
Implement one new bicycle safety program.	Bicycle Advisory Committee	Development Services Department, Engineering Department, Communications & Public Engagement	Using the information listed in Chapter 3, one program, such as Bike to School Day, or an enforcement event, should be implemented to serve as Rocky Mount's pilot bicycle safety program. This event will bring key stakeholders together and help initiate the Bicycle Advisory Committee.	Short-term/ Ongoing (2018-onward)
Distribute bicycle safety information.	Communications & Public Engagement, Bicycle Advisory Committee	NCDOT Bike/Ped Division, Rocky Mount Police Department	NCDOT has print material with safety tips for motorists and bicyclists available for download at <a href="https://www.watchformenc.org/program-materials/">https://www.watchformenc.org/program-materials/</a> . Other methods of distribution could include web sites, social media, and 'on-the-ground' in park kiosks.	Short-term (2018-onward)
Consider reducing speed limits within school zones and along corridors where new bicycle facilities have been added.	City Council	NCDOT, Development Services Department	Consider lowering the speed limits along key corridors once improvements have been made. Installing temporary speed feedback signs is another traffic calming strategy.	Short-term/ Ongoing (2018 onward)
Develop a Watch for Me task force for the Rocky Mount MPO Region and apply for Watch for Me funding in the 2019 funding cycle.	Community Stakeholders, Planning & Community Development	NCDOT Bike/Ped Division, Development Services Department, Engineering Department, Communications & Public Engagement	Form a task force aimed specifically at building and maintaining a relationship with the Watch for Me program, relaying the message throughout the Rocky Mount MPO community, and applying for funding.	Short-term/ Ongoing (2018-onward)
Conduct communication & outreach campaigns related to biking.	Communication & Public Engagement, Bicycle Advisory Committee	Local newspapers, City website & social media managers	Establish a communication campaign to celebrate successes as progress is made. A key first task is to establish a page on the city's website dedicated to bicycle education and project updates.	Mid-term (2019-onward)
Seek designation as a Bicycle-Friendly Community.	Bicycle Advisory Committee	Engineering Department, City Council	The development and implementation of this plan is an essential first step toward becoming a designated Bicycle-Friendly Community. With progress on program, policy, and infrastructure recommendations, the City should be in a position to apply for and receive recognition by 2021.	Mid- to Long-term (2021-2022)



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## 4. POLICY



# POLICY

One of the most cost effective implementation strategies for Rocky Mount is to establish land development regulations and street design policies that promote bikeable infrastructure to be included in new development and capital projects. As part of a comprehensive approach to developing recommendations for a more bikeable Rocky Mount, the planning process allowed for the review of city ordinances, development standards, and policies to identify general issues and opportunities impacting the bicycling environments across the city.

## Overview

Model regulatory and policy language from around North Carolina and the U.S. was identified for elements including land use/transportation integration, connectivity, Complete Streets, and Vision Zero. These policy changes will help the city to maximize on-street bicycle and greenway improvements in conjunction with new development, redevelopment, and corridor improvement projects.

NOTE: All references are pulled from the [Rocky Mount Code of Ordinances](#) as amended 02/27/2017.

## Development Ordinance Review

The following tables outline existing regulatory and policy language found in the Code of Ordinances. When applicable, recommendations were made to improve and/or strengthen policies to promote bikability in Rocky Mount.



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**Table 4.0 Development Ordinance Review**

Topic	Comments/Recommendations															
	Zoning Ordinance	Subdivision Ordinance	Engineering & Design Standards	General Recommendations												
<b>1. COMPLETE STREETS AND GREENWAYS</b>																
<p><b>1.1. Implement Complete Streets Policy</b></p> <p>A complete streets policy allows cities and towns to work towards creating a street network that encourages pedestrian and bicycle travel and provides safe and comfortable roadways for all users</p>	None	None	None	<p>In addition to the very thorough NCDOT Complete Streets Guidelines, the National Complete Streets Coalition provides great guidelines for designing streets that cater to all users:</p> <p>Consider adding as acceptable references for street design: NCDOT Complete Streets Guidelines (<a href="https://smartgrowthamerica.org/search/complete+streets+best+practices/">https://smartgrowthamerica.org/search/complete+streets+best+practices/</a>).</p>												
<p><b>1.2. Develop Complete Street Design Guidelines for a variety of contexts and all street/roadway user groups</b></p> <p>The subsections at right include recommendations for bicycle-related elements of Complete Streets. Designated bikeways and trails and end-of trip facilities such as bicycle parking are some most fundamental elements of Complete Streets for bicycle users. Access management, multi-modal level of service assessments, and traffic calming are also critical for developing complete street networks through the development review and capital project implementation process.</p> <p>The NCDOT <b>Complete Street Guidelines</b> and the design guidelines that accompany this plan also include detailed recommendations on complete street design elements.</p>		<p><b>Sec. 20-6. Definitions.</b> <i>Street means a dedicated and accepted public right-of-way for vehicular traffic.</i></p> <p>Sec. 20-73. Streets</p> <p>Provides a number of minimum widths for streets and street ROWs. The minimum widths for highways and major streets may not be sufficient for bike lanes (see note at right). The minimum widths for residential streets are too wide to promote low speed motor vehicle traffic movements. In general, the menu of street alternatives needs to be more refined to provide better complete street options that meet local goals for connectivity, safety, and comfort.</p> <p>g) Pavement widths. Pavement widths face to face of curb shall be not less than the following:</p> <table border="0"> <tr> <td>Feet</td> <td></td> </tr> <tr> <td>(1) Highway and major streets</td> <td>48</td> </tr> <tr> <td>(2) Collector streets</td> <td>40</td> </tr> <tr> <td>(3) Subcollector streets</td> <td>34</td> </tr> <tr> <td>(4) Residential streets</td> <td>30</td> </tr> <tr> <td>(5) Minor streets</td> <td>25</td> </tr> </table> <p><b>See General Recommendations column for suggested policy improvements</b></p>	Feet		(1) Highway and major streets	48	(2) Collector streets	40	(3) Subcollector streets	34	(4) Residential streets	30	(5) Minor streets	25	<p><b>3.02 A. Street Classifications for City Specifications</b></p> <p>Design standards and specifications do not include consideration of cyclists or dedicated space or design details for bikeway treatments for collectors or major streets.</p> <p>The minimum widths for major streets would not accommodate bicycle lanes or separated bike lanes when more than 2 lanes of motor vehicle travel are anticipated in each direction. However, collector street widths could accommodate dedicated bikeways if no more than 1 lane of vehicular travel is required in each direction.</p> <p><b>3.02 M. Shoulder Sections.</b></p> <p>It is not clear if shoulders are intended to be paved, in which case they would be useable by cyclists on rural roadways.</p> <p><b>Shoulders shall be sufficient to permit the adequate installation and maintenance of sidewalks and utilities, as well as provide sufficient clear zone distance as defined by NCDOT.</b></p> <p><b>Shoulder sections without sidewalk shall be 12 feet wide on all streets with a cross section of 35 feet and greater.</b></p> <p><b>Shoulder sections without curb and gutter must be a minimum of 6 feet wide.</b></p> <p><b>See General Recommendations column for suggested policy improvements</b></p>	<p>Rocky Mount could adopt and endorse the NCDOT guidelines and other national guidelines, including the NACTO Urban Bikeway Design Guide: <a href="http://nacto.org/cities-for-cycling/design-guide/">http://nacto.org/cities-for-cycling/design-guide/</a></p> <p>The design guidelines would then need to be integrated into development standards for new development, as was done with the Raleigh Street Design Manual and the Charlotte Urban Street Design Guidelines: <a href="http://www.raleighnc.gov/content/extra/Books/PlanDev/StreetDesignManual/#1">http://www.raleighnc.gov/content/extra/Books/PlanDev/StreetDesignManual/#1</a></p> <p><a href="http://charmec.org/city/charlotte/transportation/plans/projects/pages/urban%20street%20design%20guidelines.aspx">http://charmec.org/city/charlotte/transportation/plans/projects/pages/urban%20street%20design%20guidelines.aspx</a></p>
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Table 4.0 Development Ordinance Review				
Topic	Comments/Recommendations			
	Zoning Ordinance	Subdivision Ordinance	Engineering & Design Standards	General Recommendations
1.3. Require bike accommodations by roadway type		None required or specified	None required or specified	<p>See Chapter 4 of the NCDOT <b>Complete Streets Planning and Design Guidelines</b> for recommendations of bikeway type by roadway type.</p> <p>Also: The design guidelines recommended as part of the Rocky Mount Bicycle Plan could be incorporated or included by reference in the City's Engineering and Design Standards and Subdivision Ordinance.</p> <p>NACTO Urban Bikeway Design Guide provides additional design details for various on-street bikeway treatments and could be adopted by reference in the ordinance and/or the Engineering Standards. Many cities have taken this approach:</p> <p><a href="http://nacto.org/cities-for-cycling/design-guide/">http://nacto.org/cities-for-cycling/design-guide/</a></p>
1.4. Require designated bikeways (bike lanes, shoulders, greenways, etc) during new development or redevelopment	Not required	Not required. Street design guidelines do not address bicycle facilities and do not require that they be included with new roadway construction.	None required or specified	<p>Generally, as traffic volumes exceed 3,000 vehicles per day and traffic speeds exceed 25mph, facilities to separate bicycle and motor vehicle traffic are recommended. Multi-lane roads are typically more dangerous for all users because of the increased traffic volume, the potential for higher speeds, and the additional number of conflict locations due to turning vehicles.</p> <p>See Chapter 4 of the <b>NCDOT Complete Streets Planning and Design Guidelines</b>.</p> <p>Also, see:</p> <p>Chapters 6 of Wake Forest, NC UDO for recommendations for bikeways and greenways, esp. sections 6.8.2, 6.9, 6.10.</p> <p><a href="http://www.wakeforestnc.gov/udo.aspx">http://www.wakeforestnc.gov/udo.aspx</a></p> <p>Chapter 7 of the Wilson, NC UDO regarding greenways.</p> <p><a href="http://www.wilsonnc.org/attachments/pages/545/CH%207-Parks%20%20Open%20Space.pdf">http://www.wilsonnc.org/attachments/pages/545/CH%207-Parks%20%20Open%20Space.pdf</a></p>
1.5. Require dedication, reservation or development of greenways	Not required	Not required	Not required	<p>Consider expanding requirements for greenway reservation, dedication, or provision in new developments where a greenway or trail is shown on an adopted plan or where a property connects to an existing or proposed greenway.</p> <p>See requirements in Wake Forest, NC UDO, Section 6.8.2 Greenways: <b>“When required by Wake Forest Open Space &amp; Greenways Plan or the Wake Forest Transportation Plan, greenways and multi-use paths shall be provided according to the provisions [that follow in the section cited above].”</b></p> <p><a href="http://www.wakeforestnc.gov/udo.aspx">http://www.wakeforestnc.gov/udo.aspx</a></p>



**Table 4.0 Development Ordinance Review**

Topic	Comments/Recommendations			
	Zoning Ordinance	Subdivision Ordinance	Engineering & Design Standards	General Recommendations
1.6. Require new bike lanes, greenways, etc., to connect to existing facilities	Not required	Not required	Not required	<p>Connectivity of facilities is critical for walking and biking conditions. New development should be required to connect to or extend existing facilities bicycle and pedestrian facilities.</p> <p>See:</p> <ul style="list-style-type: none"> <li>» Chapters 6 of Wake Forest, NC UDO for recommendations for bikeways and greenways, esp sections 6.5.3, 6.8.2, 6.9, 6.10. <a href="http://www.wakeforestnc.gov/udo.aspx">http://www.wakeforestnc.gov/udo.aspx</a></li> <li>» Chapter 7 of the Wilson, NC UDO regarding greenways. <a href="http://www.wilsonnc.org/attachments/pages/545/CH%207-Parks%20&amp;%20Open%20Space.pdf">http://www.wilsonnc.org/attachments/pages/545/CH%207-Parks%20&amp;%20Open%20Space.pdf</a></li> </ul>
1.7. Consider bicycle concerns and Level of Service (LOS) in Traffic Impact Analyses and other engineering studies	No specific guidelines	No specific guidelines	No specific guidelines	<p>Rocky Mount should consider adopting multi-modal level of service standards where active transportation and transit use are expected to be high. Consideration of bicycle and pedestrian levels of service assure adequate facilities for bicyclists and pedestrians in new development and capital improvements. This also helps promote walking and bicycling as a legitimate means of transportation.</p> <p>The NCDOT <b>Complete Streets Planning and Design Guidelines</b> provides factors of “Quality of Service “ and LOS for bicycle, pedestrian, and transit modes (See Chapter 3, page 39 and Chapter 5): <a href="http://www.completestreetsnc.org/wp-content/themes/CompleteStreets_Custom/pdfs/NCDOT-Complete-Streets-Planning-Design-Guidelines.pdf">http://www.completestreetsnc.org/wp-content/themes/CompleteStreets_Custom/pdfs/NCDOT-Complete-Streets-Planning-Design-Guidelines.pdf</a></p> <p>The City of Raleigh uses multimodal level of service approach in determining road improvements and traffic mitigation: <a href="http://www.raleighnc.gov/content/extra/Books/PlanDev/StreetDesignManual/#71">http://www.raleighnc.gov/content/extra/Books/PlanDev/StreetDesignManual/#71</a></p> <p>Charlotte, NC uses Pedestrian LOS and Bicycle LOS Methodologies for intersection improvements in their Urban Street Design Guidelines: <a href="http://charmeck.org/city/charlotte/transportation/plansprojects/pages/urban%20street%20design%20guidelines.aspx">http://charmeck.org/city/charlotte/transportation/plansprojects/pages/urban%20street%20design%20guidelines.aspx</a></p>

**Table 4.0 Development Ordinance Review**

Topic	Comments/Recommendations			
	Zoning Ordinance	Subdivision Ordinance	Engineering & Design Standards	General Recommendations
<p><b>1.8 Adopt traffic calming programs, policies, and standards</b></p> <p>Traffic calming on local streets increases safety and comfort for all roadway users, including cyclists. It also increases neighborhood livability.</p>	<p><b>None</b></p> <p>Traffic calming devices may be installed to help facilitate safer pedestrian crossings. . . Allowable treatments may include, but are not limited to, roundabouts, raised pedestrian crosswalks, multiway stops, bulb-outs, alternative pavement treatments, and signals at crosswalks when warranted.</p> <p><b>See General Recommendations column for suggested policy improvements</b></p>	<p><b>None</b></p>	<p><b>None</b></p>	<p>The National Complete Streets Coalition provides good guidelines for traffic calming through their best practices manual:</p> <p><a href="http://www.completestreets.org/resources/complete-streets-best-practices/">http://www.completestreets.org/resources/complete-streets-best-practices/</a></p>
<p><b>1.9 Develop an access management program or policy</b></p> <p>Requiring cross-access between adjacent parcels of land is a great tool for reducing the amount of traffic on major roads while increasing connectivity for pedestrians, bicycles, and cars.</p>	<p><b>None</b></p>	<p><b>None</b></p>	<p><b>None</b></p>	<p>The NCDOT Complete Streets Planning and Design Guidelines provides recommended “Access Density” guidelines. These guidelines could be the basis for regulatory updates to the municipal codes:</p> <p><a href="http://www.completestreetsnc.org/wp-content/themes/CompleteStreets_Custom/pdfs/NC-DOT-Complete-Streets-Planning-Design-Guidelines.pdf">http://www.completestreetsnc.org/wp-content/themes/CompleteStreets_Custom/pdfs/NC-DOT-Complete-Streets-Planning-Design-Guidelines.pdf</a></p>
<p><b>2. BICYCLE-ORIENTED URBAN DESIGN ELEMENTS</b></p>				
<p><b>2.1. Adopt bicycle parking requirements</b></p>	<p><b>None</b></p>	<p><b>None</b></p>	<p><b>No specifications for acceptable bicycle parking devices included.</b></p>	<p>Bicycles should receive equal consideration when calculating parking needs with specific calculations provided for determining the amount of bicycle parking provided by district type. Design and location standards for bicycle parking should be clearly stated to provide for safe and convenient access to destinations. Different standards of bicycle parking are needed for short-term visitors and customers and for longer term users like employees, residents, and students.</p> <p>See City of Wilson UDO, Chapter 9: Parking &amp; Driveways, Section 9.4 and 9.6:</p> <p><a href="http://www.wilsonnc.org/wp-content/uploads/2014/12/CH-9-Parking-Driveways-.pdf">http://www.wilsonnc.org/wp-content/uploads/2014/12/CH-9-Parking-Driveways-.pdf</a></p> <p>Good standards for bicycle parking design can be found through the Association of Pedestrian and Bicycle Professionals’ Bicycle Parking Guidelines:</p> <p><a href="http://www.apbp.org">www.apbp.org</a></p>



**Table 4.0 Development Ordinance Review**

Topic	Comments/Recommendations			
	Zoning Ordinance	Subdivision Ordinance	Engineering & Design Standards	General Recommendations
<b>3. CONNECTIVITY REQUIREMENTS</b>				
<p><b>3.1. Revise block size requirements</b></p> <p>“[A] Good [street] network provides more direct (shorter) routes for bicyclists and pedestrians to gain access to the thoroughfares and to the land uses along them (or allows them to avoid the thoroughfare altogether). Likewise, good connections can also allow short-range, local [motor] vehicular traffic more direct routes and access, resulting in less traffic and congestion on the thoroughfares. This can, in turn, help make the thoroughfare itself function as a better, more complete street. For all of these reasons, a complete local street network should generally provide for multiple points of access, short block lengths, and as many connections as possible.” (NCDOT Complete Streets Planning and Design Guidelines, p 59)</p>		<p><b>Sec. 1303. Blocks and lots.</b></p> <p><i>(A) Blocks. 1. Residential blocks shall not be less than three hundred (300) feet or more than one thousand (1,000) feet in length, except as the planning board considers necessary to secure efficient use of land or to achieve desired features of the street system. The planning board may require public crosswalks across the block. 2. Residential blocks shall be wide enough to provide two (2) tiers of lots of minimum depth, except when such blocks front onto freeways, expressways, or major arterials or topographical conditions of size of the property prevents such design, in which case the planning board may approve a single tier of lots of minimum depth.</i></p>		<p>Development density should determine the length of a block, with shorter blocks being more appropriate in areas of higher density. Maximum block length in any situation should rarely exceed 800-1000 feet for good connectivity. In areas with highest development density (urbanized, mixed use centers and high density neighborhoods) block lengths can be as little as 200 feet. In areas with blocks as long as 800 feet or greater, a pedestrian and/or bicycle path of 6-8 feet in width should be required, with an easement of 15-20 feet wide.</p>
<p><b>3.2. Require connectivity/cross-access between adjacent land parcels</b></p>	<p><b>Sec. 1301. Right-of-way width, street design.</b></p> <p><i>A. Street design. 1. Street pattern. Streets shall be arranged to fit the contour of the land, to create usable lots and blocks, and to discourage through traffic in residential neighborhoods. 2. Coordination of streets. Street access may be provided to adjoining undeveloped tracts of land and shall be coordinated with existing and planned streets as required by the departments of community development and public works. Access shall be provided to adjacent property at locations deemed necessary and desirable by the planning board.</i></p>	<p><b>No specific guidelines</b></p>	<p><b>No specific guidelines</b></p>	<p>See notes above regarding Block Size. Requiring connectivity or cross-access between adjacent developments is a great tool for reducing the amount of traffic on major roads while increasing connectivity for pedestrians, bicycles, service vehicles, and neighborhood access.</p> <p>For good model language, see City of Wilson, NC UDO, Section 6.4: Connectivity:  <a href="http://www.wilsonnc.org/wp-content/uploads/2014/12/CH-6-Infrastructure-Standards.pdf">http://www.wilsonnc.org/wp-content/uploads/2014/12/CH-6-Infrastructure-Standards.pdf</a></p> <p>Or City of Wake Forest, NC UDO, Section 6.5, Connectivity:  <a href="http://www.wakeforestnc.gov/udo.aspx">http://www.wakeforestnc.gov/udo.aspx</a></p> <p>Both codes above also provide requirements for when bicycle/pedestrian connections between parcels, public open space, and between cul-de-sacs is required.</p>

Table 4.0 Development Ordinance Review				
Topic	Comments/Recommendations			
	Zoning Ordinance	Subdivision Ordinance	Engineering & Design Standards	General Recommendations
<p><b>3.3. Limit dead end streets or cul-de-sacs</b></p> <p>Dead end streets or cul-de-sacs, while good at limiting motor vehicular traffic in an area, are a severe hindrance to pedestrian and bicycle connectivity and overall neighborhood accessibility, including for emergency access and other services.</p>	<p><i>None</i></p>	<p><b>Sec. 1402. Subdivision application procedure and approval process.</b></p> <p><i>B. Standards and required improvements.</i></p> <p><i>3. Blocks. Residential blocks shall not be more than one thousand (1,000) feet nor less than three hundred (300) feet in length and shall be wide enough to allow two (2) tiers of lots of appropriate depth, unless extreme physical conditions lend themselves to a deviation from this norm as approved by the planning board. A cul-de-sac shall not exceed nine hundred (900) feet in length.</i></p> <p><b>See General Recommendations column for suggested policy improvements</b></p>	<p><i>None</i></p>	<p>Provide quantifiable connectivity standards (see above) based on land use context and other guidelines.</p> <p>Consider requiring other traffic calming measures that allow for connectivity and improve the pedestrian and biking environment such as street trees, narrow street width standards, and T intersections.</p> <p>Make the maximum length for cul-de-sacs 250-300 feet to limit the distance that a person would have to travel along a cul-de-sac.</p> <p>For good model language, see City of Wilson, NC UDO, Section 6.4: Connectivity:  <a href="http://www.wilsonnc.org/wp-content/uploads/2014/12/CH-6-Infrastructure-Standards.pdf">http://www.wilsonnc.org/wp-content/uploads/2014/12/CH-6-Infrastructure-Standards.pdf</a></p> <p>Or City of Wake Forest, NC UDO, Section 6.5, Connectivity:  <a href="http://www.wakeforestnc.gov/udo.aspx">http://www.wakeforestnc.gov/udo.aspx</a></p>
<p><b>3.4 Bicycles in Parks</b></p>	<p>COO Sec. 20-161. - Operation on sidewalks.</p> <p>It shall be unlawful for any person to operate a bicycle upon any sidewalk in any business or commercial area, including the fire district, in the city.</p>			<p>Suggest that bicycle prohibition in parks be limited to specific parks depending on the size and nature of the park.</p>



## Additional Bicycle Friendly Policies to Consider

In addition to the modifications to the existing code of ordinances, there are two policies to consider implementing in Rocky Mount to support safe bicycle travel— a Complete Streets Policy and a Vision Zero Policy.

### COMPLETE STREETS POLICY

A Complete Street is a roadway that, in addition to general purpose vehicular travel lanes, includes items such as sidewalks, bike lanes or shoulders, bus lanes, transit stops, crosswalks, median refuges, curb bulb-outs, appropriate landscaping, and other features that add to the usability and livability of the street as determined by context.

This plan recommends that Rocky Mount adopts a Complete Streets Policy. In addition to adopting a Complete Streets Policy, the City should develop and adopt street design guidelines to support the policy and communicate desired street treatments.

According to the National Complete Streets Coalition, an ideal Complete Streets Policy should include the following elements:

- » Includes a vision for how and why the community wants to complete its streets.
- » Specifies that “all users” includes pedestrians, bicyclists, and transit users of all ages and abilities, as well as trucks, buses, and automobiles.
- » Applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right-of-way.
- » Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
- » Encourages street connectivity and aims to create a comprehensive, integrated, and connected network for all modes.
- » Is adoptable by all agencies or departments to cover all roads.
- » Directs the use of the latest and best design criteria and design guidelines while recognizing the need for flexibility in balancing user needs.
- » Directs that complete streets solutions will complement the context of the community.

### ADDITIONAL RESOURCES:

FDOT Complete Streets Policy: <http://www.fdot.gov/roadway/csi/default.shtm>

National Complete Streets Coalition: <http://www.smartgrowthamerica.org/complete-streets/changing-policy>

## BRING COMPLETE STREETS TO ROCKY MOUNT!

### STRATEGY

Rocky Mount should take the following steps to develop a Complete Streets Policy:

1. Build a coalition
2. Undertake extensive outreach
3. Identify a policy champion
4. Develop the policy
5. Adopt the policy

Building a coalition will require identifying a broad and diverse base of supporters from multiple disciplines. This group can be an extension of existing coalitions like the Steering Committee assembled for this plan. Outreach should educate the public and stakeholders on the benefits of Complete Streets and utilize resources such as the National Complete Streets Coalition. The policy itself should be built around the “10 Essential Elements of a Complete Streets Policy” and should also reflect local needs. A clear implementation plan, with a timeline and oversight committee should be established.

### KEY IMPLEMENTERS + STAKEHOLDERS

- » Rocky Mount Development Services Department, Rocky Mount Urban Area MPO, City government officials
- » Bicycle & Pedestrian advocacy groups
- » Public Health Officials
- » The business community

## VISION ZERO POLICY AND PLAN

Vision Zero is the concept that no loss of life is acceptable on our roadways. It acknowledges that human life takes priority over transportation mobility and that government bodies, roadway designers, and road users share responsibility for traffic safety.

A formalized Vision Zero policy and plan would signify that Rocky Mount is committed to improving road safety for all users. A city-wide Vision Zero effort would be a concerted effort between Rocky Mount, Nash and Edgecombe County and regional agencies, advocacy groups, schools, businesses, and nonprofit organizations. Implementing Vision Zero in Rocky Mount would require education, enforcement, and design components in order to make a broad scale impact. Strategies for implementation could include enforcement efforts to target behaviors that endanger all types of road users, outreach efforts to community members, and safety improvements where there are the largest numbers of pedestrians and bicyclists.

For more information on developing a Vision Zero policy, go to [visionzeronetWORK.org](http://visionzeronetWORK.org)

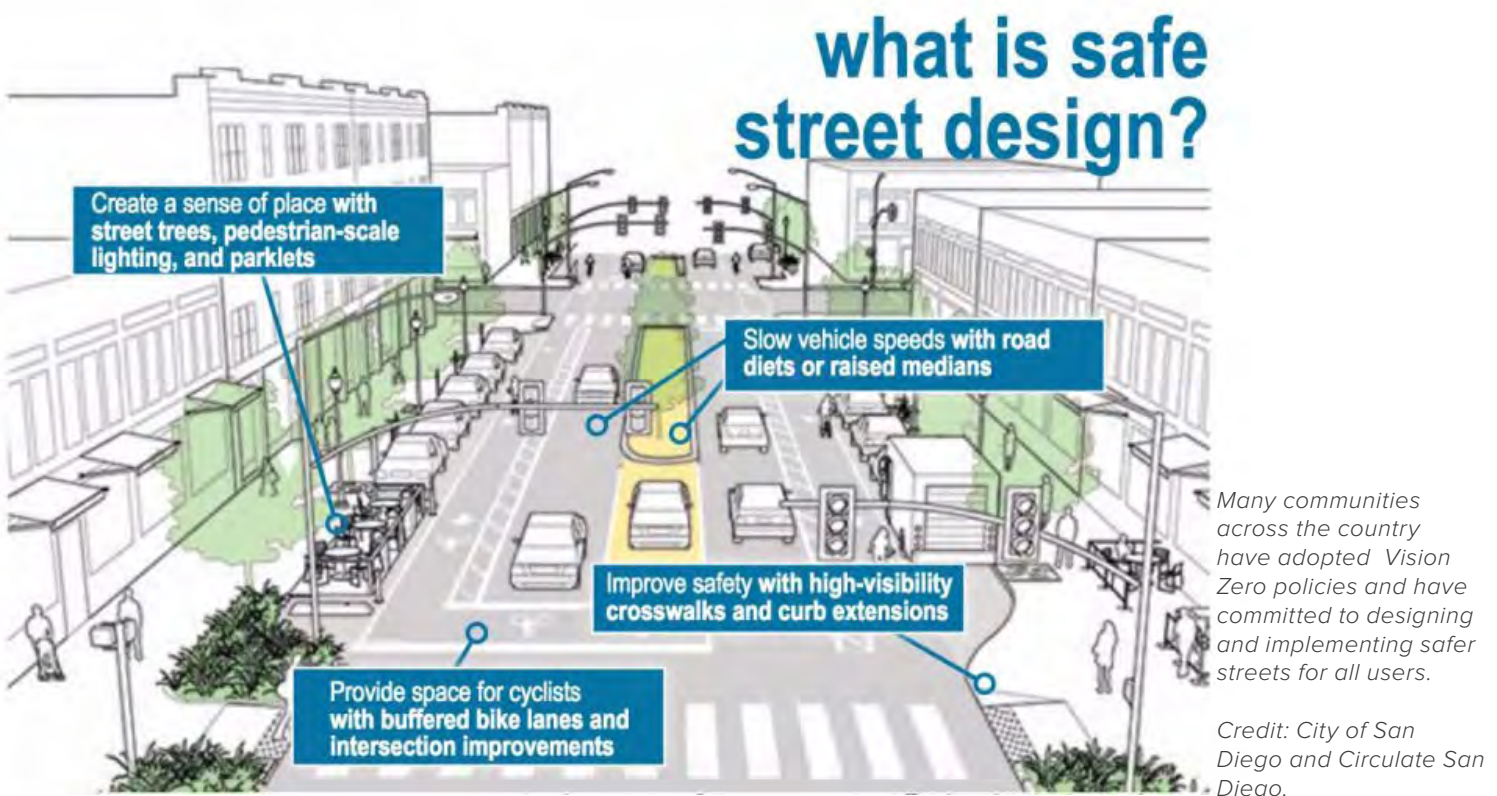
## BRING VISION ZERO TO ROCKY MOUNT!

### STRATEGY

Assemble a Vision Zero steering committee to identify high crash locations and recommend improvements.

### KEY IMPLEMENTERS + STAKEHOLDERS

- » Rocky Mount Development Services Department, Rocky Mount Urban Area MPO, Public Works, City Council
- » Public Schools, Health Department, Police & Fire Departments
- » Nonprofit organizations, Advocacy groups







## DOCKLESS BIKE SHARE

Bicycle sharing in the US has evolved significantly since its infancy in 2010; from a heavily subsidized dock-based system, to a competitive ecosystem of privately-funded dockless mobility options. Dockless bike sharing has the potential to greatly contribute to a more equitable, complete, and healthy transportation system for Rocky Mount. Developing a resilient policy framework that is able to capture the positive benefits of bike share, while limiting negative externalities is a challenging task that many cities around the world are grappling with. Finding the most current case studies and tweaking policy to fit the local context will be critical to implementing a successful dockless bike share system in Rocky Mount.

The following sections outline the major considerations that Rocky Mount should look to include in dockless bike share permitting and regulation. This is a growing and rapidly evolving field of transportation and business.

### *Operations and Maintenance*

#### **City Has Right to Remove Equipment / Terminate Contract**

- » Due to possible negative externalities inherent in the nature of dockless bike share, e.g. bikes being vandalized and/or creating a hazard; Rocky Mount should reserve the right to terminate a bike share contract or remove equipment upon a noticed lack of action or resolution by the service vendor.

#### **Vendor Liability and Fees**

- » Rocky Mount should ensure that the bike share provider is solely responsible and liable for any problem scenario. Additionally, reimbursement caps and fees should be collected should Rocky Mount need to allocate resources to manage or resolve issues.

#### **Vendor Contact Info**

- » Having a transparent channel of communication between Rocky Mount, the user, and operator is essential to, not only support user issues, but reduce strain on city resources. Require vendor information and hot-line be placed clearly on bikes, web pages and within the web application.

#### **Equipment Maintenance**

- » Require that the vendor establish a clear maintenance schedule for every bike in service. If bikes are not maintained to agreed-upon standards, Rocky Mount reserves the right to remove bikes from circulation. It is generally recommended that one vendor staff member be hired for every hundred bikes to support routine maintenance, respond to issues, and rebalance bikes.

#### **Equipment Quality**

- » All bikes, and bike components, must meet federal guidelines. Additionally, bike share vendors should be required to meet federal safety standards. Consideration should also be given to supplemental equipment such as helmets, bells, improved brakes, etc.

### *Ethical Standards and Data Laws*

#### **Equity Requirement**

- » Bike share systems should be required to operate and maintain their systems in underserved neighborhoods. Specifically, a framework should be addressed for providing equitable service across geographic, age, income and other factors affecting access to mobility. This requirement should also guide bike share operators to develop reservation technology that does not require a smartphone.

#### **ADA Compliance**

- » One of the most compelling characteristics of dockless bike share is the ability for the user to disembark at their direct destination, rather than finding a designated docking area. While this capability benefits the bike share user, it can pose challenges for sidewalk users as the bikes can clutter right-of-ways and block travel lanes. Vendors and representatives from Rocky Mount must work together to solve this problem, most likely through education, gamification (incentives), and/or legal penalty.

#### **Adaptive Equipment**

- » Some bike share systems around the country are experimenting with the addition of adaptive bicycles into their fleet. Rocky Mount can get creative with policy directing bike share operators to pilot

adaptive bicycles such as trikes, heavy-duty bikes, hand-cycles, etc.

**Data Sharing**

- » Dockless bike share vendors gather a wealth of data that is used to successfully operate their business. Rocky Mount should include language into the permitting process that ensures their access to this data, in-full. Rocky Mount should include flexible policy language that requires the most current data collection methods, such as gyroscopes and real-time data sharing.

*Fleet Size, Rebalancing, and Parking*

**Initial Fleet and Phasing Strategy**

- » This policy aims to manage expectations and introduce responsible phasing. Every context is different and requiring vendors to introduce too many bikes at early stages can cause problems and introduce elevated risk.

**Rebalancing & Maintenance**

- » Rocky Mount should use the permitting process to ensure that dockless bike share vendors continue routine operations and maintenance exceeding or mimicking that of the public transport system.

**Bike Parking**

- » Rocky Mount should include policy language requiring the bike share vendor maintain their parked bikes in an upright position and educate users on the proper parking of the bikes. This policy will work to reduce negative occurrences of eyesores in public spaces and a potential dangerous situation for sidewalk users navigating around cluttered bikes.

**Parking Area Models**

- » While dockless bikes have the ability to be picked-up and dropped-off at discrete locations, many cities struggle to manage the negative externalities this freedom provides (as discussed earlier: safety issues and sidewalk clutter). Addressing the issue early through the permitting, regulation, and siting process can ensure a more smooth introduction and build positive behavior in users. Two possible solutions involve the designation of certain public spaces as preferred bike-parking locations. A hub centric model designate a large centralized space in the city

center for dense bike parking. Used in conjunction, or isolation, a corral system converts smaller areas within public spaces for a more distributed answer to bike parking.

**Geofencing Boundaries**

- » Service areas are designated through geofencing. In general, a rider is expected to pick up and drop off a bike only within the cordon zone. Geofencing is also used to set differential fees, mainly for parking. For example, an improperly parked bike, or bike left in a remote area will incur a higher fee.

*Safety*

**User Safety Education**

- » Vendors must find methods for educating users about local laws and regulations. Operators should include safety information visibly on the bikes and/or in the web application used to reserve the bike.

**Insurance and Reimbursement**

- » Rocky Mount must include regulations ensuring that bike share vendors are properly insured and have reimbursement caps on each bicycle to reduce Rocky Mount’s financial liability should there be a need to terminate a contract or remove bikes.

**Helmet Laws**

- » While most dockless bike share operators do not include helmets with their service, largely citing hygiene reasons, it is important for Rocky Mount to ensure local helmet laws are in accordance with bike share use.

**Gamification**

- » Gamification is the reinforcement and support of positive behavior through incentives, social interaction, and/or challenges. Vendors can use gamification to increase ridership and reward users who correct poorly parked bikes, return bikes to corrals or hubs (re-balance bikes), follow safety rules, etc. Some reward examples include: giving gift cards of scaled value, creating social media challenges and games, giving free rides, providing vendor merchandise, etc. The social aspect engages users and provides a fun platform that encourages and educates.



## NORTH CAROLINA DOCKLESS BIKE SHARE CASE STUDIES

### Charlotte, North Carolina

Pilot Program - <http://charlottenc.gov/Transportation/Programs/Pages/BikeSharePilotProgram.aspx>

Permit - <http://charlottenc.gov/Transportation/Programs/Documents/CharlotteBikeSharePermitRequirements.pdf>

### Durham, North Carolina

Bike Share Permit - <https://durhamnc.gov/DocumentCenter/View/17184/Bike-Share-Permit>

Bike Share Indemnity Agreement - <https://durhamnc.gov/DocumentCenter/View/17185/Bike-Share-Indemnity-Agreement>

Bike Share Permit Ordinance - <https://durhamnc.gov/DocumentCenter/View/17555/Bike-Share-Permit-Ordinance>

Bike Share Fees Ordinance - <https://durhamnc.gov/DocumentCenter/View/17554/Bike-Share-Fees-Ordinance>

### Additional Resources:

Better Bike Share Partnership - <http://betterbikeshare.org/>

National Association of City Transportation Officials, Bike Share initiative - <https://nacto.org/program/bike-share-initiative/>

Brandon Bordenkircher & Riley L. O'Neil of Twelve Tone Consulting (2018). Dockless Bikes: Regulation breakdown. <http://chi.streetsblog.org/wp-content/uploads/sites/4/2018/04/Dockless-Bike-Chart.png>



*Dockless bike share parking area in Durham, NC*

**TABLE 4.1 POLICY ACTION STEPS**

TASK	LEAD	SUPPORT	DETAILS	PHASE
Develop new policies & approaches for implementation.	Development Services Department, Engineering Department	City Council, Planning Board	Establish land right-of-way acquisition mechanisms, expand bicycle facility fee in-lieu options, coordinate development plans, & implement driveway access management.	Short-term/ Ongoing (2018 onward)
Adopt a Complete Streets Policy.	Development Services Department, Engineering Department	City Manager, City Council	Partner across city departments to draft, adopt, and implement a comprehensive Complete Streets Policy with targeted performance measures and implementation steps.	Short-term/ Ongoing (2018 onward)
Be aware of the laws related to walking and bicycling in North Carolina and help educate others.	Rocky Mount, Nash County, and Edgecombe County Law Enforcement	NCDOT Bike/Ped Division, Development Services Department, Engineering Department	<p>Law enforcement should be familiar with state bicycle and pedestrian policies and laws, including best practices for reporting on crashes involving people walking or bicycling: <a href="https://www.ncdot.gov/bikeped/lawspolicies/">https://www.ncdot.gov/bikeped/lawspolicies/</a></p> <p>Also, the National Highway Traffic Safety Administration has made available a 2-hour self-paced interactive video training for all law enforcement officers: <a href="https://one.nhtsa.gov/Driving-Safety/Bicycles/Enhancing-Bicycle-Safety:-Law-Enforcement%27s-Role">https://one.nhtsa.gov/Driving-Safety/Bicycles/Enhancing-Bicycle-Safety:-Law-Enforcement%27s-Role</a></p>	Short-term (2018)
Update zoning and development ordinances to better support a bicycle friendly community.	Development Services Department	City Council, Planning Board	See the recommended policies for the Rocky Mount UDO in Chapter 4 on Policies.	Mid-term (2019)
Develop illustrated design standards for bicycle friendly development and infrastructure.	Development Services Department, Engineering Department	NCDOT	<p>Using NCDOT standard details as guidance, develop new and update existing design standards relating to bicycle access and infrastructure. Examples include bicycle boulevard details, intersection treatments, separated bike facility design standards, etc.</p> <p>On non-NCDOT streets, the city can use NACTO standards (available at <a href="https://nacto.org/publication/urban-street-design-guide">https://nacto.org/publication/urban-street-design-guide</a>) and/or the design guidance in the “FHWA Small Towns and Rural Multi-Modal Networks” (<a href="http://ruraldesignguide.com">http://ruraldesignguide.com</a>).</p>	Mid-term (2019 onward)
Adopt a Vision Zero Policy.	Development Services Department, Engineering Department	City Council, City Manager, Planning Board, RMUAMPO	Partner across city departments to draft, adopt, and implement a Vision Zero Policy with targeted performance measures and implementation steps.	Short-term/ Ongoing (2018 onward)
Examine and develop policy language to respond to dockless bikeshare programs	Planning, Development Services Department	City Council, City Manager, Planning Board, Engineering Department	Using the policy guidance on pages 65 to 67, update or develop new policy that structures the introduction of one or multiple dockless bike share systems.	Short-term



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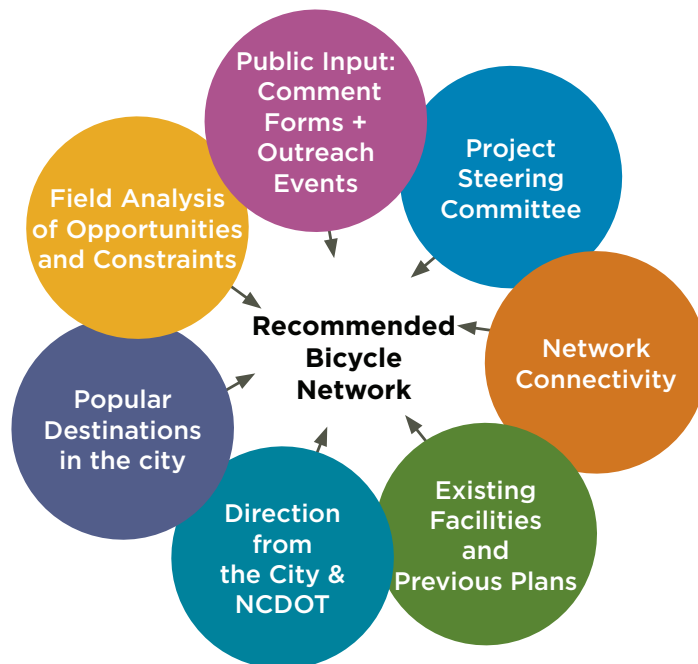
A circular inset image showing a group of cyclists gathered on a grassy area. In the foreground, a cyclist in a red shirt and black shorts is riding a road bike. Other cyclists are visible in the background, some standing and some riding. A green and yellow striped gazebo is set up in the middle ground. The background is filled with lush green trees under a clear blue sky. The overall scene suggests a community cycling event or a group ride.

# 5. RECOMMENDATIONS



# RECOMMENDATIONS

This chapter details the infrastructure improvements that are recommended to create a safe, accessible, and connected bicycle network in Rocky Mount. A mix of facilities and implementation strategies are recommended to create this network that include bike lanes, buffered bike lanes, shared-lanes, sidepaths, trails, pavement markings, traffic calming, and crossing improvements.



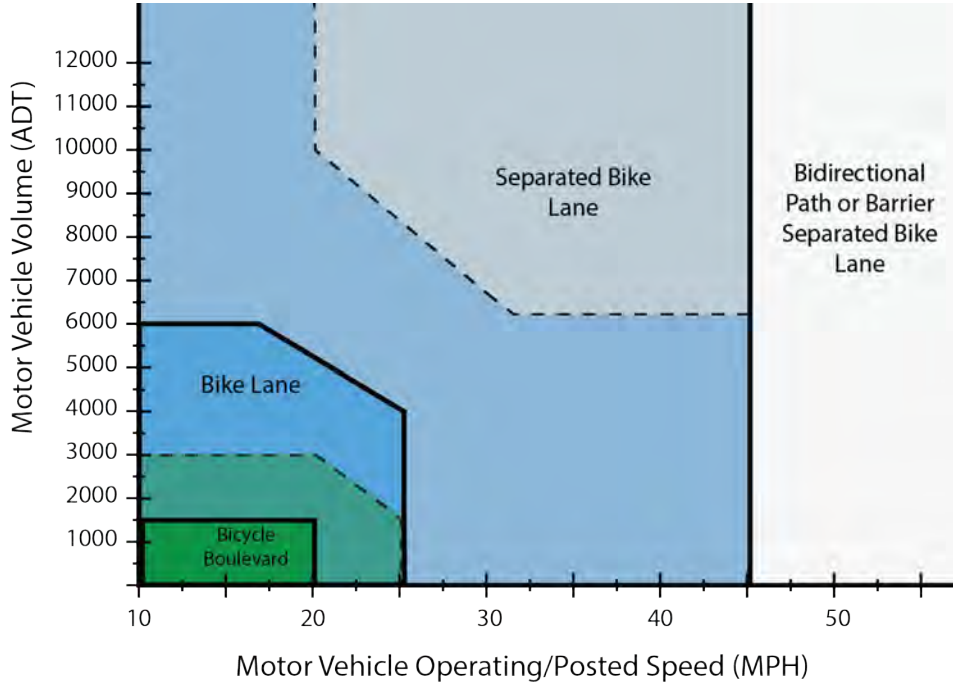
## Overview

Recommendations were developed based on information from several sources, as highlighted in the graphic at right. Fieldwork examined the potential and need for bicycle facilities along and across key roadway corridors to make connections between popular destinations in Rocky Mount.

All facility recommendations along NCDOT-maintained roadways will require review and approval by NCDOT Highway Division 4 prior to implementation.

# The Network

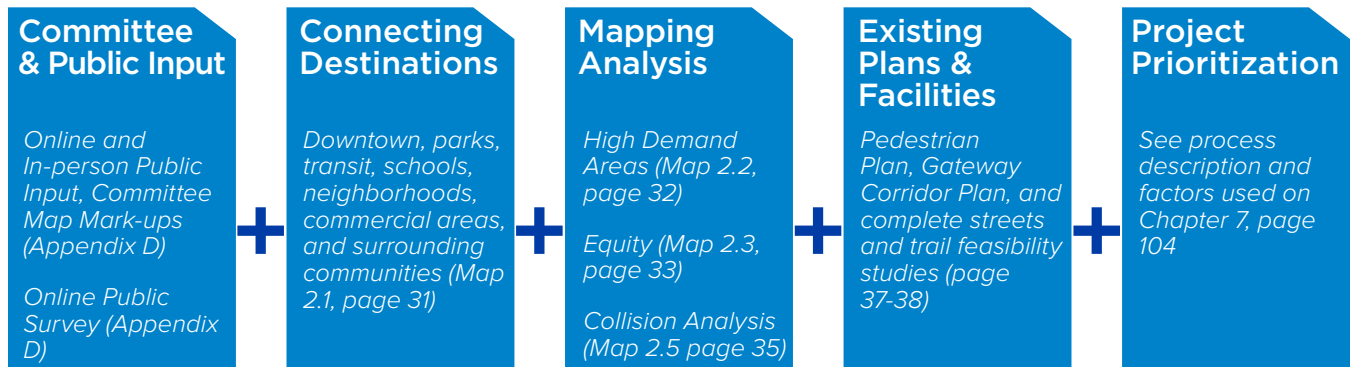
Selecting the best bikeway facility type for a given roadway can be challenging since the selection must balance traffic conditions, land use context, and implementation cost. For general guidance, the graphic below highlights the relationship between facility type and roadway speed and volume situations.



Selecting a bikeway type is not a prescriptive process and other factors need to be considered beyond speed and volume. For instance, the types of traffic (transit, truck traffic, taxi zones, etc), on-street parking, available roadway or roadside space, intersection density, and surrounding land use all play a role in determining the best low-stress facility type.

The proposed bike network was developed with the goal of creating a network of well-connected, low-stress facilities. Biking needs to be a safe, convenient, and pleasant form of transportation for the broadest array of people. Aligning with the vision of this plan of creating safe and comfortable bikeways, this low-stress network would be appropriate for people of all ages and abilities. The bikeways and road treatments described on the next page are designed to appeal to many types of riders, creating bikeways that ‘interested but concerned’ bicyclists are willing to use.

## BASIS OF RECOMMENDATIONS







## Types of Bikeways



### GREENWAY TRAIL

Greenways (also referred to as multi-use paths) are completely separated from motorized vehicular traffic and are constructed in their own corridor, often within an open-space area. Greenways can be paved and should be a minimum of 10' wide. Pavement widths of 12-, 14-, and even 16-feet are appropriate in high-use urban situations.



### SEPARATED BIKE LANE

This plan update defines a separated bike lane as a bicycle facility that is physically separated from motor vehicle traffic within a street corridor. For this Plan, this includes cycle tracks and buffered bike lanes, in addition to the City's shared-use path and greenway network. The on-road physical separation can be achieved through parked cars, curbs, medians, bollards/traffic posts, planters, or marked buffered space between the bike lane and adjacent travel lane.



### BIKE LANE

A bicycle lane is a portion of the roadway that has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists. Bicycle lanes are always located on both sides of the road (except one way streets), and carry bicyclists in the same direction as adjacent motor vehicle traffic. The minimum width for a bicycle lane is 4 feet; five- and six-foot bike lanes are typical for collector and arterial roads.



### BICYCLE BOULEVARD

In residential neighborhoods, bicycle boulevards—also known as neighborhood greenways—improve travel for bicyclists while calming traffic and greening neighborhoods. Bicycle boulevards are shared by automobiles and bicycles, but at speeds that make travel more comfortable for bicyclists.



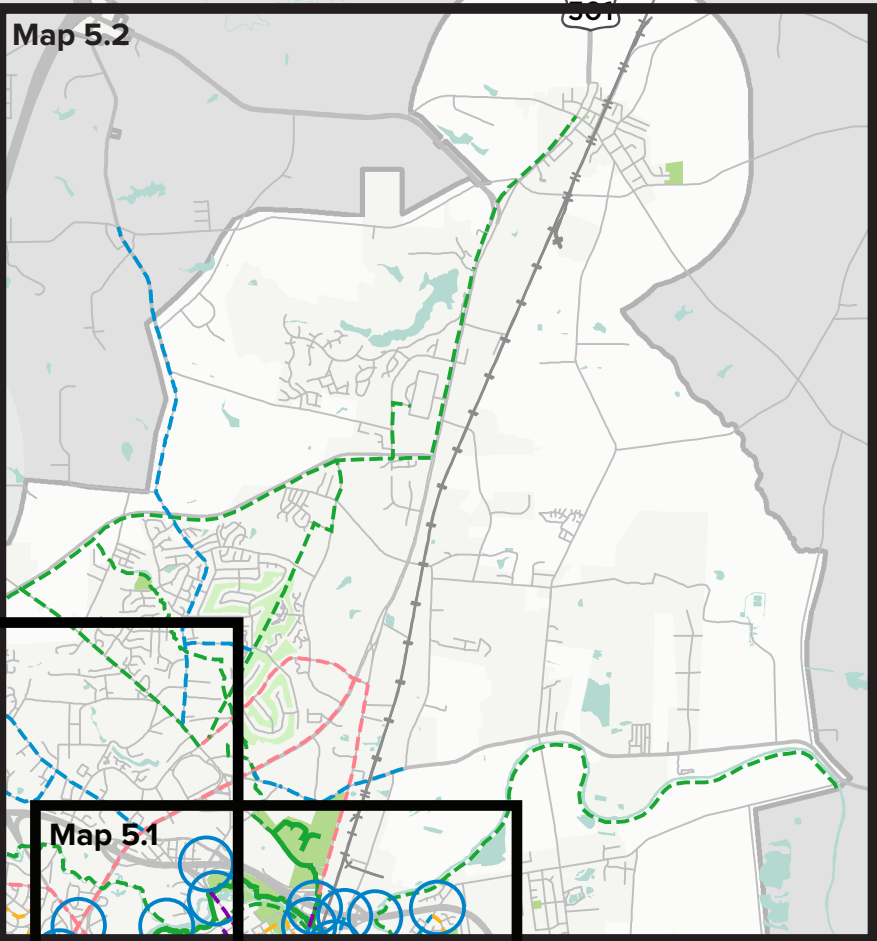
### COMPLETE STREET RETROFIT

Complete Streets are roadways that can be safely accessed, crossed, traveled upon and alongside by all people regardless of their age, ability or travel mode. A connected network of Complete Streets will ensure healthier, more equitable transportation options and an improved quality of life for all community residents, including children, seniors, people with disabilities and people facing economic hardship. Elements that make up a Complete Street include wider sidewalks, street trees, on-street parking, wayfinding signs, transit amenities (bus shelters, real-time information, benches, bike parking, etc.), and public art. Implementation of a Complete Street can often be reached by removing or narrowing existing traffic lanes. Engineering judgment, urban design principals and existing conditions dictate the ultimate design of a complete street.

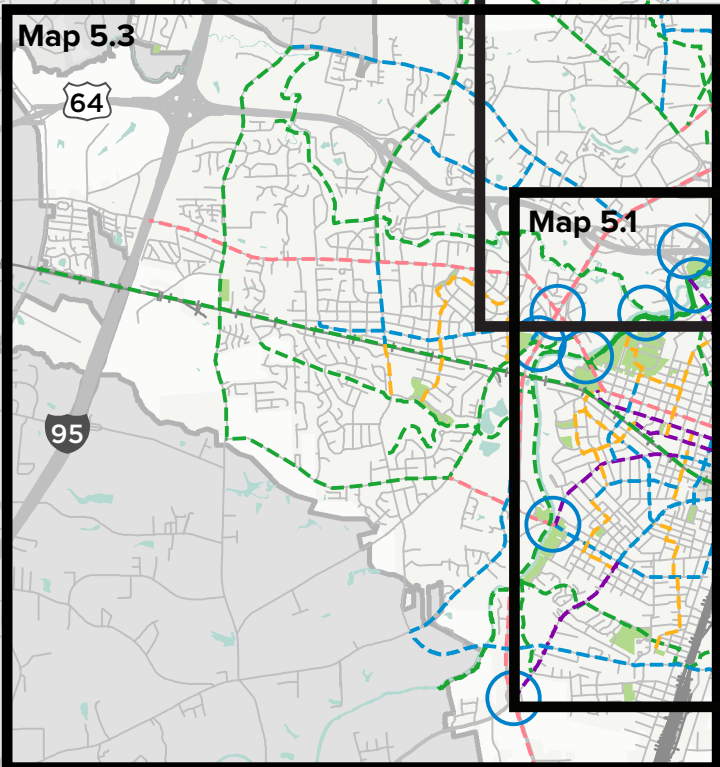
# Map 5.0 Recommendations: Rocky Mount

Projects Mileage Summary	
Facility	Total Mileage
Bicycle Boulevard	20.42 miles
Bike Lane	46.92 miles
Separated Bike Lane	10.88 miles
Complete Street Retrofit	17.87 miles
Greenway	64.27 miles
<b>Total</b>	<b>160.36 miles</b>

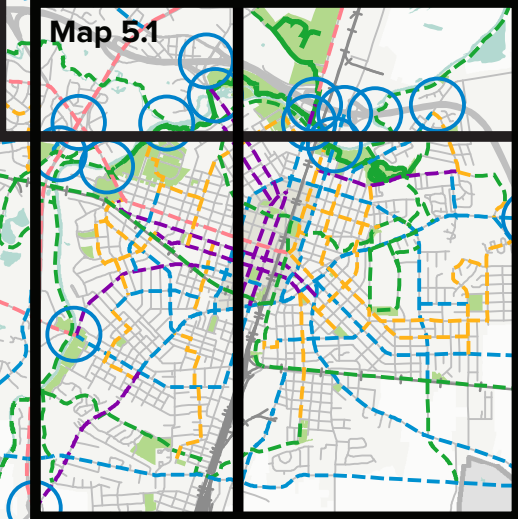
Map 5.2



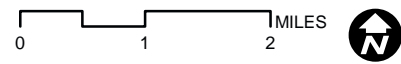
Map 5.3



Map 5.1



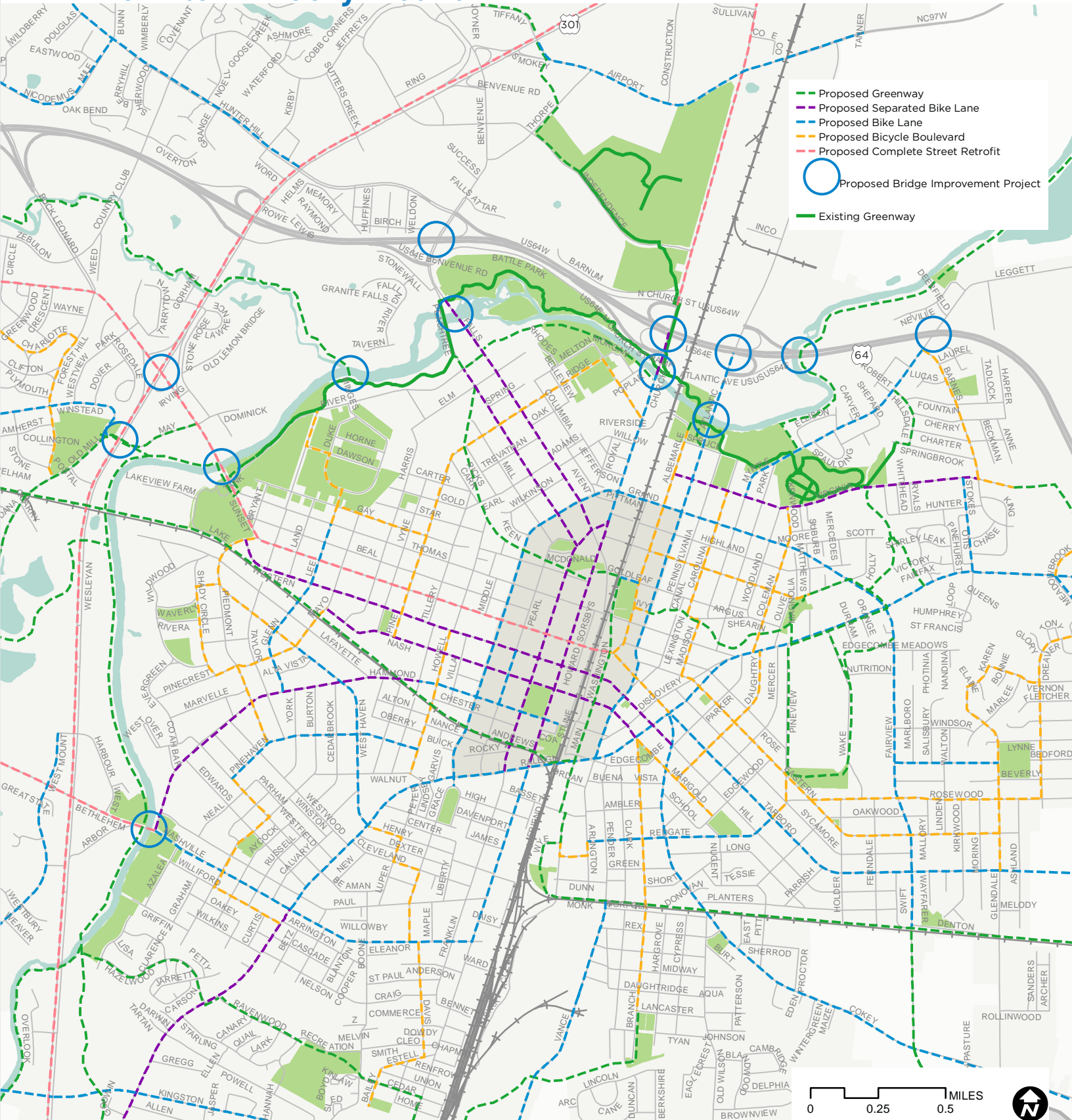
- Proposed Greenway
- Proposed Separated Bike Lane
- Proposed Bike Lane
- Proposed Bicycle Boulevard
- Proposed Complete Street Retrofit
- Proposed Bridge Improvement Project
- Existing Greenway



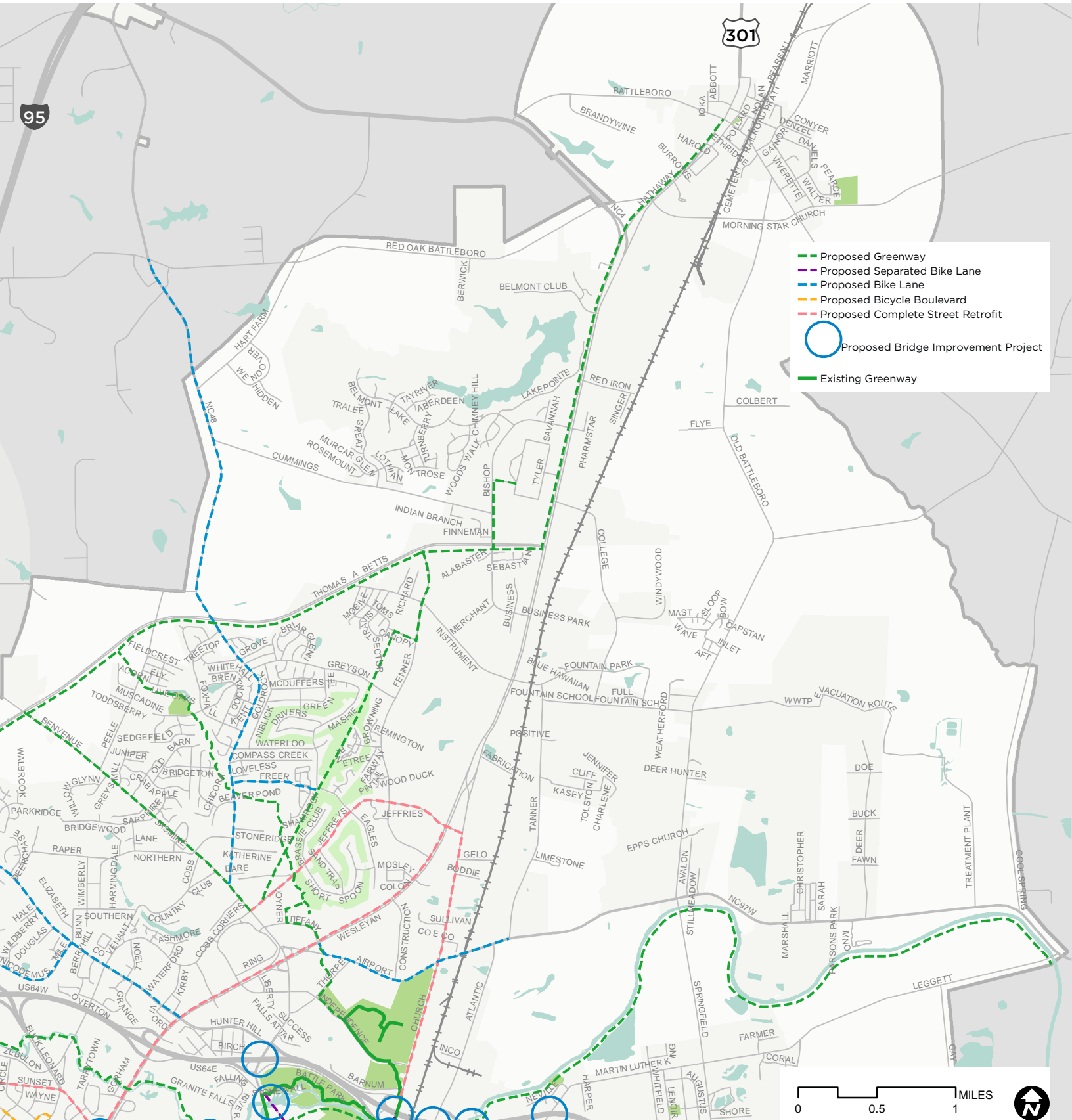
Greenway Project Table found on Page 99.  
Short-Term Priority project table found on page 119.



# Map 5.1 Recommendations: Downtown Rocky Mount

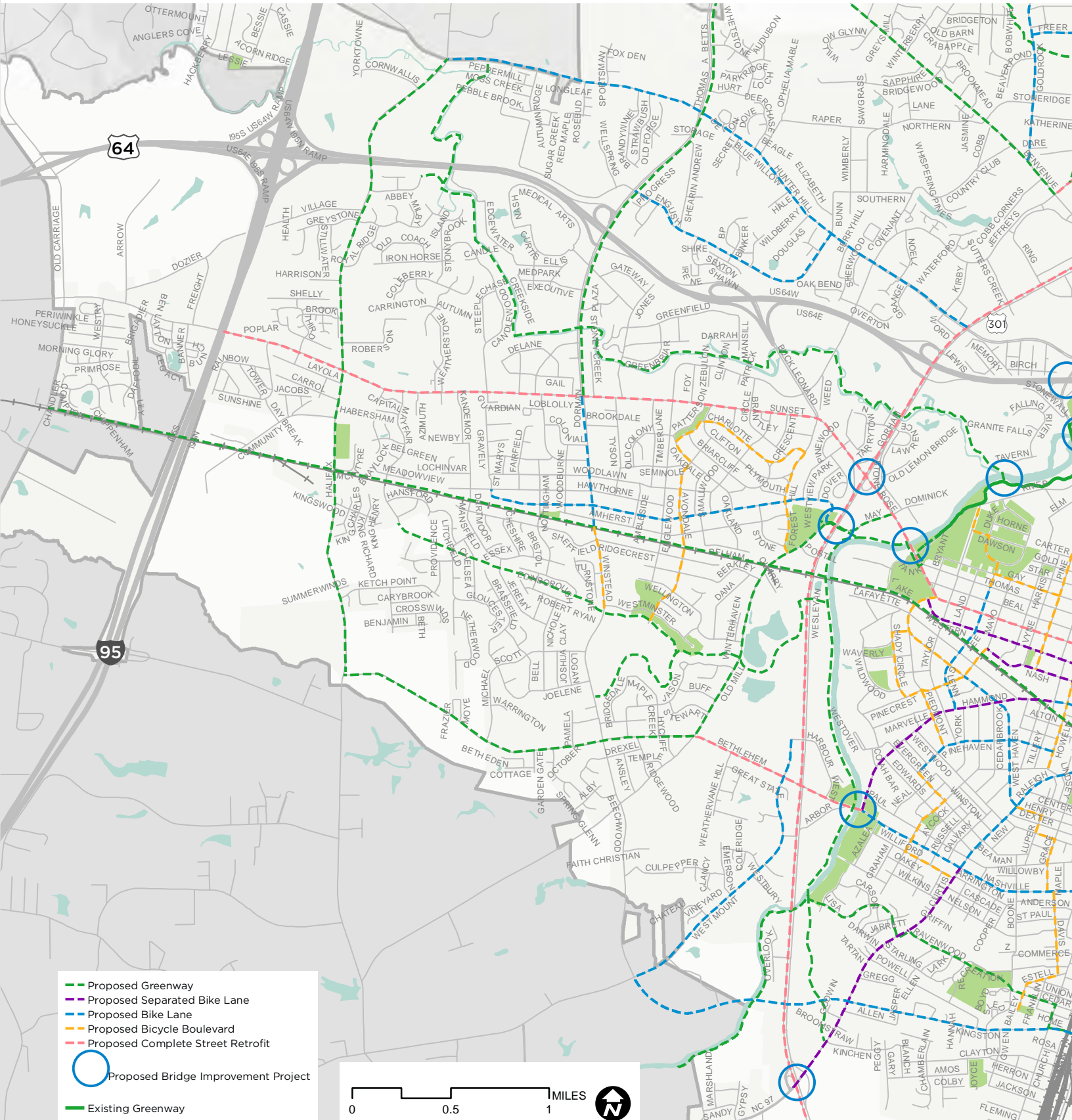


# Map 5.2 Recommendations: Northern Rocky Mount





# Map 5.3 Recommendations: Western Rocky Mount



- Proposed Greenway
- Proposed Separated Bike Lane
- Proposed Bike Lane
- Proposed Bicycle Boulevard
- Proposed Complete Street Retrofit
- Proposed Bridge Improvement Project
- Existing Greenway

0 0.5 1 MILES

## Limited Access Highway Crossings

Rocky Mount is surrounded by several limited access highways, including US 64, I-95, and US 301, which partially encircle the core downtown area. In order to create better bicycle access to downtown Rocky Mount, the streets intersecting these limited access and high volume highways need infrastructure improvements. Each of these crossings were evaluated based on its infrastructure needs and ranked according to the level of difficulty required to improve bicycle access. Future bridge reconstruction should provide accommodations for bicyclists.

TABLE 5.0 LIMITED ACCESS HIGHWAY BARRIER ASSESSMENT							
Map ID	Location	Speed Limit (mph)	AADT	Lanes	Lane Widths	Description	Implementation Difficulty (1-least difficult; 5-most difficult)
1	Wesleyan and Sunset	35	15,000 - 22,000	4	13, 13, 13, 13	Road diet retrofit potentially possible, but limited room for buffered facility on existing structure.	●●●○○
2	Wesleyan and Raleigh	55	6,600-7,300	4	12, 11, 11, 12	Road diet on existing overpass structure would not accommodate buffered or separated facilities preferred at high speeds. Opportunity to upgrade during any future NCDOT construction.	●●●●●
3	Wesleyan and May	45 - 55	15,000 - 22,000	4	11, 11, 11, 11	Existing 4' shoulder; however, pavement widening may be required for a buffered facility. Proposed greenway will need to consider intersection and crossing treatments.	●●●○○
4	US 64 and Atlantic	45	3,500 - 5,100	4	11, 11, 11, 11	The underpass structure provides limited room for retrofit opportunities.	●●●●○
5	US 64 and Church	45	11,000 - 12,000	5	11, 12, 11, 11, 12	Existing 8-foot side path through underpass.	●○○○○
6	US 64 and Raleigh	45	10,000 - 11,000	4	12, 12, 12, 12	Existing 14' bridge shoulder provides potential opportunity for designated bike facility.	●●○○○
7	US 64 and Benvenue	45	13,000	4	12, 11, 11, 12	The underpass structure provides limited room for retrofit opportunities.	●●●●○
8	US 64 and Proposed Greenway	65	31,000	4	12, 12, 12, 12	Highway crossing would likely require tunnel or bridge structure.	●●●●●
9	US 64 and Leggett	35	2,600	2	10, 10	3' shoulder and unpaved shoulder may provide space for construction of bike facility along roadway. Low speed road is more suitable for bike facility than some other options.	●●●○○



# Map 5.4 Highway Crossing Barrier Assessment



## Limited Access River Crossings

The Tar River also acts as a barrier between the outer residential areas of Rocky Mount and the downtown core. Several existing river crossings were evaluated and ranked according to the level of difficulty required for infrastructure needs. The Peachtree/Tar River crossing is an excellent example of a low-stress bicycle and pedestrian crossing and could be replicated in other locations. Additionally, two potential new river crossing locations were identified based on floodplain characteristics. These locations, bolded in the table below, would require the construction of new bicycle/pedestrian bridges to cross the river.

TABLE 5.1 LIMITED ACCESS RIVER BARRIER ASSESSMENT							
Map ID	Location	Speed Limit (mph)	AADT	Lanes	Lane Widths	Description	Implementation Difficulty (1-least difficult; 5-most difficult)
<b>1</b>	<b>Sunset/Tar River (Potential New River Crossing)</b>	35	17,000	4	13, 12, 12, 13	While this location is not a good opportunity for a retrofit, it is a candidate location for a new river crossing due to the narrowness of the floodplain.	●●●●●
<b>2</b>	Peachtree/Tar River	35	6,900	2	14,14	The Tar River Trail crossing at Peachtree St is an excellent example of the utilization of existing infrastructure to provide a high level of comfort, protection, and system connectivity across a barrier.	●○○○○
<b>3</b>	Falls/Tar River	35	6,100	2	16, 16	Road diet retrofit potentially possible, but limited room for buffered facility on existing structure.	●●●○○
<b>4</b>	Church/Tar River	45	11,000	5	12, 12, 14, 12, 12	Road diet on existing overpass structure would not accommodate buffered or separated facilities preferred at high speeds. Opportunity to upgrade during future NCDOT construction.	●●●●○
<b>5</b>	Atlantic/Tar River	45	5,100	4	11, 11, 11, 11	Road diet may be possible if a travel lane is eliminated.	●●●○○
<b>6</b>	Bethlehem/Tar River	45	1,800	3	11, 12, 11	There is limited room for bike facilities on the existing structure without the elimination of the middle turn lane. Potential opportunity to upgrade during any future NCDOT construction.	●●●●○
POTENTIAL RIVER CROSSING							
<b>7</b>	<b>Potential New River Crossing</b>	N/A	N/A	N/A	N/A	This location is a candidate location for a new river crossing due to the narrowness of the flood plain.	●●●●●

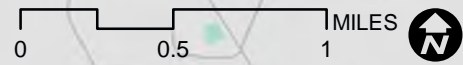




# Map 5.5 River Crossing Barrier Assessment



Existing Facility  
 Greenway Trail  
 Sharrow  
 Bike Route



<b>TABLE 5.2 INFRASTRUCTURE NETWORK &amp; FUNDING ACTION STEPS</b>				
<b>TASK</b>	<b>LEAD</b>	<b>SUPPORT</b>	<b>DETAILS</b>	<b>PHASE</b>
Implement bicycle facility design training for key staff.	City Manager, Engineering Department, Public Works	NCDOT Division 4	Become familiar with the design resources listed in Appendix C and available through NCDOT.	Short-term (2018)
Seek multiple funding sources and facility development options.	City Manager, Engineering Department, Parks and Recreation Department	City Council, Development Services Department, Rocky Mount MPO, NCDOT Division 4	Appendix A contains potential funding opportunities. Explore available funding options and facilitate conversations with key stakeholders to identify potential partnerships. Leverage local funds or private investment towards federal funding opportunities, especially for larger investments such as priority intersection projects.	Short-term/ Ongoing (2018 onward)
Develop a long-term funding strategy.	City Manager & City Council	Development Services Department, Rocky Mount MPO, NCDOT Division 4	To allow continued development of the project recommendations, capital funds for bicycle facility construction should be set aside every year. Powell Bill funds should be programmed for facility construction. Funding for an ongoing maintenance program should also be included in the city's operating budget. Consideration for a transportation bond to fund priority projects should be given.	Short-term/ Ongoing (2018 onward)
Ensure that priority projects are incorporated in NCDOT's prioritization process.	Rocky Mount MPO	City Manager, Development Services Department, NCDOT Division 4	Rocky Mount MPO, the City of Rocky Mount, and NCDOT Division 4 should coordinate to fund this plan's network recommendations over time. Use the plan cut-sheets and recommendation maps to communicate project details.	Mid-term (2019)
Improve barriers across major facilities throughout Rocky Mount.	Engineering Department and NCDOT Division 4	City Manager, NCDOT Bike/ Ped Division	City and NCDOT Division 4 should coordinate on design of future improvements to US-64 and US-301 to ensure they accommodate bicycle movement across the corridors.	Ongoing
Maintain bicycle facilities.	Public Works	City Manager, General Public (for reporting maintenance needs)	Rocky Mount should maintain existing and future bicycle facilities, working with NCDOT where necessary. Adequate funding should be provided for maintenance activities every time a new bicycle project or intersection improvement is design, funded, or implemented.	Ongoing (2018 onward)
Maintain awareness of re-striping and repaving opportunities that could advance plan recommendations.	Public Works	NCDOT Division 4	Local point person should maintain awareness of NCDOT repaving schedule, checking in quarterly for updates to stay abreast of project marking opportunities.	Ongoing (2018 onward)
Consider a new approach to bicycle route classification and wayfinding	City Manager, Engineering Department, Public Works	NCDOT Division 4	The City of Rocky Mount should investigate the costs and benefits of the current number bicycle route system against that of a new identity-driven branding and wayfinding strategy that can support new facility recommendations.	Short-term/ Ongoing (2018 onward)



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# 6. GREENWAYS





# GREENWAYS

This chapter outlines a phased set of recommendations for a greenway network in Rocky Mount, with proposed strategies for the development of wayfinding, trail amenities, and trail marketing.

## Overview

Greenways are defined as linear, natural areas which may be suitable for access. Some greenways benefit the community by remaining as undeveloped open space, protecting water quality, providing valuable buffers, environmental preserves, or wildlife corridors.

Some greenways also contain trails. These “greenway trails” enhance existing recreational opportunities, provide routes for active transportation, and improve the overall health and quality of life in an area. They can be paved or unpaved, and can be designed to accommodate a variety of trail users.

One particular focus of this plan is to establish greenway trail connections. When planning trail routes, natural greenway corridors (such as those along waterways) are preferred over man-made corridors (such as roadways). However, roadway corridors are often necessary for routing trails to certain destinations and population centers, where other opportunities do not exist. The preference for using natural corridors for trails is due not only to the preferred experience of the trail user (to be in nature and separated from traffic), but also due to the many benefits associated with protecting our natural lands and waterways.

## Guiding Principles for Greenway Trail Development

The vision for this Plan is to create a connected and comprehensive system of bikeways that enhances quality of life throughout Rocky Mount. Greenways will be a key component of the overall bicycling network. In order to begin transforming this vision into reality, it is useful to start by identifying the principles upon which the future greenway system will be built. The following guiding principles are derived from past planning efforts throughout the U.S., and reflect some of the best practices that can help guide future decisions about the greenway system in Rocky Mount.

- » **The greenway system should be safe.** Bicycling and walking routes should be physically safe and perceived as safe by users. Safe means minimal conflicts with vehicular traffic, with use of clear pavement markings and directional signage. Safe also means education about trail safety and etiquette, and crime prevention through environmental design. The City has implemented CPTED through improving sight lines.
- » **The greenway system should be accessible.** Trails and trail crossings should permit the mobility of residents of all ages and abilities, employing principles of universal design. Bicyclists have a range of skill levels, and trails should be designed with a goal of providing for inexperienced bicyclists (especially children and seniors) to the greatest extent possible.
- » **Greenway system improvements should be economical.** Trail improvements should achieve the maximum benefit for their cost, including initial cost and maintenance cost, as well as a reduced reliance on more expensive modes of transportation. Where possible, improvements in the right-of-way should stimulate, reinforce and connect with adjacent private improvements.
- » **Greenway trails should connect to places people want to go.** The greenway system should provide continuous direct routes and convenient connections between destinations such as downtowns, parks, schools, shopping centers, transit hubs, employment centers, and neighborhoods. A complete network of trails should connect seamlessly to existing and proposed sidewalks and bicycle lanes to complete recreational and commuting routes.
- » **Navigating the greenway system should be easy.** As trails throughout the region are constructed and connected, the regional routes among them should use a comprehensive and consistent wayfinding system. Wayfinding tools should include directional signage, kiosks with detailed maps, hand-held paper maps, online components such as a website and/or app, and the overall design and branding should be consistent across the tools that are used.
- » **The greenway system should be attractive and enhance community livability.** Greenway trails should be compatible with the nature, history and character of the environment. Context and scale should be given thoughtful consideration. Good design should integrate with and support the development of complementary uses and should encourage preservation and construction of art, landscaping and other items that add value to communities. These components might include open spaces such as plazas, courtyards and squares, and amenities like street furniture, banners, art, plantings and special paving. These, along with historical elements and cultural references, should promote a sense of place. Public activities should be encouraged and local codes should permit commercial activities such as dining, vending and advertising when they do not interfere with safety and accessibility.
- » **Greenway trail design guidelines should aim for consistency.** With the overall goal of consistency, guidelines used should also be flexible enough to allow for the professional judgment of the design and engineering staff of local communities. This Plan references specific national guidelines for trail facility design, as well as several adopted state and local community guidelines. Statutory and regulatory guidance may change. For this reason, the guidance and recommendations in this Plan function to complement other resources considered during a design process, and in all cases, sound engineering judgment should be used.



## Methodology for Greenway System Planning

The main steps for developing the recommended system of greenway trails in this plan depended upon the input and involvement of community and agency representatives throughout the region (listed in the acknowledgments page), and upon the years of planning and community outreach that went into the locally adopted community plans that informed the process. The public input received from this Plan's comment forms was useful

as well, both in determining the types of destinations people are interested in, and in terms of the types of amenities and uses that are most desired.

The key steps in developing this Plan's recommendations are described below, including data collection, mapping existing and proposed trails, and identifying proposed recommendations.

1

**COLLECT DATA:** Collect and assemble GIS data, existing community plans, and maps; gather Steering Committee input on primary existing challenges and opportunities; ask for public opinions on greenways through the comment form.

2

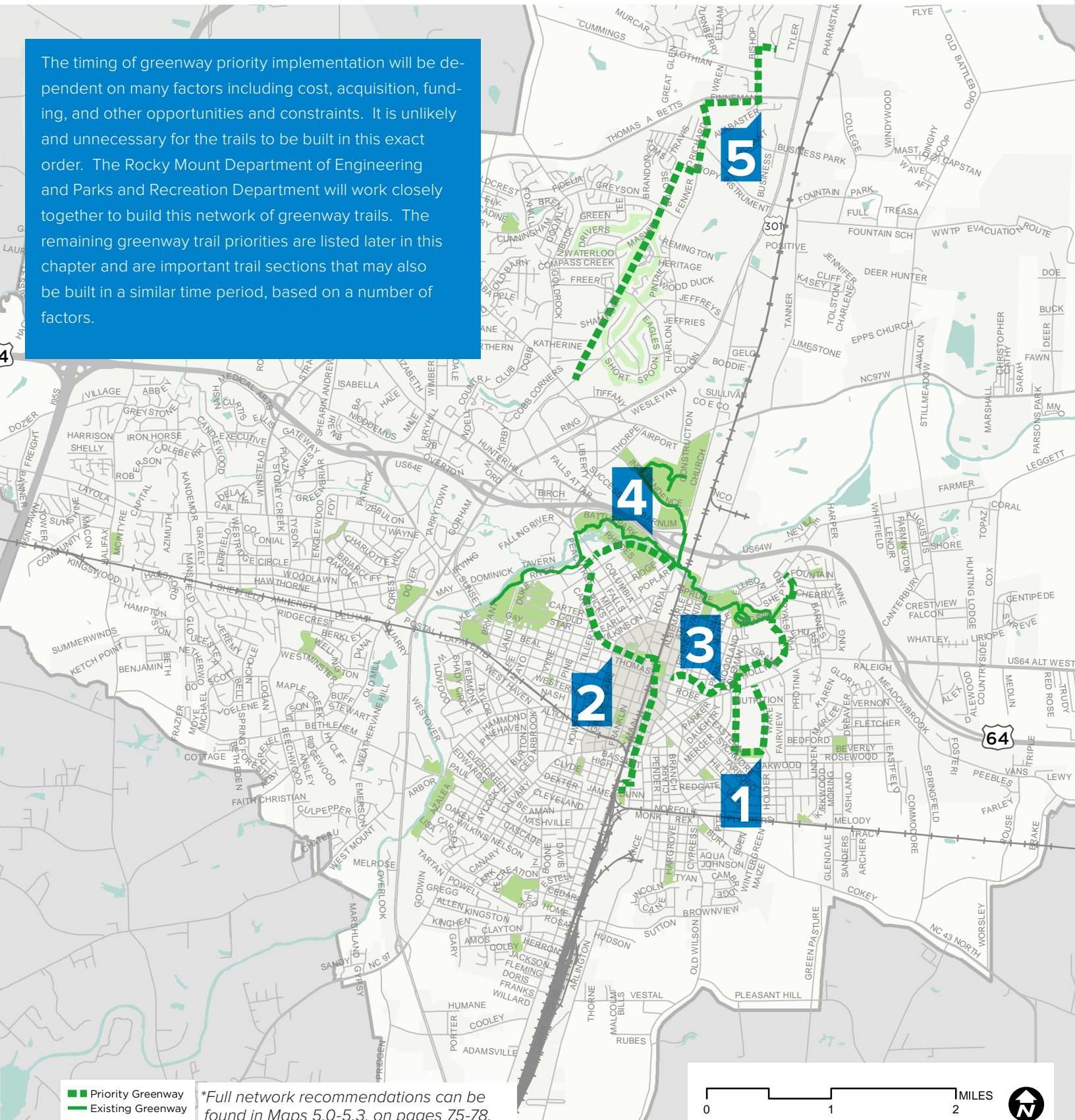
**MAP ALL EXISTING TRAILS AND TRAILS PROPOSED IN PREVIOUS PLANS:** Conduct outreach in Rocky Mount; research existing plans and studies for proposed greenway routes on adopted plans.

3

**SELECT PRIORITY TRAILS:** Identify priority segments based on logical endpoints such as existing trails, parks, and downtown; assign segments into project categories based on stakeholder and committee feedback (filling trail system gaps first) and the results of public feedback on the types of desired destinations (connecting to existing trails, parks, and natural areas).

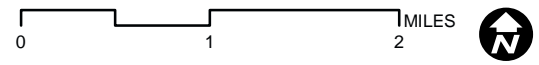
# Map 6.0: Short-Term Greenway Trail Priorities

The timing of greenway priority implementation will be dependent on many factors including cost, acquisition, funding, and other opportunities and constraints. It is unlikely and unnecessary for the trails to be built in this exact order. The Rocky Mount Department of Engineering and Parks and Recreation Department will work closely together to build this network of greenway trails. The remaining greenway trail priorities are listed later in this chapter and are important trail sections that may also be built in a similar time period, based on a number of factors.



■ Priority Greenway  
— Existing Greenway

\*Full network recommendations can be found in Maps 5.0-5.3, on pages 75-78.







On the following pages, five projects are outlined in plan view concepts and photo simulations, depicting recommended bicycle infrastructure improvements for improving mobility, access, and safety for bicyclists in Rocky Mount. These projects were identified through public input from the online survey, during the open house and charrette events, in consultation with the steering committee and city staff, and in order to develop a connected, low-stress bikeway network. An additional five greenway trail projects are listed in tabular form at the end of this section. These additional trails are a combination of priorities in the Rocky Mount Pedestrian Plan and new priorities of the City.

**1** COWLICK TRAIL pg. 91



**2** MONK TO MILL TRAIL pg. 93



**3** PARKERS CANAL TRAIL pg. 95



**4** BBQ PARK TRAIL pg. 96



**5** WESLEYAN COLLEGE TRAIL CONNECTION pg. 97



# 1 - Cowlick Trail

In November 2013, the Cowlick Trail study was initiated by the City for the purposes of alternative transportation, recreation, and healthy-living opportunities. The Cowlick Trail is part of a broader city-wide pedestrian and greenway network laid out in the 2012 Rocky Mount Pedestrian Plan. The trail segment ranked high in the Pedestrian Plan prioritization because of its connectivity to multiple parks, schools, and other destinations. The trail also connects lower-income, underserved communities in Rocky Mount. The Cowlick Trail will provide greater non-motorized connectivity to eastern Rocky Mount and extend the existing greenway system. The Cowlick Trail has the potential to enhance the environment, health, and quality of life of Rocky Mount citizens.

<p><b>Length:</b></p> <ul style="list-style-type: none"> <li>» 3.2 miles</li> </ul> <p><b>Trip Generators:</b></p> <ul style="list-style-type: none"> <li>» Martin Luther King Jr Park</li> <li>» Northeastern Cemetery</li> <li>» Unity Cemetery</li> <li>» Holly Street Park</li> <li>» JW Parker Middle School</li> <li>» Baskerville Elementary School</li> <li>» Pope Elementary Street Park</li> <li>» Fairview Early Childhood Center</li> <li>» Pineview Cemetery</li> <li>» Johnson Elementary School</li> <li>» Eastern Avenue Park</li> </ul>	<p><b>ROW Needs:</b></p> <ul style="list-style-type: none"> <li>» 2 Private Property Trail easements</li> </ul> <p><b>Potential Partnerships:</b></p> <ul style="list-style-type: none"> <li>» City of Rocky Mount &amp; Board of Education</li> <li>» Pineview Cemetery</li> <li>» St Pauls Church of God</li> <li>» Fenners Warehouse Inc</li> <li>» Housing Authority of Rocky Mount</li> <li>» Federal Housing Development</li> </ul> <p><b>Estimated Design/Survey/Permitting Costs:</b> \$380,000</p> <p><b>Estimated Construction Costs*:</b></p> <ul style="list-style-type: none"> <li>» \$2,540,000</li> </ul>
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*\*Detailed planning level cost estimates can be found in Appendix E.*

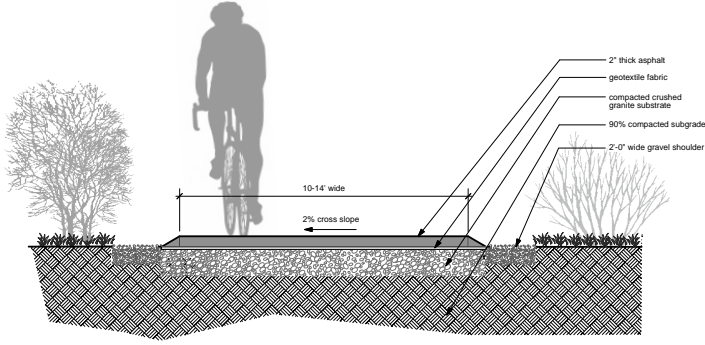


Rendering of Cowlick Trail on Pineview Street from the 2013 Cowlick Trail Study



# Map 6.1: Cowlick Trail

Facility Type: Greenway Shared-Use Path



## 2 - Monk to Mill Trail

The Monk to Mill Trail is a conceptual greenway and urban trail project that will serve as a location of experience for cyclists and pedestrians between Downtown Rocky Mount and the Rocky Mount Mills. The Monk to Mill Trail provides a “linear commons” that will weave the fabric of central city living in Rocky Mount. This dynamic platform designed for creativity and active living will be the point of assembly for locals and visitors alike to observe and experience the vibrancy happening along this linear park and throughout downtown. Monk to Mill Trail will be the place for recreation, relaxation, and fellowship.

<p><b>Length:</b></p> <ul style="list-style-type: none"> <li>» 2.2 miles</li> </ul> <p><b>Trip Generators:</b></p> <ul style="list-style-type: none"> <li>» Rocky Mount Mills</li> <li>» Imperial Center for Art Science</li> <li>» Douglas Block</li> <li>» Edgecombe Community College</li> <li>» R.M. Wilson Gym Athletic Offices</li> <li>» Helen P. Gay Train Station</li> <li>» Thelonius Monk Park</li> </ul> <p><b>ROW Needs:</b></p> <ul style="list-style-type: none"> <li>» 1 Private Residential Trail easement</li> <li>» 9 Private Company Trail easements</li> </ul>	<p><b>Potential Partnerships:</b></p> <ul style="list-style-type: none"> <li>» City of Rocky Mount</li> <li>» Rocky Mount LLC</li> <li>» Rocky Mount Village LLC</li> <li>» Opportunities Industrialization LLC</li> <li>» Log Cabin Homes LTD</li> <li>» Community Investment Partners of North Carolina LLC</li> <li>» Church of the Good Shepherd</li> <li>» Nash County</li> </ul> <p><b>Estimated Design/Survey/Permitting Costs:</b> \$265,500</p> <p><b>Estimated Construction Costs*:</b></p> <ul style="list-style-type: none"> <li>» \$1,770,000</li> </ul>
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*\*Detailed planning level cost estimates can be found in Appendix E.*

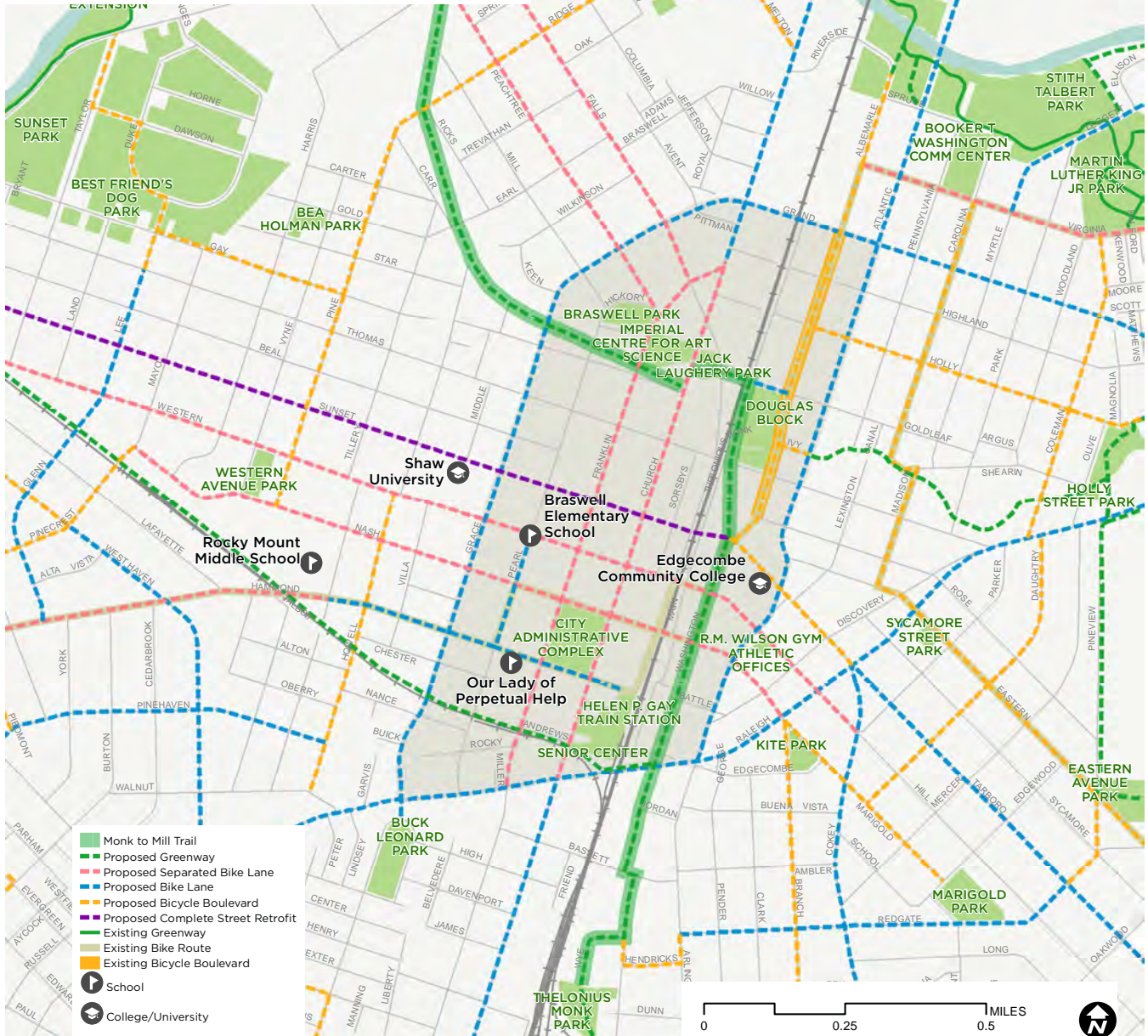
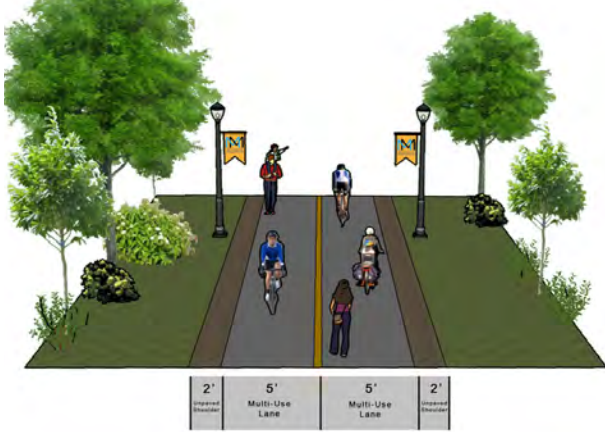


Rendering of Monk to Mill Trail from EHI Consultants’ Monk to Mill Greenway assessment study



# Map 6.2: Monk to Mill Trail

Facility Type: Greenway Shared-Use Path



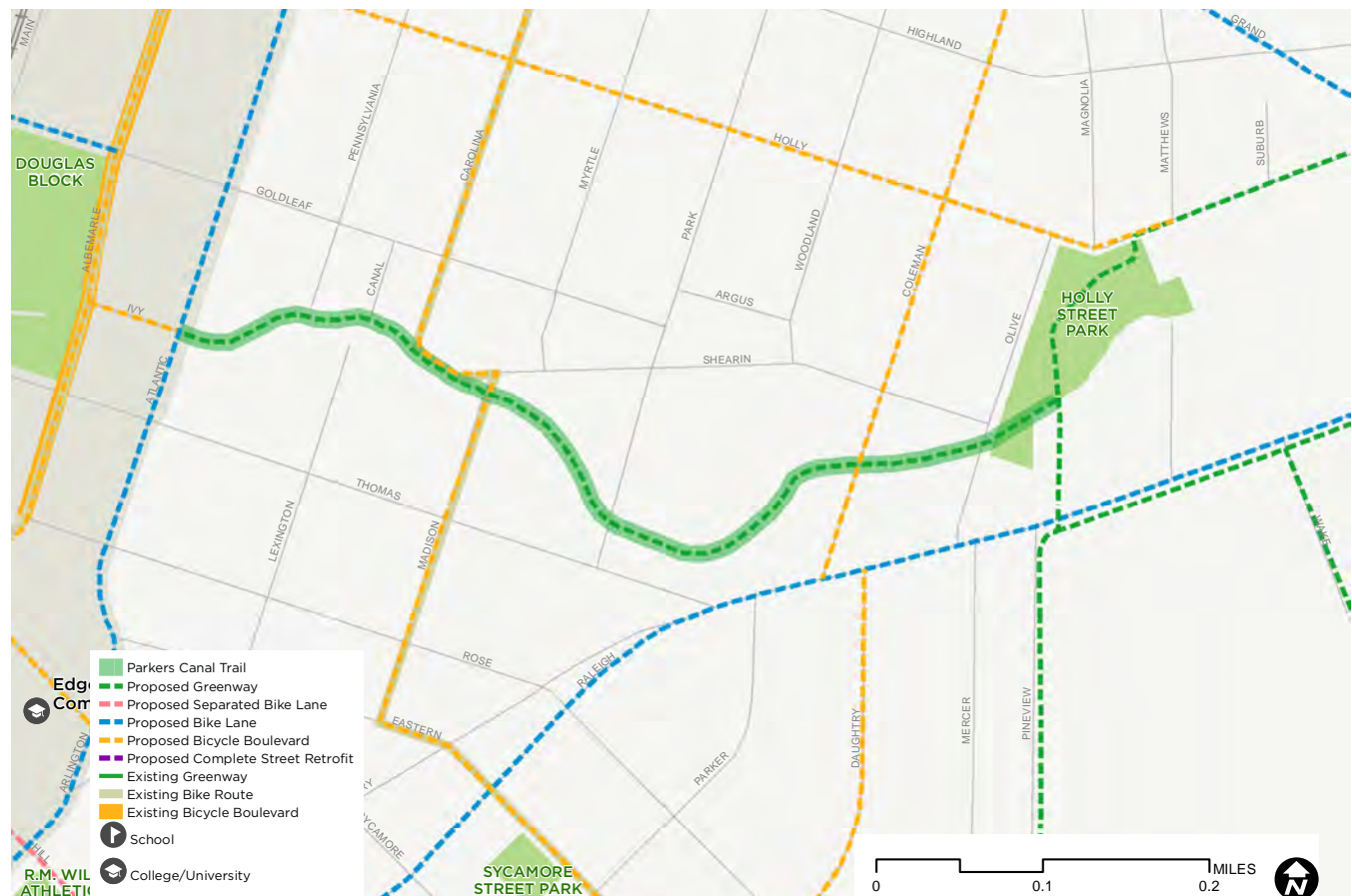
### 3 - Parkers Canal Trail

Parkers Canal Trail is 0.6 miles long and connects Holly Street Park to Douglas Block Park. It extends the Cowlick Trail west, linking up with Pope Elementary School as well as many proposed bike infrastructure routes that move north-south, such as along Atlantic Street, Madison/Carolina Streets, and Coleman Street.

<p><b>Length:</b></p> <ul style="list-style-type: none"> <li>» 0.6 miles</li> </ul> <p><b>Trip Generators:</b></p> <ul style="list-style-type: none"> <li>» Douglas Block</li> <li>» Pope Elementary School</li> <li>» Holly Street Park</li> <li>» Edgecombe Community College</li> </ul> <p><b>ROW Needs:</b></p> <ul style="list-style-type: none"> <li>» 13 Private Property Trail easements</li> </ul>	<p><b>Potential Partnerships:</b></p> <ul style="list-style-type: none"> <li>» City of Rocky Mount</li> <li>» Pope Elementary School</li> </ul> <p><b>Estimated Design/Survey/Permitting Costs:</b> \$126,000</p> <p><b>Estimated Construction Costs*:</b></p> <ul style="list-style-type: none"> <li>» \$840,000</li> </ul>
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\*Detailed planning level cost estimates can be found in Appendix E.

### Map 6.3: - Parkers Canal Trail





## 4 - BBQ Park Trail

Running between Church Street and Falls Street, BBQ Park Trail is 0.7 miles and located primarily within public property owned by the City of Rocky Mount. The BBQ Park Trail would extend the Monk to Mill Trail connecting the Rocky Mount Mills to the adjacent public parks and proposed bike infrastructure along Church Street.

<p><b>Length:</b></p> <ul style="list-style-type: none"> <li>» 0.7 miles</li> </ul> <p><b>Trip Generators:</b></p> <ul style="list-style-type: none"> <li>» Battle Park</li> <li>» Melton RD Soccer Fields</li> <li>» BBQ Park</li> <li>» Sports Complex</li> <li>» Stith Talbert Park</li> </ul> <p><b>ROW Needs:</b></p> <ul style="list-style-type: none"> <li>» 2 Private Property Trail easements</li> <li>» 1 Trail Easement with Rocky Mount Mills LLC</li> </ul>	<p><b>Potential Partnerships:</b></p> <ul style="list-style-type: none"> <li>» City of Rocky Mount</li> <li>» Rocky Mount Mills LLC</li> </ul> <p><b>Estimated Design/Survey/Permitting Costs:</b> \$121,500</p> <p><b>Estimated Construction Costs*:</b></p> <ul style="list-style-type: none"> <li>» \$810,000</li> </ul>
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\*Detailed planning level cost estimates can be found in Appendix E.

### Map 6.4: BBQ Park Trail



## 5 - Wesleyan College Trail

As an alternative to the higher traffic volumes and speeds along surface streets, a shared-use path along the utility corridor between North Carolina Wesleyan College and Fenner Rd to the south will provide a critical bikeway connection. The route is shown on the map at right.

<p><b>Length:</b></p> <ul style="list-style-type: none"> <li>» 3.67 miles (Utility Corridor from Jeffreys Rd to Cummings Rd)</li> </ul> <p><b>Trip Generators:</b></p> <ul style="list-style-type: none"> <li>» North Carolina Wesleyan College</li> <li>» Rocky Mount Preparatory School</li> <li>» Golden East Crossing shopping center</li> </ul> <p><b>ROW Needs:</b></p> <ul style="list-style-type: none"> <li>» Rocky Mount Public Utilities easement</li> </ul>	<p><b>Potential Partnerships:</b></p> <ul style="list-style-type: none"> <li>» Rocky Mount Public Utilities</li> <li>» North Carolina Wesleyan College</li> <li>» NCDOT</li> </ul> <p><b>Estimated Design/Survey/Permitting Costs:</b> \$540,000</p> <p><b>Estimated Construction Costs*:</b></p> <ul style="list-style-type: none"> <li>» \$3,600,000</li> </ul>
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*\*Detailed planning level cost estimates can be found in Appendix E.*

Existing conditions along utility corridor



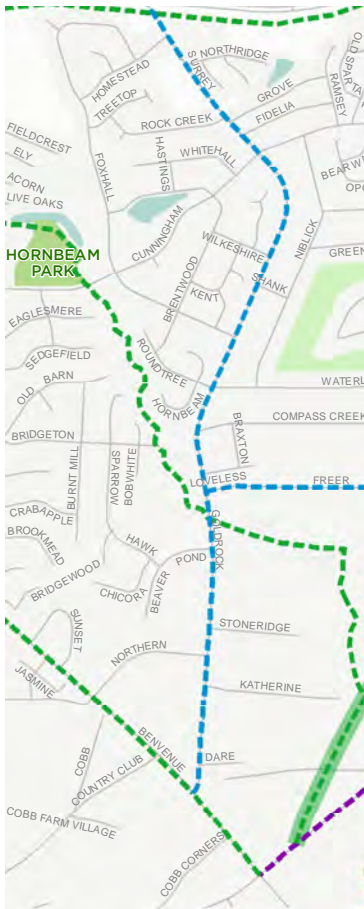
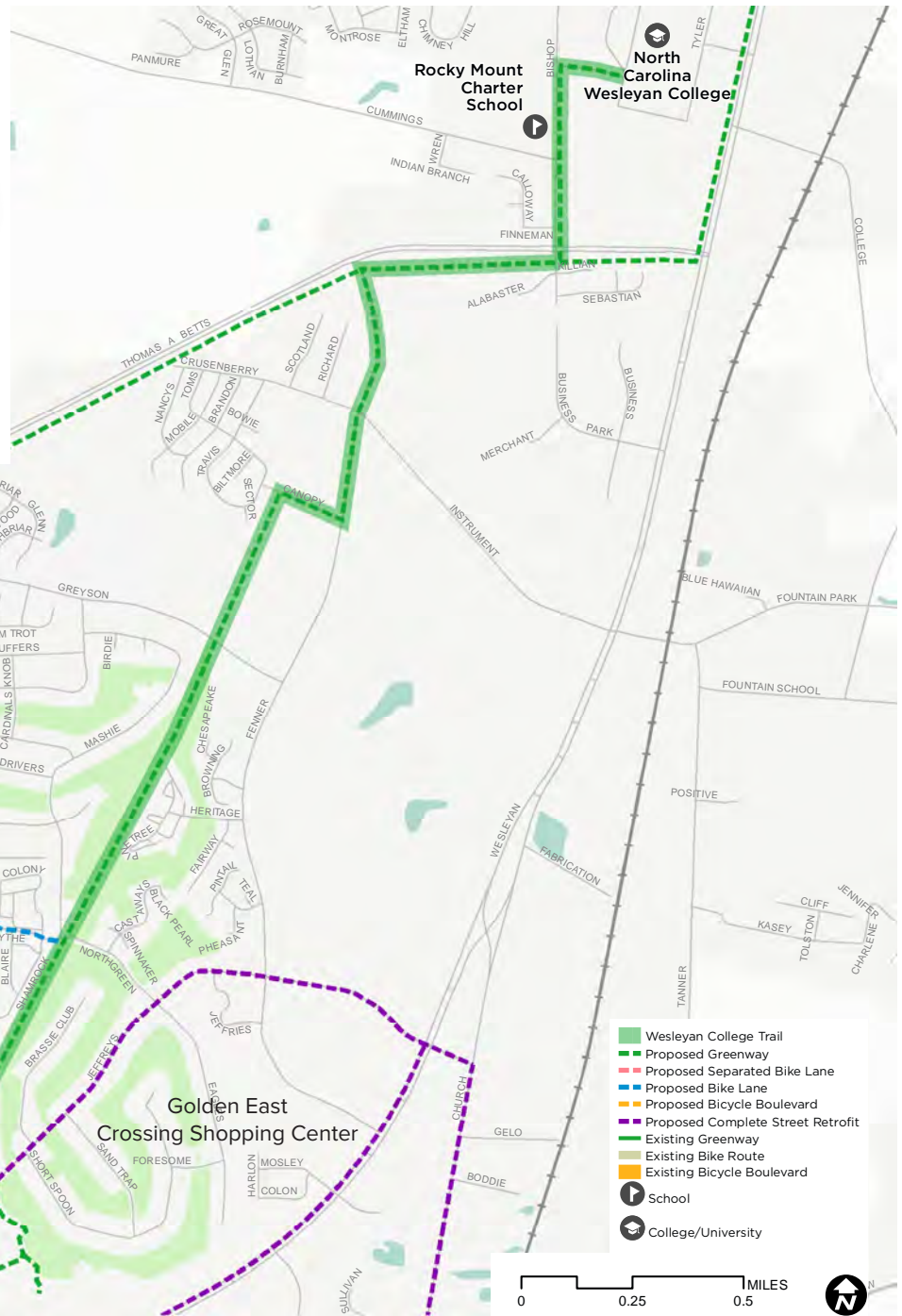
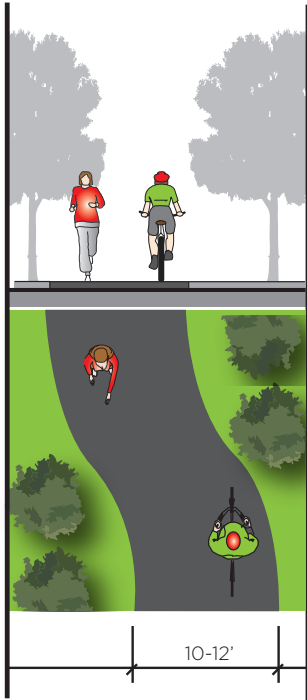
Proposed Shared-Use Greenway Trail along the Utility Corridor near Cummings Road



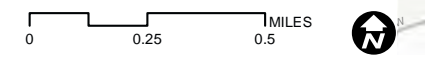


# Map 6.5: Wesleyan College Trail

Facility Type:  
Greenway Shared-Use Path



- Wesleyan College Trail
- - - Proposed Greenway
- - - Proposed Separated Bike Lane
- - - Proposed Bike Lane
- - - Proposed Bicycle Boulevard
- - - Proposed Complete Street Retrofit
- Existing Greenway
- Existing Bike Route
- Existing Bicycle Boulevard
- School
- College/University



## Additional Greenway Trail Priorities

The five priority greenway trails just described in detail were established during the Bike Plan process; however, the Rocky Mount Pedestrian Plan identifies additional projects that will also remain priorities of the City going forward:

- » **Stony Creek Trail** (Sunset Park-Hospital Area - Pedestrian Plan Priority #2)
- » **Englewood Park to Sunset Park Greenway** (Sunset Park - Englewood Park Connector - Tar River) (Pedestrian Plan Priority #5)
- » **Tar River Trail - Englewood Park Extension** (Parallel 301, Englewood Park - SRMCC - Pedestrian Plan Priority #6)
- » **Maple Creek and Maple Creek Canal Trail** (Old Mill Quarry-Farmington Park-Winstead Elementary - Pedestrian Plan Priority #7)
- » **Tar River to Branch St Park Trail** (South Rocky

Mount Community Center Trail) that would connect the future Tar River Trail to the South Rocky Mount Community Center.

Stony Creek Trail (Sunset Park-Hospital Area)



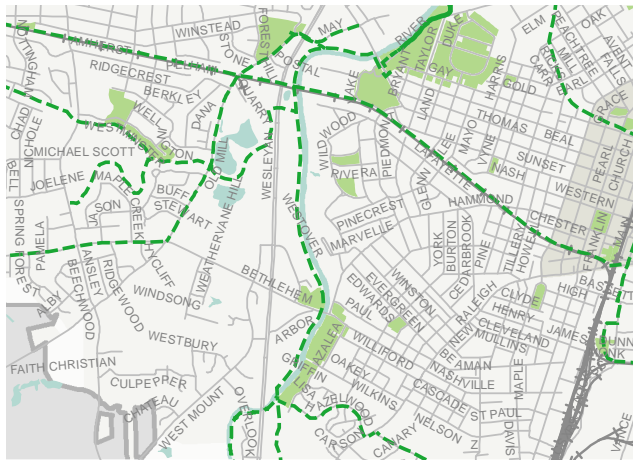
Englewood Park to Sunset Park Greenway



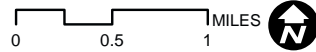


# Map 6.6: Additional Greenway Trail Priorities

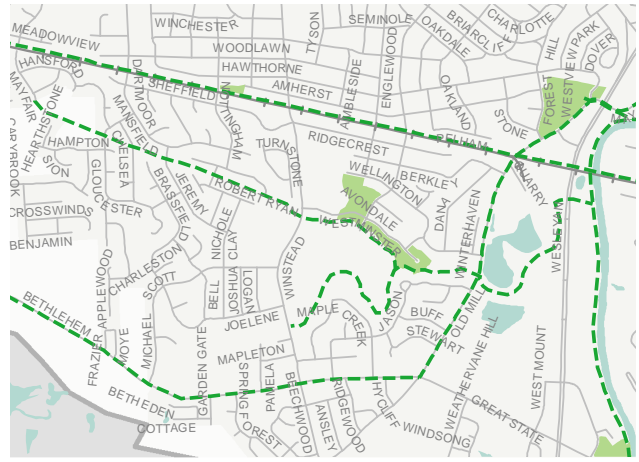
Tar River Trail - Englewood Park Extension (Parallel 301, Englewood Park - SRMCC)



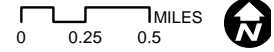
--- Priority Greenway  
 — Existing Greenway



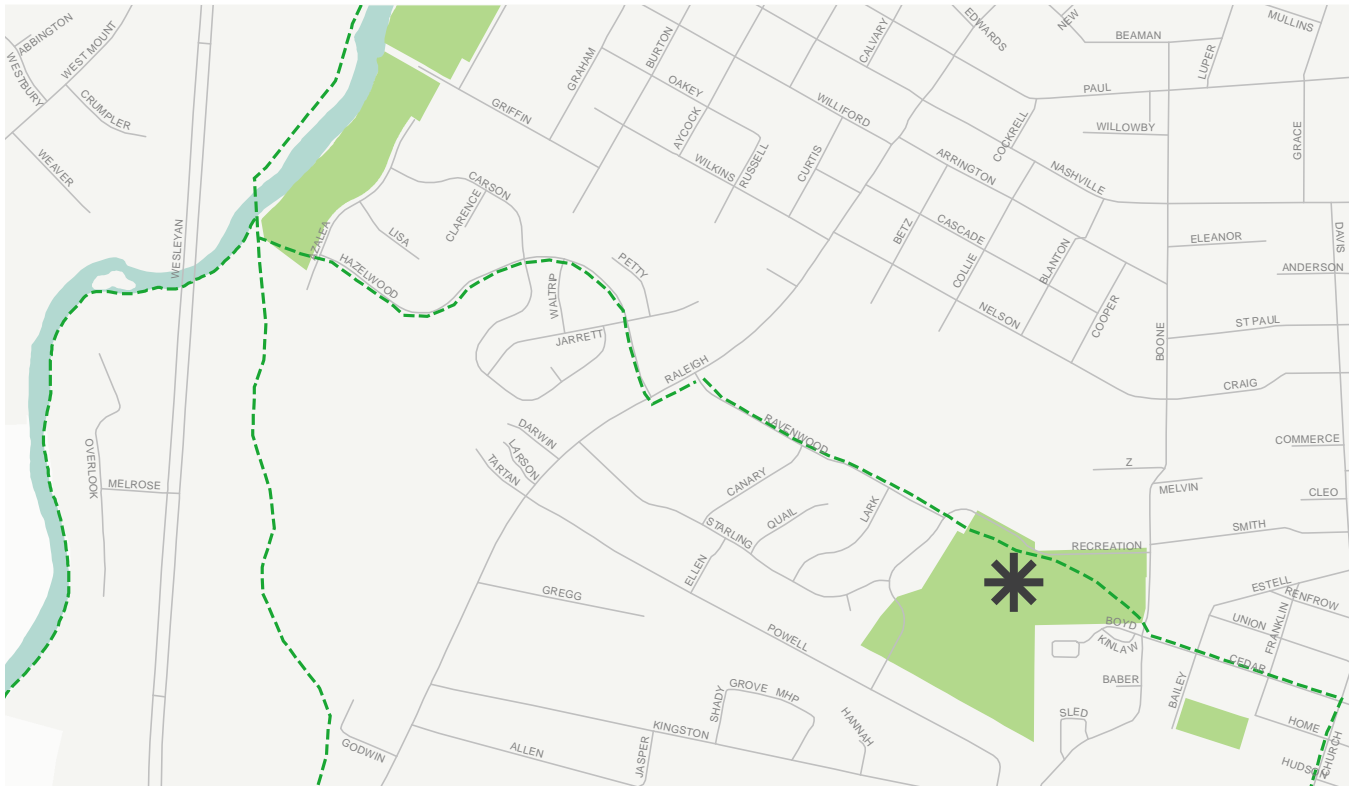
Maple Creek and Maple Creek Canal Trail (Old Mill Quarry-Farmington Park-Winstead Elementary)



--- Priority Greenway  
 — Existing Greenway

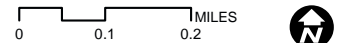


Tar River to Branch St Park Trail (South Rocky Mount Community Center Connector Trail)



--- Priority Greenway  
 — Existing Greenway

South Rocky Mount Community Center





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## Table 6.1 Greenway Trail Project Table

Greenway Corridor	From	To	County	Length (mi.)
Albemarle Ave Connector	Tar River Greenway	Albermarle Ave	Edgecombe	0.06
BBQ Park Trail	Church St	Falls Rd	Nash	0.71
Benvenue Rd sidepath	Thomas Betts Pkwy	Goldrock Rd	Nash	1.70
Benvenue Rd sidepath	Thomas Betts Pkwy	Jeffreys Rd	Nash	0.23
Bethlehem Rd sidepath	Old Mill Rd	Halifax Rd	Nash	1.90
Betts and Winstead Greenway	Sunset Ave	Wesleyan College Trail	Nash	5.45
Cowlick Branch Creek Trail	Raleigh Blvd	Cowlick Trail	Edgecombe	0.21
Cowlick Trail	Leggett Rd	Raleigh Blvd	Edgecombe	2.47
Cowlick Trail (Raleigh Blvd Alternative)	s. of Holly St	Pineview St	Edgecombe	0.48
Englewood to Sunset Greenway	Englewood Recreation Park	Tar River Trail in Sunset Park	Nash	0.89
Fairview Sidepath	Sutton Rd extension	Swift Rd	Edgecombe	0.89
Halifax Rd Greenway	Bethlehem Rd	Hunter Hill Rd	Nash	3.34
Hornbeam Branch Trail	Thomas Betts Pkwy	N Wesleyan Blvd	Nash	2.88
Hornbeam to Sports Complex Trail	Sports Complex	Wesleyan Dr	Nash	0.63
Maple Creek Canal Trail	Mayfair Dr	Maple Creek Trail near Westminster Dr	Nash	1.62
Maple Creek Trail	Tar River Trail	Beechwood Dr	Nash	1.86
May Dr and Old Mill Rd	Wesleyan Blvd	Sunset Ave	Nash	1.69
Monk to Mill Trail	Thelonious S. Monk Park	Rocky Mount Mills	Nash	2.39
Norfolk St Rail Trail	Springfield Rd	(Wye St) Thelonious S. Monk Park	Edgecombe	2.55
Parker's Canal Trail to Douglas Block Greenway	Holly Street Park	Atlantic Ave	Edgecombe	0.62
Pineview Greenway	Fairview Rd	Wake St	Edgecombe	0.31
Stith Talbert Park	Tar River Greenway	Spruce St	Edgecombe	0.09
Stony Creek Trail	Hunter Hill Rd	Tar River Trail near River Dr and Minges St	Nash	5.28
Tar River to Branch St Park Trail	Tar River Trail	Lancaster St	Edgecombe	2.75
Tar River to Raleigh Blvd Greenway	Raleigh Blvd	Tar River Trail	Nash	0.78
Tar River Trail - Englewood Park Extension	w. city limits near Marshland Dr	Tar River Trail- Englewood Park extension	Nash	3.27
Tar River Trail E. Extension	e. city limit near Leggett Rd	Leggett Rd	Edgecombe	5.78
Virginia to Meadowbrook Connector	Meadowbrook Rd	E Virginia St	Edgecombe	0.39
Wesleyan College Trail	Wesleyan College	Benvenue Rd	Nash	3.67
Wesleyan to North County Greenway	Battleboro Ave	Bishop Rd	Nash	3.32
Westry Rail Trail	Old Carriage Rd	Washington St	Nash	6.07
<b>TOTAL</b>				<b>64.27</b>

\*Approximate greenway cost per mile = \$1.2 million (2018 dollars). Value varies based on fluctuation in construction costs. Complete network maps with greenway recommendations can be found on pages 75-78.



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The background is a faded aerial photograph of a city street grid. A large, dark blue circular inset is centered on the page, showing a more detailed and slightly darker aerial view of a similar street grid. The text "7. IMPLEMENTATION" is overlaid in white on the circular inset.

# 7. IMPLEMENTATION





# IMPLEMENTATION

This chapter defines the priorities and structure for managing the implementation of the Rocky Mount Bike Plan. Implementing the recommendations within this plan will require leadership and dedication to bicycle facility development on the part of a variety of agencies.

## Overview

Equally critical, and perhaps more challenging than leadership, will be meeting the need for a recurring source of revenue for implementing bicycle infrastructure. Even small amounts of local funding could be very useful and beneficial when matched with outside sources. Most importantly, the City need not accomplish the recommendations of this plan by acting alone; success will be realized through collaboration with regional and state agencies, the private sector, and non-profit organizations. Funding resources that may be available to Rocky Mount are presented in Appendix A of this plan.

## Chapter Organization

Identifying Priorities	104
Phasing Plan	105
Top Four Bikeway Priorities	106
Short-Term Priorities	118
How to Use this Plan	121
Organizational Framework	122
Performance Measures	123
Implementation Action Steps	124

## Identifying Priorities

As part of the planning process, project consultants, city staff and steering committee members identified key inputs to identify projects. These seven factors, illustrated below, were used to develop a phasing plan comprised of short-term, mid-term and long-term projects. These factors should be considered every time the city or NCDOT selects projects for implementation.



**SAFETY (CRASHES)**  
*Have there been any pedestrian crashes near the project area?*



**POPULATION DENSITY**  
*Does the context around this facility warrant the investment*



**EQUITY ANALYSIS**  
*Is this project in an area of vulnerability?*



**CONNECTIVITY**  
*Does this project close gaps between facilities?*



**DESTINATIONS**  
*Does this project create links between destinations?*



**LOW-STRESS**  
*Is this project inviting and does it work to reduce barriers to cycling.*



**EASE OF IMPLEMENTATION/  
 Low Cost\***

*What is the cost compared to other projects?*  
 \*This is a subjective measure and is based on engineering judgement and field analysis



# Phasing Plan

Recommendations are organized into the following phases. The phases should be approached by the City of Rocky Mount and its partners with flexibility, taking into account opportunities that may arise after this planning process is complete.

## 1

### SHORT-TERM PROJECTS (0-5 YEARS):

These projects were the most consistently mentioned in committee meetings and public outreach, and ranked high in priority factors (see previous page) and form a priority network within and around downtown Rocky Mount.

Short-Term Priority Projects can be found in Table 7.2 on page 113.

Short-Term Projects Mileage Summary		
Nash County		Edgecombe County
3.07 miles	Bicycle Boulevard	5.63 miles
0.42 miles	Bike Lane	0.78 miles
6.14 miles	Separated Bike Lane	1.16 miles
0.0 miles	Complete Street Retrofit	0.0 miles
<b>9.63 miles</b>	<b>Total</b>	<b>7.57 miles</b>

## 2

### MID-TERM PROJECTS (5-10 YEARS):

These projects were strategically selected to form a cohesive and connected network of greenways and bikeways, serving key destinations just outside the downtown core. Each of the projects scored well in prioritization.

\*Project table found in Appendix B

Mid-Term Projects Mileage Summary		
Nash County		Edgecombe County
6.39 miles	Bicycle Boulevard	4.88 miles
6.41 miles	Bike Lane	14.04 miles
2.04 miles	Separated Bike Lane	0.0 miles
5.56 miles	Complete Street Retrofit	0.0 miles
<b>20.4 miles</b>	<b>Total</b>	<b>18.92 miles</b>

## 3

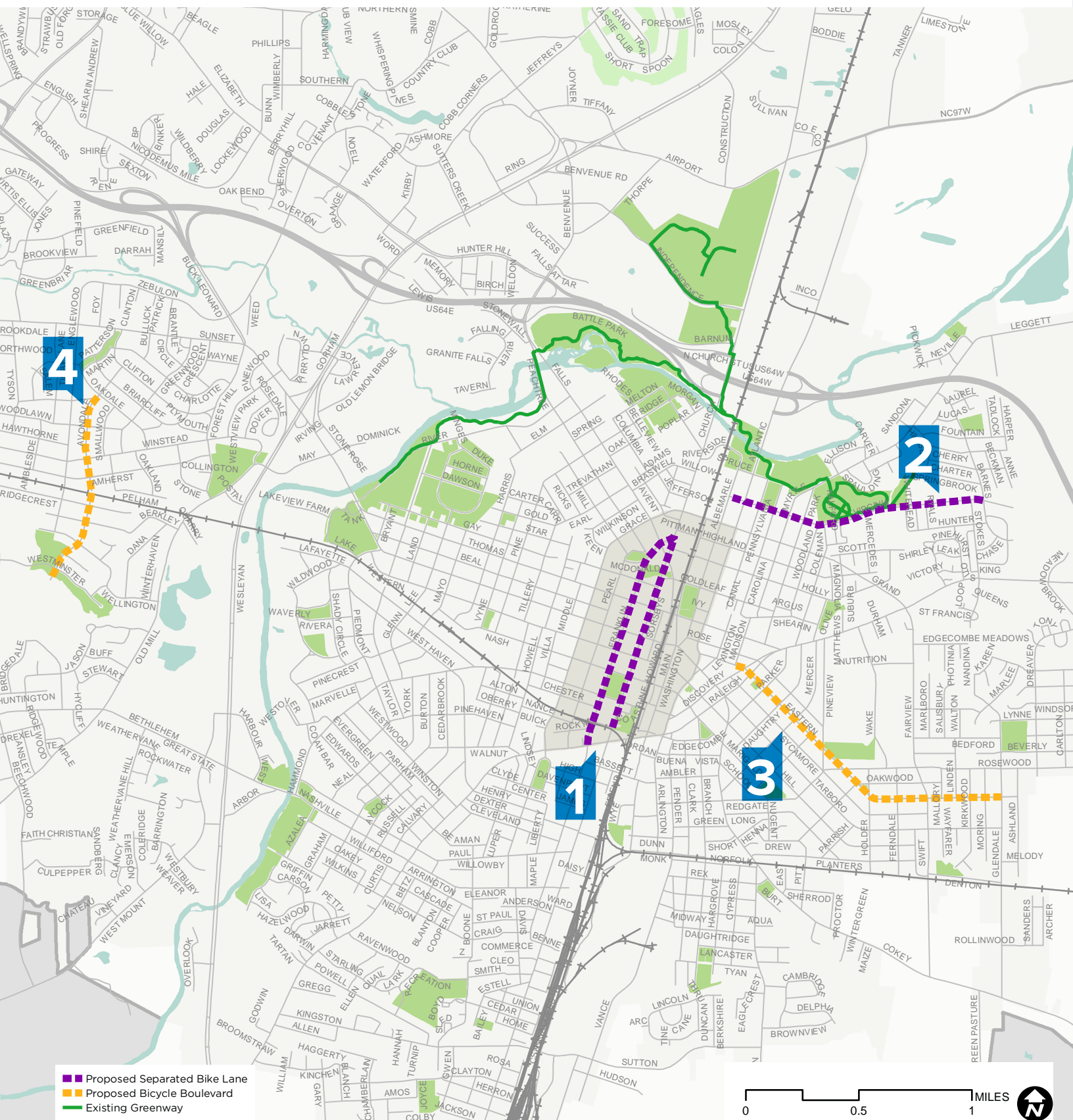
### LONG-TERM PROJECTS (10+ YEARS):

This map shows all potential greenway and bikeway opportunities in the entire city. It is not expected (or recommended) all of these will be built. They are still an important part of this plan though, as they show what the potential is for any given future development or roadway construction that may provide an opportunity for incorporating a greenway or bikeway.

\*Project table found in Appendix B

Comprehensive Network Mileage Summary		
Nash County		Edgecombe County
0.44 miles	Bicycle Boulevard	0.0 miles
13.29 miles	Bike Lane	11.98 miles
1.18 miles	Separated Bike Lane	0.0 miles
12.31 miles	Complete Street Retrofit	0.0 miles
<b>27.22 miles</b>	<b>Total</b>	<b>11.98 miles</b>

# Map 7.0 Top Four Bikeway Priorities





On the following pages, the top four priority projects of Phase 1 are outlined in plan view concepts and photo simulations, depicting recommended bicycle infrastructure improvements for improving mobility, access, and safety for bicyclists in Rocky Mount. These projects were identified through public input from the online survey, during the open house events, in consultation with the steering committee and city staff, and in order to develop a connected, low-stress bikeway network.

## 1 FRANKLIN AND CHURCH SEPARATED BIKE LANES pg. 108



## 2 VIRGINIA STREET 2-WAY BIKE LANE pg. 112



## 3 EASTERN AVE BICYCLE BOULEVARD pg. 116



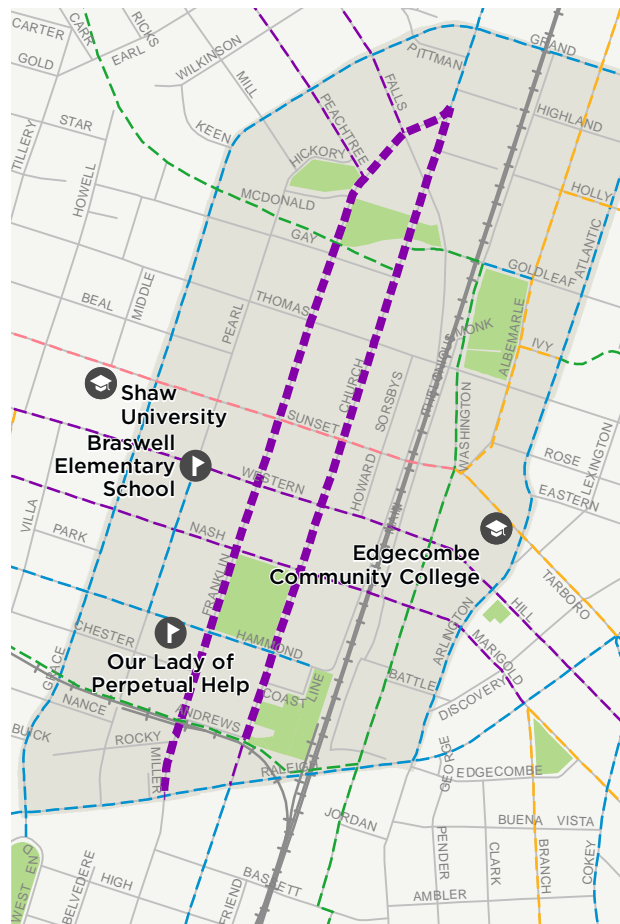
## 4 AVONDALE AVE BICYCLE BOULEVARD pg. 117



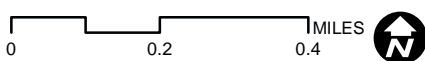
# 1 - Franklin and Church Separated Bike Lanes

Providing bicycle lanes along Franklin Street and Church Street will create the foundation of a bicycle facility network in downtown Rocky Mount that will connect and attract people to the destinations in the area. The wide 3 lane road will undergo a road diet dropping motor vehicle travel lanes to two. The excess space will allow for a 10 foot separated bike lane.

<p><b>Length:</b></p> <ul style="list-style-type: none"> <li>» ~1.0 mile on both Franklin Street and Church Street</li> </ul> <p><b>Trip Generators:</b></p> <ul style="list-style-type: none"> <li>» Downtown Rocky Mount</li> </ul> <p><b>Support in Other Plans:</b></p> <ul style="list-style-type: none"> <li>» Rocky Mount Gateway Corridor Plan 2012</li> </ul>	<p><b>Potential ROW Needs:</b></p> <ul style="list-style-type: none"> <li>» None</li> </ul> <p><b>Potential Partnerships:</b></p> <ul style="list-style-type: none"> <li>» NCDOT</li> </ul> <p><b>Estimated Construction Costs:</b></p> <ul style="list-style-type: none"> <li>» \$330,000</li> </ul> <p><i>A planning level cost estimate table can be found in Appendix E.</i></p>
--	--



- Franklin and Church
- Existing Greenway
- Proposed Greenway
- Proposed Separated Bike Lane
- Proposed Bike Lane
- Proposed Bicycle Boulevard
- Proposed Complete Street Retrofit



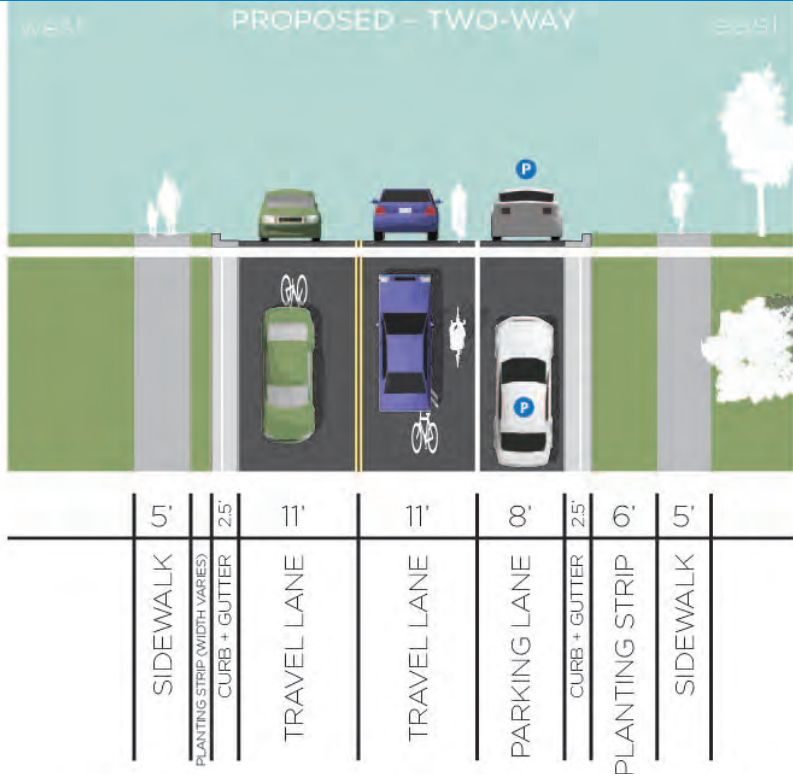
## Existing Conditions along Franklin Street and Church Street Corridors



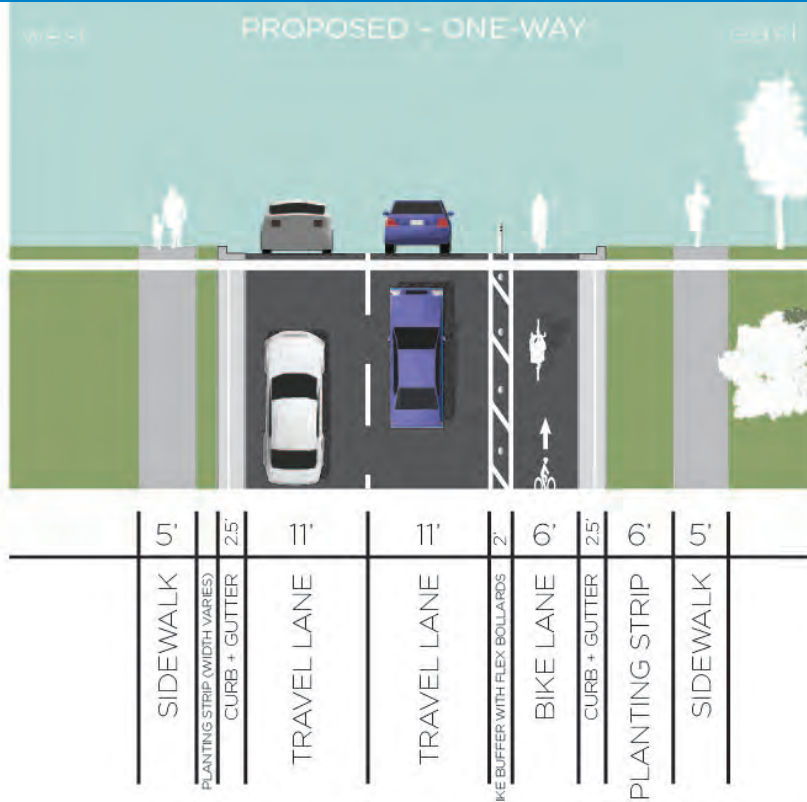
5'	10'	10'	10'	2.5'	6'	5'
SIDEWALK	TRAVEL LANE	TRAVEL LANE	TRAVEL LANE	CURB + GUTTER	PLANTING STRIP	SIDEWALK



Two-Way Option: On-Street Parking with Shared Lane Markings



One-Way Option: Separated Bike Lane (see next page for separated facility options)



# 1 - Franklin and Church Separated Bike Lanes

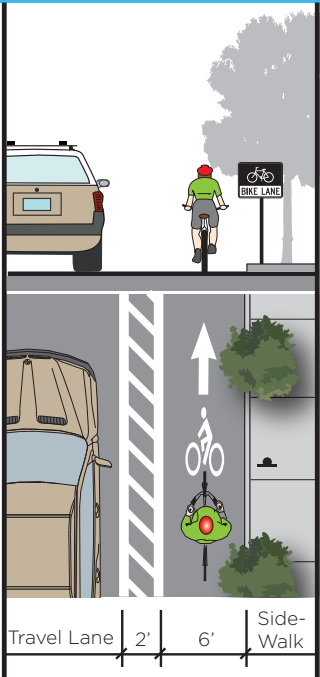
## Existing Conditions along Church St

Notes about phases:  
 While flexible bollards and planters provide more physical separation and comfort, they will need special consideration for managing snow removal and maintenance. The planters could also create an issue with the placement of rigid structures in the clear recovery zone.



## Phase 1: Proposed Buffered Bike Lane along Church St

Facility Type:  
 Buffered Bike Lane

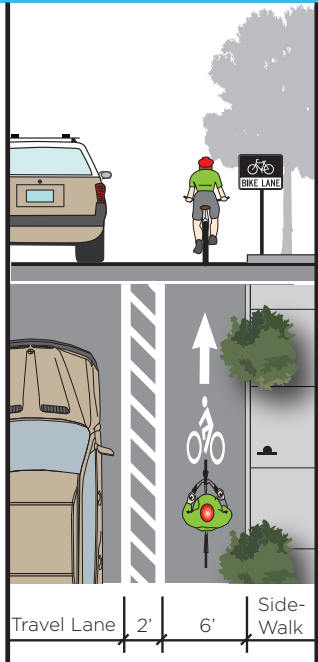






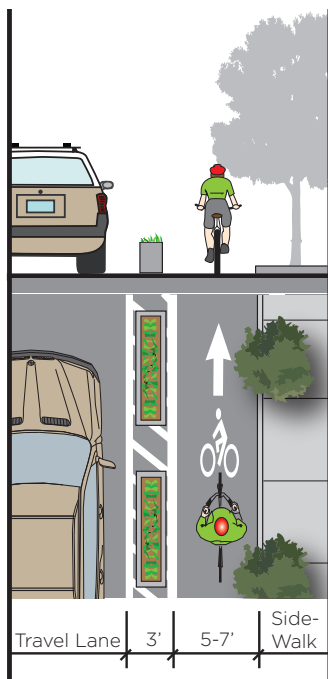
Phase 2: Proposed Separated Bike Lane (Bollards)

Facility Type:  
Separated Bike Lane  
(Bollards)



Phase 3: Proposed Separated Bike Lane (Planters)

Facility Type:  
Separated Bike Lane  
(Planters)



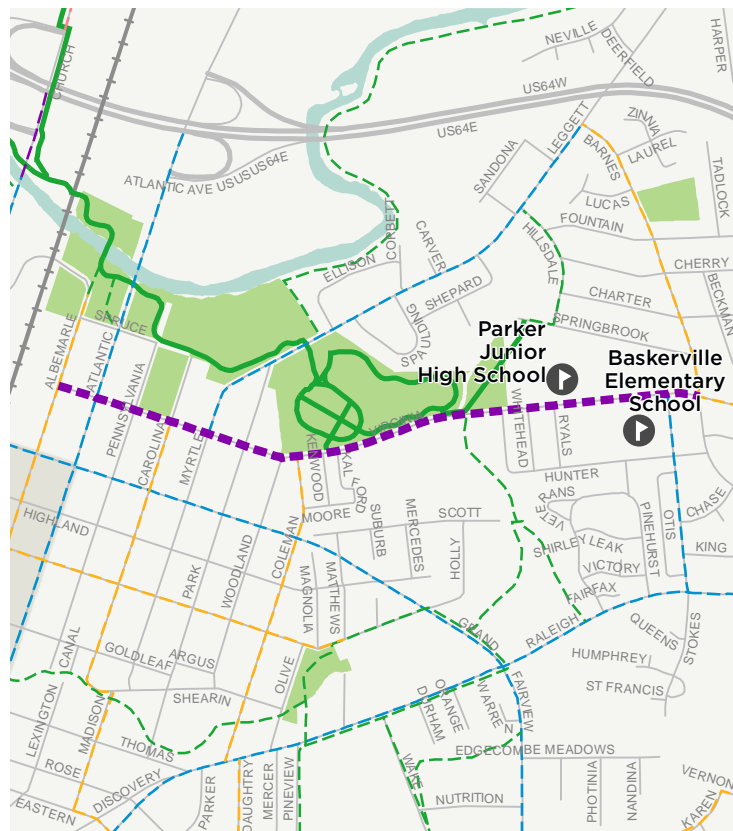
*Note: The addition of flexible bollards or planters may have maintenance impacts and should be considered before installed.*

## 2 - Virginia Street 2-way Bike Lane

A separated 2-way bike lane along Virginia Street can provide a direct connection to JW Parker Middle School and Baskerville Elementary School from downtown Rocky Mount and the Tar River Trail. By creating a separated facility, people of all ages and abilities will be able to feel comfortable riding along this corridor.

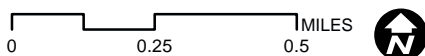
Virginia Street has a minimum road width of 35 feet. A two-way separated bike lane requires less space than two one-way facilities. This scheme will necessitate the motor vehicle travel lanes to be narrowed but will alleviate the need for road widening or new construction. Additionally, the north side of the road will limit driveway conflicts.

<p><b>Length:</b> 1.2 miles</p> <p><b>Trip Generators:</b></p> <ul style="list-style-type: none"> <li>» Tar River Trail</li> <li>» Downtown Rocky Mount</li> <li>» JW Parker Middle School</li> <li>» Baskerville Elementary School</li> <li>» Community Center &amp; Library</li> </ul>	<p><b>Support in Other Plans:</b></p> <ul style="list-style-type: none"> <li>» Cowlick Trail Feasibility Study</li> </ul> <p><b>Potential ROW Needs:</b></p> <ul style="list-style-type: none"> <li>» None</li> </ul> <p><b>Estimated Construction Costs:</b></p> <ul style="list-style-type: none"> <li>» \$200,000</li> </ul> <p><i>A planning level cost estimate table can be found in Appendix E.</i></p>
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Notes about phases on opposite page:

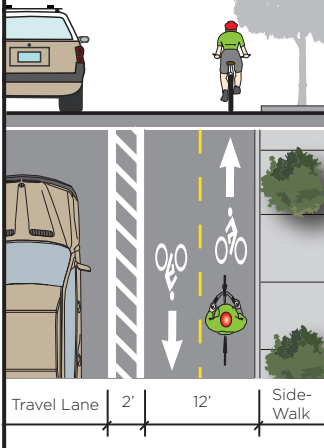
While flexible bollards and planters provide more physical separation and comfort, they will need special consideration for managing snow removal and maintenance. The planters could also create an issue with the placement of rigid structures in the clear recovery zone.





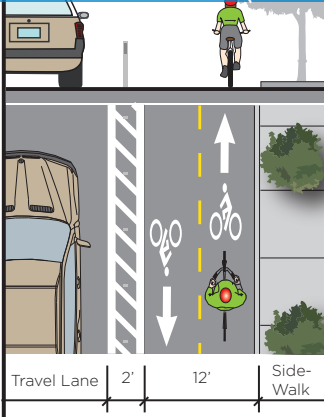
### Phase 1: Proposed Buffered Bike Lane

Facility Type:  
Buffered Bike Lane



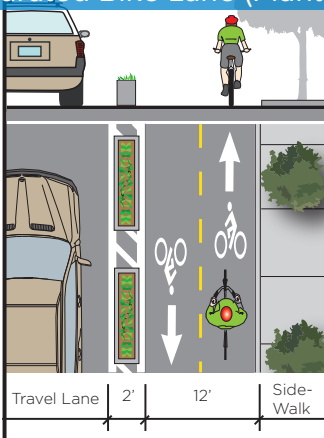
### Phase 2: Proposed Separated Bike Lane (Bollards)

Facility Type:  
Separated Bike Lane (Bollards)



### Phase 3: Proposed Separated Bike Lane (Planters)

Facility Type:  
Separated Bike Lane (Planters)



# Bicycle Boulevard Introduction

Bicycle boulevards are low-stress shared roadways that prioritize the mobility of bicyclists. These facilities offer convenient access to local destinations and are often characterized by traffic calming measures, access management, and crossing treatments, all of which help manage motorist speeds and volumes. Pavement markings and signage identify proper positioning within the roadway, alert all users to the presence of bicyclists, and guide users along the street alignment. Bicycle boulevards are not intended for use by pedestrians and should be paired with sidewalks to accommodate pedestrian traffic.

## APPLICATION

**Facility Type:**  
Mixed traffic facility (bicycles and motor vehicles)

**Rural Versus Urban:**  
Bicycle boulevards are most appropriate in urban areas.

**Vehicle Speed and Volume:**  
This facility is appropriate on streets with low traffic volumes (less than 3,000 average daily traffic) and low speeds (less than 25 mph). Traffic calming measures can be used to manage motor vehicle volumes and speeds.

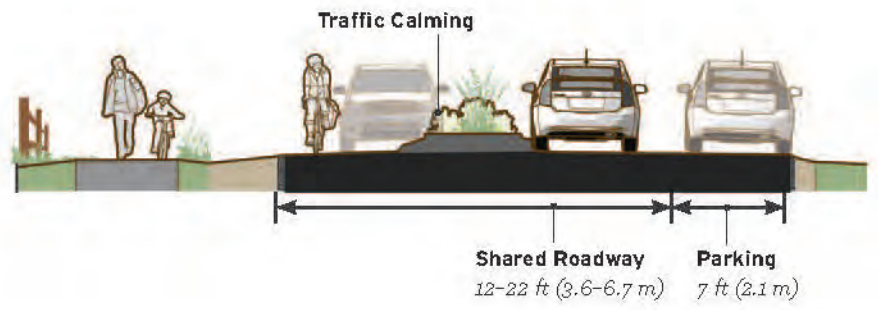
**Roadway Functional Class:**  
Bicycle boulevards are most appropriate on local roads.

**Land Use:**  
This facility is most appropriate in higher density residential areas, where motorists are not using streets for through travel and where connectivity within and between neighborhoods is desired.

**Element Cost Estimates:**  
 Curb Extensions: \$75,000\*  
 Median Island: \$9,000\*  
 Mini-Roundabout: \$14,000\*  
 Speed Hump: \$5,000\*

*\*These are planning level costs and may vary depending on types of treatment selected.*

*A planning level cost estimate table can be found in Appendix E.*



The roadway width may range from 12 to 22 feet wide, and additional space can be allocated for parking. If desired, 7-foot wide parking lanes are recommended along bicycle boulevards.



**Traffic calming measures** include: curb extensions, chicanes, traffic diverters, speed humps, and mini roundabouts.



Curb Extension

**Crossing treatments** to improve bicycle and pedestrian safety and comfort include: crosswalk markings and crossing warning signs; curb extensions; active warning beacons; median islands; and pedestrian hybrid beacons.



Mini Roundabouts



Bike Boulevard pavement marking



Traffic Diverter

### 3 - Eastern Avenue Bicycle Boulevard

Eastern Avenue was selected as a priority bicycle boulevard project in Edgecombe County because of the connectivity it provides between downtown and the location of the future Cowlick Trail. The tree-lined street is primarily residential and with less than 1,000 vehicles a day, is a prime candidate for bicycle boulevard treatments.

<p><b>Length:</b></p> <ul style="list-style-type: none"><li>» .670 miles</li></ul> <p><b>Trip Generators:</b></p> <ul style="list-style-type: none"><li>» Downtown Rocky Mount</li><li>» Cowlick Trail</li><li>» DS Johnson Elementary School</li><li>» Residential (Oakwood and Meadowbrook)</li></ul>	<p><b>Potential ROW Needs:</b></p> <ul style="list-style-type: none"><li>» None</li></ul> <p><i>Cost will vary depending on types of treatments utilized. See page 114 for element cost estimates.</i></p>
---	--

Existing Conditions at Avondale and Ridgecrest



Proposed Bicycle Boulevard traffic calming at Eastern and Pineview



## 4 - Avondale Avenue Bicycle Boulevard

Avondale Avenue was selected as a priority bicycle boulevard project in Nash County because it improves access between Rocky Mount Academy, Winstead Avenue Elementary, and Englewood Elementary School. The tree-lined street is predominantly residential and experiences less than 1,000 vehicles a day, making it an excellent option for bicycle boulevard treatments.

### Length:

- » .882 miles

### Trip Generators:

- » Downtown Rocky Mount
- » Tar River Trail
- » Parks
- » Schools (public and private)

### Potential ROW Needs:

- » None

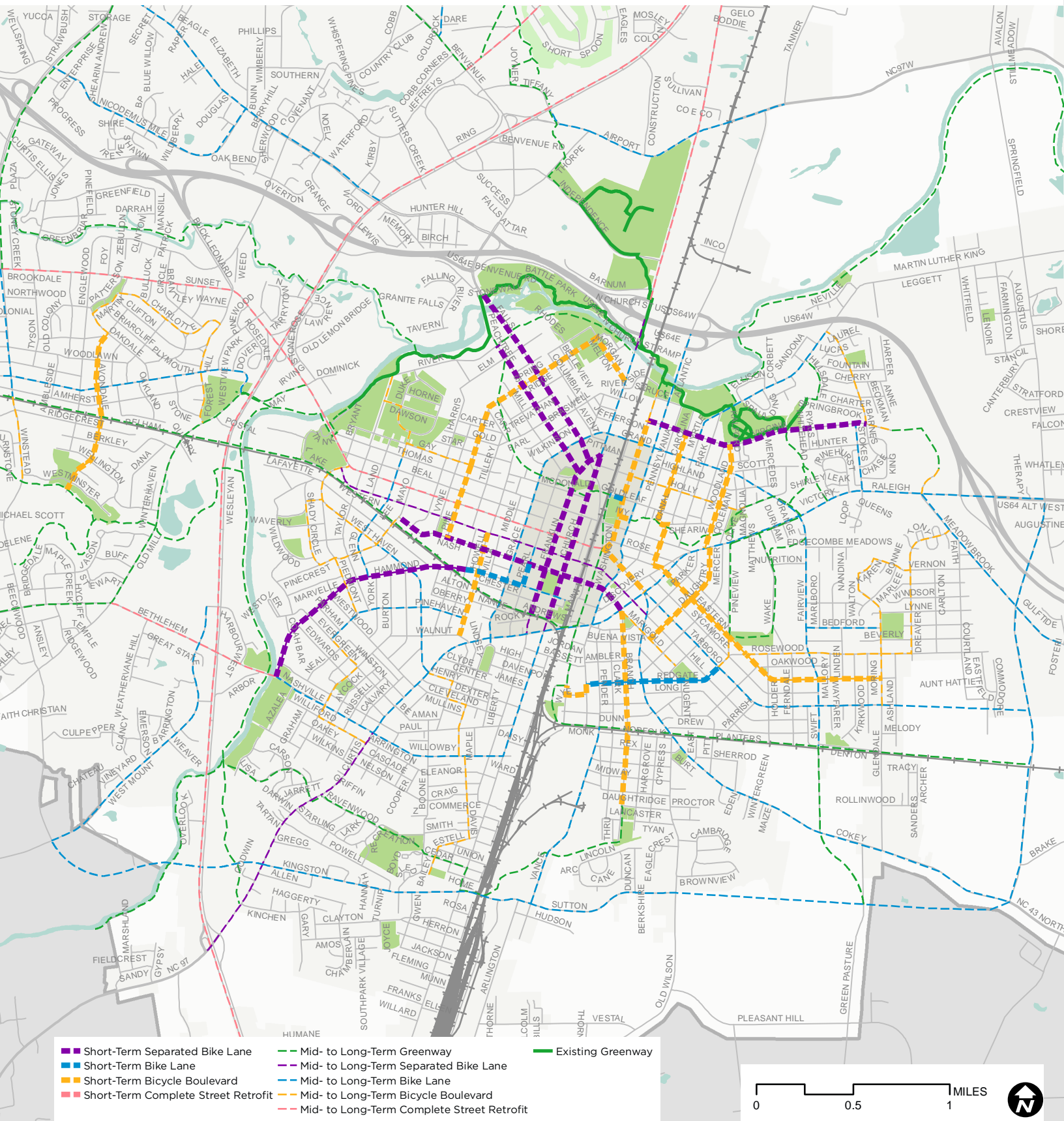
*Cost will vary depending on types of treatments utilized. See page 114 for element cost estimates.*

### Existing Conditions at Avondale and Ridgecrest



Proposed Bicycle Boulevard traffic calming at Avondale and Ridgecrest

# Map 7.1 Short-Term Priorities







**Table 7.0 Short-Term Priorities**

Corridor	From	To	Proposed Facility	County	Length (mi.)	Cost per Mile	Cost	Speed Limit	ADT	Road Width (feet)	Safety	Population Density	Equity Analysis	Connectivity	Destinations	Ease of Implementation/ Low Cost
Avondale Ave	Maple Creek Canal Trail	Oak Dale Rd	Bicycle Boulevard	Nash	0.88	\$200,000	\$176,312	35, S of Avondale Ct 25	NA	22			√	√		√
Branch St	Lancaster St	Raleigh Blvd	Bicycle Boulevard	Edgecombe	1.01	\$200,000	\$201,754	35	NA	35		√	√	√		√
Carolina Ave and Madison St	Eastern Ave	Virginia St	Bicycle Boulevard	Edgecombe	.76	\$200,000	\$151,024	35	NA	34		√	√	√		√
Church St	Andrews St	Franklin St	Separated Bike Lane	Nash	0.89	\$250,000	\$223,686	25	2900	36		√	√	√		
Coleman Ave	Discovery St	Virginia Ave	Bicycle Boulevard	Edgecombe	0.56	\$200,000	\$112,009	35, S of Shearin 25	NA	28	√	√	√	√	√	√
Daughtry St	Marigold St	Discovery St	Bicycle Boulevard	Edgecombe	0.60	\$200,000	\$120,146	35	NA	28		√	√	√	√	√
Eastern Ave	E Virginia St	Glendale Dr	Bicycle Boulevard	Edgecombe	1.42	\$200,000	\$284,032	35	NA	34		√	√	√	√	√
E Virginia St	Barnes St	Albemarle Ave	Separated Bike Lane	Edgecombe	1.16	\$250,000	\$289,856	35, Hunter to Stokes 25	NA	34		√	√	√		
Falls Rd	Franklin St	Tar River Greenway	Separated Bike Lane	Nash	1.02	\$250,000	\$253,857	35, Oak to Earl 25, S of Grace 25	2300 to 6300	34	√	√	√	√	√	
Franklin St	Andrews St	N Church St	Separated Bike Lane	Nash	0.92	\$250,000	\$231,042	30	1500 to 3400	30	√	√	√	√		
Goldleaf St	Main St	Albemarle Ave	Bike Lane	Edgecombe	0.07	\$250,000	\$17,520	25	NA	34		√	√	√		
Hammond St and S Pearl St	Tillery St	Nash St	Bike Lane	Nash	0.42	\$250,000	\$105,997	35, E of Grace 25	2800	30	√	√	√	√	√	√
Hammond St and S Pearl St	Bethlehem Rd	Tillery St	Separated Bike Lane	Nash	1.25	\$250,000	\$312,384	35, 2 segments 25	3400 to 500	38		√	√	√	√	
Howell St	Walnut St	Western Ave	Bicycle Boulevard	Nash	0.55	\$200,000	\$110,230	35	NA	24		√	√	√		√
Ivy St	Atlantic Ave	Albemarle Ave	Bicycle Boulevard	Edgecombe	0.06	\$200,000	\$11,526	35	NA	26		√	√	√		√
Melton, Ridge, Pine, Gay, Lee, Duke, Taylor	Pine St	Melton Dr	Bicycle Boulevard	Nash	1.64	\$200,000	\$327,486	35	1100 to 1400	20	√	√	√	√		√
Nash St and Marigold St	Raleigh Blvd	Mayo St	Separated Bike Lane	Nash	1.27	\$250,000	\$318,133	25, W of Main 35	720 to 1400	32	√	√	√	√		
Peachtree St	Franklin St	River Drive	Separated Bike Lane	Nash	0.78	\$250,000	\$194,959	35, Ridge to Earl 25, S of Grace 25	6300 to 7700	34		√	√	√		
Redgate Ave	Arlington St	Tarboro St	Bike Lane	Edgecombe	0.71	\$250,000	\$178,094	35	1600 to 3800	30		√	√	√	√	√
Tarboro St and Albermarle Ave	Raleigh Blvd	Grand Ave	Bicycle Boulevard	Edgecombe	0.90	\$200,000	\$179,955	Tarboro 25, Albermarle 35	NA	30	√	√	√	√		√
Washington St, Hendricks St, Arlington St	Redgate Ave	Wye St	Bicycle Boulevard	Edgecombe	0.20	\$200,000	\$40,897	35	NA	28		√	√	√		√
<b>TOTAL</b>					<b>17.21</b>		<b>\$3,866,139</b>									

Note: Implementation notes are available for project recommendations in Appendix B.



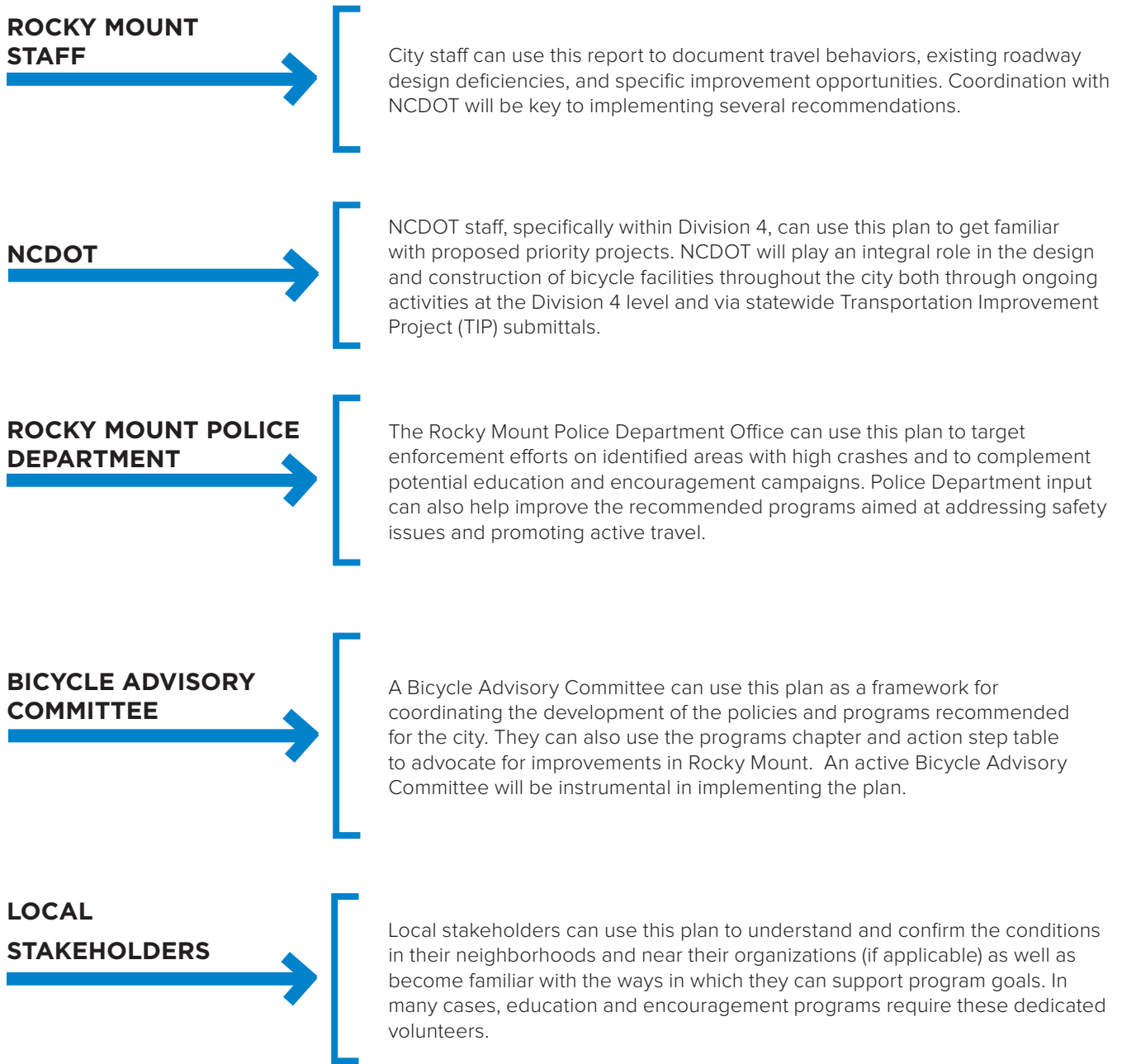
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## How to Use This Plan

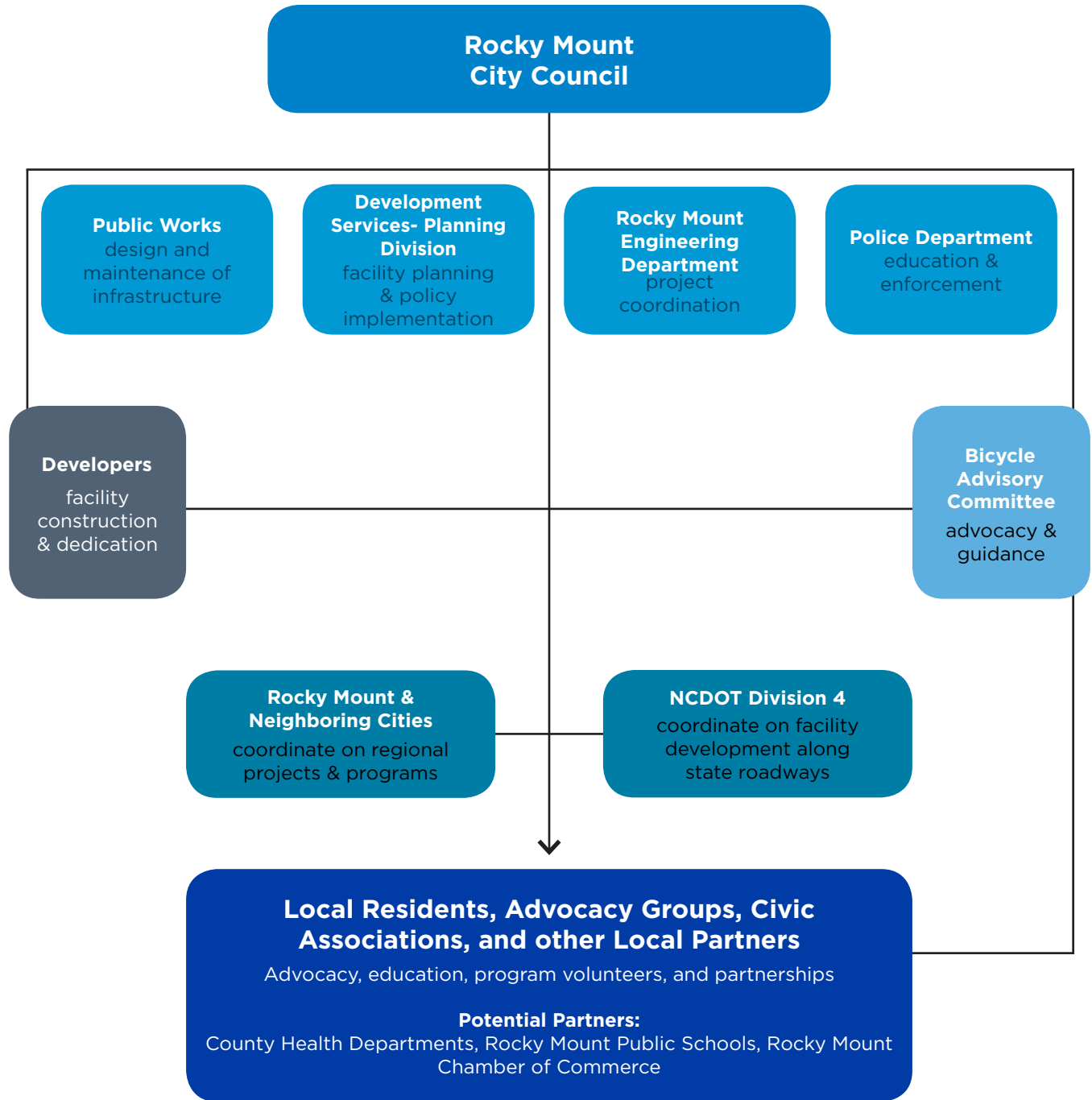
At the heart of every successful plan is a coordinated effort by city staff, law enforcement, and other partners to support safe travel by bike. Everyone has a key role to play in implementing this plan.

Rocky Mount staff should use this report to establish programs and policies that educate, encourage, and prioritize infrastructure investments proposed throughout the city.



# Organizational Framework for Implementation

The key players and steps involved in implementation are summarized in this organizational framework and described in more detail within the action step tables in Chapters 3, 4, 5, and 6.





## Performance Measures

The performance measures in the plan are important for assessing whether the plan is meeting its goals over time. Data on these measures should be collected on a routine basis to help track progress. This information will allow for adjustments to help ensure that plan goals are achieved.

The plan performance measures are based on the goals of the plan (see Page 15 in Chapter 1). The performance measures are generally outcome-based, and the intent is to prioritize investments that do the best job of achieving desired plan outcomes. The performance measures were selected based on Rocky Mount's ability to collect relevant data. Data and performance measures outlined in the following tables represent the way that Rocky Mount can track achievement of plan goals over time.

**Table 7.1. Bicycle Plan Performance Measure Targets**

Goal	Example Performance Measure	Baseline Measurement	Performance Target/ Desired Trend
Improve Access	Average travel time by mode	2017 average	Decrease in average travel time
	Number of jobs accessible by travel time; mode, and industry	2017	Increase number of jobs accessible
Create a Positive Economic Impact	Retail Sales tax revenue	2017	Increase sales tax revenue
Protect the Environment	Vehicle trips reduced by project	2017	Decrease in the number of vehicle trips
	Bicycle Commute Mode Share	2017	Increase in percentage of commute trips made by bike
Promote Equity	Housing and Transportation Affordability Index	2017	Increase in H+T Index
Enhance Health	Percentage of children and adults who meet physical activity recommendations	2016 percentage	Increase in childhood and adult physical activity level
Safety	Bicycle collision rate	2016	Reduce bicycle collision rate
	Number of fatalities and serious injuries	2016	Zero fatalities

## Implementation Action Steps

The following action steps address the implementation of the Rocky Mount Bike Plan. They should be on considered and utilized in conjunction with the action steps of previous chapters. The action steps found in Table 3.0 (Programs), Table 4.1 (Policies), Table 5.2 (Infrastructure and Funding), and Table 7.2 (Implementation) form the core recommendations of this plan.

TABLE 7.2 IMPLEMENTATION ACTION STEPS				
TASK	LEAD	SUPPORT	DETAILS	PHASE
Communicate the goals of this plan and its top priority projects to other local and regional groups.	City Manager, Bicycle Advisory Committee (BAC)	Development Services Planning Division, Engineering Department, Rocky Mount MPO	The purpose of this step is to network with potential project partners and to build support for implementing the top projects. Possible groups to receive a presentation: Rocky Mount MPO, Nash County Health Department, Nash-Rocky Mount Public Schools Health Advisory Committee, Rocky Mount Chamber of Commerce, NCDOT Planning Branch, etc.	Short-term/ Ongoing (Beginning 2018)
Designate an advisory committee for the implementation of this plan.	City Council	City Manager, Project Steering Committee	Using the steering committee formed to oversee the development of this plan, a standing Bicycle Advisory Committee (BAC) should be formed to focus on implementation of this plan. For the purpose of these action steps, this group will be referred to as “BAC” below.	Short-term (2018)
Begin annual meeting with key project partners.	City Manager, Engineering Department, Bicycle Advisory Committee	NCDOT, and local & regional stakeholders	Key project partners (see org. chart at beginning of chapter) should meet on an annual basis to evaluate the implementation of this plan. Meetings could also include on-site tours of priority project corridors.	Short-term/ Ongoing (Beginning Fall 2018)
Monitor NCDOT resurfacing program, and STIP allocations, as well as city resurfacing/road maintenance schedule.	Development Services Planning Division, Engineering Department	Rocky Mount MPO, Public Works Department, NCDOT Division 4	Provisions should always be made to include bicycling (& walking) facilities as a part of street resurfacing projects. A determination of providing sidewalks on one or both sides is made during the planning process.	Short-term/ Ongoing (Fall 2018)
Conduct a project review meeting.	Engineering Department	City Manager and all Departments, Rocky Mount MPO	Review all existing Rocky Mount plans and priorities to identify overlap and shared goals. Look for opportunities to combine resources, leverage funding, and facilitate a more efficient project development process.	Short-term/ Ongoing (Fall 2018)
Implement high priority projects.	Engineering Department, Public Works Department	City Manager, NCDOT Division 4	By quickly moving forward on priority projects, Rocky Mount will demonstrate its commitment to carrying out this plan and will better sustain the enthusiasm generated during the public outreach stages of the planning process.	Mid-term/ Ongoing (2019 onward)

**TABLE 7.2 IMPLEMENTATION ACTION STEPS**

TASK	LEAD	SUPPORT	DETAILS	PHASE
Implement a Wayfinding Program.	Engineering Department	Public Works Department, Rocky Mount MPO	A relatively low-cost, mid-term action that Rocky Mount can pursue immediately is to develop and adopt a wayfinding signage style, policy, and procedure, to be applied throughout the city. Posting signage that includes bike travel times to major destinations can help to increase awareness of the ease and efficiency of bicycle travel.	Mid-term (2019 onward)
Monitor plan performance measures.	Engineering Department	City Council, City Manager	The performance measures should be stated in an official report within two years after the plan is adopted.	Mid-term (2019-2020)
Secure Priority Greenway Trail Easements.	Parks & Recreation	City Manager, Development Services Planning Division	Explore opportunities to revise existing easements to accommodate public access greenway trail facilities. Similarly, as new easements are acquired in the future, the possibility of public access should be considered. Sewer easements are very commonly used for this purpose, offering cleared and graded corridors that easily accommodate trails. This approach avoids the difficulties associated with acquiring land, and it better utilizes the City's resources.	Mid-term (2019 onward)
Update Plan.	City Council & Bicycle Advisory Committee	Development Services Planning Division	This plan should be updated by 2023 (roughly five years from adoption). If many projects and programs have been completed by then, a new set of priorities should be established. If not, a new implementation strategy should be established.	Long-Term (2023)
Establish a dedicated funding source in the city for bicycle infrastructure improvements.	Engineering Department, City Council	City Manager	This funding source may be established through annual budgetary allocation, user/in-lieu fees, or another desired method. Having a dedicated funding source will enable the city to have matching funds available to take advantage of funding opportunities such as 80% federal funding through STIP since state funds cannot be used for stand-alone bicycle infrastructure projects.	Mid-term (2019 onward)

# APPENDICES

**A. FUNDING APPENDIX**


**B. NETWORK RECOMMENDATIONS**

**C. DESIGN GUIDELINES AND TRAIL AMENITIES**

**D. PUBLIC OUTREACH SUMMARY**

**E. COST ESTIMATES**



The background of the page is a faded, light-colored aerial photograph of a city, showing a grid of streets and various buildings. In the center of the page, there is a large, dark blue circular graphic. Inside this circle, the text "A. FUNDING APPENDIX" is written in a bold, white, sans-serif font, centered both horizontally and vertically.

# **A. FUNDING APPENDIX**



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This appendix provides an overview of various funding strategies available for implementation of the on-road bikeway network and greenway trail network.

## Overview

Equally critical, and perhaps more challenging than leadership, will be meeting the need for a recurring source of revenue for implementing bicycle infrastructure. Even small amounts of local funding could be very useful and beneficial when matched with outside sources. Most importantly, the City need not accomplish the recommendations of this plan by acting alone; success will be realized through collaboration with regional and state agencies, the private sector, and non-profit organizations. Funding resources that may be available to Rocky Mount are presented in Appendix A of this plan.

Given the present day economic challenges faced by local governments (as well as their state, federal, and private sector partners), it is difficult to know what financial resources will be available at different time frames during the implementation of this plan. However, there are still important actions to take in advance of major investments, including key organizational steps, the initiation of education and safety programs, and the development of strategic, lower-cost sidewalk and crossing facilities. Following through on these priorities will allow the key stakeholders to prepare for the development of larger bicycle facility and trail projects over time, while taking advantage of strategic opportunities as they arise.



*Grand opening of the Razorback Greenway, a regional trail project that benefited from \$15M in USDOT funding.*

## Inspiring Investment

Adopting this plan is a critical first step in the search for grant dollars from state, federal, and private/non-profit sector organizations. Any supporting entity will have many interests competing for available dollars, and the myriad of elements detailed in this plan are key components of inspiring investment in Burlington, regardless of the source(s).

### ENGAGING PRIVATE FUNDING

Across the United States, one of the fastest emerging funding sources for greenway development is the private sector. Philanthropic organizations, corporate and family foundations, on-profit organizations and corporations have stepped up their involvement in greenway facility development in the form of financial support. Why has this occurred?

There are many varied reasons including support for improvements to quality of life, health and wellness, alternative transportation, conservation of natural resources and economic development. Most importantly, private financial support has enabled the greenway development process to move faster, so that facilities can be completed more efficiently. Two exemplary projects illustrate how this works:

1. In Northwest Arkansas, the Razorback Regional Greenway was conceived by the Northwest Arkansas Regional Planning Commission as a network of primarily on-road trails spanning the two-county region (Benton and Washington counties).

In 2009, the Walton Family Foundation stepped in and spearheaded a public-private partnership that resulted in the development of a 36-mile, primarily off-road, world class



regional greenway.

The Razorback Regional Greenway was funded from a combination of public and private funds, including a USDOT TIGER 2 grant of \$15 million, and a dollar for dollar gift from the Walton Family Foundation of \$15 million. Other grant funds were added later bringing the total funding to more than \$40 million. Without the lead gift from the Family Foundation, the project would never have happened. The Foundation based its gift on two community goals: 1) improve the health of local residents, and 2) support economic development throughout the region to keep Northwest Arkansas competitive for years to come. The 36-mile Razorback Regional Greenway was officially completed and opened for use in May 2015.

2. In Memphis, Tennessee, the 36-mile Wolf River Greenway has been the brainchild of the Wolf River Conservancy (a nonprofit land trust based in Memphis) for more than 35 years. Using a traditional approach of relying on public sector

leadership and funding to build the project, the Conservancy became frustrated with the glacial pace of greenway facility development – in 35 years, approximately 5 miles of trail had been completed. In 2014, the Conservancy decided to fund the development of 22 miles of the trail within the Memphis city limits using private sector funds. As of January 2016, the Conservancy has raised approximately \$45 million in support of facility development, with almost half of that coming from private sector sources. The Conservancy has then leveraged the private sector support to gain public sector support from the City of Memphis and Shelby County. The Conservancy expects to design, permit and build the entire 22 mile Memphis portion of the Greenway by 2019.

These are just two examples of ways in which private sector funding is used to support greenway facility development. There are many more examples just like the ones mentioned above occurring across the United States.



*The Wolf River Greenway in Memphis TN. The Wolf River Conservancy expects to design, permit and build the entire 22 mile Memphis portion of the Greenway by 2019.*



What are the important lessons learned from this approach? Assuming that a worthy greenway project has been identified, there are four key steps in the process: 1) develop the “pitch”, 2) make the ask, 3) leverage the lead gift, and 4) invite private sector and public sector groups to participate.

### **STEP ONE: DEVELOP THE “PITCH”**

The first step is to finalize the vision and scope of the project, along with its benefits to the community. The “pitch” is typically summarized in the form of marketing materials, such as reports, digital media presentations, and informational handouts that define the important elements of the greenway project.

The Carolina Thread Trail in the Charlotte Metro Region offers an excellent example for “developing the pitch.” The Catawba Land Conservancy (CLC) and the Trust for Public Land (TPL) worked with Greenways Incorporated to prepare a vision statement and economic case statement that together defined the goals and objectives of “The Thread Trail,” a regional greenway project. The “pitch” was carefully crafted so that it could be distilled into simple terms and delivered through a concise presentation. CLC and TPL worked with other Charlotte based firms to develop graphic elements of the pitch, including a logo that defined the “brand” for the project. The combination of these materials constituted “the pitch,” and enabled CLC and TPL to take the next step in the process – making the ask for financial support.

Likewise, both the Razorback Regional Greenway in Northwest Arkansas and the Wolf River Greenway in Memphis, Tennessee, undertook similar efforts in developing the pitch. In Northwest Arkansas, a compressed timeframe, centered around a design charrette, produced the pitch. The Walton Family Foundation funded the design charrette process

that resulted in the preparation of a vision, conceptual framework and economic case statement for the Razorback Regional Greenway. In Memphis, the Wolf River Conservancy used a similar approach, and also commissioned Alta Planning + Design to prepare an economic study regarding the benefits of the Greenway to the regional community.

### **STEP TWO: MAKING THE ASK**

Once the pitch has been prepared, it is time to “make the ask.” For greenway projects, making the ask can occur in different ways. Generally, two different strategies can be employed, one that targets public funding sources and the other that targets private funding sources.

For the Carolina Thread Trail, the major “ask” occurred during a breakfast meeting of philanthropic and corporate groups. The invitation only breakfast generated more than \$15 million in support of the Thread Trail project, and was the catalytic event that launched the project. Both CLC and TPL worked extremely hard in advance of the breakfast to deliver the pitch to participants so that when the time came for the ask, the results were more or less expected.

Other “asks” can be more complicated. The Razorback Regional Greenway went through a protracted ask that involved an application for federal funding. The Northwest Arkansas community applied for and received a TIGER 2 grant of \$15 million to build the project. The federal grant was matched dollar for dollar by the Walton Family Foundation, creating the opportunity for full project development.

In Memphis, the Wolf River Conservancy has raised \$24 million in private sector funding to support an additional \$16 million in public sector funding. Sometimes, the “ask” can stretch for months and more than a year. Depending on the size of the



greenway project, raising large sums of money to support greenway development takes time.

### **STEP THREE: LEVERAGE THE LEAD GIFT**

All three of the projects used as examples in this chapter utilized a “lead gift” as leverage for raising additional funds. A lead gift is important for several reasons. First, a lead gift from a prominent and respected local project sponsor signifies the importance of the project throughout the entire community. Second, a lead gift is often used to leverage other private funds. The lead sponsor will often call upon other private funders to support the greenway.

Third, a lead gift may be used as a matching source of funding for public sector grants.

To secure a lead gift, it will be necessary to spend time with a potential project sponsor to thoroughly explain the merits and benefits of the greenway project. Most importantly, the greenway benefits must align with the interests and goals of the sponsor, and represent an opportunity to fulfill a specific mission of the sponsor.

Lead gifts typically are significant in order to be effective. Some project sponsors will pledge a lead gift premised on the ability to raise the balance of funds within a defined time period. Some project sponsors will specify that the lead gift must be matched in a defined proportion to

the balance of funds raised.

Lead gifts are very important to the success of fund raising as they typically establish credibility for the greenway initiative and provide the first tangible evidence of financial support.

### **STEP FOUR: THE INVITE LIST**

Which groups, organizations and entities are on the “short list” of invitees to help fund greenway projects in Burlington? The following is not a complete list, but helps to narrow the field of likely candidates for consideration.

- » Impact Alamance
- » Foundation for the Carolinas
- » Trust for Public Land (TPL)
- » The Conservation Fund
- » Blue Cross Blue Shield Foundation of North Carolina
- » North Carolina Community Foundation
- » Duke Energy Foundation.



## PROJECT FUNDING RESOURCES

Multiple approaches should be taken to support bicycle and pedestrian facility development and programming. It is important to secure the funding necessary to undertake priority projects but also to develop a long-term funding strategy to allow continued development of the overall system. Dedicated local funding sources will be important for the implementation of this plan.

Local government funds for bicycle and pedestrian facilities should be set aside every year, even if only for a small amount. Small amounts of local funding can be matched to outside funding sources. A variety of local, state, federal, and non-governmental options and sources exist and should be pursued.

The following section identifies federal, state, local and private/non-profit foundation sources of funding for planning, design, implementation and maintenance of bicycle and pedestrian infrastructure. The descriptions are intended to provide an overview of available options and do not represent a comprehensive list. It should be noted that this section reflects the funding available at the time of writing. The funding amounts, fund cycles, and even the programs themselves are susceptible to change without notice.

### Federal Funding Sources

Federal funding is typically directed through state agencies to local governments either in the form of grants or direct appropriations. Federal funding typically requires a local match of five percent to 50 percent, but there are sometimes exceptions. The following is a list of possible Federal funding sources that could be used to support the construction of bicycle and pedestrian facilities.

### FIXING AMERICA'S SURFACE TRANSPORTATION (FAST ACT)

In December 2015, President Obama signed the FAST Act into law, which replaces the previous Moving Ahead for Progress in the Twenty-First Century (MAP-21). The Act provides a long-term funding source of \$305 billion for surface transportation and planning for FY 2016-2020. Overall, the FAST Act retains eligibility for larger programs - Transportation Investments Generating Economic Recovery (TIGER - Now called BUILD), Surface Transportation Program (STP), Congestion Mitigation and Air Quality (CMAQ), and Highway Safety Improvement Program (HSIP). The FAST Act maintains the federal government's focus on safety, preserves the established structure of various highway-related programs, streamlines project delivery, and provides a dedicated funding source for freight projects.

In North Carolina, federal monies are administered through the North Carolina Department of Transportation (NCDOT) and Metropolitan /Rural Planning Organizations (MPOs/RPOs). Most, but not all, of these programs are focused on transportation rather than recreation, with an emphasis on reducing auto trips and providing intermodal connections. Federal funding is intended for capital improvements and safety and education programs, and projects must relate to the surface transportation system. Most FAST ACT funds are available through the STI process.

For more information: <https://www.fhwa.dot.gov/fastact/factsheets/transportationalternativesfs.cfm>

### TRANSPORTATION ALTERNATIVES (TA)

Transportation Alternatives (TA) is a funding source under the FAST Act that consolidates three formerly separate programs under SAFETEA-LU: Transportation Enhancements (TE), Safe Routes to School (SRTS), and the Recreational Trails Program (RTP). Funds are available through a competitive process. These



funds may be used for a variety of pedestrian, bicycle, and streetscape projects. These include:

- » SRTS programs - infrastructure and non-infrastructure programs
- » Construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation, including sidewalks, bikeways, pedestrian and bicycle signals, traffic calming techniques, and lighting and other safety-related infrastructure
- » Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, seniors, and individuals with disabilities
- » Construction of rail-trails
- » Recreational trails program

Eligible entities for TA funding include local governments, regional transportation authorities, transit agencies, natural resource or public land agencies, school districts or schools, tribal governments, and any other local or regional government entity with responsibility for oversight of transportation or recreational trails that the State determines to be eligible.

The FAST Act provides \$84 million for the Recreational Trails Program. Funding is prorated among the 50 states and Washington D.C. in proportion to the relative amount of off-highway recreational fuel tax that its residents paid. To administer the funding, states hold a statewide competitive process. The legislation stipulates that funds must conform to the distribution formula of 30% for motorized projects, 30% for non-motorized projects, and 40% for mixed used projects. Each state governor is given the opportunity to “opt out” of the RTP.

For more information: <https://www.fhwa.dot.gov/fastact/factsheets/transportationalternativesfs.cfm>

## **SURFACE TRANSPORTATION BLOCK GRANT (STBG) PROGRAM**

The FAST Act converts the Surface Transportation Program into the Surface Transportation Block Grant (STBG) program. This program is among the most flexible eligibilities among all Federal-aid and highway programs.

The Surface Transportation Program (STP) provides states with flexible funds which may be used for a variety of highway, road, bridge, and transit projects. A wide variety of pedestrian improvements are eligible, including trails, sidewalks, crosswalks, pedestrian signals, and other ancillary facilities. Modification of sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA) is also an eligible activity. Safe Routes to School programs, congestion pricing projects and strategies, and recreational trails projects are other eligible activities. Under the FAST Act, a State may use STBG funds to create and operate a State office to help design, implement, and oversee public-private partnerships eligible to receive Federal highway or transit funding. In general, projects cannot be located on local roads or rural minor collectors. However, there are exceptions. These exceptions include recreational trails, pedestrian and bicycle projects, and Safe Routes to School programs.

For more information: <https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm>

## **HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)**

HSIP provides \$2.2 - \$2.4 billion nationally (FY 2016-2020) for projects and programs that help communities achieve significant reductions in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. The HSIP requirements prior to the enactment of the FAST Act are still applicable, including the need for a comprehensive, data-driven State Highway Safety





Plan (SHSP) that defines the State's safety goals and describes strategies to improve safety.

HSIP funds must be used for safety projects that are consistent with the State's SHSP and that correct or improve a hazardous road location or features to address a highway safety problem. Most eligible activities are infrastructure-related. Bicycle and pedestrian safety improvements, traffic calming projects, and crossing treatments for non-motorized users in school zones are eligible for these funds. Examples include pedestrian hybrid beacons, medians, and pedestrian crossing islands. Workforce development, training, and education activities are other eligible uses of HSIP funds.

For more information: <http://www.fhwa.dot.gov/fastact/factsheets/hsipfs.cfm>

### **STATEWIDE AND NON-METROPOLITAN PLANNING**

The FAST Act continues funding for statewide and nonmetropolitan planning as part of a 2 percent set-aside for planning and research activities from each State's apportionments of five core programs: National Highway Performance Program, Surface Transportation Block Grant Program (STBG), Highway Safety Improvement Program, Congestion Mitigation and Air Quality Improvement Program, and National Highway Freight Program.

The FAST Act continues to require long-range statewide transportation plans and statewide transportation improvement programs (STIPs) to provide for the development and integrated management and operation of transportation systems and facilities that enable an intermodal transportation system, including pedestrian and bicycle facilities.

For more information: <https://www.fhwa.dot.gov/fastact/factsheets/statewideplanningfs.cfm>

### **SAFE ROUTES TO SCHOOL (SRTS) PROGRAM**

SRTS enables and encourages children in grades K-8 to walk and bike to school. The program helps make walking and bicycling to school a safe and more appealing method of transportation for children. SRTS facilitates the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Funding is administered by State Departments of Transportation (DOTs). Eligible recipients are state, local, and regional agencies as well as nonprofit organizations. Project sponsors may be school or community based groups. Around 10-30% of each state's funding is to be spent on non-infrastructure activities, such as encouragement programs, additional law enforcement activities, and educational curricula.

Infrastructure-related projects improve the ability of students to walk or bike to and from school. Types of projects include sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bike crossing improvements, bicycle facilities, pedestrian facilities, and secure bike parking.

For more information: [http://www.fhwa.dot.gov/environment/safe\\_routes\\_to\\_school/guidance/#toc123542170](http://www.fhwa.dot.gov/environment/safe_routes_to_school/guidance/#toc123542170)

## **Other Federal Funding Sources**

### **BUILD TRANSPORTATION DISCRETIONARY GRANT PROGRAM**

The Consolidated Appropriations Act, 2018 appropriated \$1.5 billion, available for obligation through September 30, 2020, for National Infrastructure Investments previously known as TIGER grants, and now renamed BUILD Transportation grants. As with previous rounds of TIGER, funds for the FY2018 BUILD Transportation



program are to be awarded on a competitive basis for projects that will have a significant local or regional impact.

Funding provided under National Infrastructure Investments have supported capital projects which repair bridges or improve infrastructure to a state of good repair; projects that implement safety improvements to reduce fatalities and serious injuries, including improving grade crossings or providing shorter or more direct access to critical health services; projects that connect communities and people to jobs, services, and education; and, projects that anchor economic revitalization and job growth in communities. DOT intends to award a greater share of FY2018 BUILD Transportation grants to projects located in rural areas that align well with the selection criteria than to such projects in urban areas.

For more information: <https://www.transportation.gov/BUILDgrants/2018-build-application-faqs>

#### **FEDERAL TRANSIT ADMINISTRATION ENHANCED MOBILITY OF SENIORS AND INDIVIDUALS WITH DISABILITIES**

This program aims to improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options. This program can be used for capital expenses that support transportation and non-emergency medical transportation to meet the special needs of older adults and persons with disabilities, including providing access to an eligible public transportation facility when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs. States and designated recipients are direct recipients. Eligible sub-recipients include nonprofit organizations, states or local governments, or operators of public transportation. Types of eligible projects include transit-related information technology systems, building an accessible path

to a bus stop (curb cuts, sidewalks, accessible pedestrian signals), and improving signage.

For more information: <https://www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310>

#### **ECONOMIC DEVELOPMENT ADMINISTRATION**

Under Economic Development Administration's (EDA) Public Works and Economic Adjustment Assistance programs, grant applications are accepted for projects that promote economic development. State and local entities may apply for funding for projects that address a wide range of economic challenges. Under this program, Implementation Grants support infrastructure improvements, including site acquisition, site preparation, construction, and rehabilitation of facilities. Selection criteria emphasize projects that are able to start quickly, create jobs faster, and that will enable the community or region to become more economically prosperous. Application deadlines are typically in March and June.

For more information: <https://www.eda.gov/funding-opportunities/index.htm>

#### **FEDERAL LANDS TRANSPORTATION PROGRAM (FLTP)**

The FLTP funds projects that improve transportation infrastructure owned and maintained by the following Federal Lands Management Agencies: National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), USDA Forest Service, Bureau of Land Management (BLM), U.S. Army Corps of Engineers, Bureau of Reclamation, and independent Federal agencies with land and natural resource management responsibilities. FLTP funds are for available for program administration, transportation planning, research, engineering, rehabilitation, construction, and restoration of Federal Lands Transportation Facilities. Transportation projects that are on the public network that provide access to, adjacent



to, or through Federal lands are also eligible for funding. Under the FAST Act, \$335 - \$375 million has been allocated to the program per fiscal year from 2016 - 2020.

For more information: <https://flh.fhwa.dot.gov/programs/fltp/documents/FAST%20FLTP%20fact%20sheet.pdf>

### **PARTNERSHIP FOR SUSTAINABLE COMMUNITIES**

Founded in 2009, the Partnership for Sustainable Communities (PSC) is a joint project of the Environmental Protection Agency (EPA), the U.S. Department of Housing and Urban Development (HUD), and the U.S. Department of Transportation (USDOT). The partnership aims to “improve access to affordable housing, more transportation options, and lower transportation costs while protecting the environment in communities nationwide.”

PSC is based on six livability principles, one of which explicitly addresses the need for alternative transportation options. (“Provide more transportation choices: Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation’s dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health”). PSC is not a formal agency with a regular annual grant program. Nevertheless, it is an important effort that has already led to some new grant opportunities (including both TIGER I and TIGER II grants). North Carolina jurisdictions should track PSC communications and be prepared to respond proactively to announcements of new grant programs. Initiatives that speak to multiple livability goals are more likely to score well than initiatives that are narrow in scope. PSC livability principles include: provide more transportation choices, promote equitable, affordable housing, enhance economic competitiveness, support existing communities, coordinate and leverage

federal policies and investment, and value communities and neighborhoods.

For more information: <https://www.hud.gov/hudprograms/sci>

### **FEDERAL LAND AND WATER CONSERVATION FUND**

The Land and Water Conservation Fund (LWCF) provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. Funds can be used for right-of-way acquisition and construction. The program is administered by the Department of Environment and Natural Resources as a grant program for states and local governments. Maximum annual grant awards for county governments, incorporated municipalities, public authorities, and federally recognized Indian tribes are \$250,000. The local match may be provided with in-kind services or cash.

For more information: <https://www.nps.gov/subjects/lwcf/stateside.htm>

### **RIVERS, TRAILS, AND CONSERVATION ASSISTANCE PROGRAM**

The Rivers, Trails, and Conservation Assistance Program (RTCA) is a National Parks Service (NPS) program that provides technical assistance via direct NPS staff involvement to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program only provides planning assistance; there are no implementation funds available. Projects are prioritized for assistance based on criteria, including conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation, and focusing on lasting accomplishments. Project applicants may be state and local agencies, tribes, nonprofit organizations, or citizen groups. National parks and other federal agencies may apply in partnership with other local organizations. This



program may benefit trail development in North Carolina indirectly through technical assistance, particularly for community organizations, but is not a capital funding source. Annual application deadline is August 1st.

For more information: <https://www.nps.gov/orgs/rtca/index.htm>

### **ENVIRONMENTAL CONTAMINATION CLEANUP FUNDING SOURCES**

EPA's Brownfields Program provides direct funding for brownfields assessment, cleanup, revolving loans, and environmental job training. EPA's Brownfields Program collaborates with other EPA programs, other federal partners, and state agencies to identify and leverage more resources for brownfields activities. The EPA provides assessment grants to recipients to characterize, assess, and conduct community involvement related to brownfields sites. They also provide Area-wide planning grants (AWP) which provides communities with funds to research, plan, and develop implementation strategies for areas affected by one or more brownfields.

For more information: <https://www.epa.gov/brownfields/types-brownfields-grant-funding>

### **NATIONAL FISH AND WILDLIFE FOUNDATION: FIVE STAR & URBAN WATERS RESTORATION GRANT PROGRAM**

The Five Star & Urban Waters Restoration Grant Program seeks to develop community capacity to sustain local natural resources for future generations by providing modest financial assistance to diverse local partnerships for wetland, riparian, forest and coastal habitat restoration, urban wildlife conservation, stormwater management as well as outreach, education and stewardship. Projects should focus on water quality, watersheds and the habitats they support. The program focuses on five priorities: on-the-ground restoration, community partnerships, environmental outreach,

education, and training, measurable results, and sustainability. Eligible applicants include nonprofit organizations, state government agencies, local governments, municipal governments, tribes, and educational institutions. Projects are required to meet or exceed a 1:1 match to be competitive.

For more information: <http://www.nfwf.org/fivestar/Pages/home.aspx>

### **STATE FUNDING SOURCES**

There are multiple sources for state funding of bicycle and pedestrian transportation projects. However, state transportation funds cannot be used to match federally funded transportation projects, according to a law passed by the North Carolina Legislature.

### **NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) STRATEGIC TRANSPORTATION INVESTMENTS (STI)**

The NCDOT's State Transportation Improvement Program is based on the Strategic Transportation Investments Bill, signed into law in 2013. The Strategic Transportation Investments (STI) Initiative includes the Strategic Mobility Formula, a way to fund and prioritize transportation projects.

The Strategic Mobility Formula assigns projects for all modes into one of three categories: 1) Statewide Mobility, 2) Regional Impact, and 3) Division Needs.

All independent bicycle and pedestrian projects are placed in the "Division Needs" category, and are currently ranked based on 50% data (safety, access, demand, connectivity, and cost effectiveness) and 50% local input, with a breakdown as follows:

#### **Safety 15%**

- » Definition: Projects or improvements where bicycle or pedestrian accommodations are non-existent or inadequate for safety of users
- » How it's measured: Crash history, posted speed limits, and estimated safety benefit



- » Calculation:
  - » Bicycle/pedestrian crashes along the corridor within last five years: 40% weight
  - » Posted speed limits, with higher points for higher limits: 40% weight
  - » Project safety benefit, measured by each specific improvement: 20% weight

#### **Access 10%**

- » Definition: Destinations that draw or generate high volumes of bikes/pedestrians
- » How it's measured: Type of and distance to destination

#### **Demand 10%**

- » Definition: Projects serving large resident or employee user groups
- » How its measured: # of households and employees per square mile within 1.5 mile bicycle or 0.5 mile pedestrian facility + factor for unoccupied housing units (second homes)

#### **Connectivity 10%**

- » Definition: Measure impact of project on reliability and quality of network
- » How it's measured: Creates score per each Strategic Transportation Investments based on degree of bike/ped separation from roadway and connectivity to similar or better project type

#### **Cost Effectiveness 5%**

- » Definition: Ratio of calculated user benefit divided by NCDOT project cost
- » How it's measured: Safety + Demand + Access + Connectivity)/Estimated Project Cost to NCDOT

#### **Local Input 50%**

- » Definition: Input from MPO/RPOs and NCDOT Divisions, which comes in the form points assigned to projects.

How it is measured: Base points + points for population size. A given project is more likely to get funded if it is assigned base points from both the MPO/RPO and the Division, making the need

for communicating the importance of projects to these groups critical. Further, projects that have a local match will score higher.

#### **Additional bicycle and pedestrian project requirements:**

- » Federal funding typically requires a 20% non-federal match
- » State law prohibits state match for bicycle and pedestrian projects (except for Powell Bill)
- » Limited number of project submittals per MPO/RPO/Division
- » Minimum project cost requirement is \$100,000
- » Bike/Ped projects typically include: bicycle lanes, multi-use path/greenway, paved shoulders, sidewalks, pedestrian signals, SRTS infrastructure projects, and other streetscape/multi-site improvements (such as median refuge, signage, etc.)

These rankings largely determine which projects will be included in NCDOT's State Transportation Improvement Program (STIP). The STIP is a federally mandated transportation planning document that details transportation planning improvements prioritized by the stakeholders for inclusion in NCDOT's Work Program. The STIP is updated every 2 years. The STIP contains funding information for various transportation divisions of NCDOT, including, highways, rail, bicycle and pedestrian, public transportation and aviation. A project does not have to be fully funded to be in the STIP.

For more information on STIP: <https://www.ncdot.gov/initiatives-policies/Transportation/stip/Pages/default.aspx>

#### **INCIDENTAL PROJECTS**

Bicycle and Pedestrian accommodations such as; bike lanes, wide paved shoulders, sidewalks, intersection improvements, bicycle and pedestrian safe bridge design, etc. are frequently included as "incidental" features of larger highway/roadway projects. This is increasingly



common with the adoption of NCDOT's "Complete Streets" Policy.

In addition, bicycle safe drainage grates and handicapped accessible sidewalk ramps are now a standard feature of all NCDOT highway construction. Most pedestrian safety accommodations built by NCDOT are included as part of scheduled highway improvement projects funded with a combination of federal and state roadway construction funds, and usually with a local match. On-road bicycle accommodations, if warranted, typically do not require a local match.

"Incidental Projects" are often constructed as part of a larger transportation project, when they are justified by local plans that show these improvements as part of a larger, multi-modal transportation system. Having a local bicycle or pedestrian plan is important, because it allows NCDOT or a locality to identify where bike and pedestrian improvements are needed, and can be included as part of highway or street improvement project. It also helps local government identify what their priorities are and how they might be able to pay for these projects. Under "Complete Streets" local governments may be responsible for a portion of the costs for bicycle and pedestrian projects (for NCDOT projects).

For more information: <https://connect.ncdot.gov/projects/research/Pages/ProjDetails.aspx?ProjectID=2014-06>

## SPOT SAFETY PROGRAM

The Spot Safety Program is a state-funded public safety investment and improvement program that provides highly effective low-cost safety improvements for intersections and sections of North Carolina's 79,000 miles of state maintained roads in all 100 counties of North Carolina. The Spot Safety Program is used to develop smaller improvement projects to address safety, potential safety, and operational issues. The program is funded with state funds and currently receives approximately \$9 million per state fiscal

year. Other monetary sources (such as Small Construction or Contingency funds) can assist in funding Spot Safety projects, however, the maximum allowable contribution of Spot Safety funds per project is \$250,000.

The Spot Safety Program targets hazardous locations for expedited low cost safety improvements such as traffic signals, turn lanes, improved shoulders, intersection upgrades, positive guidance enhancements (rumble strips, improved channelization, raised pavement markers, long life highly visible pavement markings), improved warning and regulatory signing, roadside safety improvements, school safety improvements, and safety appurtenances (like guardrail and crash attenuators).

A Safety Oversight Committee (SOC) reviews and recommends Spot Safety projects to the Board of Transportation (BOT) for approval and funding. Criteria used by the SOC to select projects for recommendation to the BOT include, but are not limited to, the frequency of correctable crashes, severity of crashes, delay, congestion, number of signal warrants met, effect on pedestrians and schools, division and region priorities, and public interest.

For more information: <https://connect.ncdot.gov/resources/safety/Pages/NC-Highway-Safety-Program-and-Projects.aspx>

## HIGHWAY HAZARD ELIMINATION PROGRAM

The Hazard Elimination Program is used to develop larger improvement projects to address safety and potential safety issues. The program is funded with 90 percent federal funds and 10 percent state funds. The cost of Hazard Elimination Program projects typically ranges between \$400,000 and \$1 million. A Safety Oversight Committee (SOC) reviews and recommends Hazard Elimination projects to the Board of Transportation (BOT) for approval and funding. These projects are prioritized for funding according to a safety benefit to cost



(B/C) ratio, with the safety benefit being based on crash reduction. Once approved and funded by the BOT, these projects become part of the department's State Transportation Improvement Program (STIP).

For more information: <https://connect.ncdot.gov/resources/safety/Pages/NC-Highway-Safety-Program-and-Projects.aspx>

### **GOVERNOR'S HIGHWAY SAFETY PROGRAM**

The Governor's Highway Safety Program (GHSP) funds safety improvement projects on state highways throughout North Carolina. All funding is performance-based. Substantial progress in reducing crashes, injuries, and fatalities is required as a condition of continued funding. Permitted safety projects include checking station equipment, traffic safety equipment, and BikeSafe NC equipment. However, funding is not allowed for speed display signs. This funding source is considered to be "seed money" to get programs started. The grantee is expected to provide a portion of the project costs and is expected to continue the program after GHSP funding ends. Applications must include county level crash data. Local governments, including county governments and municipal governments, are eligible to apply.

For more information: <https://www.ncdot.gov/initiatives-policies/safety/ghsp/Pages/default.aspx>

### **SAFE ROUTES TO SCHOOL (SRTS)**

SRTS is managed by NCDOT, but is federally funded; See Federal Funding Sources above for more information.

### **COMMUNITY DEVELOPMENT BLOCK GRANT FUNDS**

Community Development Block Grant (CDBG) funds are available to local municipal or county governments that qualify for community development projects that provide decent

housing and suitable living environments and by expanding economic opportunities, principally for persons of low and moderate income. State CDBG funds are provided by the U.S. Department of Housing and Urban Development (HUD) to the state of North Carolina. Some urban counties and cities in North Carolina receive CDBG funding directly from HUD. Each year, CDBG provides funding to local governments for hundreds of critically-needed community improvement projects throughout the state. These community improvement projects are administered by the Division of Community Assistance and the Commerce Finance Center under eight grant categories. CDBG funds may be used for activities which include, but are not limited to: acquisition of real property, construction of public facilities and improvements, such as streets, neighborhood centers, and conversion of school buildings for eligible purposes, and activities related to energy conservation.

For more information: <https://www.hudexchange.info/programs/cdbg-entitlement/cdbg-entitlement-program-eligibility-requirements/>

### **THE NORTH CAROLINA DIVISION OF PARKS AND RECREATION – RECREATIONAL TRAILS AND ADOPT-A-TRAIL GRANTS**

The Adopt-a-Trail Grant Program (AAT) awards \$108,000 annually to government agencies, nonprofit organizations and private trail groups for trail projects. Funding from the federal Recreational Trails Program (RTP), which is used for renovating or constructing trails and greenways, is allocated to states. The North Carolina Division of Parks and Recreation and the State Trails Program manages these funds with a goal of helping citizens, organizations and agencies plan, develop and manage all types of trails ranging from greenways and trails for hiking, biking, and horseback riding to river trails and off-highway vehicle trails. Grants are available to governmental agencies and nonprofit organizations. The maximum grant amount is



\$100,000 and requires a 25% match of RTP funds received. Permissible uses include:

- » New trail or greenway construction
- » Trail or greenway renovation
- » Approved trail or greenway facilities
- » Trail head/ trail markers
- » Purchase of tools to construct and/or renovate trails/greenways
- » Land acquisition for trail purposes
- » Planning, legal, environmental, and permitting costs - up to 10% of grant amount
- » Combination of the above

For more information: <http://www.ncparks.gov/more-about-us/grants/trail-grants/recreational-trails-program>

#### **NC PARKS AND RECREATION TRUST FUND (PARTF)**

The Parks and Recreation Trust Fund (PARTF) provides dollar-for-dollar matching grants to local governments for parks and recreational projects to serve the general public. Counties, incorporated municipalities, and public authorities, as defined by G.S. 159-7, are eligible applicants. A local government can request a maximum of \$500,000 with each application. An applicant must match the grant dollar-for-dollar, 50 percent of the total cost of the project, and may contribute more than 50 percent. The appraised value of land to be donated to the applicant can be used as part of the match. The value of in-kind services, such as volunteer work, cannot be used as part of the match. Property acquired with PARTF funds must be dedicated for public recreational use.

For more information: <http://www.ncparks.gov/more-about-us/parks-recreation-trust-fund/eligibility>

#### **CLEAN WATER MANAGEMENT TRUST FUND**

The Clean Water Management Trust Fund (CWMTF) is available to any state agency, local government, or non-profit organization whose primary purpose is the conservation,

preservation, and restoration of North Carolina's environmental and natural resources. Grant assistance is provided to conservation projects that:

- » enhance or restore degraded waters;
- » protect unpolluted waters, and/or
- » contribute toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits;
- » provide buffers around military bases to protect the military mission;
- » acquire land that represents the ecological diversity of North Carolina; and
- » acquire land that contributes to the development of a balanced State program of historic properties.

For more information: <http://www.cwmtf.net/#appmain.htm>

#### **DUKE ENERGY WATER RESOURCES FUND**

Duke Energy is investing \$10 million in a fund for projects that benefit waterways in the Carolinas. The fund supports science-based, research-supported projects and programs that provide direct benefit to at least one of the following focus areas:

- » Improve water quality, quantity and conservation;
- » Enhance fish and wildlife habitats;
- » Expand public use and access to waterways; and
- » Increase citizens' awareness about their roles in protecting these resources.

Applications are open to nonprofit organizations and local government agencies. Funding decisions are made twice a year. Local and regional government agencies could consider this resource for proposed greenways across the region.

For more information: <http://www.nccommunityfoundation.org/page/other-grant-opportunities/duke-energy-water-resource-fund-grants/applying-to-the-duke-energy-water->





[resources-fund](#)

## URBAN AND COMMUNITY FORESTRY GRANT

The North Carolina Division of Forest Resources Urban and Community Forestry grant can provide funding for a variety of projects that will help plan and establish street trees as well as trees for urban open space. The goal is to improve public understanding of the benefits of preserving existing tree cover in communities and assist local governments with projects which will lead to more effective and efficient management of urban and community forests. Grant requests should range between \$1,000 and \$15,000 and must be matched equally with non-federal funds. Grant funds may be awarded to any unit of local or state government, public educational institutions, approved non-profit 501(c)(3) organizations, and other tax-exempt organizations. First time municipal applicant and municipalities seeking Tree City USA status are given priority for funding. Grant applications are due by March 31st of each year and recipients are notified by mid-July.

For more about Tree City USA status, visit:

[http://ncforestservice.gov/Urban/urban\\_grant\\_overview.htm](http://ncforestservice.gov/Urban/urban_grant_overview.htm)

## LOCAL GOVERNMENT FUNDING SOURCES

Municipalities often plan for the funding of pedestrian and bicycle facilities or improvements through development of Capital Improvement Projects (CIP) or occasionally, through their annual Operating Budgets. In Raleigh, for example, the greenway system has been developed over many years through an annual dedicated source of funding that has ranged from \$100,000 to \$500,000 and administered through the Recreation and Parks Department. CIPs should include all types of capital improvements (water, sewer, buildings, streets, etc.) versus programs for single purposes. This allows municipal decision-makers to balance all capital needs. Typical

capital funding mechanisms include the capital reserve fund, capital protection ordinances, municipal service district, tax increment financing, taxes, fees, and bonds. Each category is described below. A variety of possible funding options available to North Carolina jurisdictions for implementing pedestrian and bicycle projects are also described below. However, many will require specific local action as a means of establishing a program if it's not already in place.

## POWELL BILL FUNDS

Annually, State street-aid (Powell Bill) allocations are made to incorporated municipalities which establish their eligibility and qualify as outlined by G.S. 136-41.1 through 136-41.4. Powell Bill funds shall be expended only for the purposes of maintaining, repairing, constructing, reconstructing or widening of local streets that are the responsibility of the municipalities. It may also be used for planning, construction, and maintenance of bikeways or sidewalks within municipal limits or within the area of a metropolitan planning organization or rural planning organization. Beginning July 1, 2015, under the Strategic Transportation Investments initiative, Powell Bill funds may no longer be used to provide a match for federal transportation funds such as Transportation Alternatives. Certified Statement, street listing, add/delete sheet and certified map from all municipalities are due between July 1st and July 21st of each year. Additional documentation is due shortly afterwards.

For more information: <https://connect.ncdot.gov/municipalities/State-Street-Aid/Pages/default.aspx>

## CAPITAL RESERVE FUND

Municipalities have statutory authority to create capital reserve funds for any capital purpose, including pedestrian facilities. The reserve fund must be created through ordinance or resolution



that states the purpose of the fund, the duration of the fund, the approximate amount of the fund, and the source of revenue for the fund. Sources of revenue can include general fund allocations, fund balance allocations, grants, and donations for the specified use.

### **CAPITAL PROJECT ORDINANCES**

Municipalities can pass Capital Project Ordinances that are project specific. The ordinance identifies and makes appropriations for the project.

### **LOCAL IMPROVEMENT DISTRICT (LID)**

Local Improvement Districts (LIDs) are most often used by cities to construct localized projects such as streets, sidewalks, or bikeways. Through the LID process, the costs of local improvements are generally spread out among a group of property owners within a specified area. The cost can be allocated based on property frontage or other methods such as traffic trip generation.

### **MUNICIPAL SERVICE DISTRICT**

Municipalities have statutory authority to establish municipal service districts, to levy a property tax in the district additional to the town-wide property tax, and to use the proceeds to provide services in the district. Downtown revitalization projects are one of the eligible uses of service districts, and can include projects such as street, sidewalk, or bikeway improvements within the downtown taxing district.

### **TAX INCREMENT FINANCING**

Project Development Financing bonds, also known as Tax Increment Financing (TIF) is a relatively new tool in North Carolina, allowing localities to use future gains in taxes to finance the current improvements that will create those gains. When a public project (e.g., sidewalk improvements) is constructed, surrounding property values generally increase and encourage surrounding development or

redevelopment. The increased tax revenues are then dedicated to finance the debt created by the original public improvement project. Streets, streetscapes, and sidewalk improvements are specifically authorized for TIF funding in North Carolina. Tax Increment Financing typically occurs within designated development financing districts that meet certain economic criteria that are approved by a local governing body. TIF funds are generally spent inside the boundaries of the TIF district, but they can also be spent outside the district if necessary to encourage development within it. Although larger cities use this type of financing more often, Woodfin, NC is an example of a small town that has used this type of financing.

### **MUNICIPAL VEHICLE TAX**

NCGS 20-97 allows municipalities to establish a vehicle fee/tax and a percentage of funding can be used for maintaining, repairing, constructing, reconstructing, widening, or improving public streets in the city or town that do not form a part of the State highway system.

#### Other Local Funding Options

- » Bonds/Loans
- » Taxes
- » Impact fees
- » Exactions
- » Installment purchase financing
- » In-lieu-of fees
- » Partnerships

## **PRIVATE AND NONPROFIT FUNDING SOURCES**

Many communities have solicited greenway funding assistance from private foundations and other conservation-minded benefactors. Below



are examples of private funding opportunities.

## FUNDING FOR TRAIL DEVELOPMENT

### Rails-to-Trails Conservancy

RTC launched a new grant program in 2015 to support organizations and local governments that are implementing projects to build and improve rail-trails. Under the Doppelt Family Trail Development Fund, RTC will award a total of \$85,000 per year through a competitive process, which is then distributed among several qualifying projects. Eligible applicants include nonprofit organizations and state, regional, and local government agencies. Two types of grants are available - community support grants and project transformation grants. Around three to four community support grants are awarded each year, ranging from \$5,000-\$10,000 each. Community Support Grants support nonprofit organizations or "Friends of the Trail" groups that need funding to get trail development or trail improvement efforts off the ground. Each year, 1-2 Project Transformation Grants are awarded that range from \$15,000-\$50,000. The intention of these grants is to enable an organization to complete a significant trail development or improvement project. For both types of grants, applications for projects on rail-trails and rails-with-trails are given preference, but rail-trail designation is not a requirement. The trail must serve multiple user types, such as bicycling, walking, and hiking, and must be considered a trail, greenway, or shared-use path.

For more information: <http://www.railstotrails.org/our-work/doppelt-family-trail-development-fund/>

### National Trails Fund

American Hiking Society created the National Trails Fund in 1998, which is the only privately supported national grants program that provides funding to grassroots organizations working toward establishing, protecting, and maintaining

foot trails in America. National Trails Fund grants help give local organizations the resources they need to secure access, volunteers, tools and materials to protect America's cherished public trails. To date, American Hiking has granted more than \$588,000 to 192 different trail projects across the U.S. for land acquisition, constituency building campaigns, and traditional trail work projects. Awards range from \$500 to \$3,000 per project. Only 501(c)3 nonprofit organizations are eligible to apply. Applicants must be current members of American Hiking Society's Alliance of Hiking Organizations. Except for land acquisition projects, funded projects must be completed in a year. Multi-year projects may be considered if they are exceptional cases. Projects the American Hiking Society will consider include:

- » Securing trail lands, including acquisition of trails and trail corridors, and the costs associated with acquiring conservation easements.
- » Building and maintaining trails which will result in visible and substantial ease of access, improved hiker safety, and/or avoidance of environmental damage.
- » Constituency building surrounding specific trail projects - including volunteer recruitment and support.

For more information: <https://americanhiking.org/national-trails-fund/>

### American Greenways Eastman Kodak Awards

The Conservation Fund's American Greenways Program has teamed with the Eastman Kodak Corporation and the National Geographic Society to award small grants (\$500 to \$2,500) to stimulate the planning, design, and development of greenways. These grants can be used for activities such as mapping, conducting ecological assessments, surveying land, holding conferences, developing brochures, producing interpretive displays, incorporating land trusts, planning bike paths, and building trails. Grants are primarily awarded to local, regional, or statewide



nonprofit organizations. Public agencies may apply but preference is given to community organizations. Grants are awarded based on the importance of the project to local greenway development efforts, demonstrated community support, extent to which the grant will result in matching funds, likelihood of tangible results, and the capacity of the organization to complete the project. Applications can be submitted from March 1st through June 1st of each calendar year.

For more information: <http://www.rlch.org/funding/kodak-american-greenways-grants>

## FUNDING FOR CONSERVATION EFFORTS

### National Fish and Wildlife Foundation (NFWF)

The National Fish and Wildlife Foundation (NFWF) is a private, nonprofit, tax-exempt organization chartered by Congress in 1984. The National Fish and Wildlife Foundation sustains, restores, and enhances the Nation's fish, wildlife, plants, and habitats. Through leadership conservation investments with public and private partners, the Foundation is dedicated to achieving maximum conservation impact by developing and applying best practices and innovative methods for measurable outcomes.

The Foundation provides grants through more than 70 diverse conservation grant programs. One of the most relevant programs for bicycle and pedestrian projects is Acres for America. Funding priorities include conservation of bird, fish, plants and wildlife habitats, providing access for people to enjoy outdoors, and connecting existing protected lands. Federal, state, and local government agencies, educational institutions, Native American tribes, and nonprofit organizations may apply twice annually for matching grants. Due to the competitive nature of grant funding for Acres for America, all awarded grants require a minimum 1:1 match.

For more information: <http://www.nfwf.org/whatwedo/grants/Pages/home.aspx>

## A-A21

### The Trust for Public Land

Land conservation is central to the mission of the Trust for Public Land (TPL). Founded in 1972, the TPL is the only national non-profit working exclusively to protect land for human enjoyment and well-being. TPL helps acquire land and transfer it to public agencies, land trusts, or other groups that intend to conserve land for recreation and spiritual nourishment and to improve the health and quality of life of American communities.

For more information: <http://www.tpl.org>

### Land for Tomorrow Campaign

Land for Tomorrow is a diverse partnership of businesses, conservationists, farmers, environmental groups, health professionals, and community groups committed to securing support from the public and General Assembly for protecting land, water, and historic places. The campaign was successful in 2013 in asking the North Carolina General Assembly to continue to support conservation efforts in the state. The state budget bill includes about \$50 million in funds for key conservation efforts in North Carolina. Land for Tomorrow works to enable North Carolina to reach a goal of ensuring that working farms and forests, sanctuaries for wildlife, land bordering streams, parks, and greenways, land that helps strengthen communities and promotes job growth, and historic downtowns and neighborhoods will be there to enhance the quality of life for generations to come.

For more information: <http://www.land4tomorrow.org/>

### The Conservation Alliance

The Conservation Alliance is a nonprofit organization of outdoor businesses whose collective annual membership dues support grassroots citizen-action groups and their efforts to protect wild and natural areas. Grants are typically about \$35,000 each. Since its



inception in 1989, The Conservation Alliance has contributed \$4,775,059 to environmental groups across the nation, saving over 34 million acres of wild lands.

The Conservation Alliance Funding Criteria:

- » The Project should be focused primarily on direct citizen action to protect and enhance our natural resources for recreation.
- » The Alliance does not look for mainstream education or scientific research projects, but rather for active campaigns.
- » All projects should be quantifiable, with specific goals, objectives, and action plans and should include a measure for evaluating success.
- » The project should have a good chance for closure or significant measurable results over a fairly short term (within four years).

For more information: <http://www.conservationalliance.com/grants/?yearly=2017>

## FUNDING FOR HEALTH AND ENVIRONMENTAL INITIATIVES

### Blue Cross Blue Shield of North Carolina Foundation (BCBS)

Blue Cross Blue Shield (BCBS) focuses on programs that use an outcome-based approach to improve the health and well-being of residents. The Healthy Places grant concentrates on increased physical activity and active play through support of improved built environments such as sidewalks and safe places to bike. Nonprofit organizations and government entities are eligible to apply. Eligible grant applicants must be located in North Carolina, be able to provide recent tax forms, and depending on the size of the non-profit, provide an audit. BCBS does not have a traditional grant cycle and announces grant opportunities on a periodic basis. Grants can range from small-dollar equipment grants to large, multi-year partnerships.

For more information: <http://www.bcbsncfoundation.org/faqs>

## Duke Energy Foundation

Funded by Duke Energy shareholders, this foundation makes charitable grants to nonprofit organizations and government agencies. Grant applicants must serve communities that are also served by Duke Energy. The grant program has several investment priorities, one of which is environment, and this is the most applicable to bicycle and pedestrian projects. Duke Energy supports initiatives that help protect and restore wildlife and natural resources, with a special focus on water and air. The application period is typically from July 1st to August 31st.

For more information: <https://www.duke-energy.com/community/duke-energy-foundation>

## FUNDING FOR COMMUNITY DEVELOPMENT INITIATIVES

### North Carolina Community Foundation

The North Carolina Community Foundation, established in 1988, is a statewide foundation seeking gifts from individuals, corporations, and other foundations to build endowments and ensure financial security for non-profit organizations and institutions throughout the state. Based in Raleigh, the foundation also manages a number of community affiliates throughout North Carolina, that make grants in the areas of human services, education, health, arts, religion, civic affairs, and the conservation and preservation of historical, cultural, and environmental resources. The foundation also manages various scholarship programs statewide. Nonprofit organizations and local government units, such as public schools, are eligible to apply. The foundation will only give consideration to applicants that serve counties within its affiliate network.

For more information: <http://www.nccommunityfoundation.org/grants-scholarships>

## Z. Smith Reynolds Foundation



This Winston-Salem-based foundation has been assisting environmental projects in North Carolina for many years. Grant recipients include nonprofit organizations, colleges and universities, religious entities, and government agencies that have projects or programs that serve North Carolinians. The Foundation focuses its grant making on five focus areas: Community Economic Development; Environment; Public Education; Social Justice and Equity; and Strengthening Democracy. The “environment” focus area is the most applicable for bicycle and pedestrian projects. This focus area seeks to protect and restore ecosystems in the state’s mountains and coastal areas. The Z. Smith Reynolds Foundation is committed to accommodating the increasing growth demands in the state in environmentally sustainable ways, including through enhanced transportation options. Deadline to apply is typically in August.

For more information: <http://www.zsr.org/grants-programs>

### **Bank of America Charitable Foundation**

The Bank of America Charitable Foundation is one of the largest in the nation. Its grantmaking activities are focused on 3 focus areas: workforce development and education, community development, and basic needs. The area of focus most relevant to increased recreational opportunities and trails is community development, which provides funding for projects that foster green communities and for transit oriented development projects. Only nonprofit organizations are eligible to apply for funding.

For more information: [www.bankofamerica.com/foundation](http://www.bankofamerica.com/foundation)

### **Local Trail Sponsors**

A sponsorship program for trail amenities allows smaller donations to be received from both individuals and businesses. Cash donations could be placed into a trust fund to be accessed for certain construction or acquisition projects

associated with the greenways and open space system. Some recognition of the donors is appropriate and can be accomplished through the placement of a plaque, the naming of a trail segment, and/or special recognition at an opening ceremony. Types of gifts other than cash could include donations of services, equipment, labor, or reduced costs for supplies.

### **Corporate Donations**

Corporate donations are often received in the form of liquid investments (i.e. cash, stock, bonds) and in the form of land. Municipalities typically create funds to facilitate and simplify a transaction from a corporation’s donation to the given municipality. Donations are mainly received when a widely supported capital improvement program is implemented.

### **Private Individual Donations**

Private individual donations can come in the form of liquid investments (i.e. cash, stock, bonds) or land. Municipalities typically create funds to facilitate and simplify a transaction from an individual’s donation to the given municipality. Donations are mainly received when a widely supported capital improvement program is implemented.

### **Fundraising/Campaign Drives**

Organizations and individuals can participate in a fundraiser or a campaign drive. It is essential to market the purpose of a fundraiser to rally support and financial backing. Often times fundraising satisfies the need for public awareness, public education, and financial support.

### **Volunteer Work**

It is expected that many citizens will be excited about the development of a greenway corridor. Individual volunteers from the community can be brought together with groups of volunteers from church groups, civic groups, scout troops and environmental groups to work on greenway



development on special community workdays. Volunteers can also be used for fund-raising, maintenance, and programming needs.

### **INNOVATIVE FUNDING OPTIONS**

Crowdsourcing “is the process of obtaining needed services, ideas, or content by soliciting contributions from a large group of people, and especially from an online community, rather than from traditional employees or suppliers.”

For some success stories and ideas for innovative fundraising techniques: <https://www.americantrails.org/resources/trail-planning>



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The image features a light gray aerial photograph of a city grid as a background. A large, dark blue circular graphic is centered on the page. Inside this circle, the text "B. NETWORK RECOMMENDATIONS" is written in a bold, white, sans-serif font, arranged in two lines.

**B. NETWORK  
RECOMMENDATIONS**



## Planning Level Cost Estimates

Planning level cost estimates can be calculated based on the average quarter-mile cost estimates from the 2016 report out of UNC-Charlotte on the “Cost of Independent Bicycle and Pedestrian Facilities in North Carolina,” shown in the graphic below.

Construction Costs	Facility Type							
	Sidewalk (0.25 mile)	Bicycle Lane (0.25 mile)	Shared Use Path (0.25 mile)	Mid block Xwalk (1)	Paved Shoulder (0.25 mile)	Ped. Intersection Treatments (1)	Bicycle/ Ped. Bridge (100 ft)	Shared Lane Markings (0.25 mile)
<b>Minimum Costs</b>	\$25,760	\$33,153	\$12,393	\$3,340	\$20,532	\$14,343	\$122,992	\$7,781
<b>Percentile (10)</b>	\$50,320	\$54,366	\$25,380	\$3,542	\$29,324	\$16,133	\$124,934	\$11,528
<b>Percentile (25)</b>	\$65,571	\$77,505	\$32,236	\$3,809	\$41,226	\$20,081	\$126,062	\$16,355
<b>Percentile (50)</b>	\$89,364	\$112,490	\$46,152	\$4,323	\$64,468	\$24,546	\$128,121	\$26,185
<b>Average Cost</b>	\$82,918	\$105,099	\$70,264	\$4,940	\$84,092	\$25,923	\$130,120	\$37,829
<b>Percentile (75)</b>	\$121,661	\$156,596	\$72,398	\$5,132	\$93,438	\$28,563	\$130,972	\$41,919
<b>Percentile (90)</b>	\$164,125	\$203,395	\$108,479	\$5,966	\$126,145	\$32,629	\$135,146	\$57,410
<b>Maximum Cost</b>	\$534,578	\$552,659	\$437,238	\$14,167	\$438,737	\$56,897	\$162,890	\$209,319

Source: Pulugurtha, S. (2017). “Cost of Independent Bicycle and Pedestrian Facilities.” a Presentation to the Participants of GLC MPO Training Session, March 2, 2017. Available at <https://connect.ncdot.gov/projects/BikePed/Documents/Bicycle%20and%20Pedestrian%20Facility%20Cost%20Tool%20-%20Report.pdf>

Based on the table above, the average cost to build a 5’ sidewalk is \$331,662/mile, and the cost to build a 10’-12’ wide sidepath is \$281,056/mile. However, it is important to note that costs for pedestrian and bicycle infrastructure vary greatly from city to city and site to site. All cost estimates should be used only for estimating purposes and not necessarily for determining actual bid prices for a specific infrastructure project. These cost estimates do not include right-of-way acquisition, utility conflicts, and other potential costs. Project cost estimates derived from these unit cost estimates should always be reevaluated by an engineer or project designer prior to implementation.

Cost estimates can be used to anticipate and identify funding sources. The order in which the projects are implemented will depend on a number of factors, including maintenance/resurfacing schedules, funding availability/schedules.



**Table B.1 Short-Term Priorities**

Corridor	From	To	Proposed Facility	County	Length (mi.)	Cost per Mile	Cost	Speed Limit	ADT	Road Width (feet)	Existing Conditions	Implementation Notes
Avondale Ave	Maple Creek Canal Trail	Oak Dale Rd	bicycle boulevard	Nash	0.88	200000	\$176,312	35, S of Avondale Ct 25	NA	22	wide 2 lane, RR bike/ped crossing	Pavement Markings
Branch St	Raleigh Blvd	Lancaster St	bicycle boulevard	Edgecombe	1.01	200000	\$201,754	35	NA	35	wide 2 lane, st parking	Pavement Markings
Carolina Ave and Madison St	Eastern Ave	Virginia St	bicycle boulevard	Edgecombe	0.76	200000	\$151,024	35	NA	34	wide 2 lane, st parking	Pavement Markings
Church St	Franklin St	Andrews St	separated bike lane	Nash	0.89	250000	\$223,686	25	2900	36	3 lanes	Separation, Road Diet
Coleman Ave	Virginia Ave	Discovery St	bicycle boulevard	Edgecombe	0.56	200000	\$112,009	35, S of Shearin 25	NA	28	wide 2 lane, st parking	Pavement Markings
Daughtry St	Discovery St	Marigold St	bicycle boulevard	Edgecombe	0.60	200000	\$120,146	35	NA	28	wide 2 lane, st parking	Pavement Markings
E Virginia St	Albemarle Ave	Barnes St	separated bike lane	Edgecombe	1.16	250000	\$289,856	35, Hunter to Stokes 25	NA	34	wide 2 lanes	Separation
Eastern Ave	E Virginia St	Glendale Dr	bicycle boulevard	Edgecombe	1.42	200000	\$284,032	35	NA	34	wide 2 lane, st parking	Pavement Markings
Falls Rd	Tar River Greenway	Franklin St	buffered bike lane	Nash	1.02	250000	\$253,857	35, Oak to Earl 25, S of Grace 25	2300 to 6300	34	wide 2 lane one way, shoulder/parking	Separation, remove parking
Franklin St	N Church St	Andrews St	separated bike lane	Nash	0.92	250000	\$231,042	30	1500 to 3400	30	3 and 2 lanes one way	Separation, Narrow Travel Lanes
Goldleaf St	Albemarle Ave	Main St	bike lane	Edgecombe	0.07	250000	\$17,520	25	NA	34	wide 2 lane partial median	Pavement Markings
Hammond St and S Pearl St	Nash St	Tillery St	bike lane	Nash	0.42	250000	\$105,997	35, E of Grace 25	2800	30	wide 2 lanes, parking	Pavement Markings, Intersection Improvements, Narrow Travel Lanes
Hammond St and S Pearl St	Tillery St	Bethlehem Rd	separated bike lane	Nash	1.25	250000	\$312,384	35, Paul to Edwards and Lafayette to Tillery 25	3400 to 500	38	wide 2 lanes parking	Separation, remove parking
Howell St	Western Ave	Walnut St	sharrow	Nash	0.55	200000	\$110,230	35	NA	24	2 lanes	Pavement Markings
Ivy St	Albemarle Ave	Atlantic Ave	sharrow	Edgecombe	0.06	200000	\$11,526	35	NA	26	2 lanes	Pavement Markings
Melton, Ridge, Pine, Gay, Lee, Duke, Taylor	Melton Dr	Pine St	bicycle boulevard	Nash	1.64	200000	\$327,486	35	1100 to 1400	20	wide 2 lane, st parking	Pavement Markings
Nash St and Marigold St	Mayo St	Raleigh Blvd	separated bike lane	Nash	1.27	250000	\$318,133	25, W of Main 35	720 to 1400	32	wide 2 lanes one way	Separation
Peachtree St	River Drive	Franklin St	buffered bike lane	Nash	0.78	250000	\$194,959	35, Ridge to Earl 25, S of Grace 25	6300 to 7700	34	wide 2 lane one way, shoulder/parking	Separation, remove parking
Redgate Ave	Tarboro St	Arlington St	bike lane	Edgecombe	0.71	250000	\$178,094	35	1600 to 3800	30	wide 2 lanes, parking	Pavement Markings, Intersection Improvements, Narrow Travel Lanes
Tarboro St and Albermarle Ave	Virginia Ave	Raleigh Blvd	bicycle boulevard	Edgecombe	1.03	200000	\$205,195	Tarboro 25, Albermarle 35	NA	30	wide 2 lane st parking, Tarboro 35' 3 lane one way	Pavement Markings
Washington St, Hendricks St, Arlington St	Wye St	Redgate Ave	bicycle boulevard	Edgecombe	0.20	200000	\$40,897	35	NA	28	wide 2 lane, st parking	Pavement Markings
<b>TOTAL</b>					<b>17.21</b>		<b>\$3,866,139</b>					



**Table B.2 Mid-Term Priorities**

Corridor	From	To	Proposed Facility	County	Length (mi.)	Cost per Mile	Cost	Speed Limit	ADT	Road Width (feet)	Existing Conditions	Implementation Notes
Albemarle Ave	Virginia St	Albemarle Ave connector	bicycle boulevard	Edgecombe	0.17	200000	\$33,818	35	NA	36	wide 2 lane	Pavement Markings
Atlantic Ave and Arlington St	US 64	Raleigh Blvd	bike lane	Edgecombe	1.60	250000	\$400,751	35, N of Spruce 45	2600 to 5700	38	4 lane, bridge	Pavement Markings, Intersection Improvements, Road Diet
Barnes St	Leggett Rd	E Virginia St	bicycle boulevard	Edgecombe	0.53	200000	\$106,804	35	NA	32	Interstate interchange bridge, 5 lane	Pavement Markings
Bedford Rd	Fairview Rd	Glendale Dr	bike lane	Edgecombe	0.39	250000	\$96,297	35	NA	32	wide 2 lanes	Pavement Markings
Charlotte, Martin, Oakdale	Avondale Ave	Forest Hill Ave	bicycle boulevard	Nash	0.93	200000	\$186,054	35	NA	28	wide 2 lane	Pavement Markings
Church St and Nashville Rd	Raleigh Blvd	Hammond St	bike lane	Nash	1.96	250000	\$490,680	35, btwn Aycock Nashville 25, N of James 25	4700 to 9500	28	wide 2 lanes, 2 lane middle turn	Pavement Markings, Intersection Improvements, Narrow Travel Lanes
Church St and Nashville Rd	Andrews St	Raleigh Blvd	separated bike lane	Nash	0.07	250000	\$16,490	25	2900	36	2 lane + lane median/turn, under-crossing	Separation, Road Diet
Cokey Rd	Raleigh Blvd	Springfield Rd	bike lane	Edgecombe	2.77	250000	\$693,601	35, E Wintergreen 45	3500 to 6800	36	2 travel lanes + middle turn lane	Pavement Markings
Davis St, Estell St, & Bailey St	Nashville Rd	Estell St	bicycle boulevard	Nash	0.74	200000	\$148,441	35	NA	22	wide 2 lane	Pavement Markings
Dreaver St and Rosewood Ave	Eastern Ave	Meadowbrook Rd	bicycle boulevard	Edgecombe	1.63	200000	\$325,234	35	NA	26	wide 2 lane w st parking, bridge	Pavement Markings
Eastern, Glendale, Rosewood, Dreaver, Karen	Rosewood Ave	Meadowbrook Rd	bicycle boulevard	Edgecombe	0.00	200000	\$296	35	NA	26	wide 2 lane, st parking	Pavement Markings
Eastern, Glendale, Rosewood, Dreaver, Karen	Rosewood Ave	Meadowbrook Rd	bicycle boulevard	Edgecombe	0.00	200000	\$712	35	NA	26	wide 2 lane, st parking	Pavement Markings
Evergreen, Burton, Williford	Pinehaven Dr	Raleigh Blvd	bicycle boulevard	Nash	0.82	200000	\$163,429	35, E of Burton 25	NA	28	wide 2 lane, st parking	Pavement Markings
Forest Hill Ave	Charlotte Ave	Old Mill Rd	bicycle boulevard	Nash	0.54	200000	\$108,849	35	2500 to 2600	34	wide 2 lane	Pavement Markings
Franklin St	Andrews St	Raleigh Blvd	separated bike lane	Nash	0.11	250000	\$27,212	25	1700	36	2 to 3 lane one way	Separation, Road Diet
Grace St, Grand Ave, and Fairview Rd	West End St	Denton St	bike lane	Edgecombe	3.65	250000	\$912,243	35, btwn Nutrition Bedford 25	6300 to 12000	36	4 travel, and 2 travel mid turn	Pavement Markings, Road Diet
Hammond St	Pearl St	Coastline St	bike lane	Nash	0.23	250000	\$58,326	25	NA	30	wide 2 lane, middle section has extra turn lane	Pavement Markings, Intersection Improvements, Narrow Travel Lanes
Henry, Luper, Cleveland, Grace	Raleigh Blvd	Nashville Rd	sharrow	Nash	0.60	200000	\$120,905	35, S of Cleveland 25	NA	30	2 lanes	Pavement Markings
Hill St and West-er Ave	Piedmont Ave	Cokey Rd	buffered bike lane	Nash	1.81	250000	\$451,693	35, Grace to Main 25	NA	22	2&3 In one way, tight RR cross, 2 lane parking	Separation, remove parking, Intersection Improvements, Road Diet
Holly St	Albemarle Ave	Matthews St	bicycle boulevard	Edgecombe	0.63	200000	\$125,266	35	NA	22	wide 2 lane, st parking	Pavement Markings



**Table B.2 Mid-Term Priorities (continued)**

Corridor	From	To	Proposed Facility	County	Length (mi.)	Cost per Mile	Cost	Speed Limit	ADT	Road Width (feet)	Existing Conditions	Implementation Notes
Leggett, Barnes, Virginia, and Meadowbrook	Leggett Rd	E Virginia St	bicycle boulevard	Edgecombe	0.13	200000	\$26,601	35	NA	38	wide 2 lanes, st parking	Pavement Markings
Marigold St	Branch St	Edgewood St	bicycle boulevard	Edgecombe	0.40	200000	\$79,956	35	810	28	2 lane 1 way, wide 2 lane, parking	Pavement Markings
Meadowbrook Rd	n. terminus	Raleigh Blvd	bicycle boulevard	Edgecombe	0.16	200000	\$32,400	25	NA	38	2 lane, middle turn	Pavement Markings
Myrtle Ave, Leggett Rd	Barnes St	Virginia St	bike lane	Edgecombe	0.88	250000	\$220,768	35	3200	20	wide 2 lanes	Pavement Markings, Narrow Travel Lanes
N Lee St and Glenn Ave	Thomas St	Hammond St	bike lane	Nash	0.69	250000	\$173,659	35	500	32	wide 2 lanes, RR crossing	Pavement Markings
Pearl St	Western Ave	Nash St	bike lane	Nash	0.09	250000	\$23,126	25	NA	30	wide 2 lanes	Pavement Markings
Piedmont and Westhaven	Sunset Dr	Pinecrest Rd	sharrow	Nash	0.63	200000	\$125,413	35	1600	20	2 lanes	Pavement Markings
Piedmont Ave	Pinecrest Rd	Pinehaven Dr	sharrow	Nash	0.31	200000	\$62,653	35	NA	22	2 lanes	Pavement Markings
Pinehaven Dr	Evergreen Rd	Howell St	bike lane	Nash	0.76	250000	\$188,923	35	NA	32	wide 2 lanes parking	Pavement Markings
Pineview St	Tarboro St	Eastern Ave	bicycle boulevard	Edgecombe	0.18	200000	\$35,740	35	NA	32	wide 2 lane, st parking	Pavement Markings
Raleigh Blvd	Nashville Rd	Ravenwood Dr	buffered bike lane	Nash	0.42	250000	\$104,610	35, N of Nelson 25	15000	60	4 ln + mid turn	Separation, Road Diet
Stokes St and Raleigh Blvd	Nashville	Virginia St	bike lane	Edgecombe	3.28	250000	\$819,156	35, bwtm Thomas Olive 25	8500 to 16000	28	mixed, collector and neighborhood roads, bridge	Detailed analysis for corridor
Sunset Ave	I-95	Washington St	complete street retrofit	Nash	5.56	dependent on design		45, Forest Hill to Grace 35, E of Grace 25	23000 to 3000			
Tarboro St	Raleigh Blvd	Glendale Rd	bike lane	Edgecombe	1.47	250000	\$366,559	35	2500	34	wide 2 lanes parking	Pavement Markings, Intersection Improvements
Taylor, Dawson, Duke, Lee, Gay	River Dr	Pine St, Thomas St	bicycle boulevard	Nash	0.88	200000	\$176,190	35, N of Dawson 25	1100	26	wide 2 lane, st parking	Pavement Markings
Vernon, Karen, Glendale	Tarboro St	Meadowbrook Rd	bicycle boulevard	Edgecombe	1.05	200000	\$209,669	35	NA	30	wide 2 lane	Pavement Markings
Waverly Dr, Shady Circle Dr, Pinecrest Rd	Nash St	West Haven Blvd	bicycle boulevard	Nash	0.93	200000	\$186,495	35	NA	21	wide 2 lane	Pavement Markings
West Haven Blvd	Pinecrest Rd	Raleigh Blvd	bike lane	Nash	0.78	250000	\$194,944	35	1600 to 1800	34	wide 2 lanes	Pavement Markings
Winstead Rd	Old Mill Rd	Hawthorne Dr	bike lane	Nash	1.89	250000	\$473,579	35	NA	20	wide 2 lanes, tight btwn Winstead and Hawthorne	Pavement Markings
<b>TOTAL</b>					<b>39.68</b>		<b>\$7,967,541</b>					



**Table B.3 Long-Term Priorities**

Corridor	From	To	Proposed Facility	County	Length (mi.)	Cost per Mile	Cost	Speed Limit	ADT	Road Width (feet)	Existing Conditions	Implementation Notes
Airport Rd	Wesleyan Blvd	Tanner Rd	bike lane	Nash	1.34	250000	\$334,503	45, W of Church 35	4200 to 7100	30	wide 2 lane, bridge	Pavement Markings
Bethlehem Rd	Old Mill Rd	Hammond St	complete street retrofit	Nash	0.94	dependent on design		45	1800 to 11000			
Church St	Jeffreys Rd	Greenway	complete street retrofit	Nash	1.73	dependent on design		45	8300 to 12000			
Freer Dr	Goldrock Rd	Mashie Ln	bike lane	Nash	0.54	250000	\$135,638	35	NA	22	2 way dirt road, 2 way asphalt	Pavement Markings, New Construction
Goldrock Rd	Red Oak Battleboro Rd	Benvenue Rd	bike lane	Nash	4.26	250000	\$1,064,721	45, N of Boseman 55, N of Drake 35	5200 to 11000	22	2 lane, 3 ln w mid turn	Pavement Markings, Road Diet, Road Widening/New Construction
Hunter Hill Rd	Wesleyan Blvd	Halifax Rd	bike lane	Nash	3.08	250000	\$770,503	45 to rosebud, 35 to English, 55 to Halifax	5400 to 10000	20	Complex corridor, tight 2 ln, bridge, 4 ln, median	Pavement Markings, Intersection Improvements, Road Diet, Road Widening/New Construction
Jeffreys Rd	Benvenue Rd	Church St	complete street retrofit	Nash	1.69	dependent on design		35	5500 to 6000			
Meadowbrook Rd	Raleigh Blvd	Brake Rd	bike lane	Edgecombe	2.02	250000	\$504,997	45, N of Vernon 35	700 to 5100	20	2 lane, 3 ln intersection	Pavement Markings, Road Widening/New Construction
N Church St	Tar River Greenway	Franklin St	bike lane	Nash	0.57	250000	\$142,043	25 to Grand, 35 to Melton, 45 to Greenway	3500 to 11000	36	4 lanes + mid turn lane down to wide 2	Pavement Markings, Intersection Improvements, Road Diet or widening
N Church St	US HWY 64	Tar River Bridge	buffered bike lane	Nash	0.16	250000	\$40,754	45	11000	68	bridge, undercrossing, 5 lane	Separation, Road Diet, Intersection Improvements
Nicodemus Mile Rd and English Rd	Hunter Hill Rd	Winstead Ave	bike lane	Nash	1.27	250000	\$316,277	35, W of Binker 45	NA	22	complex intersection (6 ln), 3 ln mid turn, 2 ln	Pavement Markings, Road Diet, Road Widening/New Construction
Raleigh Blvd	Stokes St	Meadowbrook Rd	bike lane	Edgecombe	0.31	250000	\$76,425	35	1300	60	4 lanes + mid turn lane	Pavement Markings, Road Diet or Narrow Travel Lanes
Raleigh Blvd	Meadowbrook Rd	Springfield Rd	bike lane	Edgecombe	0.63	250000	\$157,542	45	11000 to 12000	60	interstate interchange bridge, 5 lane	Pavement Markings, Intersection Improvements, Narrow Travel Lanes, Road Diet
Raleigh Blvd	Ravenwood Dr	Wesleyan Blvd	buffered bike lane	Nash	1.02	250000	\$255,062	45, N Powell 35	6800	24	undercrossing, 4 lane + mid turn to 2 lane	Separation, Road Diet, Intersection Improvements
Springfield Rd	Raleigh Blvd	Cokey Rd	bike lane	Edgecombe	2.12	250000	\$530,518	50	4600 to 5800	26	tight bridge, wide 2 lane with shoulder	Pavement Markings
Wesleyan Blvd	Jeffreys Rd	s. city limits	complete street retrofit	Nash	7.96	dependent on design		55, May to Airport 45, N of Airport 50	32000 to 12000			
West Mount Drive	Harbour W Dr	Sutton Rd	bike lane	Nash	1.57	250000	\$392,223	45, N of Bethlehem 35	4200	38	4 travel lanes + middle turn lane, 2 ln mid turn	Pavement Markings, Intersection Improvements, Road Diet
Winstead Ave	Railroad tracks	Maple Creek Canal Trail	bicycle boulevard	Nash	0.44	200000	\$87,743	35, S of Shadowridge 25	8300	36	4 travel lane with mid turn lane + 2 travel 1 turn	Pavement Markings




### Table B.3 Long-Term Priorities (continued)

Corridor	From	To	Proposed Facility	County	Length (mi.)	Cost per Mile	Cost	Speed Limit	ADT	Road Width (feet)	Existing Conditions	Implementation Notes
Winstead Ave	Sunset Ave	Westry Rail Trail	bike lane	Nash	0.66	250000	\$165,993	35	8300 to 12000	36	5 lane to 2 travel + mid turn	Pavement Markings, Intersection Improvements, Road Diet
Kingston, Sutton Rd and Sutton Extensions	Cokey Rd	West Mount Dr	bike lane	Edgecombe	5.10	250000	\$1,275,745	35 to Church, 45 W to Old Wilson	1900 to 2800	14	3 In mid turn, 2 In, RR tunnels, W & E future rds	
Tarboro St extension	Glendale Dr	Springfield Rd	bike lane	Edgecombe	0.76	250000	\$190,137	NA	0		potentially future road	
Vance St	Monk St	Sutton Rd	bike lane	Edgecombe	1.04	250000	\$259,219	35	740	20	2 lane	Pavement Markings, Road Widening/ New Construction
<b>TOTAL</b>					<b>39.20</b>		<b>\$6,700,043</b>					



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**C.**  
**DESIGN GUIDELINES  
& TRAIL AMENITIES**



## DESIGN GUIDELINE RESOURCES

Planners and project designers should refer to these standards and guidelines in developing the infrastructure projects recommended by this plan. The following resources are from the NCDOT website, for “Bicycle & Pedestrian Project Development & Design Guidance”, located here:

<https://connect.ncdot.gov/projects/BikePed/Pages/Guidance.aspx>

All resources listed below are linked through the web page listed above, retrieved in August 2018.

### NATIONAL GUIDELINES

American Association of State Highway and Transportation Officials (AASHTO):

- » Guide for the Development of Bicycle Facilities
- » Guide for the Planning, Design, and Operation of Pedestrian Facilities

The Federal Highway Administration (FHWA):

- » Accessibility Guidance
- » Design Guidance
- » Facility Design
- » Facility Operations

Manual on Uniform Traffic Control Devices (MUTCD):

- » 2009 NC Supplement to MUTCD
- » Part 4E: Pedestrian Control Features
- » Part 7: Traffic Controls for School Areas
- » Part 9: Traffic Controls for Bicycle Facilities

National Association of City Transportation Officials (NACTO):

- » Urban Bikeway Design Guide
- » Urban Street Design Guide

Safe Routes to School (SRTS) Non-Infrastructure:

- » National Center for Safe Routes to School
- » National Partnership for Safe Routes to School

US Access board:

- » ABA Accessibility Standards
- » ADA Accessibility Guidelines
- » ADA Accessibility Standards
- » Public Rights-of-Way, Streets & Sidewalks, and Shared Use Paths

### NORTH CAROLINA GUIDELINES

North Carolina Department of Transportation (NCDOT):

- » NCDOT policy guidance: <https://connect.ncdot.gov/projects/BikePed/Pages/Policies-Guidelines.aspx>
- » WalkBikeNC: The Statewide Pedestrian and Bicycle Plan
- » Glossary of North Carolina Terminology for Active Transportation
- » NCDOT Complete Streets, including the Complete Streets Planning and Design Guidelines
- » Evaluating Temporary Accommodations for Pedestrians
- » NC Local Programs Handbook
- » Traditional Neighborhood Development Guidelines

Greenway Construction Standards:

- » Greenway Standards Summary Memo
- » Design Issues Summary
- » Greenway Design Guidelines Value Engineering Report
- » Summary of Recommendations
- » Minimum Pavement Design Recommendations for Greenways
- » Steps to Construct a Greenway or Shared-Use Trail

### ADDITIONAL FHWA RESOURCES NOT CURRENTLY LINKED THROUGH THE MAIN NCDOT LINK ABOVE:

Achieving Multimodal Networks (2016)

- » [https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/publications/multimodal\\_networks/](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/multimodal_networks/)

Separated Bike Lane Planning and Design Guide (2015)

- » [https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/publications/separated\\_bikelane\\_pdg\\_page00.cfm](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg_page00.cfm)

Incorporating On-Road Bicycle Networks into Resurfacing Projects (2016)

- » [https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/publications/resurfacing/](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/resurfacing/)

Small Town and Rural Multimodal Networks Design Guide (2017)

- » <http://ruraldesignguide.com/>



## IMPROVING TRAIL USERS' EXPERIENCE

Once more greenway projects have been put in place, and once key gaps in the system have been filled, further work should be done to promote the use of greenways to both residents and visitors. With increasing investment in greenways and trails, North Carolina is poised to become a top destination for recreational tourism. The majority of Rocky Mount residents may be aware of improvements to the greenway system, but those living outside the city and even some city residents may not be aware of all the greenways that Rocky Mount has to offer. As a regional leader, Rocky Mount can play a key role in coordinating efforts across three main areas of trail development in addition to the actual trail projects featured in the first part of this chapter. Rocky Mount should work with its partners to establish a regional trail branding and wayfinding program that can be used to promote the system regionally and nationally, and encourage the placement of key amenities along and throughout the greenway system.

### REGIONAL BRANDING AND WAYFINDING

In order for greater numbers of people to enjoy the greenways, Rocky Mount should consider a branding strategy that will market the greenways to residents, visitors, and potential funders. A brand tends to communicate what the user will experience and is applied consistently throughout all materials, messaging, and representation. It creates an emotional association and incorporates the inherent nature of an entity – its personality, character, and style. Lastly, a brand enables an entity to distinguish itself from similar options. For a greenway, a brand includes user experience, logo, signage, purpose, safety, comfort, programming, funding, sponsors, and supporters.

Branding the greenway system has multiple benefits, including:

- » Creating awareness of the greenways
- » Increased numbers of bicycle and walking trips
- » A greater sense of security and comfort
- » Improving navigation of the greenway system
- » Defining the system within the larger context of

trails, bicycle routes, and pedestrian routes

One component of branding is to establish a logo for the greenway system. The creation of a logo to be placed on signs, brochures, and maps would give the system a distinct identity. Branding of the greenways would reflect the uniqueness of Rocky Mount and its neighborhoods. It will simultaneously set the greenway system apart from trails and greenways in other regions while also serving to improve connectivity and navigation. Part of this branding strategy would be to explore the character of the greenway system and project an image of how it should be represented. It is also critical that it be designed and implemented in a way that works well for both the City and the municipal partners.

Aside from the benefit of increased tourism, branding the greenway system offers benefits from a transportation perspective. Having signage in place to alert motorists of crossings will improve safety for pedestrians and bicyclists who use the greenway.

Once a branding strategy has been identified, the next step would be to develop comprehensive wayfinding for the system. Wayfinding is generally considered to be a system of visual cues that help to orient people and give them a sense of place. As the Rocky Mount greenway system expands, residents and visitors will have increased access to longer recreation routes, schools, commercial centers, and green spaces. Wayfinding elements such as signage and mile markers will help to draw visitors, help users to identify the best routes, and enhance their ability to connect to major destinations.

The overall experience of greenway users will be enhanced with wayfinding that ties the whole system together. Rocky Mount could choose to conduct a wayfinding study to evaluate existing conditions as well as determine appropriate wayfinding elements, placement of signage, and design. Wayfinding elements could include off-site elements, such as printed user maps, digital user maps, gateway signs, and bicycle guide signs. On-site elements would include direction signs, map kiosks, and confirmation signs. A wayfinding plan would also provide guidance for design standards and installation of signs.



For trail signs within the highway right-of-way, the Manual on Uniform Traffic Control Devices (MUTCD), developed by the Federal Highway Administration (FHWA), provides standards for signs, signals, and pavement markings. While standards exist for signage, there is still opportunity to customize signage to match the character and feel of the communities in which those signs are placed.

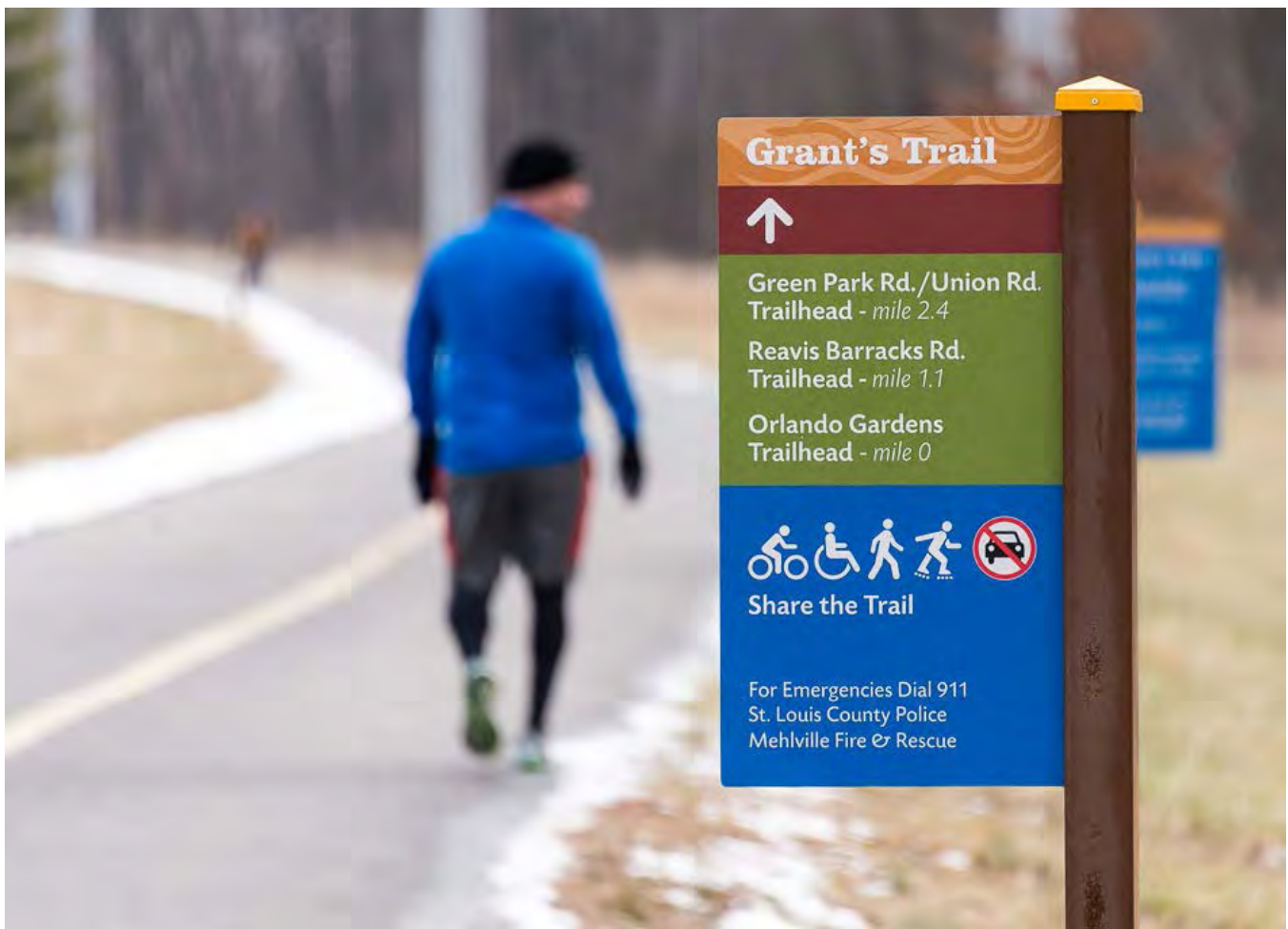
## TRAIL AMENITIES

Functional greenway trails must feature appropriate amenities to create a complete, accessible, and comfortable experience for a wide variety of expected users. As longer, connected segments of trail are built in Rocky Mount, it will be important to accommodate

longer-distance trips as well. Elements such as restrooms, lighting, benches, and other amenities create a unique identity but also provide important functions. It is important that the details work together to create a positive experience for users. These key amenities are described briefly below.

### Trailheads

Trailheads are arguably the most important amenity of a greenway trail. Trailheads provide essential access to the greenway and can include many amenities in one location: automobile parking, bicycle parking, restrooms, drinking fountains, trash and recycle receptacles, dog waste stations, bicycle repair stations, and greenway trail wayfinding and informational signage. While there is no widely accepted prescription



This example signage for the Great Rivers Greenway trail system in St. Louis County shows a simple, yet effective use of signage and branding that lets the user know the name of the trail, distance to nearby destinations, the types of uses permitted, and has a reminder to share the trail. Photo by the Great Rivers Greenway.



for the frequency of trailheads, a report by the National Park Service (North Country National Scenic Trail Handbook) suggests a frequency of about 5-10 miles, depending on the level of trail usage. User counts and surveys should be conducted to analyze effectiveness of existing trailheads in Rocky Mount, and to determine current levels of parking demand. Major trailheads should be established where they are highly accessible and visible, usually along a major transportation corridor. Minor trailheads can be found at locally known parks or at connections to residential or commercial development.



*The New Hope Church Road Trailhead Park in northwest Cary.*



*Composting restroom at the current southern end of the American Tobacco Trail in Wake County.*

## *Restrooms*

Public restrooms are a critical building amenity because they need to be responsive to a wide range of human needs and abilities. Restrooms are often selected as the most important trail amenity of the general population. Careful consideration must be given to a number of factors before locating restrooms, including available land, size of trailhead, utility availability, and user need. When locating restrooms, prioritize them at trailheads within existing parks and review gaps for placement at other trailheads or locations within the system (trailheads, as noted above, are suggested at about 5-10 mile intervals). Composting toilets, similar to what is found at the current southern end of the American Tobacco Trail, should be considered in remote areas where utility connections are unavailable.

## *Drinking Fountains*

Drinking fountains provide opportunities for users to hydrate and potentially extend their trip. Long distance runners and bicyclists require replenishment and depend upon fountains to refill their water bottles. Fountains are also particularly desired by the elderly and come in handy for pets as well. Drinking fountains should be located near restrooms, at trailheads, parks, and other public gathering places along the greenway trail. Space drinking fountains 10-15 miles when potable or treatable water is not otherwise available.



*Drinking fountains are key amenities for a wide variety of the population including pets.*



## Seating

Seating along greenway trails provides a place for users to rest, congregate, and/or reflect. Benches can be designed to create identity along the greenway trail or be strictly utilitarian. Benches should be located along the greenway where appropriate, or where there is demand by users. Seating should be provided at a minimum, every mile, and within 1/2 mile of trailheads.



Utilitarian bench along the American Tobacco Trail. Seating placed in the shade is appropriate for users in warm weather.

## Lighting

Lighting for greenway trails can improve visibility along the greenway and at intersection crossings. Lighting spacing along trails depends on the type and intensity of lights, but 30-50 ft spacing is common for pedestrian scale lighting. It may also be necessary for day-time use in greenway tunnels or underpasses. Lighting should be considered on a case-by-case basis due to its expense and maintenance commitment required. It is typically not appropriate for greenway trails in remote areas, trails with low use, or where there is little to no development. Care should be taken to ensure lighting does not negatively impact nearby residents in the form of light pollution.



Lighting is useful in areas where usage is expected to be higher and along trails that commuters typically use.

## Bike Repair Stations

Bike repair stations provide cyclists with an air pump for filling up tires and tools for basic repairs and adjustments. Ideal locations would be at trailheads or adjoining parks.



Repair stations provide basic amenities for bicyclists.

## Mile Markers

Mile markers serve two main purposes and are often one of the most requested components of a trail system. First, mile markers serve as important information for decision-making, especially for those exercising and tracking their progress. In addition, mile markers can provide a form of “addressing” or locating for emergency response. For the Rocky Mount Greenway System, establishing mile markers should occur after longer distance cross-county connections can be made by filling gaps between existing trails. This type of amenity could be combined with an overall signage plan. Mile markers are often placed every quarter mile, although placement at tenth-mile intervals may be preferable.



Mile marker on the American Tobacco Trail.



### *Edible Plants Along Greenways*

Low maintenance edible plantings along greenways are supported as an amenity to add to Rocky Mount residents' experience of the greenways. Planting edibles, primarily trees and berry bushes, in strategic and visible areas of greenways is a way to both minimize long term maintenance and management, and add value to user experience. This plan recommends a focus on native or locally adapted plants which flourish in our Coastal Plain region, and grow well and easily, requiring limited maintenance and resources. While there are many opportunities for edibles along greenways, they are not recommended within gas or electric easements, or near utility service boxes or septic lines. Edibles can be included as part of the overall project cost, especially as new greenway segments are built and connections made with existing greenways. Benefits include:

- » Ecological benefit – edible plantings are sustainable. They are likely to flourish with limited maintenance and without the use of chemicals.
- » Improving the recreational experience – edibles are one more tactile and sensory experience of connecting greenway users with nature.
- » Educational benefit – connecting kids with nature is key to their healthy physical, mental and emotional development. Data shows children who engage with nature develop stronger executive functioning skills. Edible plantings provide one more way for kids to engage with nature on the greenways.
- » Health benefit – eating more fruits and vegetables is one of 3 key chronic disease prevention recommendations from the US Center for Disease Control. Providing more visible ways to do this can have a health benefit for our communities, even if the volume is small.
- » Economic benefit – edible plantings do not need to cost more than traditional plantings, if installed at the time a greenway is put in. Whenever the installation occurs, native or locally adapted plants may reduce maintenance and eliminate chemicals needed, reducing costs for responsible jurisdictions. Finally, in the long term, berry bushes and fruit trees that greenway users can actually eat

from will have a minor economic benefit in terms of free food. While the volume may be small initially, long term this could be thousands of pounds of food a year.

Communities with edible greenways include Wake County (at NC State) and Black Mountain, NC. Other communities already have such programs in place, such as in Wake County (at NC State) and in Black Mountain, NC.



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**D. PUBLIC  
OUTREACH  
SUMMARY**



## Public Outreach Summary

Public outreach was an integral component of this plan and was used to inform network recommendations. Public outreach was conducted through a variety of means, including a project website, two public surveys, an online mapping activity, and two public workshops.

One public survey was offered online as part of the Connect 2045 regional transportation plan. Over 160 respondents answered questions about transportation priorities. The survey included two bicycle-specific questions:

- » How important is it to improve bicycle facilities in the region?, and
- » Which bicycle improvements would you most like to see in the region?

A separate survey specific to this bicycle plan was also developed and distributed through the steering committee, community stakeholders, and public outreach events. Steering committee members were encouraged to spread the word about the survey through their organizations and personal contacts. Over 20 respondents filled out the public survey, which included questions about current biking habits and preferences for bicycle infrastructure investment.

The following pages summarize the results from these public surveys.

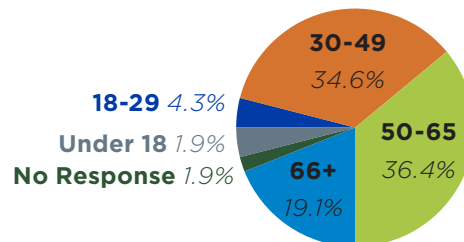
Survey respondents represent a diverse cross-section of the Rocky Mount population:

- » 71% of survey respondents live in Rocky Mount,
- » 52% work in Rocky Mount,
- » 19% visit Rocky Mount for services, and
- » 10% own property in Rocky Mount

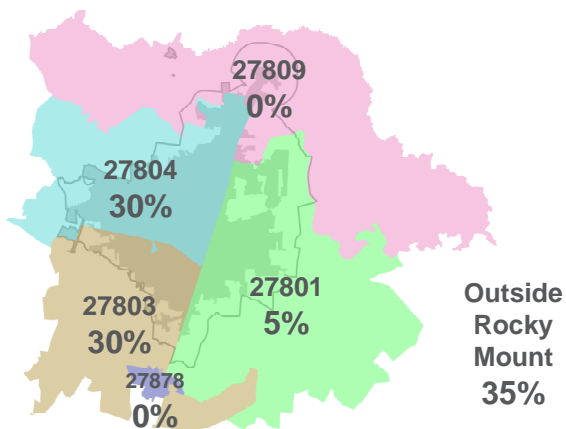
This summary section highlights key findings:

- » 72% of respondents believe that improving bicycle facilities in the region is important (30.6%) or very important (41.4%)
- » 56% of respondents would like to see more off-street bicycle facilities in the region, and 41% of respondents would like more on-street facilities.

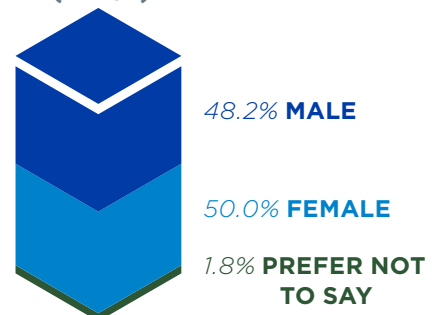
**AGE OF SURVEY RESPONDENTS (N=162)**



**ZIPCODES OF SURVEY RESPONDENTS (N=162)**

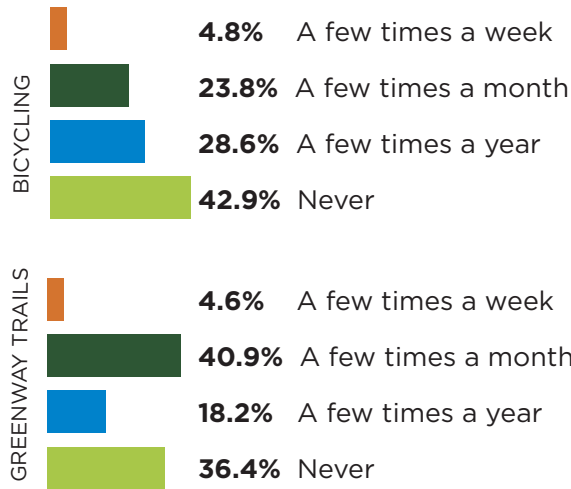


**GENDER OF SURVEY RESPONDENTS (N=162)**

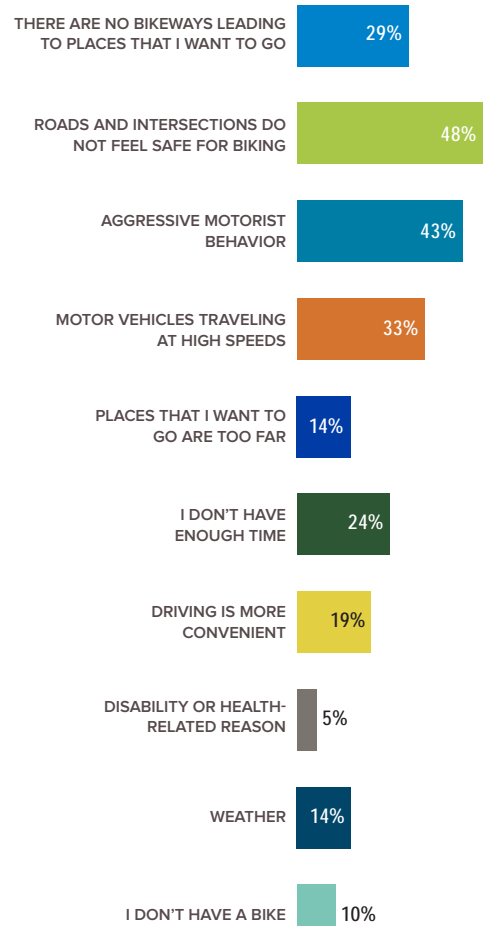




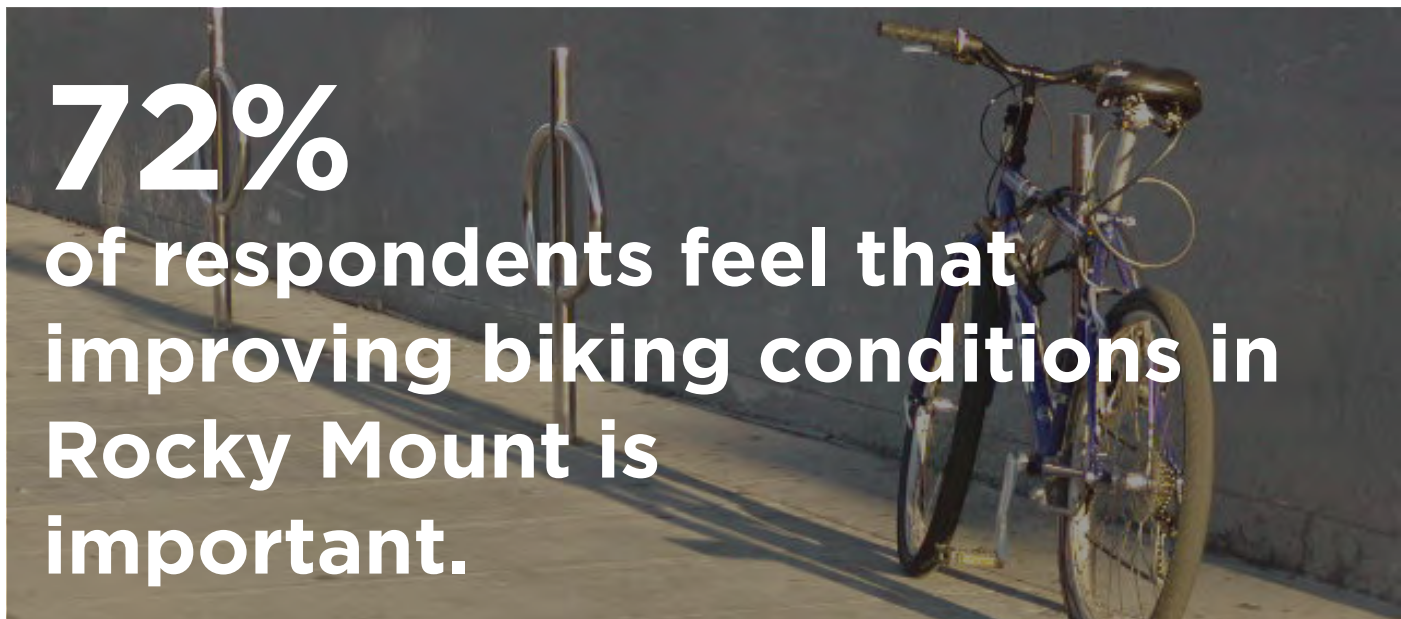
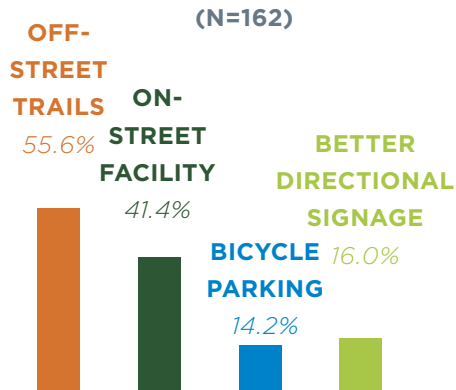
**HOW OFTEN DO YOU BIKE OR USE GREENWAY TRAILS?**



**WHAT PREVENTS YOU FROM BIKING MORE IN ROCKY MOUNT?**



**PREFERRED TYPE OF BICYCLING IMPROVEMENTS**



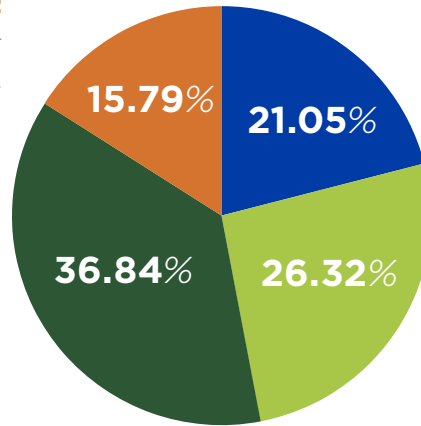


WHAT TYPE OF CYCLIST ARE YOU?

(N=22)

**NO WAY, NO HOW:**  
I am not interested in biking or cannot bike.

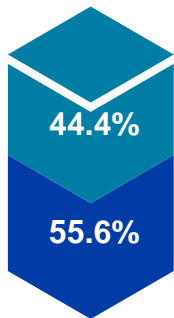
**INTERESTED BUT CONCERNED:**  
I am not comfortable riding alongside cars even with a bike lane. I'd like to travel by bike more if I felt more comfortable on the roads. I feel most comfortable biking on trails.



**STRONG AND FEARLESS:**  
I feel very comfortable biking on all types of facilities, including streets without a bike lane.

**ENTHUSIASTIC AND CONFIDENT:**  
I feel comfortable biking on streets alongside cars as long as there is a designated bike facility. I feel comfortable biking on trails.

WHAT IS MORE IMPORTANT TO YOU? (N=22)



**FILLING A BIKEWAY GAP (A PROJECT IN AN AREA TO CONNECT EXISTING BIKEWAYS)**

**EXPANDING THE NETWORK (A PROJECT IN AN AREA WITHOUT MANY EXISTING BIKEWAYS)**

HOW WOULD YOU ALLOCATE \$10 AMONG THE FOLLOWING TYPES OF BIKEWAY FACILITIES? (N=17)

SHARED-USE TRAILS	\$2.12
BIKE LANES	\$1.82
SEPARATED BIKE LANES	\$1.65
NEIGHBORHOOD BIKEWAYS/ BICYCLE BOULEVARDS	\$1.47
SHARED LANE MARKINGS	\$1.29
BUFFERED BIKE LANES	\$1.18
OTHER	\$0.47

RANKED PREFERENCE FOR TYPE OF BICYCLING IMPROVEMENTS

(N=16)

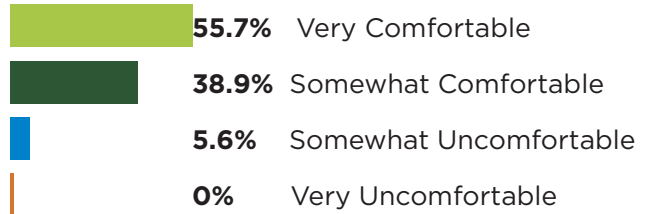




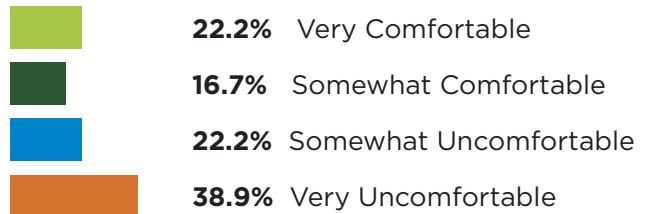
HOW COMFORTABLE DO YOU FEEL RIDING ON EACH TYPE OF BICYCLE FACILITY?



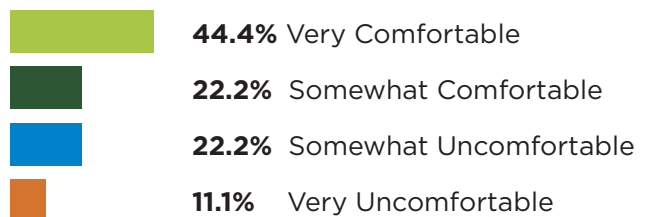
NEIGHBORHOOD  
BIKEWAYS/BICYCLE  
BOULEVARDS



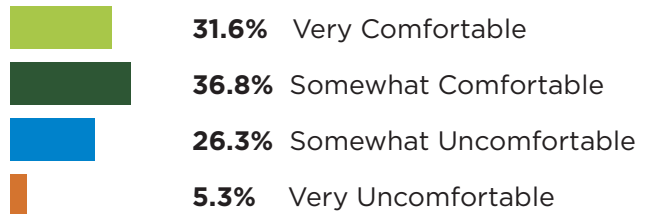
SHARED LANE  
MARKINGS



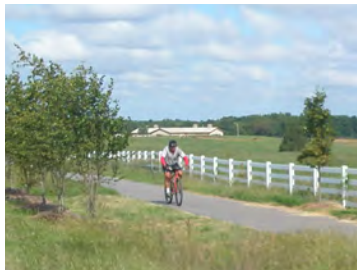
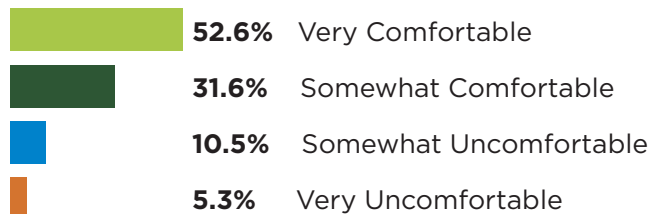
BIKE LANES



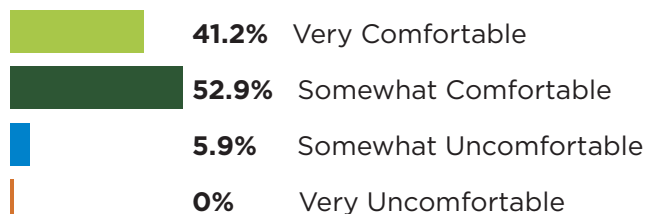
BUFFERED  
BIKE LANES



SEPARATED  
BIKE LANES

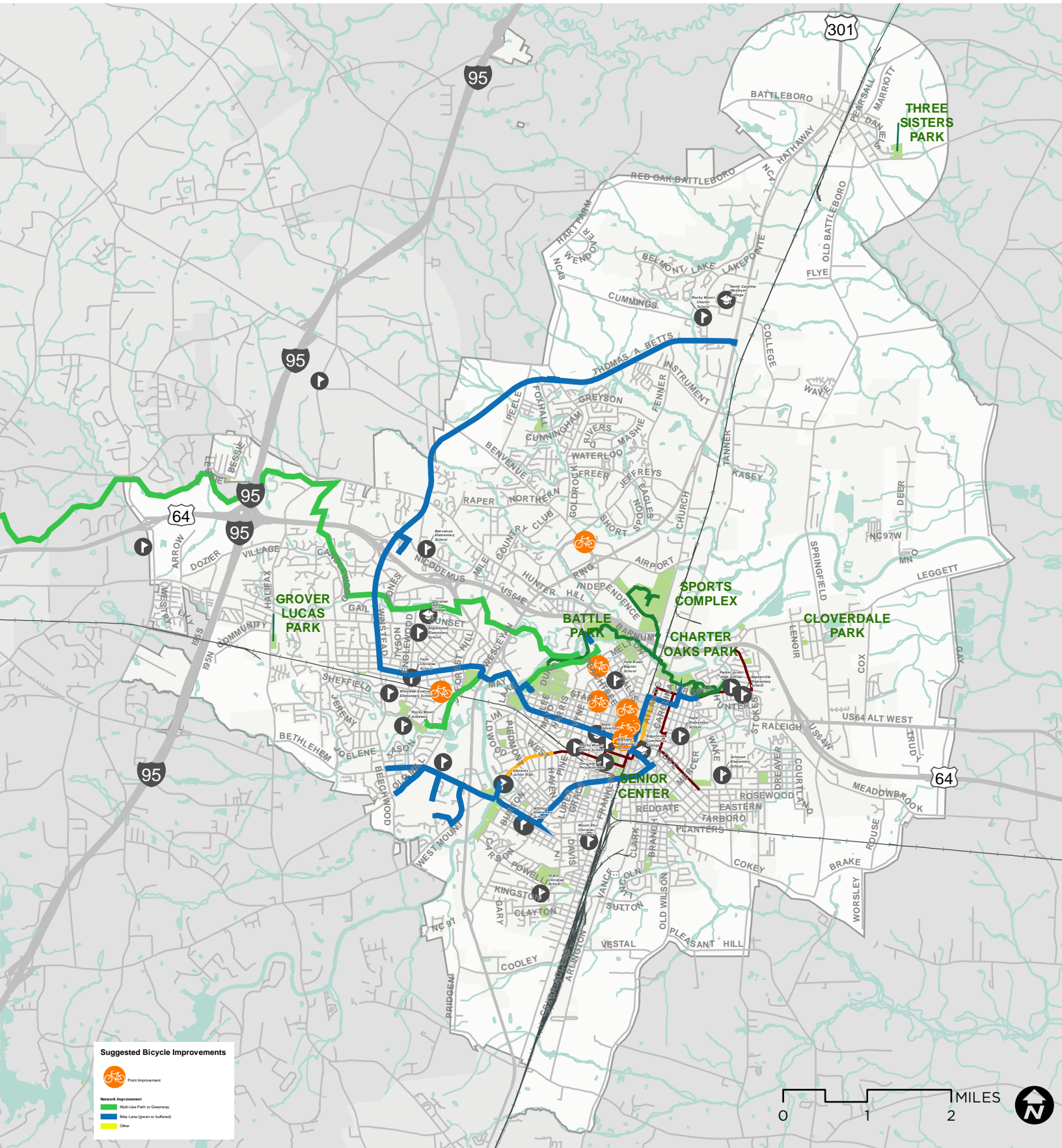


SHARED-USE  
TRAILS





# Map A3.1 Public Input





**E. COST  
ESTIMATES**



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# PLANNING ESTIMATE

LOCATION:

**WESLEYAN COLLEGE TRAIL CONNECTION**

DESCRIPTION:

**UTILITY COORIDOR FROM JEFFREYS RD TO CUMMINGS RD**

2.8 MILES 10' ASPHALT SHARED-USE PATH,

INCLUDING 2 PEDETRIAN BRIDGES AT STREAM CROSSINGS, BOARDWALK, AND A HAWK SIGNAL

AT THE THOMAS A. BETTS PARKWAY CROSSING.

<b>TOTAL LENGTH:</b>	<b>2.8 MILES</b>
<b>EST. PROJECT COST:*</b>	<b>\$3,600,000</b>

\*INCLUDING DESIGN FEES AND  
RIGHT-OF-WAY ACQUISITION

COUNTY: NASH

DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$101,500.00	\$101,500.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$16,500.00	\$16,500.00
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	1	LS	\$124,600.00	\$124,600.00
0004	0022000000-E	225	UNCLASSIFIED EXCAVATION	12,050	CY	\$50.00	\$602,500.00
0005	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	591	LF	\$140.00	\$82,790.40
0006	1011000000-N	500	FINE GRADING	1	LS	\$131,450.00	\$131,450.00
0007	1121000000-E	520	AGGREGATE BASE COURSE	6,100	TON	\$35.00	\$213,500.00
0008	1275000000-E	600	PRIME COAT	5,750	GAL	\$6.00	\$34,500.00
0009	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	1,880	TON	\$60.00	\$112,800.00
0010	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	115	TON	\$600.00	\$69,000.00
0011	2209000000-E	838	ENDWALLS	180	CY	\$1,000.00	\$180,000.00
0012	4025000000-E		CONTR FURN, ***SIGN (E)	540	SF	\$20.00	\$10,800.00
0012	4102000000-N	904	SIGN ERECTION, TYPE E	60	EA	\$80.00	\$4,800.00
0013	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$40,600.00	\$40,600.00
0014	4710000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	750	LF	\$12.00	\$9,000.00
0015	4915000000-E	1264	7' U-CHANNEL POSTS	60	EA	\$50.00	\$3,000.00
0016	6000000000-E	1605	TEMPORARY SILT FENCE	29,570	LF	\$2.00	\$59,140.00
0017	6084000000-E	1660	SEEDING & MULCHING	4	ACR	\$2,500.00	\$10,250.00
0018			CONCRETE BOARDWALK	200	LF	\$700.00	\$140,000.00
0018			PEDESTRIAN BRIDGE	80	LF	\$2,000.00	\$160,000.00
0019			HAWK SIGNAL	1	EA	\$80,000.00	\$80,000.00

CONSTRUCTION COST SUBTOTAL	\$2,186,730.40
CONSTRUCTION CONTINGENCY (35%)	\$765,355.64
OPINION OF PROBABLE CONSTRUCTION COST	\$2,952,086.04
ENGINEERING DESIGN (15%)	\$442,812.91
RIGHT-OF-WAY ACQUISITION (@ \$30K PER ACRE)	\$204,000.00
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$3,598,898.95</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA  
DATE 5/21/2018





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# PLANNING ESTIMATE

## OPTION A: 2-WAY ROAD WITH ON-STREET PARKING AND SHARED LANE MARKINGS

LOCATION:

DESCRIPTION:

**FRANKLIN ST FROM N CHURCH ST TO ANDREWS ST**

0.9 MILES RESTRIPE ROAD TO 2, 2-WAY-LANES, PARKING AND SHARED LANE MARKINGS. NEW SIGNALS FOR 2-WAY.

**CHURCH ST FROM FRANKLIN ST ANDREWS ST**

0.9 MILES RESTRIPE ROAD TO 2, 2-WAY-LANES, PARKING AND SHARED LANE MARKINGS. NEW SIGNALS FOR 2-WAY.

<b>TOTAL LENGTH:</b>	<b>1.8 MILES</b>
<b>EST. CONSTRUCTION COST:</b>	<b>\$670,000</b>

\*INCLUDING DESIGN FEES

COUNTY: NASH

DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE. NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$18,600.00	\$18,600.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$3,400.00	\$3,400.00
0012	4025000000-E		CONTR FURN, ***SIGN (E)	360	SF	\$20.00	\$7,200.00
0003	4102000000-N	904	SIGN ERECTION, TYPE E	40	EA	\$80.00	\$3,200.00
0004	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$37,200.00	\$37,200.00
0005	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	9605	LF	\$0.60	\$5,763.00
0006	4686000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	19210	LF	\$0.70	\$13,447.00
0007	4710000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	290	LF	\$12.00	\$3,480.00
0008	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	77	EA	\$150.00	\$11,550.00
0009	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	4805	LF	\$0.60	\$2,883.00
0010	4875000000-N	1205	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	71	EA	\$50.00	\$3,550.00
0011	4915000000-E	1264	7' U-CHANNEL POSTS	40	EA	\$50.00	\$2,000.00
0012	7096000000-E	1705	VEHICLE SIGNAL HEAD (8", 3 SECTION)	26	EA	\$700.00	\$18,200.00
0013	7588000000-N	SP	METAL POLE WITH SINGLE MAST ARM	13	EA	\$20,000.00	\$260,000.00
0014	7636000000-N	1745	SIGN FOR SIGNALS	26	EA	\$280.00	\$7,280.00
0015			ADJUST SIGNAL TIMING	13	EA	\$2,500.00	\$32,500.00

CONSTRUCTION COST SUBTOTAL	\$430,253.00
CONSTRUCTION CONTINGENCY (35%)	\$150,588.55
OPINION OF PROBABLE CONSTRUCTION COST	\$580,841.55
ENGINEERING DESIGN (15%)	\$87,126.23
RIGHT-OF-WAY ACQUISITION (@ \$150K PER ACRE)	-
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$667,967.78</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA  
DATE 5/21/2018



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# PLANNING ESTIMATE

## FRANKLIN & CHURCH OPTION B: SEPARATED BIKE LANE

LOCATION:

DESCRIPTION:

**FRANKLIN ST FROM N CHURCH ST TO ANDREWS ST**

0.9 MILES RESTRIPE ROAD TO 2, 1-WAY-LANES, AND A 2' BUFFERED BIKE LANE W/ FLEX POSTS.

**CHURCH ST FROM FRANKLIN ST ANDREWS ST**

0.9 MILES RESTRIPE ROAD TO 2, 1-WAY-LANES, AND A 2' BUFFERED BIKE LANE W/ FLEX POSTS.

<b>TOTAL LENGTH:</b>	<b>1.8 MILES</b>
<b>EST. CONSTRUCTION COST:</b>	<b>\$330,000</b>

\*INCLUDING DESIGN FEES

COUNTY: NASH

DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$9,100.00	\$9,100.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$1,500.00	\$1,500.00
0012	4025000000-E		CONTR FURN, ***SIGN (E)	720	SF	\$20.00	\$14,400.00
0003	4102000000-N	904	SIGN ERECTION, TYPE E	80	EA	\$80.00	\$6,400.00
0004	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$18,200.00	\$18,200.00
0005	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	12,010	LF	\$0.60	\$7,206.00
0006	4688000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS)	9,605	LF	\$0.90	\$8,644.50
0007	4710000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	290	LF	\$12.00	\$3,480.00
0008	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	124	EA	\$150.00	\$18,600.00
0009	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	4,805	LF	\$0.60	\$2,883.00
0010	4875000000-N	1205	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	71	EA	\$50.00	\$3,550.00
0011	4915000000-E	1264	7' U-CHANNEL POSTS	80	EA	\$50.00	\$4,000.00
0012			FLEXIBLE DELINEATORS (WHITE)	800	EA	\$100.00	\$80,036.00
0013			ADJUST SIGNAL TIMING	13	EA	\$2,500.00	\$32,500.00

CONSTRUCTION COST SUBTOTAL	\$210,499.50
CONSTRUCTION CONTINGENCY (35%)	\$73,674.83
OPINION OF PROBABLE CONSTRUCTION COST	\$284,174.33
ENGINEERING DESIGN (15%)	\$42,626.15
RIGHT-OF-WAY ACQUISITION (@ \$150K PER ACRE)	-
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$326,800.47</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA  
DATE 5/21/2018



NC License #P-1301

# PLANNING ESTIMATE

LOCATION:

**BICYCLE BOULEVARD COMPONENT**

DESCRIPTION:

**CURB EXTENSIONS AT INTERSECTIONS (PER EACH INTERSECTION, 4 CORNERS EACH)**

CURB REMOVAL AND REPLACEMENT WITH EXTENSION, ASPHALT REMOVAL, SIDEWALK, CURB RAMP, SEEDING, HIGH VIZ. CROSSWALKS, ASSOCIATED STORM DRAIN

<b>TOTAL LENGTH:</b>	<b>NA</b>
<b>EST. PROJECT COST:</b>	<b>\$75000 /EA.</b>

\*INCLUDING DESIGN FEES

COUNTY: NASH

DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$2,200.00	\$2,200.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$500.00	\$500.00
0003	0106000000-E	230	BORROW EXCAVATION	70	CY	\$30.00	\$2,100.00
0004	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	130	SY	\$5.00	\$650.00
0005			15" RC PIPE CULVERTS, CLASS V	60	LF	\$60.00	\$3,600.00
0006	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	4	EA	\$1,800.00	\$7,200.00
0007	2352000000-N	840	FRAME WITH GRATE, STD 840.****	4	EA	\$700.00	\$2,800.00
0008	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	240	LF	\$16.00	\$3,840.00
0009	2591000000-E	848	4" CONCRETE SIDEWALK	320	SY	\$35.00	\$11,200.00
0010	2605000000-N	848	CONCRETE CURB RAMP	8	EA	\$1,000.00	\$8,000.00
0011	4025000000-E		CONTR FURN, ***SIGN (E)	36	SF	\$20.00	\$720.00
0012	4102000000-N	904	SIGN ERECTION, TYPE E	4	EA	\$80.00	\$320.00
0013	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$2,200.00	\$2,200.00
0014	4710000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	200	LF	\$12.00	\$2,400.00
0015	4915000000-E	1264	7' U-CHANNEL POSTS	4	EA	\$50.00	\$200.00

CONSTRUCTION COST SUBTOTAL	\$48,005.00
CONSTRUCTION CONTINGENCY (35%)	\$16,801.75
OPINION OF PROBABLE CONSTRUCTION COST	\$64,806.75
ENGINEERING DESIGN (15%)	\$9,721.01
RIGHT-OF-WAY ACQUISITION (@ \$150K PER ACRE)	-
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$74,527.76</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA

DATE 5/22/2018



NC License #P-1301

# PLANNING ESTIMATE

LOCATION:

**BICYCLE BOULEVARD COMPONENT**

DESCRIPTION:

**MEDIAN ISLAND IN INTERSECTION (PER EACH)**

MONOLITHIC CONCRETE MEDIAN WITH BIKE PATH GAPS  
IN THE INTERSECTION (UNSIGNALIZED INTERSECTION).



TOTAL LENGTH:	NA
EST. PROJECT COST:	\$9000 /EA.

\*INCLUDING DESIGN FEES

COUNTY: NASH

DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$1,000.00	\$1,000.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$100.00	\$100.00
0003	2647000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (SURFACE MOUNTED)	30	SY	\$60.00	\$1,800.00
0004	4025000000-E		CONTR FURN, ***SIGN (E)	36	SF	\$20.00	\$720.00
0005	4102000000-N	904	SIGN ERECTION, TYPE E	4	EA	\$80.00	\$320.00
0006	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$1,000.00	\$1,000.00
0007	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	2	EA	\$150.00	\$300.00
0008	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	120	LF	\$0.60	\$72.00
0000	4875000000-N	1205	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	2	EA	\$50.00	\$100.00
0010	4915000000-E	1264	7' U-CHANNEL POSTS	4	EA	\$50.00	\$200.00

CONSTRUCTION COST SUBTOTAL	\$5,612.00
CONSTRUCTION CONTINGENCY (35%)	\$1,964.20
OPINION OF PROBABLE CONSTRUCTION COST	\$7,576.20
ENGINEERING DESIGN (15%)	\$1,136.43
RIGHT-OF-WAY ACQUISITION (@ \$150K PER ACRE)	-
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$8,712.63</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

ASSUMES NO TRAFFIC SIGNAL WORK.

COMPUTED BY CJA

DATE

5/21/2018



NC License #P-1301

# PLANNING ESTIMATE

LOCATION:

**BICYCLE BOULEVARD COMPONENT (PER EACH)**

DESCRIPTION:

**MINI-ROUNDBOUT**

(1) MOUNTABLE CURB CENTER ISLAND WITH SHRUB PLANTINGS,  
CIRCULAR ROADWAY PAVEMENT MARKINGS



<b>TOTAL LENGTH:</b>	<b>NA</b>
<b>EST. PROJECT COST:*</b>	<b>\$14000 /EA.</b>

\*INCLUDING DESIGN FEES

COUNTY: NASH

DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$1,000.00	\$1,000.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$100.00	\$100.00
0003	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	40	SY	\$5.00	\$200.00
0001	2647000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (SURFACE MOUNTED)	40	SY	\$60.00	\$2,400.00
0007	4025000000-E		CONTR FURN, ***SIGN (E)	72	SF	\$20.00	\$1,440.00
0008	4102000000-N	904	SIGN ERECTION, TYPE E	8	EA	\$80.00	\$640.00
0009	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$1,000.00	\$1,000.00
0010	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	50	LF	\$0.60	\$30.00
0011	4686000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	320	LF	\$0.70	\$224.00
0012	4915000000-E	1264	7' U-CHANNEL POSTS	8	EA	\$50.00	\$400.00
0013	6650000000-E	1670	MULCH FOR PLANTING	1	CY	\$100.00	\$100.00
0014			PLANTING SOIL	5	CY	\$100.00	\$500.00
0015			SHRUBS	20	EA	\$40.00	\$800.00

CONSTRUCTION COST SUBTOTAL	\$8,834.00
CONSTRUCTION CONTINGENCY (35%)	\$3,091.90
OPINION OF PROBABLE CONSTRUCTION COST	\$11,925.90
ENGINEERING DESIGN (15%)	\$1,788.89
RIGHT-OF-WAY ACQUISITION (@ \$150K PER ACRE)	-
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$13,714.79</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.

BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

ASSUME NO WORK ON INTERSECTION FILLETS REQUIRED. ASSUMES NO SIGNAL REMOVAL REQUIRED.

COMPUTED BY CJA  
DATE 5/21/2018



NC License #P-1301

# PLANNING ESTIMATE

LOCATION: **BICYCLE BOULEVARD COMPONENT**

DESCRIPTION: **SPEED HUMP (PER EACH)**  
 RAISED ASPHALT SPEED HUMP  
 (NOT AT CROSSWALKS)



**TOTAL LENGTH:** NA  
**EST. PROJECT COST:\*** \$5000 /EA.

\*INCLUDING DESIGN FEES COUNTY: NASH DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$500.00	\$500.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$100.00	\$100.00
0003	1330000000-E	607	INCIDENTAL MILLING	120	SY	\$10.00	\$1,200.00
0004	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	2	TON	\$100.00	\$200.00
0005	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	0.2	TON	\$350.00	\$70.00
0006	4025000000-E		CONTR FURN, ***SIGN (E)	18	SF	\$20.00	\$360.00
0007	4102000000-N	904	SIGN ERECTION, TYPE E	2	EA	\$80.00	\$160.00
0008	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$500.00	\$500.00
0009	4915000000-E	1264	7' U-CHANNEL POSTS	2	EA	\$50.00	\$100.00

CONSTRUCTION COST SUBTOTAL	\$3,190.00
CONSTRUCTION CONTINGENCY (35%)	\$1,116.50
OPINION OF PROBABLE CONSTRUCTION COST	\$4,306.50
ENGINEERING DESIGN (15%)	\$645.98
RIGHT-OF-WAY ACQUISITION (@ \$150K PER ACRE)	-
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$4,952.48</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
 BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA  
 DATE 5/21/2018



NC License #P-1301

# PLANNING ESTIMATE

2

## VIRGINIA STREET WAY BIKE LANE

LOCATION:

DESCRIPTION:

### VIRGINIA ST FROM ALBERMARLE AVE TO BARNES ST

1.2 MILES RESTRIPE 2-LANE ROAD, ADD 2-WAY BIKE LANE WITH STRIPED BUFFER AND FLEXIBLE BOLLARDS .

<b>TOTAL LENGTH:</b>	<b>1.2 MILES</b>
<b>EST. PROJECT COST:</b>	<b>\$200,000</b>

\*INCLUDING DESIGN FEES

COUNTY: NASH

DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$5,400.00	\$5,400.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$1,100.00	\$1,100.00
0003	4025000000-E		CONTR FURN, ***SIGN (E)	612	SF	\$20.00	\$12,240.00
0004	4102000000-N	904	SIGN ERECTION, TYPE E	68	EA	\$80.00	\$5,440.00
0005	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$10,800.00	\$10,800.00
0006	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	10,510	LF	\$0.60	\$6,306.00
0007	4686000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	12,240	LF	\$0.70	\$8,568.00
0008	4688000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS)	6,120	LF	\$0.90	\$5,508.00
0009	4710000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	50	LF	\$12.00	\$600.00
0010	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	49	EA	\$150.00	\$7,350.00
0011	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	12,240	LF	\$0.60	\$7,344.00
0012	4875000000-N	1205	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	3	EA	\$50.00	\$150.00
0013	4915000000-E	1264	7' U-CHANNEL POSTS	68	EA	\$50.00	\$3,400.00
0014	4940000000-N	1267	FLEXIBLE DELINEATORS (WHITE)	510	EA	\$100.00	\$50,996.00

CONSTRUCTION COST SUBTOTAL	\$125,202.00
CONSTRUCTION CONTINGENCY (35%)	\$43,820.70
OPINION OF PROBABLE CONSTRUCTION COST	\$169,022.70
ENGINEERING DESIGN (15%)	\$25,353.41
RIGHT-OF-WAY ACQUISITION (@ \$150K PER ACRE)	-
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$194,376.11</b>

NOTE:

ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA  
DATE 5/21/2018



NC License #P-1301

# PLANNING ESTIMATE

LOCATION: **COWLICK TRAIL PHASE 1: PINEVIEW CEMETERY / HOLLY ST PARK CONNECTOR**

DESCRIPTION: 0.5 MILES 8' ASPHALT SIDEPATH EASTSIDE OF PINEVIEW ST FROM SOUTHERN END OF PINEVIEW CEMETERY TO RALEIGH BLVD .  
 0.2 MILES 10' ASPHALT TRAIL FROM RALEIGH BLVD / PINEVIEW ST THROUGH HOLLY STREET PARK TO HOLLY ST.  
 (EXCLUDES BRIDGE ACROSS CREEK IN HOLLY STREET PARK)  
 0.8 MILES SHARED LANE MARKINGS ALONG SOUTHERN PINEVIEW CEMETERY ROAD (WITH RESURFACING), AND SHARED LANE MARKINGS UP WAKE ST TO RALEIGH BLVD.

<b>TOTAL LENGTH:</b>	<b>1.5 MILES</b>
<b>EST. PROJECT COST:*</b>	<b>\$460,000</b>

\*INCLUDING DESIGN FEES AND RIGHT-OF-WAY ACQUISITION COUNTY: NASH DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$20,900.00	\$20,900.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$2,000.00	\$2,000.00
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	1	LS	\$22,000.00	\$22,000.00
0004	0022000000-E	225	UNCLASSIFIED EXCAVATION	730	CY	\$50.00	\$36,500.00
0006	1011000000-N	500	FINE GRADING	1	LS	\$6,500.00	\$6,500.00
0007	1121000000-E	520	AGGREGATE BASE COURSE	1,270	TON	\$35.00	\$44,450.00
0008	1275000000-E	600	PRIME COAT	1,136	GAL	\$6.00	\$6,816.00
0009	1297000000-E	607	MILLING ASPHALT PAVEMENT, **** DEPTH	1,450	SY	\$1.60	\$2,320.00
0010	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	500	TON	\$60.00	\$30,000.00
0011	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	30	TON	\$600.00	\$18,000.00
0012	2605000000-N	848	CONCRETE CURB RAMP	6	EA	\$1,000.00	\$6,000.00
0013	4025000000-E		CONTR FURN, ***SIGN (E)	126	SF	\$20.00	\$2,520.00
0014	4102000000-N	904	SIGN ERECTION, TYPE E	14	EA	\$100.00	\$1,400.00
0015	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$30,000.00	\$30,000.00
0016	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	32	EA	\$150.00	\$4,800.00
0017	4915000000-E	1264	7' U-CHANNEL POSTS	14	EA	\$100.00	\$1,400.00
0018	6000000000-E	1605	TEMPORARY SILT FENCE	5,840	LF	\$2.00	\$11,680.00
0019	6084000000-E	1660	SEEDING & MULCHING	0	ACR	\$2,500.00	\$750.00
0020			RRFB CROSSING AT RALEIGH (WITH ALL IMPROVEMENTS)	1	EA	\$13,000.00	\$13,000.00
			DRAINAGE ALLOWANCE	1	LS	\$30,000.00	\$30,000.00

CONSTRUCTION COST SUBTOTAL	\$291,036.00
CONSTRUCTION CONTINGENCY (35%)	\$101,862.60
OPINION OF PROBABLE CONSTRUCTION COST	\$392,898.60
ENGINEERING DESIGN (15%)	\$58,934.79
RIGHT-OF-WAY ACQUISITION (@ \$30K PER ACRE)	\$3,900.00
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$455,733.39</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
 BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA  
 DATE 5/22/2018





NC License #P-1301

# PLANNING ESTIMATE

LOCATION: **COWLICK TRAIL PHASE 2: GRAND AVE / E. RALEIGH BLVD / HOLLY ST**

DESCRIPTION: 0.2 MILES 10' ASPHALT SIDEPAATH ALONG GRAND AVE FROM RALEIGH BLVD TO HOLLY ST.  
0.3 MILES 10' ASPHALT SIDEPAATH ALONG RALEIGH BLVD FROM PINEVIEW ST TO GRAND AVE .  
0.2 MILES 10' ASPHALT SIDEPAATH ALONG E HOLLY ST FROM MAGNOLIA DR TO GRAND AVE.

<b>TOTAL LENGTH:</b>	<b>0.7 MILES</b>
<b>EST. PROJECT COST:*</b>	<b>\$510,000</b>

\*INCLUDING DESIGN FEES AND RIGHT-OF-WAY ACQUISITION COUNTY: NASH DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$25,100.00	\$25,100.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$2,600.00	\$2,600.00
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	1	LS	\$30,000.00	\$30,000.00
0004	0022000000-E	225	UNCLASSIFIED EXCAVATION	1,360	CY	\$50.00	\$68,000.00
0005	1011000000-N	500	FINE GRADING	1	LS	\$14,900.00	\$14,900.00
0006	1121000000-E	520	AGGREGATE BASE COURSE	1,500	TON	\$35.00	\$52,500.00
0007	1275000000-E	600	PRIME COAT	1,346	GAL	\$6.00	\$8,076.00
0008	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	440	TON	\$60.00	\$26,400.00
0009	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	30	TON	\$600.00	\$18,000.00
0010	2605000000-N	848	CONCRETE CURB RAMP	10	EA	\$1,000.00	\$10,000.00
0011	4025000000-E		CONTR FURN, ***SIGN (E)	162	SF	\$20.00	\$3,240.00
0012	4102000000-N	904	SIGN ERECTION, TYPE E	18	EA	\$100.00	\$1,800.00
0013	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$5,100.00	\$5,100.00
0014	4915000000-E	1264	7' U-CHANNEL POSTS	18	EA	\$100.00	\$1,800.00
0015	6000000000-E	1605	TEMPORARY SILT FENCE	6,920	LF	\$2.00	\$13,840.00
0016	6084000000-E	1660	SEEDING & MULCHING	1	ACR	\$2,500.00	\$1,500.00
0017			RRFB CROSSING AT GRAND AVE / HOLLY ST (INCL. ALL IMPROVMENTS)	1	EA	\$35,000.00	\$35,000.00

CONSTRUCTION COST SUBTOTAL	\$317,856.00
CONSTRUCTION CONTINGENCY (35%)	\$111,249.60
OPINION OF PROBABLE CONSTRUCTION COST	\$429,105.60
ENGINEERING DESIGN (15%)	\$64,365.84
RIGHT-OF-WAY ACQUISITION (@ \$30K PER ACRE)	\$10,000.00
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$503,471.44</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
ASSUMES NO EXTENSION OR MODIFICATION OF THE EXISTING CULVERT UNDER E. GRAND AVE REQUIRED.  
BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA  
DATE 5/22/2018



NC License #P-1301

# PLANNING ESTIMATE

LOCATION: **COWLICK TRAIL PHASE 3: VIRGINIA ST CONNECTOR**

DESCRIPTION: 0.4 MILES 10' ASPHALT PATH EAST SIDE OF COWLICK BRANCH FROM PINEHURST DR AT COMMUNITY CENTER TO VIRGINIA AVE.  
RRFB AND OTHER INTERSECTION IMPROVEMENTS AT VIRGINIA AVE CROSSING.

<b>TOTAL LENGTH:</b>	<b>0.4 MILES</b>
<b>EST. PROJECT COST:*</b>	<b>\$440,000</b>

\*INCLUDING DESIGN FEES COUNTY: NASH DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$23,700.00	\$23,700.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$2,400.00	\$2,400.00
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	1	LS	\$28,000.00	\$28,000.00
0004	0022000000-E	225	UNCLASSIFIED EXCAVATION	1,630	CY	\$50.00	\$81,500.00
0005	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	40	LF	\$140.00	\$5,600.00
0006	1011000000-N	500	FINE GRADING	1	LS	\$22,250.00	\$22,250.00
0007	1121000000-E	520	AGGREGATE BASE COURSE	910	TON	\$35.00	\$31,850.00
0008	1275000000-E	600	PRIME COAT	778	GAL	\$6.00	\$4,668.00
0009	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	260	TON	\$60.00	\$15,600.00
0010	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	20	TON	\$600.00	\$12,000.00
0011	2209000000-E	838	ENDWALLS	20	CY	\$1,000.00	\$20,000.00
0012	2605000000-N	848	CONCRETE CURB RAMP	4	EA	\$1,000.00	\$4,000.00
0013	4025000000-E		CONTR FURN, ***SIGN (E)	54	SF	\$20.00	\$1,080.00
0014	4102000000-N	904	SIGN ERECTION, TYPE E	6	EA	\$80.00	\$480.00
0015	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$10,000.00	\$10,000.00
0016	4915000000-E	1264	7' U-CHANNEL POSTS	6	EA	\$50.00	\$300.00
0017	6000000000-E	1605	TEMPORARY SILT FENCE	4,000	LF	\$2.00	\$8,000.00
0018	6084000000-E	1660	SEEDING & MULCHING	1	ACR	\$2,500.00	\$1,500.00
0019			RRFB CROSSING AT VIRGINIA AVE (WITH ALL IMPROVEMENTS)	1	EA	\$30,000.00	\$30,000.00

CONSTRUCTION COST SUBTOTAL	\$279,228.00
CONSTRUCTION CONTINGENCY (35%)	\$97,729.80
OPINION OF PROBABLE CONSTRUCTION COST	\$376,957.80
ENGINEERING DESIGN (15%)	\$56,543.67
RIGHT-OF-WAY ACQUISITION (@ \$30K PER ACRE)	-
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$433,501.47</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
 ASSUMES NO RIGHT-OF-WAY ACQUISITION FEE REQUIRED FROM PUBLIC HOUSING PROPERTY.  
 ASSUMES TRAIL CAN BE CONSTRUCTED ON EAST SIDE OF COWLICK BRANCH WITHOUT CROSSING.  
 BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA  
 DATE 5/22/2018



NC License #P-1301

# PLANNING ESTIMATE

LOCATION: **COWLICK TRAIL PHASE 4: UNITY CEMETERY**

DESCRIPTION: 0.3 MILES 10' ASPHALT PATH ALONG SEWER ESMT. ON UNITY CEMETERY PROP. FROM GRAND AVE TO VIRGINIA CONNECTOR TRAIL  
PEDESTRIAN BRIDGE CROSSING COWLICK BRANCH

TOTAL LENGTH: **0.3 MILES**  
EST. PROJECT COST:\* **\$640,000**

\*INCLUDING DESIGN FEES AND RIGHT-OF-WAY ACQUISITION COSTS COUNTY: NASH DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$35,900.00	\$35,900.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$1,600.00	\$1,600.00
0003	0001000000-E	200	CLEARING & GRUBBING ... ACRE(S)	1	LS	\$20,000.00	\$20,000.00
0004	0022000000-E	225	UNCLASSIFIED EXCAVATION	1,130	CY	\$50.00	\$56,500.00
0005	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	28	LF	\$140.00	\$3,864.00
0006	1011000000-N	500	FINE GRADING	1	LS	\$15,350.00	\$15,350.00
0007	1121000000-E	520	AGGREGATE BASE COURSE	630	TON	\$35.00	\$22,050.00
0008	1275000000-E	600	PRIME COAT	537	GAL	\$6.00	\$3,222.00
0009	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	180	TON	\$60.00	\$10,800.00
0010	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	15	TON	\$600.00	\$9,000.00
0011	2209000000-E	838	ENDWALLS	10	CY	\$1,000.00	\$10,000.00
0012	4025000000-E		CONTR FURN, ***SIGN (E)	36	SF	\$20.00	\$720.00
0013	4102000000-N	904	SIGN ERECTION, TYPE E	4	EA	\$80.00	\$320.00
0014	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$3,200.00	\$3,200.00
0015	4915000000-E	1264	7' U-CHANNEL POSTS	4	EA	\$50.00	\$200.00
0016	6000000000-E	1605	TEMPORARY SILT FENCE	2,760	LF	\$2.00	\$5,520.00
0017	6084000000-E	1660	SEEDING & MULCHING	0	ACR	\$2,500.00	\$1,000.00
0018			PEDESTRIAN BRIDGE, SUBSTRUCTURE, AND APPROACHES	50	LF	\$4,000.00	\$200,000.00

CONSTRUCTION COST SUBTOTAL	\$399,246.00
CONSTRUCTION CONTINGENCY (35%)	\$139,736.10
OPINION OF PROBABLE CONSTRUCTION COST	\$538,982.10
ENGINEERING DESIGN (15%)	\$80,847.32
RIGHT-OF-WAY ACQUISITION (@ \$30K PER ACRE)	\$19,000.00
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$638,829.42</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA  
DATE 5/22/2018



NC License #P-1301

## PLANNING ESTIMATE

LOCATION: **COWLICK TRAIL PHASE 5: LEGGETT ST. TRAILHEAD AND HILLSDALE DR**

DESCRIPTION: 0.3 MILES 10' CONCRETE SIDEPAATH ALONG SPRINGBOOK DR FROM THE COWLICK BRANCH TO HILLSDALE DR, AND ALONG HILLSDALE DR FROM SPRINGBROOK DR TO LEGGETT RD

TRAILHEAD PARKING LOT ON CORNER OF LEGGETT ST AND HILLSDALE DR (EXCLUDES BUILDING STRUCTURE IF BUILT).

<b>TOTAL LENGTH:</b>	<b>0.3 MILES</b>
<b>EST. PROJECT COST:*</b>	<b>\$490,000</b>

\*INCLUDING DESIGN FEES COUNTY: NASH DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$28,400.00	\$28,400.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$1,200.00	\$1,200.00
<b>SPRINGBOOK DR AND HILLSDALE DR CONCRETE TRAIL</b>							
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	1	LS	\$12,000.00	\$12,000.00
0004	0022000000-E	225	UNCLASSIFIED EXCAVATION	380	CY	\$50.00	\$19,000.00
0005	1011000000-N	500	FINE GRADING	1	LS	\$3,800.00	\$3,800.00
0006	2591000000-E	848	4" CONCRETE SIDEWALK	1,890	SY	\$35.00	\$66,150.00
0007	2605000000-N	848	CONCRETE CURB RAMP	4	EA	\$1,000.00	\$4,000.00
0008	4025000000-E		CONTR FURN, ***SIGN (E)	54	SF	\$20.00	\$1,080.00
0009	4102000000-N	904	SIGN ERECTION, TYPE E	6	EA	\$80.00	\$480.00
0010	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$10,000.00	\$10,000.00
0011	4915000000-E	1264	7' U-CHANNEL POSTS	6	EA	\$50.00	\$300.00
0012	6000000000-E	1605	TEMPORARY SILT FENCE	3,400	LF	\$2.00	\$6,800.00
0013	6084000000-E	1660	SEEDING & MULCHING	0	ACR	\$2,500.00	\$500.00
0014			UTILITY RELOCATION ALLOWANCE	1	LS	\$20,000.00	\$20,000.00
<b>SUB-TOTAL =</b>							<b>\$144,110.00</b>

<b>LEGGETT ST. TRAILHEAD PARKING LOT AREA</b>							
0015	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	50	TON	\$60.00	\$3,024.00
0016	1121000000-E	520	AGGREGATE BASE COURSE	304	TON	\$35.00	\$10,631.25
0017	2542000000-E	846	1'-6" CONCRETE CURB & GUTTER	618	LF	\$15.00	\$9,270.00
0018			STRIPING & PAINT ALLOWANCE	1	LS	\$7,500.00	\$7,500.00
0019			SITE FURNISHINGS (BENCHES, TRASH, BOLLARDS, ETC)	1	LS	\$1,000.00	\$1,000.00
0020			SIGN ALLOWANCE	1	LS	\$7,500.00	\$7,500.00
0021			LIGHTING ALLOWANCE	1	LS	\$20,000.00	\$20,000.00
0022			WATER AND SEWER ALLOWANCE	1	LS	\$10,000.00	\$10,000.00
0023			STORM DRAINAGE ALLOWANCE	1	LS	\$40,000.00	\$40,000.00
0024			LANDSCAPING ALLOWANCE	1	LS	\$30,000.00	\$30,000.00
<b>SUB-TOTAL =</b>							<b>\$138,925.25</b>

CONSTRUCTION COST SUBTOTAL	\$312,635.25
CONSTRUCTION CONTINGENCY (35%)	\$109,422.34
OPINION OF PROBABLE CONSTRUCTION COST	\$422,057.59
ENGINEERING DESIGN (15%)	\$63,308.64
RIGHT-OF-WAY ACQUISITION (@ \$30K PER ACRE)	-
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$485,366.23</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
 ASSUMES NO RIGHT-OF-WAY ACQUISITION REQUIRED.

COMPUTED BY CJA  
 DATE 5/22/2018



NC License #P-1301

## PLANNING ESTIMATE

LOCATION: **MONK TO MILL TRAIL: PATH SEGMENT WEST OF FRANKLIN ST  
THROUGH ABANDONED RAILROAD CORRIDOR FROM FRANKLIN ST / GAY ST TO PEACHTREE  
ST / RIVER DR**

DESCRIPTION: **0.9 MILES 10' ASPHALT SHARED-USE PATH, INCLUDING (1)  
PEDESTRIAN BRIDGE, LANDSCAPING, STREETScape ELEMENTS, AND PEDESTRIAN CROSSING ENHANCEMENTS.**

<b>TOTAL LENGTH:</b>	<b>0.9 MILES</b>
<b>EST. PROJECT COST:*</b>	<b>\$1,650,000</b>

\*INCLUDING DESIGN FEES AND RIGHT-OF-WAY ACQUISITION      COUNTY: NASH      DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$47,400.00	\$47,400.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$4,500.00	\$4,500.00
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	1	LS	\$22,400.00	\$22,400.00
0004	0022000000-E	225	UNCLASSIFIED EXCAVATION	1,290	CY	\$50.00	\$64,500.00
0007	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	1,300	LF	\$40.00	\$52,000.00
0008	1011000000-N	500	FINE GRADING	1	LS	\$11,050.00	\$11,050.00
0009	1121000000-E	520	AGGREGATE BASE COURSE	2,048	TON	\$35.00	\$71,680.00
0010	1275000000-E	600	PRIME COAT	2,073	GAL	\$6.00	\$12,438.00
0011	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	995	TON	\$60.00	\$59,700.00
0012	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	60	TON	\$600.00	\$36,000.00
0013	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	13	EA	\$2,000.00	\$26,000.00
0014	2591000000-E	848	4" CONCRETE SIDEWALK	45	SY	\$35.00	\$1,575.00
0015	2605000000-N	848	CONCRETE CURB RAMP	16	EA	\$1,180.00	\$18,880.00
	4025000000-E		CONST FURN, ***SIGN €	450	SF	\$20.00	\$9,000.00
0016	4102000000-N	904	SIGN ERECTION, TYPE E	50	EA	\$80.00	\$4,000.00
0017	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$19,000.00	\$19,000.00
0018	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	1,245	LF	\$0.60	\$747.00
0019	4710000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	380	LF	\$12.00	\$4,560.00
0020	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	100	EA	\$130.00	\$13,000.00
0021	4915000000-E	1264	7' U-CHANNEL POSTS	50	EA	\$50.00	\$2,500.00
0022	6000000000-E	1605	TEMPORARY SILT FENCE	15,000	LF	\$2.00	\$30,000.00
0023	6084000000-E	1660	SEEDING & MULCHING	2.25	ACR	\$2,500.00	\$5,625.00
0024			STREETSCAPING TREES	90	EA	\$460.00	\$41,400.00
0025			STREETSCAPING FURNITURE	16	EA	\$1,500.00	\$24,000.00
0026			STREETSCAPING LIGHTING	26	EA	\$3,600.00	\$93,600.00
0027			UTILITIES (MISC)	1	LS	\$50,000.00	\$50,000.00
0028			PEDESTRIAN BRIDGE	25	LF	\$3,000.00	\$75,000.00
0029			PEDESTRIAN CROSSING ENHANCEMENTS	3	EA	\$50,000.00	\$150,000.00
0030			EMERGENCY CALL BOXES	2	EA	\$1,500.00	\$3,000.00
0031			REMOVE RAILROAD LINE	1,500	LF	\$30.00	\$45,000.00
0019			LANDSCAPE ITEMS	1	LS	\$20,000.00	\$20,000.00

CONSTRUCTION COST SUBTOTAL	\$1,018,555.00
CONSTRUCTION CONTINGENCY (35%)	\$356,494.25
OPINION OF PROBABLE CONSTRUCTION COST	\$1,375,049.25
ENGINEERING DESIGN (15%)	\$206,257.39
RIGHT-OF-WAY ACQUISITION (@ \$30K PER ACRE)	\$60,000.00
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$1,641,306.64</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
ESTIMATE BASED ON THE CITY OF ROCKY MOUNT "MONK TO MILL TRAIL FEASIBILITY STUDY 2016."

COMPUTED BY CJA  
DATE 5/22/2018



## PLANNING ESTIMATE

### MONK TO MILL TRAIL ON-STREET IMPROVEMENTS EAST OF FRANKLIN ST

LOCATION:

DESCRIPTION:

**THELONIOUS S. MONK PARK TO GAY ST / N FRANKLIN ST INTERSECTION**  
 0.9 MILE BIKE LANES ON WYE ST FROM THELONIOUS S. MONK PARK TO S WASHINGTON ST, WASHINGTON ST FROM WYE ST TO TARBORO ST.  
 0.1 MILE BUFFERED BIKE LANE ON WASHINGTON ST FROM TARBORO ST TO THOMAS ST.  
 0.2 MILE SHARROWS ON MAIN ST FROM THOMAS ST TO GOLDLEAF ST, AND GOLDLEAF ST FROM MAIN ST TO CHURCH ST.  
 0.1 BUFFERED BIKE LANES ON CHURCH ST FROM GOLDLEAF ST TO GAY ST, AND ON GAY ST FROM CHURCH ST TO FRANKLIN ST.

**COST FOR ON-STREET BIKEWAY ITEMS**

TOTAL LENGTH:	<b>1.3 MILES</b>
EST. CONSTRUCTION COST:*	<b>\$120,000</b>

**COST FOR ON-STREET BIKEWAY ITEMS + STREETScape ITEMS**

TOTAL LENGTH:	<b>1.3 MILES</b>
EST. CONSTRUCTION COST:*	<b>\$530,000</b>

\*INCLUDING DESIGN FEES

\*INCLUDING DESIGN FEES

COUNTY: NASH DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ON-STREET BIKEWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$5,800.00	\$5,800.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$600.00	\$600.00
	4025000000-E		CONST FURN, ***SIGN (E)	576	SF	\$20.00	\$11,520.00
0003	4102000000-N	904	SIGN ERECTION, TYPE E	64	EA	\$80.00	\$5,120.00
0004	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$10,000.00	\$10,000.00
0005	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	4,070	LF	\$0.60	\$2,442.00
0006	4686000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	10,845	LF	\$0.70	\$7,591.50
0007	4688000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS)	12,165	LF	\$0.90	\$10,948.50
0009	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	65	EA	\$150.00	\$9,750.00
0010	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	6,535	LF	\$0.60	\$3,921.00
0011	4875000000-N	1205	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	6	EA	\$50.00	\$300.00
0012	4915000000-E	1264	7" U-CHANNEL POSTS	64	EA	\$100.00	\$6,400.00

CONSTRUCTION COST SUBTOTAL	\$74,393.00
CONSTRUCTION CONTINGENCY (35%)	\$26,037.55
OPINION OF PROBABLE CONSTRUCTION COST	\$100,430.55
ENGINEERING DESIGN (15%)	\$15,064.58
RIGHT-OF-WAY ACQUISITION (@150k PER ACRE)	-
OPINION OF TOTAL BIKEWAY ITEMS COST	\$115,495.13

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>STREETScape ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$23,700.00	\$23,700.00
			STREETSCAPING TREES	40	EA	\$460.00	\$18,400.00
			STREETSCAPING FURNITURE	14	EA	\$1,500.00	\$21,000.00
			STREETSCAPING LIGHTING	16	EA	\$3,600.00	\$57,600.00
			BRICK PEDESTRIAN CROSSINGS	20	EA	\$3,500.00	\$70,000.00
			UTILITIES	1	LS	\$50,000.00	\$50,000.00
			LANDSCAPE ITEMS	1	LS	\$20,000.00	\$20,000.00

CONSTRUCTION COST SUBTOTAL	\$260,700.00
CONSTRUCTION CONTINGENCY (35%)	\$91,245.00
OPINION OF PROBABLE CONSTRUCTION COST	\$351,945.00
ENGINEERING DESIGN (15%)	\$52,791.75
RIGHT-OF-WAY ACQUISITION (@150k PER ACRE)	-
OPINION OF TOTAL STREETScape ITEMS COST	\$404,736.75

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
 ESTIMATE BASED ON THE CITY OF ROCKY MOUNT "MONK TO MILL TRAIL FEASIBILITY STUDY 2016."

COMPUTED BY CJA  
 DATE 5/22/2018



NC License #P-1301

# PLANNING ESTIMATE

LOCATION:

**PARKERS CANAL (COWLICK TRAIL EXTENSION)**

DESCRIPTION:

**CANAL CORRIDOR FROM ATLANTIC AVE / IVEY ST INTERSECTION TO OLIVE ST**

0.6 MILES 10' ASPHALT SHARED-USE PATH, INCLUDING EST. 2 PEDESTRIAN BRIDGE CROSSINGS.

<b>TOTAL LENGTH:</b>	<b>0.6 MILES</b>
<b>EST. PROJECT COST:*</b>	<b>\$840,000</b>

\*INCLUDING DESIGN FEES AND  
RIGHT-OF-WAY ACQUISITION

COUNTY: NASH

DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$23,600.00	\$23,600.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$3,200.00	\$3,200.00
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	1	LS	\$30,000.00	\$30,000.00
0004	0022000000-E	225	UNCLASSIFIED EXCAVATION	1,900	CY	\$50.00	\$95,000.00
0005	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	64	LF	\$140.00	\$8,960.00
0006	1011000000-N	500	FINE GRADING	1	LS	\$17,800.00	\$17,800.00
0007	1121000000-E	520	AGGREGATE BASE COURSE	1,390	TON	\$35.00	\$48,650.00
0008	1275000000-E	600	PRIME COAT	1,245	GAL	\$6.00	\$7,470.00
0009	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	410	TON	\$60.00	\$24,600.00
0010	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	25	TON	\$600.00	\$15,000.00
0011	2209000000-E	838	ENDWALLS	20	CY	\$1,000.00	\$20,000.00
0012	2605000000-N	848	CONCRETE CURB RAMP	12	EA	\$1,000.00	\$12,000.00
0013	4025000000-E		CONTR FURN, ***SIGN (E)	324	SF	\$20.00	\$6,480.00
0014	4102000000-N	904	SIGN ERECTION, TYPE E	36	EA	\$80.00	\$2,880.00
0015	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$9,500.00	\$9,500.00
0016	4710000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	450	LF	\$12.00	\$5,400.00
0017	4915000000-E	1264	7' U-CHANNEL POSTS	36	EA	\$50.00	\$1,800.00
0018	6000000000-E	1605	TEMPORARY SILT FENCE	6,400	LF	\$2.00	\$12,800.00
0019	6084000000-E	1660	SEEDING & MULCHING	1	ACR	\$2,500.00	\$2,000.00
0020			PEDESTRIAN BRIDGE	40	LF	\$4,000.00	\$160,000.00

CONSTRUCTION COST SUBTOTAL	\$507,140.00
CONSTRUCTION CONTINGENCY (35%)	\$177,499.00
OPINION OF PROBABLE CONSTRUCTION COST	\$684,639.00
ENGINEERING DESIGN (15%)	\$102,695.85
RIGHT-OF-WAY ACQUISITION (@ \$30K PER ACRE)	\$44,000.00
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$831,334.85</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA  
DATE 5/22/2018



NC License #P-1301

# PLANNING ESTIMATE

LOCATION: **BBQ TRAIL**

DESCRIPTION: **ALONG TAR RIVER FROM RIVER DR / FALLS RD INTERSECTION TO N CHURCH ROAD JUST SOUTH OF TAR RIVER BRIDGE**  
**0.7 MILES 10' ASPHALT TRAIL, WITH A PEDESTRIAN BRIDGE OVER THE DRAINAGE WAY ADJACENT TO N CHURCH ROAD.**

<b>TOTAL LENGTH:</b>	<b>0.7 MILES</b>
<b>EST. PROJECT COST:*</b>	<b>\$810,000</b>

\*INCLUDING DESIGN FEES AND RIGHT-OF-WAY ACQUISITION COUNTY: NASH DIVISION: 4

ITEM NO.			ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
LINE NO.	DESC. NO.	SECT. NO.					
<b>ROADWAY ITEMS</b>							
0001	0000100000-N	800	MOBILIZATION	1	LS	\$31,100.00	\$31,100.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	1	LS	\$3,200.00	\$3,200.00
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	1	LS	\$29,400.00	\$29,400.00
0004	0022000000-E	225	UNCLASSIFIED EXCAVATION	1,670	CY	\$50.00	\$83,500.00
0005	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	60	LF	\$140.00	\$8,400.00
0006	1011000000-N	500	FINE GRADING	1	LS	\$19,850.00	\$19,850.00
0007	1121000000-E	520	AGGREGATE BASE COURSE	1,660	TON	\$35.00	\$58,100.00
0008	1275000000-E	600	PRIME COAT	1,486	GAL	\$6.00	\$8,916.00
0010	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	490	TON	\$60.00	\$29,400.00
0011	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	30	TON	\$600.00	\$18,000.00
0011	2209000000-E	838	ENDWALLS	20	CY	\$1,000.00	\$20,000.00
0012	2605000000-N	848	CONCRETE CURB RAMP	5	EA	\$1,000.00	\$5,000.00
0013	4025000000-E		CONTR FURN, ***SIGN (E)	216	SF	\$20.00	\$4,320.00
0014	4102000000-N	904	SIGN ERECTION, TYPE E	24	EA	\$100.00	\$2,400.00
0015	4399000000-N	1105	TEMPORARY TRAFFIC CONTROL	1	LS	\$6,300.00	\$6,300.00
0014	4710000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	300	LF	\$12.00	\$3,600.00
0017	4915000000-E	1264	7' U-CHANNEL POSTS	24	EA	\$100.00	\$2,400.00
0018	6000000000-E	1605	TEMPORARY SILT FENCE	7,640	LF	\$2.00	\$15,280.00
0019	6084000000-E	1660	SEEDING & MULCHING	1	ACR	\$2,500.00	\$1,500.00
0020			PEDESTRIAN BRIDGE	40	LF	\$4,000.00	\$160,000.00

CONSTRUCTION COST SUBTOTAL	\$510,666.00
CONSTRUCTION CONTINGENCY (35%)	\$178,733.10
OPINION OF PROBABLE CONSTRUCTION COST	\$689,399.10
ENGINEERING DESIGN (15%)	\$103,409.87
RIGHT-OF-WAY ACQUISITION (@ \$30K PER ACRE)	\$17,000.00
<b>OPINION OF TOTAL PROJECT COST</b>	<b>\$809,808.97</b>

NOTE: ESTIMATE IS NOT BASED ON AN ENGINEERING DESIGN, AND IS FOR PLANNING PURPOSES ONLY.  
BASED ON 2017/2018 UNIT PRICES, INFLATION NOT INCLUDED.

COMPUTED BY CJA  
DATE 5/22/2018





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## **Rocky Mount Bike Plan**

Prepared for the City of Rocky Mount  
Prepared by Alta Planning + Design

October 2018