



TOWN OF SALUDA BICYCLE AND PEDESTRIAN PLAN



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Acknowledgements

Thank you to the Steering Committee and local residents of the City of Saluda for their involvement and support in this planning process and commitment to bicycle and pedestrian planning. This plan was funded through the North Carolina Department of Transportation Bicycle and Pedestrian Planning Grant Initiative.

Key Partners

The City of Saluda
Henderson County
Polk County
Isothermal Rural Planning Organization
The North Carolina Department of Transportation (NCDOT)
NCDOT Division of Bicycle and Pedestrian Planning (DBPT)

City of Saluda Mayor and Board of Commissioners

Fred Baisden, Mayor
Lynn Cass, Commissioner
Leon Morgan, Commissioner
Carolyn Ashburn, Commissioner
Mark Oxtoby, Commissioner

Bicycle and Pedestrian Plan Steering Committee

Cindy Hemenway	Don Clapp
Cathy Jackson	Mary Meyland-Mason
Jim Kelly	Carolyn Ashburn
Patty Martin	Mark Oxtoby
Karyl Fuller	Bill Obermiller
James Hrynyshyn	Sara Bell
Susie Welsch	Ronette Dill
Debbie Thomas	Zach Pace
Chris Buchannon	

NCDOT

John Vine-Hodge, NCDOT Project Manager

Consultant Team

AECOM Technical Services of North Carolina



Table of Contents

Executive Summary	1
Brief History and Overview of the Community.....	1
Past Planning Efforts.....	1
Purpose, Goals, and Objectives of the Plan	2
Key Findings and Recommendations	2
Key Action Steps.....	3
1.0 Introduction	9
1.1 Community Vision	10
1.2 Goals, Objectives, and Strategies	10
1.3 Purpose and Scope of the Plan	16
1.4 Benefits of Pedestrian and Bicycle Planning.....	16
2.0 Existing Conditions Evaluation.....	23
2.1 Demographics	23
2.2 Community Features.....	26
2.3 Infrastructure.....	31
2.4 Land Use and Development.....	41
2.5 Pedestrian, Bicycle, and Vehicular Traffic Counts and Crash Data.....	42
2.6 Existing Facilities	44
2.7 Opportunities and Constraints.....	49
2.8 Existing Plans and Programmed Projects.....	50
3.0 Public Input and Data Collection.....	55
3.1 Steering Committee.....	55



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

3.2	Public Open House.....	56
4.0	Recommendations.....	57
4.1	Facility Types.....	57
4.2	Recommended Facilities.....	61
4.3	Signature Projects	82
4.4	Policies.....	94
4.5	Programs	100
5.0	Implementation Strategy.....	108
5.1	Key Action Steps	108
5.2	Project Development Strategies	113
5.3	Funding Sources	115
5.4	Performance and Evaluation Measures for Plan Implementation	117

Tables

Table 2-1: Community Features	27
Table 2-2: Saluda Road Inventory.....	33
Table 2-3: Utilities.....	40
Table 2-4: Annual Average Daily Traffic (AADT) Counts.....	43
Table 2-5: Existing Sidewalk Facilities.....	45
Table 2-6: Programmed Projects.....	53
Table 3-1: Steering Committee	55
Table 4-1: Prioritization Criteria.....	68
Table 4-2: Proposed Linear Facilities	71
Table 4-3: Proposed Spot Improvements.....	73
Table 4-4: Main Street Linear Improvements	84

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Table 4-5: Main Street Spot Improvements	85
Table 4-6: Greenville Street Linear Projects.....	90
Table 4-7: Greenville Street Spot Improvements	90
Table 5-1: Key Action Steps	109
Table 5-2: Performance and Evaluation Measures for Plan Implementation.....	118
Exhibits	
Exhibit ES-1: City of Saluda	7
Exhibit 2-1: Community Features.....	29
Exhibit 2-2: Existing Facilities	47
Exhibit 4-1: Proposed Bicycle Projects	75
Exhibit 4-2: Proposed Pedestrian Projects	77
Exhibit 4-3: Proposed Shared Use Path Projects	79
Exhibit 4-4: Proposed Bicycle and Pedestrian Network	81
Exhibit 4-5: Main Street Signature Projects.....	87
Exhibit 4-6: Greenville Street Signature Projects	91
Appendices	
Appendix A: Public Involvement.....	A-1
Appendix B: State and Federal Policies.....	B-1
Appendix C: Design Guidelines	C-1
Appendix D: Funding Sources	D-1
Appendix E: Cost Estimates	E-1

EXECUTIVE SUMMARY



Executive Summary

Brief History and Overview of the Community

The Saluda Bicycle and Pedestrian Plan is a culmination of a planning process to improve bicycle and pedestrian safety, connectivity, and health and well-being through infrastructure projects and community policies and programs.

The City of Saluda is located in the mountains of western North Carolina, approximately 25 miles south east of the City of Asheville. The name Saluda was derived from the Saluda Mountains and Saluda River – interpreted from a Cherokee word meaning “Corn River.” White settlement began in the area in the 1700’s, but it wasn’t until the Asheville to Spartanburg Railway was commissioned in 1877 that residential settlement in the area gained steam. The railway passes through downtown Saluda, and the City sits atop the Saluda Grade, the steepest standard-gauge mainline railway grade in the United States.



*E Main Street, Saluda NC
(AECOM)*

A village grew around the tracks and the City of Saluda was incorporated in 1881. From 1881- 1930, the City grew and attracted resorts, tourist residences, boarding houses, a diverse array of businesses, a Masonic lodge, and recreation areas. Utility systems were also constructed during this time, including sewer and electricity

The City declined in population during the depression and during World War II, but began to grow again in the 1950’s. In the 1950’s and 1960’s, Interstate 26 was constructed (it was finally completed in 1976), which pulled most of the heavy traffic on US 176 away from downtown, leaving the City much quieter. Today, the city is a tourist destination anchored by its historic downtown, and vibrant mountain community atmosphere.

The City declined in population during the depression and during World War II, but began to grow again in the 1950’s. In the 1950’s and 1960’s, Interstate 26 was constructed (it was finally completed in 1976), which pulled most of the heavy traffic on US 176 away from downtown, leaving the City much quieter. Today, the city is a tourist destination anchored by its historic downtown, and vibrant mountain community atmosphere.

Past Planning Efforts

In 2011 the City, in conjunction with North Carolina Department of Transportation (NCDOT), completed the Safe Routes to School Action Plan for Saluda. The Action Plan identified infrastructure projects, policies and other recommendations that would foster a safe environment for students at the Saluda Elementary School to walk or bike to school.

The Comprehensive Plan for Saluda North Carolina was completed in 2003 by the Isothermal Planning and Development Commission along with city staff and the North Carolina Division of Community Assistance. The Comprehensive Plan addressed issues that were vital to the growth, development and protection of the



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

natural and economic values of the City. Recommendations in the plan included updating the zoning ordinance and creating general design standards.

Downtown Saluda is listed on the National Register of Historic Places, and in 2012 was designated as a North Carolina Small Town Main Street community by the North Carolina Office of Urban Development. This designation means that the downtown is eligible for downtown development assistance from the state.

Recognizing the need to improve bicycle and pedestrian safety and connectivity for the City's residents, Saluda applied for a planning grant from the NCDOT Division of Bicycle and Pedestrian Transportation to develop a bicycle and pedestrian plan.

Purpose, Goals, and Objectives of the Plan

The purpose of this Plan was to evaluate the existing bicycle and pedestrian conditions within Saluda and recommend programmatic and infrastructure projects to improve safety, connectivity, and well-being. This effort was led by the NCDOT Division of Bicycle and Pedestrian Transportation, a project consultant, and a Steering Committee.

The Steering Committee was formed by the City and included community members, local officials, school representatives, and community organizations. The Steering Committee adopted goals and objectives to provide a framework for this planning effort related to safety, connectivity, education, health and well-being, and education.



*Cullipher Street, Saluda NC
(AECOM)*

Key Findings and Recommendations

According to input from two Steering Committee meetings and one public workshop, the Plan confirmed that the community views bicycle and pedestrian facilities as very important to improving the safety and well-being of the community and that there is wide support for implementing infrastructure projects as well as policies, ordinances, and programs.

Infrastructure Projects

Linear Facilities

Sidewalks, bicycle lanes, and shared use paths were evaluated for the City. Sidewalks and bicycle lanes are on-road facilities that would be constructed within the right-of-way. Shared use paths would be built off-road and provide recreational opportunities for residents in addition to alternative transportation.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



The list of projects can be found in Recommended Facilities and include two Signature Projects, one of which would install bike sharing signage and pavement markings as well as improve sidewalks along Main Street the town limits west to Ozone Drive. The second signature project would provide similar bike sharing signage, pavement markings and sidewalk improvements along Greenville Street. These projects were prioritized according to four factors related to: connectivity, implementation, safety, and community interest. The Steering Committee and City residents provided direct input into the community interest category at the public workshop. The projects were grouped into three groups: high priority, medium priority, and low priority.

Spot Improvements

In addition to linear facility projects, spot improvements are also recommended at intersections and mid-block crossings to improve safety. Recommendations include: bicycle parking, marked crosswalks, and access points for shared use paths.

Cost estimates were prepared for linear facilities and spot improvements following methodology from the Pedestrian and Bicycle Information Center at the University of North Carolina Highway Safety Research Center.

Recommendations by the Numbers

18 linear facility projects
8.2 miles of linear facilities
16 spot improvements
\$721,400 of proposed improvements

Policies, Ordinances, and Programs

Critical to a successful bicycle and pedestrian plan are policies, ordinances, and programs to complement infrastructure projects. Not only is safety dependent upon sidewalks, bicycle lanes, shared use paths, and spot improvements, it is also dependent upon education, reducing speed limits, enforcement of laws, and ordinances to encourage bicycle and pedestrian-friendly development. This Plan makes several programmatic recommendations to improve safety and encourage physical activity. Whereas infrastructure projects can be expensive to construct, programs are comparatively inexpensive to implement and can provide a tremendous benefit to the community.

One such program is the Watch for Me NC campaign sponsored by NCDOT. The program provides training and educational resources to increase awareness and promote safety in the community.

Key Action Steps

The success of this Plan depends on its implementation. A Bicycle and Pedestrian Advisory Committee (BPAC) should be formed or a City Council member or interested citizen appointed to continue in the efforts for improving bicycle and pedestrian safety and connectivity in Saluda.



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

If a committee is formed, it would meet regularly (as determined by the City Council), and report to the City Council. It could be comprised of members from the Plan Steering Committee as well as additional residents who reflect the demographics of Saluda in terms of age, race, and socioeconomic status.

A primary responsibility of BPAC would be to prepare an annual report provided to the City Council detailing the progress made on implementing the Plan as well as the BPAC's goals and objectives for the coming year.



Key Action Steps

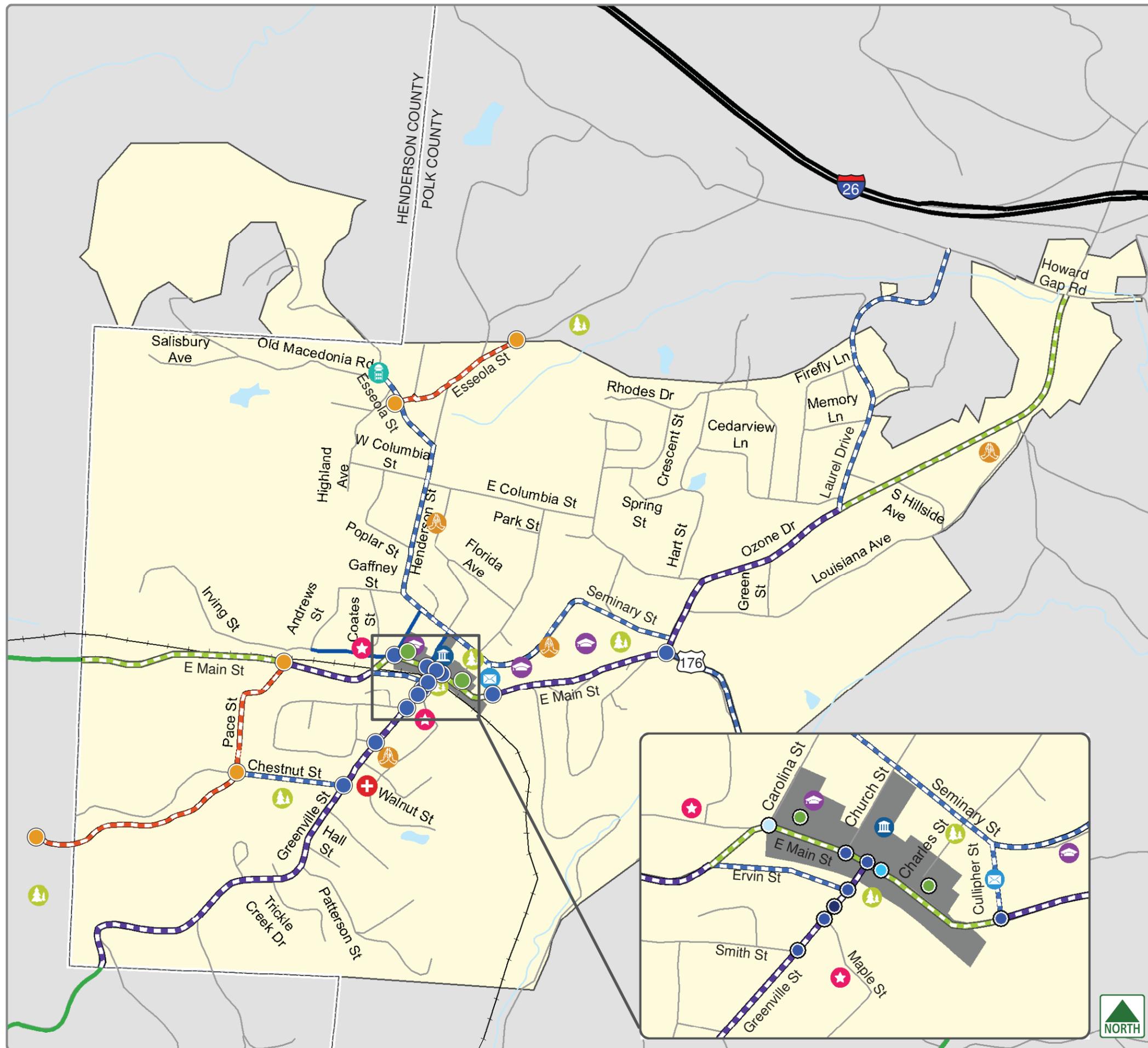
1. Adopt the Saluda Bicycle and Pedestrian Plan.
2. Establish a Bicycle and Pedestrian Advisory Committee or appoint a City Council member or interested citizen who will be responsible for overseeing the implementation of the plan.
3. Strengthen partnerships with Henderson and Polk counties and the Isothermal RPO.
4. Coordinate with NCDOT Division 14 to incorporate projects on a regional scale.
5. Coordinate with Isothermal RPO to include infrastructure projects in the regional planning process.
6. Coordinate with local bicycle organizations on regional items such as the establishment of a regional bicycle network.
7. Amend City Ordinances to include bicycle and pedestrian facilities and establish a sidewalk maintenance program.
8. Apply for alternative funding sources for the Plan's projects and programs.
9. Coordinate with the Saluda Community Land Trust.
10. Partner with NC Department of Commerce and others to promote ecotourism in the City.
11. Develop programs through partnerships with the Polk County Health Department and others that will promote the healthy aspects of bicycle and pedestrianism.
12. Program local funds for bicycle and pedestrian projects.
13. Coordinate with Region 2 Active Routes to School Coordinator
14. Coordinate with the National Rails to Trails Conservancy to conduct a rails to trails feasibility study.
15. Develop a wayfinding program.
16. Apply and participate in NCDOT's Watch for Me NC campaign to raise awareness and provide educational details.
17. Prepare the first Saluda Bicycle and Pedestrian Annual Report

City of Saluda

Bicycle and Pedestrian Plan



Exhibit ES-1: Proposed Bicycle and Pedestrian Network



Proposed Network

- Bicycle Spot Improvements
- Pedestrian Spot Improvements
- Shared Use Path Spot Improvements
- Bicycle and Pedestrian Linear Facilities
- Pedestrian Linear Facilities (only)
- Bicycle Linear Facilities (only)
- Shared Use Path Linear Facilities

Existing Facilities

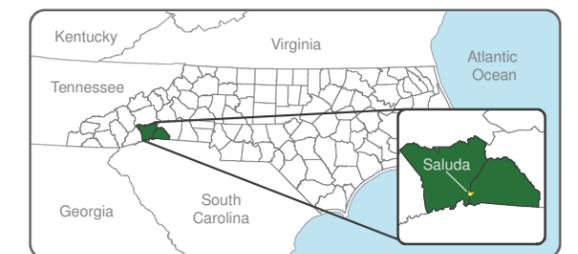
- Sidewalk
- Designated Bicycle Route

Community Features

- Commercial
- Education
- Government
- Historic/Cultural
- Parks/Recreation
- Place of Worship
- Public Safety/Health
- Point of Interest
- Post Office

- Stream
- Interstate
- US Route
- Railroad
- Local Road
- Waterbody
- Historic District
- Saluda City Limits
- County Boundary

January 2016



INTRODUCTION

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



I.0 Introduction

This City of Saluda’s Bicycle and Pedestrian plan is the City’s latest effort to promote bicycle and pedestrianism within the City, following upon the 2011 Safe Routes to School Action Plan for the City. This plan is the City’s first comprehensive bicycle and pedestrian plan, to define the vision and goals; provide recommendations for bicycle and pedestrian facilities; and identify programs and policies to promote active lifestyles and further increase the quality of life elements in the community of Saluda. This Plan has been funded through a matching grant from the North Carolina Department of Transportation (NCDOT) Division of Bicycle and Pedestrian Transportation (DPBT) with the City of Saluda providing the matching funds.



*E. Main Street, Saluda, NC
(AECOM)*

The City of Saluda is located in the mountains of western North Carolina, approximately 25 miles south east of the City of Asheville. The name Saluda was derived from the Saluda Mountains and Saluda River – interpreted from a Cherokee word meaning “Corn River.” White settlement began in the area in the 1700’s, but it wasn’t until the Asheville to Spartanburg Railway was commissioned in 1877 that residential settlement in the area gained steam. The railway passes through downtown Saluda, and the City sits atop the Saluda Grade, the steepest standard-gauge mainline railway grade in the United States.



*Historic train tracks along E. Main Street,
Saluda, NC
(AECOM)*

A village grew around the tracks and the city of Saluda was incorporated in 1881. From 1881- 1930, the City grew and included resorts, tourist residences, boarding houses, a diverse array of businesses, Masonic lodge, and recreation areas. Utility systems were also constructed during this time, including sewer and electricity

The City declined in population during the depression and during World War II, but began to grow again in the 1950’s. In the 1950’s and 1960’s, Interstate 26 was constructed (it was finally completed in 1976), which pulled most of the heavy traffic on US 176 away from downtown, leaving the City much quieter.



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

1.1 Community Vision

The Steering Committee adopted the following vision for the Plan at its first steering committee:

Saluda Bicycle and Pedestrian Plan Vision

The City of Saluda will be a place where people of all ages and diverse backgrounds have access to bicycle and pedestrian facilities and programs that promote: exercise and wellbeing, safety, accessibility, connectivity, and celebration and discovery of Saluda's rich culture and history.

1.2 Goals, Objectives, and Strategies

The following goals and objectives were adopted by the Steering Committee to guide the development and implementation of the Plan. The goals, objectives, and strategies described in this section provide the strategic framework for developing and improving bicycle and pedestrian travel in the City of Saluda. These goals, objectives, and strategies align with the principles outlined in *WalkBikeNC*, the North Carolina Statewide Bicycle and Pedestrian Plan. This similarity encourages consistency among the plans and is indicative of both the state and local desire for safe and abundant bicycle and pedestrian facilities.



*Church Street, Saluda, NC
(AECOM)*



GOAL & OBJECTIVE 1: Bicycle and Pedestrian Safety

Goal 1

Improve safety for pedestrians and cyclists, with an emphasis on already heavily used routes.

Objective 1

Implement policies and programs to improve pedestrian and cyclist safety and educate the community.

Strategies	Short-Term Years (2015 – 2020)	Ongoing
Form an advisory committee of City residents or appoint a City Council member or citizen to oversee the implementation of the Plan	X	
Develop programs and methods to provide training about current bicycle and pedestrian laws to all students, citizens, and law enforcement officers.	X	X
Apply to participate in NCDOT’s Watch for Me NC campaign to raise awareness and provide educational resources.	X	
Use safety data to prioritize safety improvements and evaluate performance.		X



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

GOAL & OBJECTIVE 2: Bicycle and Pedestrian Network

Goal 2

Improve mobility by creating and providing safe pedestrian and bicycle networks, removing barriers and enhancing connections between community origins and destinations such as schools, stores, and churches.

Objective 2

Identify and develop bicycle and pedestrian accommodations along Saluda’s roadways.

Strategies	Short-Term Years (2015 – 2020)	Ongoing
Hold initial meetings with NCDOT Division 14 and the Isothermal RPO to review the Plan’s infrastructure projects to include them where appropriate in upcoming transportation and regional plans	X	
Work with NCDOT to provide bicycle facilities as part of roadway repaving and other maintenance.		X
Develop projects that complete gaps in the pedestrian network, repairs dilapidated facilities, and bring existing facilities into compliance with ADA standards.	X	
Draft amendments to the City Ordinances that follow the recommendations of this Plan in order to support bicycle and pedestrian infrastructure in new development.	X	
Coordinate with local bicycle organizations and clubs such as the Blue Ridge Bicycle Club to potentially develop a regional bicycle network.	X	X
Coordinate with the National Rails to Trails Conservancy to conduct a feasibility study for converting the Norfolk Southern Rail line to trail.	X	



GOAL & OBJECTIVE 3: Environmental and Public Health Benefits of Walking and Biking

Goal 3

Recognize the environmental and public health benefits of walking and biking.

Objective 3

Partner with schools, community groups, the county health department, environmental groups, and city government to plan and hold events that recognize and promote the health and environmental benefits of walking and biking and promote active living.

Strategies	Short-Term Years (2015 – 2020)	Ongoing
Continue to implement recommendations from the 2011 Safe Routes to School Plan, develop a campaign to educate community members about the benefits of walking to school, and provide reference materials that support Safe Routes to Schools initiatives.		X
Partner with the Polk County Health Department, local schools, and other community organizations to develop encouragement and educational programs that promote the healthy aspects of bicycle and pedestrianism.	X	



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

GOAL & OBJECTIVE 4: Connect Cultural Sites and Ecological Resources

Goal 4

Provide connections between community origins and destinations, including cultural and historic sites through sidewalks and bike paths.

Objective 4

Create walking and bicycling information and wayfinding to tie Saluda’s historic downtown, its cultural and historic sites, and surrounding ecological resources.

Strategies	Short-Term Years (2015 – 2020)	Ongoing
Promote siting and design guidelines that encourage biking and walking to cultural and historic sites and increase connectivity to the downtown and access to and within adjacent neighborhoods.		X
Work with the North Carolina Department of Commerce to market ecotourism and cultural heritage sites in Saluda.		X
Coordinate with the Saluda Community Land Trust to identify strategies and funding sources for projects that enhance both the City and the SCLT.		X



GOAL & OBJECTIVE 5: Funding and Partnerships

Goal 5

Seek funding and partnerships to implement the Plan.

Objective 5

Identify funding sources and partnerships with local businesses, nonprofits, and the Isothermal Rural Planning Organization, NCDOT, and other regional planning and state agencies to implement the Plan.

Strategies	Short-Term Years (2015 – 2020)	Ongoing
Regularly seek and apply for funding opportunities for prioritized projects through STIP, and private/non-profit grant funding sources.		X
Leverage local funding contributions and incorporate bicycle and pedestrian improvements by private developers where feasible.		X



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

I.3 Purpose and Scope of the Plan

The purpose of this Plan is to evaluate the existing pedestrian and bicycle conditions within Saluda and recommend programmatic and infrastructure projects to improve safety, connectivity, and well-being. This effort was led by NCDOT, a project consultant, and a Steering Committee. A public open house was conducted for city residents to provide input through on planning efforts.

The scope of the Plan included the following tasks:

- Analysis of existing conditions and demographics
- Review of existing plans and policies
- Policy and program recommendations
- Infrastructure improvements and cost estimates
- Identification of possible funding sources
- Public input through a Steering Committee and open house
- Implementation strategies



Looking toward Saluda Elementary School (AECOM)

Engineering studies and construction were not included in the scope.

I.4 Benefits of Pedestrian and Bicycle Planning

There are many benefits to bicycle and pedestrian planning and the resulting programs and infrastructure projects. *WalkBikeNC*, the statewide bicycle and pedestrian plan, established a vision for North Carolina centered around five key benefits: safety, health, economic, mobility, and stewardship.

The statistics and benefits discussed in this section were compiled from several sources: the *WalkBikeNC* plan, the Pedestrian and Bicycle Information Center based at the University of North Carolina Highway Safety Research Center, the NC Bicycle and Pedestrian Safety Summit 2011, and the *2014 Benchmarking Report* by the Alliance for Biking and Walking.

WalkBikeNC Vision

North Carolina is a place that incorporates walking and bicycling into daily life, promoting safe access to destinations, physical activity opportunities for improved health, increased mobility for better transportation efficiency, retention and attraction of economic development, and resource conservation for better environmental stewardship of our state.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Safety

The need to improve safety for pedestrians and bicyclists is urgent. Each year in NC more than 2,000 pedestrians and 1,000 bicyclists are involved in police-reported crashes with motor vehicles. Between 150 and 200 pedestrians are killed, and an additional 200 to 300 are seriously injured. On average, approximately 20 bicyclists are killed and an additional 60 are seriously injured annually.ⁱ

In 2011, the NCDOT Division of Bicycle and Pedestrian Transportation in conjunction with the Institute of Transportation Research and Education (ITRE) conducted a statewide public information gathering process to identify and prioritize specific strategies to address key problems facing bicycle and pedestrian safety. The process included surveying over 16,000 North Carolinians regarding their walking and bicycle activity and attitudes towards safety. Key statistics from the survey are provided below and support the need for constructing bicycle and pedestrian infrastructure.



*Cyclist Wearing a Helmet
(Flickr. Creative Commons. Elvert Barnes. 2011)*

Benefits

- Constructing bicycle and pedestrian facilities reduces the risk of crashes between pedestrians, bicyclists, and automobilesⁱⁱ
- Improving safety encourages people to walk or bike: 70% of respondents would walk more if safety issues were addressedⁱⁱⁱ
- In places where more bicyclists and pedestrians are present, fatalities tend to be lower^{iv}

Key Statistics

- The percentage of all traffic fatalities that are pedestrians and bicyclists in the United States has increased from 12.6% in 2003 to 15.8% in 2011^v
- North Carolina is ranked 42nd in the nation for pedestrian safety and 46th for bicycle safety. (measured as the ratio of fatalities to commuters)^{vi}



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Health

Sidewalks, bicycle lanes, and trails promote active living and improve health by providing residents with opportunities to exercise and integrate physical activity into their daily lives. Improving health is of critical importance in North Carolina as 65% of adults are either overweight or obese. The state is ranked as the 5th worst in the nation for childhood obesity.^{vii}

Benefits

- By providing access to sidewalks, people are more likely to walk^{viii}
- States with higher rates of bicycling and walking to work also have a higher percentage of the population meeting recommended levels of physical activity, and have lower rates of obesity, high blood pressure, and diabetes^{ix}
- For every dollar invested in bicycle and pedestrian trails can result in a savings of nearly \$3 in direct medical expenses^x

Key Statistics

- 53% of adult men and 64% of adult women do not get more than 10 minutes of vigorous physical activity per week^{xi}
- The national health-related cost savings of a modest increase in bicycling and walking is estimated at \$420 million annually. A substantial increase in bicycling and walking could save over \$28 billion per year^{xii}

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Economics

In addition to improving health and safety, investing in bicycle and pedestrian infrastructure returns economic benefits to communities through increased property values, patronage of local businesses, and tourism.

Benefits

- Communities that are more walkable have higher property values^{xiii}
- Bicycle and pedestrian infrastructure allows communities to be eligible for “Bicycle Friendly Community” and “Walking Friendly Community” designations, which attract new residents and businesses^{xiv}
- According to studies conducted around the country, bicyclists and pedestrians report spending more money at local stores than do users of other transportation modes^{xv}

Key Statistics

- If Americans gave up their car for just one four-mile trip each week, they would save \$7.3 billion per year in fuel costs^{xvi}
- The annual economic impact of bicycle tourists to North Carolina’s Outer Banks is estimated at \$60 million. In addition, 1,407 jobs were supported from the 40,800 visitors for whom bicycling was an important reason for choosing to vacation in the area.^{xvii}



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Mobility/Transportation Efficiency

Mobility/Transportation efficiency describes the effectiveness of the transportation system, which includes roads, rail, public transit, and bicycle or bicycle facilities, to move people and goods safely and quickly. As roads become increasingly congested, one way that communities can improve transportation efficiency is by offering bicycle and pedestrian alternatives to automobiles.

Benefits

- Pedestrian and bicycle facilities provide an alternative mode of transportation to roads, which are becoming increasingly congested^{xviii}
- Reduces stress associated with driving in congestion^{xix}
- Offers an opportunity to combine exercise and transportation, thereby improving health as well^{xx}

Key Statistics

- Nearly 50% of all vehicular trips are three miles or less and 27% are one mile or less. These distances are considered easily bikeable or walkable for most people, but the proper infrastructure needs to exist to ensure the opportunity to safely ride or walk^{xxi}
- Traffic congestion in 2011 caused Americans in cities to travel an additional 5.5 billion hours, purchase an additional 2.9 billion gallons of fuel, and spend an additional \$21 billion in gas^{xxii}

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Stewardship

Transportation is responsible for nearly 80 percent of carbon monoxide and 55 percent of nitrogen oxide emissions in the US.^{xxiii} Bicycle and pedestrian infrastructure encourages stewardship of our natural resources by providing residents with a fossil fuel-free alternative model of transportation. Greenways and trails help connect residents with the outdoors, fostering an appreciation for nature.

Benefits

- Provides an alternative mode of transportation that is environmentally friendly
- Connects people with the outdoors, fostering an appreciation for nature
- Bicycle and pedestrian facilities, particularly greenways, often serve to preserve wildlife habitat and corridors, and stream buffers as well as protect water quality^{xxiv}

Key Statistics

- The most harmful air pollutants are emitted within minutes of starting a car, meaning that short trips pollute more per mile and have a larger impact on our overall health than longer trips^{xxv}
- Motor vehicle emissions represent 31 percent of total carbon dioxide, 81 percent of carbon monoxide, and 49 percent of nitrogen oxides released in the US^{xxvi}



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

ⁱ NCDOT. (2015). North Carolina Pedestrian and Bicycle Crash Data Tool. http://www.pedbikeinfo.org/pbcat_nc/index.cfm

ⁱⁱ Institute for Transportation Research and Education. (2011). Bicycle and Pedestrian Safety Strategies in North Carolina: Statewide Input and Priorities, page 17. Retrieved from:

http://www.ncdot.gov/bikeped/download/bikeped_research_SummitSynthesisReport2011.pdf

ⁱⁱⁱ Institute for Transportation Research and Education. (2011). Bicycle and Pedestrian Safety Strategies in North Carolina: Statewide Input and Priorities, page 17.

^{iv} Alliance for Biking and Walking. (2014). Bicycling and Walking in the United States: 2014 Benchmarking Report, page 80.

^v Ibid. Page 75.

^{vi} Ibid. Page 79.

^{vii} NCDOT. (2013). WalkBikeNC: North Carolina Statewide Pedestrian and Bicycle Plan Summary Document, page 12.

^{viii} Health by Design. (2015). Fact Sheet: The Benefits of Sidewalks. Retrieved from:

<http://www.healthbydesignonline.org/documents/HbDFSSidewalks.pdf>

^{ix} Alliance for Biking and Walking. (2014). Bicycling and Walking in the United States: 2014 Benchmarking Report, page 70.

^x WalkBikePlan Summary, page 12 / Chenoweth, David. (2012). "Economics, Physical Activity, and Community Design." North Carolina Medical Journal 73(4): 293-294.

^{xi} Pedestrian and Bicycle Information Center (2015). Health Benefits of Biking and Walking. Retrieved from:

http://www.pedbikeinfo.org/data/factsheet_health.cfm

^{xii} Alliance for Biking and Walking. (2014). Bicycling and Walking in the United States: 2014 Benchmarking Report, page 100.

^{xiii} Ibid. Page 95.

^{xiv} Ibid. Page 96.

^{xv} Ibid. Page 98.

^{xvi} Ibid. Page 97.

^{xvii} NCDOT. (2013). WalkBikeNC: North Carolina Statewide Pedestrian and Bicycle Plan Summary Document, page 15.

^{xviii} Ibid. Page 95.

^{xix} Ibid. Page 95.

^{xx} Ibid. Page 95.

^{xxi} Ibid. Page 23.

^{xxii} Ibid. Page 95.

^{xxiii} Pedestrian and Bicycle Information Center. (2015). Environmental Benefits of Bicycling and Walking. Retrieved from:

http://www.pedbikeinfo.org/data/factsheet_environmental.cfm

^{xxiv} NCDOT. (2013). WalkBikeNC: North Carolina Statewide Pedestrian and Bicycle Plan, page 2-37.

^{xxv} Alliance for Biking and Walking. (2014). Bicycling and Walking in the United States: 2014 Benchmarking Report, page 72.

^{xxvi} Pedestrian and Bicycle Information Center. (2015). Environmental Benefits of Bicycling and Walking. Retrieved from:

http://www.pedbikeinfo.org/data/factsheet_environmental.cfm

EXISTING CONDITIONS EVALUATION



2.0 Existing Conditions Evaluation

2.1 Demographics

Demographic characteristics were investigated to gain a better understanding of the population living in Saluda, the community's transportation needs, and any vulnerable populations for compliance with federal policy. Vulnerable populations are those citizens of the community who are disadvantaged by ethnicity or race, age, gender, socio-economic status, or other distinguishing factors that disproportionately impact access to resources.

Title VI of the Civil Rights Act of 1964 requires that each federal agency ensure that no person is excluded, denied, or discriminated based on race, color, national origin, age, sex, disability. Executive Order 12898 signed by President Bill Clinton in 1994 requires that each Federal agency shall make achieving environmental justice part of its mission. Saluda would likely coordinate with federal agencies and apply for federal funds in order to implement the programs and projects recommended by this Plan.

Datasets studied include: age, population, race characteristics, Hispanic/Latino and Minority populations, poverty rates, Limited English Proficiency (LEP) populations, and Zero Car Households. The demographic analysis was based on 2000 and 2010 US Decennial Census data and 2009-2013 American Community Survey (ACS) estimate data analyzed at the place, county, and state levels.

Assessing demographic conditions in the community is important to understand the broader scope of those living in the area, where transportation planning plays a key role in connecting community resources and planning for future development and growth. This can enable more efficient and sustainable movement to and from resources within the community.

Population and Age

Saluda is divided between Henderson and Polk Counties. With an area of 1.6 square miles, the population was 713¹ people in 2010, a 24.0 percent increase from a population of 575 in 2000. Henderson County's population was 106,740 in 2010, a 19.7 percent increase in population in the last decade. Polk County's population was 20,510 in 2010, an 11.9 percent increase in population in the last decade, lower than both the City of Saluda and Henderson County. The increase in Saluda and Henderson county are above statewide

¹ US Census, ACS, http://thedataweb.rm.census.gov/TheDataWeb_HotReport2/profile/2013/5yr/np01.html?SUMLEV=160&state=37&place=32540



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

population changes, which experienced an 18.5 percent growth from 2000 to 2010 (8,049,313 people in 2000 and 9,535,483 people in 2010 statewide). A comparison of growth in the area suggests that there is a strong desire to live in both the counties and particularly in the City of Saluda. This migration could be a result of the quality of environment.

The City of Saluda appears to have a high level of attractiveness for an older age group, with a slightly larger male population of working-age individuals. Based on 2009-2013 ACS data, the median age was 57.9 in Saluda, while Henderson and Polk counties are younger with median ages of 46 and 50.1, respectively. These numbers represent a population significantly older on average than the state median age of 37. The largest ages groups in Saluda are ages 45 to 64 and 65 and older, at 29.9 percent and 37.7 percent, respectively. The smallest age group in Saluda is between the ages of 18-24 at 9.2 percent. This could be due to age groups above 18 and under 45 years of age moving out of Saluda for education or job opportunities.

The dominate age groups in Saluda as compared to county averages show that residents in the region are migrating to Saluda for retirement or are aging in place. Henderson and Polk counties' largest age groups are between the ages of 45-64 (28.1 percent and 30.9 percent, respectively) and 64 and older (22.9 percent and 25.5 percent, respectively). Compared to age demographics across North Carolina, the largest age groups are between the ages of 25-44 and 45-64, at 26.7 percent and 26.3 percent, respectively.

Improved bicycle and pedestrian infrastructure can help to retain or attract younger population while also serving current age groups in Saluda interested in different modes of transit. Those populations living in the community currently and those aging in place can gain health benefits from bicycle and pedestrian facilities while also profiting from a greater quality of life.

Minority and Race

The minority population² in Saluda is 31 people, approximately 4.2 percent of the total population. The minority population for the Counties is almost double at 15.7 percent and 11.6 percent of the Henderson and Polk County populations, respectively. These minority rates are significantly below the average in North Carolina, which has a minority population of 35.1 percent.

Saluda is predominantly white (95.8 percent), with a small percentage of African-American (0.7 percent), Some Other Race (2.2 percent) and two or More Races (1.4 percent). The Hispanic/Latino population comprises approximately 2.2 percent of Saluda. Henderson and Polk counties have a lower composition of predominantly white (91.2 percent and 91.6 percent) and higher African-American (3.3 percent and 5.1 percent) population, with the remainder of its population defined as American Indian, Asian,

² Calculated by subtracting White, Non-Hispanic population totals from the Total Population based on 2009-2013 ACS data.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Hawaiian/Pacific Islander, or Other (both approximately 5.0 percent). The Hispanic/Latino population comprises approximately 9.8 percent (Henderson county) and 5.5 percent (Polk county), significantly higher than the City of Saluda. In the state of North Carolina, the white (71.0 percent) and African-American (22.0 percent) populations define the majority with the remainder of the population defined as American Indian, Asian, Hawaiian/Pacific Islander, or Other (approximately 3.5 percent). The Hispanic/Latino population represents 9.0 percent of the population in the state.

Such minority and racial compositions indicate a minimally diverse composition of people living in both Saluda and the surrounding counties.

Regional Poverty Rates

Individuals living below the poverty line in Saluda comprise approximately 6.6 percent of the population. This is lower than the county populations living below the poverty line at 14.1 percent and 16.7 percent, respectively, which is lower than the North Carolina poverty rate of 18.0 percent.

Limited English Proficiency (LEP)

The populations in Saluda that speak English “less than very well” comprise approximately 1.6 percent of adult individuals age 18 and older. Of those in this category, the predominant language spoken other than English is Spanish. In Henderson and Polk counties limited English proficiency in the adult population is approximately 5.4 percent and 1.6 percent, respectively. Of those that speak English “less than very well,” Spanish is the predominant language. Saluda is below the state rate which is at 4.1 percent.

Vehicles per Household

In Saluda, 1.4 percent of households, both owner and renter occupied, have no vehicle available. This is low compared to the counties which have approximately 5.7 percent (Henderson County) and 5.4 percent (Polk County) of households who have no vehicle available. Saluda also has a lower rate of households with only one vehicle available (12.7 percent) than Henderson and Polk counties with 32.0 percent and 28.5 percent, respectively, in the Counties. North Carolina has a rate of 6.6 percent of households who have no vehicle available and 32.7 percent with one vehicle available.

Means of Transportation to Work

The majority of Saluda residents commute to work using a car, truck or van. A total of 88.9 percent of the population commutes using these modes, with 67.4 percent driving alone, and 21.5 percent using a two person carpool. Saluda’s rates of using a car, truck or van are similar, but slightly lower than, Polk County (90.9 percent), Henderson County (92.1 percent) and North Carolina (91.5 percent). Saluda also had a higher rate of residents who used alternative modes of commuting to work including bicycling and walking than either Polk or Henderson Counties. A total of 2.8 percent of Saluda residents used these modes compared to 1.9 percent of Polk County residents and 1.9 percent of Henderson County residents. Saluda also had a higher rate of residents that use these modes than the statewide average of 2.1 percent.



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Travel Time to Work

The average travel time for Saluda commuters is lower than for Polk and Henderson Counties. In Saluda, most workers have a commute time of between 5 and 9 minutes, and the majority of commuters have a commute time of less than 19 minutes. A total of 24.2 percent of all workers commute between 5 and 9 minutes to work, and 64.8 percent of all workers have a commute of less than 19 minutes. Commute times are longer for Polk County, with 15.7 percent of all workers having the highest average commute time of between 15 to 19 minutes. In Henderson County, 20.1 percent of all workers have a commute time of between 15 and 19 minutes, with 20.1 percent of all workers commuting for this length of time.

2.2 Community Features

Saluda has several community features that provide important services and enrich the quality of life for its residents. These features serve as potential pedestrian and bicyclist origins and destinations. The Steering Committee reported current pedestrian and bicyclist activity at some of these places. By improving connectivity between these locations and Saluda’s neighborhoods, residents would be more likely to walk or ride a bike. These features are listed in Table 2-1 and mapped on Exhibit 2-1. The map ID in the table below corresponds to the map. An infrastructure project’s ability to provide connectivity to these origins and destinations was one variable used to prioritize projects.



Saluda Senior Center, Saluda, NC (AECOM)



Saluda Community Dog Park, Saluda, NC (AECOM)



Saluda Tailgate Market, Saluda, NC (AECOM)

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Table 2-1: Community Features

MAP ID	NAME	TYPE
1	Judd's Peak*	Parks/Recreation
2	Saluda Dog Park	Parks/Recreation
3	Saluda Fire Department	Public Safety
4	Saluda Tailgate (Farmers) Market	Point of Interest
5	United Methodist Church	Place of Worship
6	Saluda Senior Center	Point of Interest
7	Saluda Public Library	Education
8	First Baptist Church	Place of Worship
9	McCreery Park	Parks/Recreation
10	City Hall/Police Station	Government
11	Pace Park	Parks/Recreation
12	US Post Office	Post Office
13	A Thousand Forests Montessori School	Education
14	Episcopal Church of the Transfiguration	Place of Worship
15	Saluda Elementary School	Education
16	George Robert Little III Park	Parks/Recreation
17	Faith Point Church - The Nazarene	Place of Worship
18	Bradley Nature Preserve*	Parks/Recreation
19	Saluda City Cemetery	Historic/Cultural
See Legend	Commercial Areas	Commercial

*Community facilities outside of Saluda's city limits, but in close proximity. These are identified as potential bicycle and pedestrian destinations.

City of Saluda

Bicycle and Pedestrian Plan



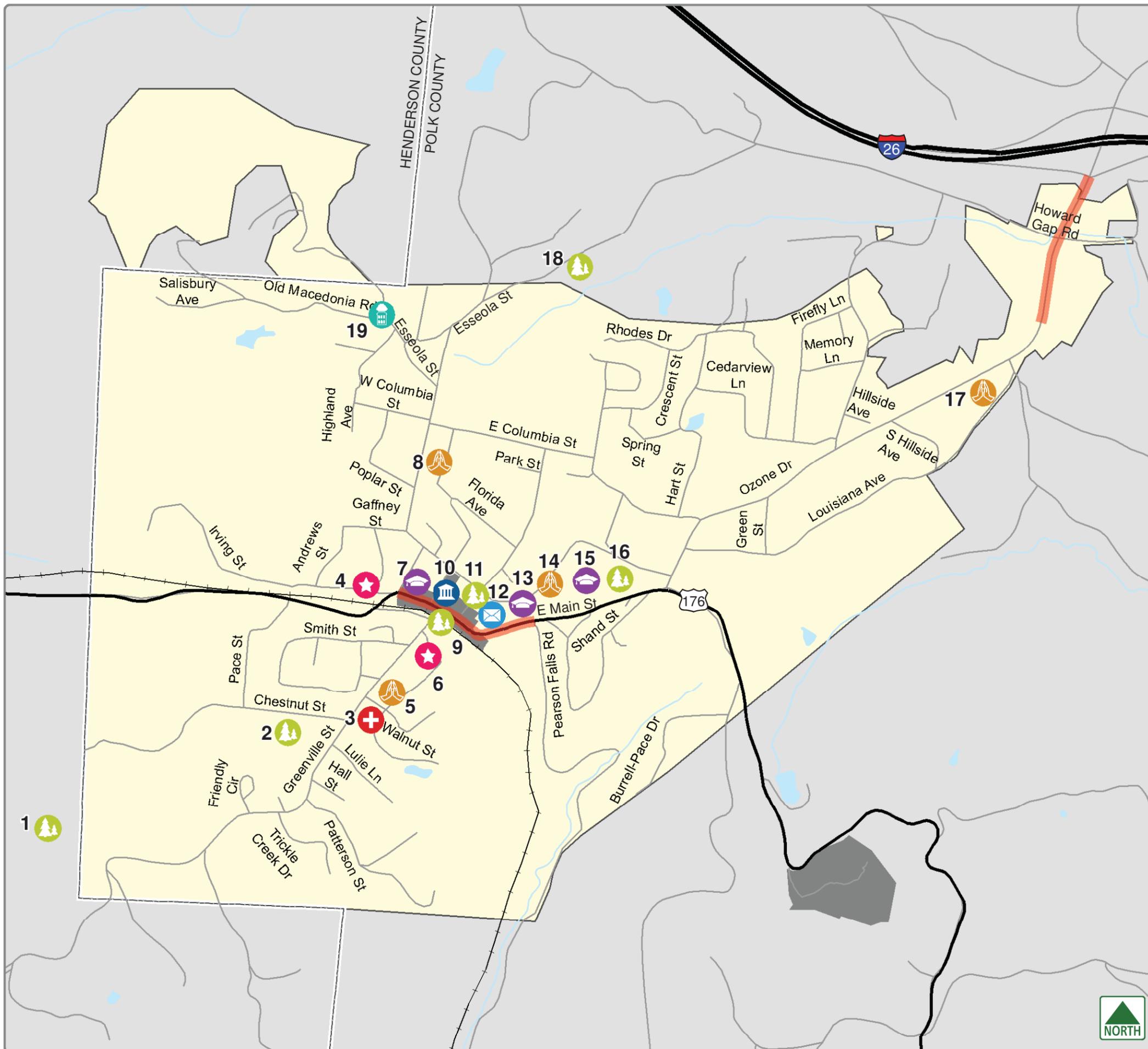
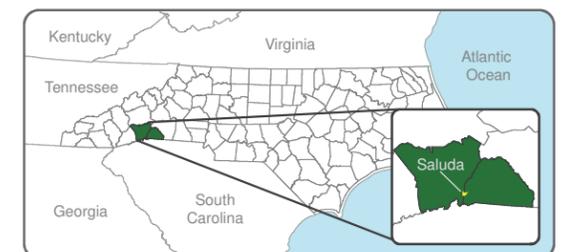
Exhibit 2-1: Community Features

Community Features

-  Commercial
-  Place of Worship
-  Education
-  Public Safety/Health
-  Government
-  Point of Interest
-  Post Office
-  Historic/Cultural
-  Parks/Recreation

-  Commercial Area
-  Interstate
-  US Route
-  Local Road
-  Railroad
-  Stream
-  Waterbody
-  Historic District
-  Saluda City Limits
-  County Boundary

January 2016



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



2.3 Infrastructure

Roads

The road network in Saluda reflects its mountain setting, as roads follow the natural topography curving around hills and climb the steeper slopes. Due to topography, Saluda does not have a street grid typical of other small towns. US 176, a two-lane highway, runs through the center of the city providing east-west access to US 25 in the west and Tryon in the east. Ozone Drive is a main southeast-northeast road connecting US 176 to Interstate 26/US 74. The major roads in Saluda such as US 176 and Ozone Drive are maintained by the state. The City maintains many of the residential streets. There are currently not any road projects planned for Saluda included in the 2015 NCDOT State Transportation Improvement Program (STIP).

Roads within Saluda are two lanes with approximately 10 to 12 foot travel lanes. Most roads do not have sidewalks or curb and gutter sections, although they are present on several streets near the downtown area. The pavement widths in Table 2-2 do not include gutter pans. Existing sidewalks are discussed in Section 2.6 Existing Facilities. The speed limits vary between 20 mph in the downtown area and 45 mph on Ozone Drive. Residential streets vary between 25 and 35 mph.



*Greenville Street, Saluda NC
(AECOM)*

Right-of-ways were estimated using aerial photography and parcel data. In the downtown area, West Main Street (US 176) is within the railroad right-of-way, which is approximately 130 feet wide. Main Street with on-street parking is approximately 45 feet wide and the railroad is 40 feet wide. The remaining land is currently forested, managed vegetation, or used for parking. In other areas of the city, the right-of-way varies from approximately 40 to 70 feet with road sections at 25 to 30 feet. This could potentially allow for 10 to 40 feet of available right-of-way for pedestrian and bicycle infrastructure. Ozone Drive has a larger right-of-way at 100 feet in many locations, which would more easily accommodate future infrastructure. These estimates would need to be verified during the engineering phases of future projects.

There is one bridge within Saluda's city limits: US 176 over the railroad south of Main Street. (Bridge ID #740005). The bridge was built in 1967 and is currently not structurally deficient or functionally obsolete. A sidewalk is present on the west side of the bridge. The railing along the sidewalk is approximately 2-feet tall, and does not meet the recommended 42-inch height requirement.

Characteristics of the road network in Saluda including ownership, surface type, length, speed limits, traffic, right-of-way, resurfacing schedule, and barriers and limitations for bicycle and pedestrian infrastructure are summarized in Table 2-2.



Table 2-2: Saluda Road Inventory

ROAD	OWNERSHIP	LENGTH (miles in Saluda)	SPEED LIMIT (mph)	TRAFFIC (2013 AADT)	RIGHT OF WAY (feet)	PAVEMENT WIDTH (does not include gutter pan) (feet)	CURB/ GUTTER	RESURFACING SCHEDULE	EXISTING BIKE/PED FACILITIES	BARRIERS/ LIMITATIONS
Andrews St	City	0.12	25	-	30	15	No	-	None	Narrow travel lanes, constrained right-of-way, vegetation
Burrell-Pace Dr	City	0.26	25	-	Un- determined	12	No	-	None	Above ground utilities on north side of roadway, narrow travel lanes, constrained right-of-way, vegetation
Carolina St	State	0.09	25	-	40	20	Yes	-	Sidewalk on west side of roadway north of E. Main St. intersection to Henderson St.	Above ground utilities on both sides of the roadway
Cedarview Ln	City	0.19	25	-	45	18	No	-	None	Narrow travel lanes, constrained right-of-way
Chestnut St	City	0.51	25	-	30	16	No	-	None	Unpaved portion, above ground utilities on both sides of the roadway, narrow travel lanes, constrained right-of-way, vegetation
Chisholm St	City	0.33	25	-	40	18	No	-	None	Above ground utilities on south side of roadway, ditches on both sides of roadway
Church St	City	0.34	35	-	37	23	Yes, along sidewalk only	-	Sidewalk on east side of roadway for one block, crosswalk	Above ground utilities on both sides of the roadway, constrained right-of-way
Coates St	City	0.13	25	-	20	Unpaved	No	-	None	Unpaved, constrained right-of-way, vegetation
Crescent St	City	0.56	25	-	30	15	No	-	None	Narrow travel lanes, constrained right-of-way, vegetation
Cullipher St	State	0.03	25	-	35	20	Yes, along sidewalk only	-	Sidewalk on west side of roadway	Above ground utilities on west side of the roadway, constrained right-of-way, steep slopes on both sides of the roadway
E Columbia Ave	City	0.30	25	-	30	12	No	-	None	Above ground utilities on north side of roadway, narrow travel lanes, constrained right-of-way, vegetation



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

ROAD	OWNERSHIP	LENGTH (miles in Saluda)	SPEED LIMIT (mph)	TRAFFIC (2013 AADT)	RIGHT OF WAY (feet)	PAVEMENT WIDTH (does not include gutter pan) (feet)	CURB/ GUTTER	RESURFACING SCHEDULE	EXISTING BIKE/PED FACILITIES	BARRIERS/ LIMITATIONS
E Main St	State	0.61	20	920 - 2,900	40 - 60	20	Yes, along sidewalk only	-	Sidewalk on north side of roadway to Ozone Dr.	Above ground utilities on north side of the roadway, constrained right-of-way, steep slopes on north side of the roadway
Esseola St	State	0.23	35	-	40	20	No	-	None	Above ground utilities on both sides of the roadway, embankment on north side of roadway, slope on south side of roadway
Firefly Ln	City and State	0.09	25	-	40	16	No	-	None	Above ground utilities on north side of roadway, narrow travel lanes, vegetation
Florida Ave	City	0.15	25	-	40	12	No	-	None	Above ground utilities on both sides of the roadway, narrow travel lanes, vegetation
Friendly Cir	City and State	0.13	25	-	25	15	No	-	None	Narrow travel lanes, constrained right-of-way
Frost St	State	0.06	35	-	60	20	No	-	None	Above ground utilities and ditches on both sides of the road
Gaffney St	City	0.11	25	-	30	15	No	-	None	Narrow travel lanes, constrained right-of-way
Grand View Cir	City	0.18	20	-	20	Unpaved	No	-	None	Unpaved, narrow travel lanes, constrained right-of-way
Green St	City	0.10	20	-	30	12	No	-	None	Steep slopes on both sides of roadway, narrow travel lanes, constrained right-of-way
Greenville St	State	0.88	25	-	45	20 - 24	Yes, south of Hall St. to Maple St.	-	Sidewalks on west side of the roadway from Hall St. to Maple St.	Above ground utilities on both sides of the roadway, slopes and embankments on both sides of the roadway, vegetation
Hart St	City and State	0.42	25	-	40	12	No	-	None	Below ground utilities, narrow travel lanes, embankments and ditches on both sides of the roadway
Hayes Dr	City	0.12	25	-	Undetermined	Unpaved	No	-	None	Unpaved

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



ROAD	OWNERSHIP	LENGTH (miles in Saluda)	SPEED LIMIT (mph)	TRAFFIC (2013 AADT)	RIGHT OF WAY (feet)	PAVEMENT WIDTH (does not include gutter pan) (feet)	CURB/ GUTTER	RESURFACING SCHEDULE	EXISTING BIKE/PED FACILITIES	BARRIERS/ LIMITATIONS
Henderson St	State	0.54	35	720	40	24	Yes, south of Macedonia Rd.	-	Sidewalks on east and south sides of the roadway from Columbia St. to Cullipher St.	Above ground utilities on both sides of the roadway, vegetation
Hill St	City	0.05	25	-	30	15	No	-	Crosswalk at intersection with E. Main St.	Above ground utilities on north side of roadway, ditches on south side of roadway, narrow travel lanes
Hinson Ter	City	0.06	25	-	30	15	No	-	None	Above ground utilities on both sides of the roadway, narrow travel lanes, vegetation, embankment on east side of roadway
Holbert Cove Rd	State	0.32	45	-	95	32	No	-	None	Above ground utilities on both sides of the roadway, water pumping station in southeast corner of the intersection with Ozone Dr., ditches along both sides of the roadway
Homewood Dr	City	0.07	25	-	26	15	No	-	None	Constrained right-of-way, vegetation
Howard Gap Rd	State	0.22	45	-	45 - 75	20	No	-	None	Ditches on both sides of the road, constrained right-of-way west of Laurel Dr.
Irving St	State	0.40	25	-	30	Unpaved	No	-	None	Unpaved, narrow travel lanes, constrained right-of-way, vegetation
Kilver St	State	0.04	25	-	30	15	Yes, along sidewalk only	-	Sidewalk on north side of roadway from Greenville St. to Smith St.	Above ground utilities on north side of roadway, vegetation on south side of roadway
Laurel Dr	State	0.32	35	-	60	18	No	Scheduled for resurfacing in FY 2016	None	Ditches and embankments on both sides of roadway
Laurel Mountain Trl	City	0.23	25	-	30	15	No	-	None	Cemetery on west side of roadway, ditches on both sides of roadway, narrow travel lanes, constrained right-of-way
Louisiana Ave	State	0.74	35	-	40	16	No	-	None	Above ground utilities on south side of roadway, narrow travel lanes, ditches on both sides of roadway
Macedonia Rd	City and State	0.15	35	-	40	20	No	-	None	Above ground utilities on east side of roadway



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

ROAD	OWNERSHIP	LENGTH (miles in Saluda)	SPEED LIMIT (mph)	TRAFFIC (2013 AADT)	RIGHT OF WAY (feet)	PAVEMENT WIDTH (does not include gutter pan) (feet)	CURB/GUTTER	RESURFACING SCHEDULE	EXISTING BIKE/PED FACILITIES	BARRIERS/ LIMITATIONS
Maple St	State	0.24	25	-	Within RR right-of-way	22	No	-	None	Within railroad right-of-way, adjacent to a memorial site at the intersection with Greenville St.
Melody Ln	City	0.13	25	-	40 - 45	18	No	-	None	Above ground utilities and ditches on both sides of the roadway
Memory Ln	City	0.11	25	-	40	20	No	-	None	Vegetation
Old Macedonia Rd	City	0.35	25	-	40	15	No	-	None	Cemetery on north side of roadway, narrow travel lanes
Overbrook Dr	City	0.07	25	-	20	9	No	-	None	Narrow travel lanes, constrained right-of-way
Ozone Dr	State	0.70	45	3,300	100	25 - 30	No	-	None	Ditches between Green St. and Laurel Dr., Steep slopes east of Laurel Dr., Above ground utilities on east side of roadway south of Howard Gap Rd.
Pace St	City	0.23	25	-	45	Unpaved	No	-	None	Unpaved
Pacolet St	State	0.10	35	-	28	17	Yes, at intersection with Greenville St.	-	None	Ditches and embankments on both sides of the roadway, narrow travel lanes, constrained right-of-way
Park St	City	0.13	25	-	40	10	No	-	None	Portion is unpaved, narrow travel lanes, constrained right-of-way
Patterson St	City	0.34	25	-	25	10	No	-	None	Above ground utilities on west side of the roadway, narrow travel lanes, vegetation
Pearson Falls Rd	State	0.03	25	-	60	Unpaved	No	-	None	Unpaved
Pine St	City	0.16	25	-	20	15	No	-	None	Above ground utilities on west side of roadway, narrow travel lanes, constrained right-of-way, vegetation

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



ROAD	OWNERSHIP	LENGTH (miles in Saluda)	SPEED LIMIT (mph)	TRAFFIC (2013 AADT)	RIGHT OF WAY (feet)	PAVEMENT WIDTH (does not include gutter pan) (feet)	CURB/GUTTER	RESURFACING SCHEDULE	EXISTING BIKE/PED FACILITIES	BARRIERS/ LIMITATIONS
Poplar St	City	0.19	25	-	40	10	No	-	None	Above ground utilities on south side of roadway, ditches on both sides of roadway, narrow travel lanes, vegetation
Ransom Rd	City	0.09	25	-	40	20	No	-	None	Above ground utilities on east side of roadway, narrow travel lanes, vegetation
Rhodes Dr	City	0.12	25	-	Undetermined	15	No	-	None	Above ground utilities and ditches on both sides of the road
S Hillside Ave	City	0.14	25	-	Undetermined	10	No	-	None	Above ground utilities on west side of roadway, narrow travel lanes, constrained right-of-way, vegetation
Salisbury Ave	City	0.16	25	-	30	8	No	-	None	Narrow travel lanes, constrained right-of-way, vegetation
Shand St	City	0.40	25	-	20	15	No	-	None	Embankments and slopes on both sides of the roadway, narrow travel lanes, constrained right-of-way, vegetation
Seminary St	State	0.19	25	-	40	22	Yes	-	Sidewalks on south side of the roadway from Cullipher St. to Saluda Elementary School	Above ground utilities on south side of the roadway
Smith Dr	City and State	0.09	25	-	28	14	No	-	None	Above ground utilities on south side of roadway, narrow travel lanes, constrained right-of-way in some portions
Smith St	City	0.43	25	-	25 - 40	14	No	-	None	Above ground utilities on south side of roadway, narrow travel lanes, constrained right-of-way in some portions
Spring St	City	0.13	25	-	40	14	No	-	None	Slopes and embankments on both sides of the roadway, narrow travel lanes, vegetation
Substation Rd	State	0.03	35	-	40	22	No	-	None	Above ground utilities on east side of the roadway
Taylor Dr	City	0.07	25	-	18	Unpaved	No	-	None	Unpaved, constrained right-of-way
Towhee Ln	City	0.09	25	-	20	12	No	-	None	Narrow travel lanes, constrained right-of-way, vegetation



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

ROAD	OWNERSHIP	LENGTH (miles in Saluda)	SPEED LIMIT (mph)	TRAFFIC (2013 AADT)	RIGHT OF WAY (feet)	PAVEMENT WIDTH (does not include gutter pan) (feet)	CURB/ GUTTER	RESURFACING SCHEDULE	EXISTING BIKE/PED FACILITIES	BARRIERS/ LIMITATIONS
US 176	State	0.55	35	2,200	60	30	No	-	Sidewalk on west side of bridge over railroad	Above ground utilities on both sides of the roadway, railroad on the north side of roadway, embankment on south side of roadway, slope on north side of roadway. Bridge railing does not meet 42-inch height requirement.
W Columbia Ave	City	0.14	25	-	40	12	No	-	None	Above ground utilities on north side of roadway, narrow travel lanes, vegetation
W Main St	State	0.23	20	-	50	45	Yes	-	Sidewalks on north side of the street, crosswalks at US 176 bridge and east of Charles St.	Railroad on south side of roadway, above ground utilities on north side of roadway, on street parking. Bridge railing does not meet 42-inch height requirement.
Whispering Woods Dr	City	0.20	25	-	40	16	No	-	None	Above ground utilities on west side of roadway, narrow travel lanes, vegetation

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Railroad

Saluda is proud of its history as a railroad town. The completion of the Southern Railroad in 1878 spurred development and tourism in Saluda.

The city grew up around the railroad, which is parallel to US 176 downtown. As many as eight passenger trains passed through Saluda daily at one time. The railroad is no longer in service, but is maintained by Norfolk Southern.

Public Transportation

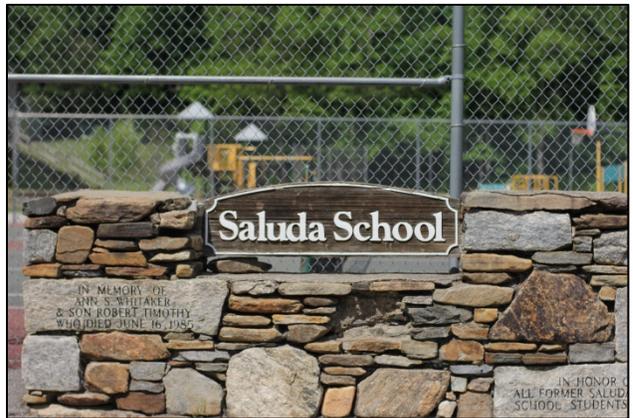
Public transportation depends on a pedestrian and bicycle network in order for transit riders to safely access transit stops. Furthermore, a pedestrian and bicycle network links transit stops to community destinations, residences, and businesses. Since Saluda spans two counties, both the Henderson County School System and Polk County School System provide school bus transportation to students, which is a form of transit.

The farmers market acts as a school bus transfer site where students attending the Saluda Elementary School but residing in Henderson County can meet school buses. Safety is compromised for students walking to bus stops due to the lack of sidewalks and shoulders in the city.

In addition to the school system, Henderson and Polk counties operate demand/response transit service for the elderly and persons with disabilities. There is currently no scheduled fixed route service located within or near Saluda. A pedestrian and bicycle network would support any future expansion in public transportation.



*Historic Saluda Gem Mine, Saluda, NC
(AECOM)*



*Saluda Elementary School, Saluda, NC
(AECOM)*



*Saluda Elementary School bus near the farmers
market transfer site, Saluda, NC
(AECOM)*



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Utilities

Utilities are an important consideration for bicycle and pedestrian planning. Moving or replacing existing utilities to make room for new pedestrian and bicycle infrastructure can be costly and in some cases, cost prohibitive. Often, sidewalks and multi-use paths are located on the side of the road where utilities are not present. The exact location of utilities would need to be surveyed during the engineering phase of each project. Coordination would need to occur with utility providers before construction. General information about utilities in Saluda is noted in Table 2-3 below.

Table 2-3: Utilities

UTILITY	PROVIDER	LOCATION
Electricity	Duke Power	Above ground
Telephone	TDS Telecom	Above ground
TV/Internet	Charter Communications, TDS Telecom	Above ground
Natural Gas	None	N/A
Water	City of Saluda	Below ground
Sewer	City of Saluda	Below ground

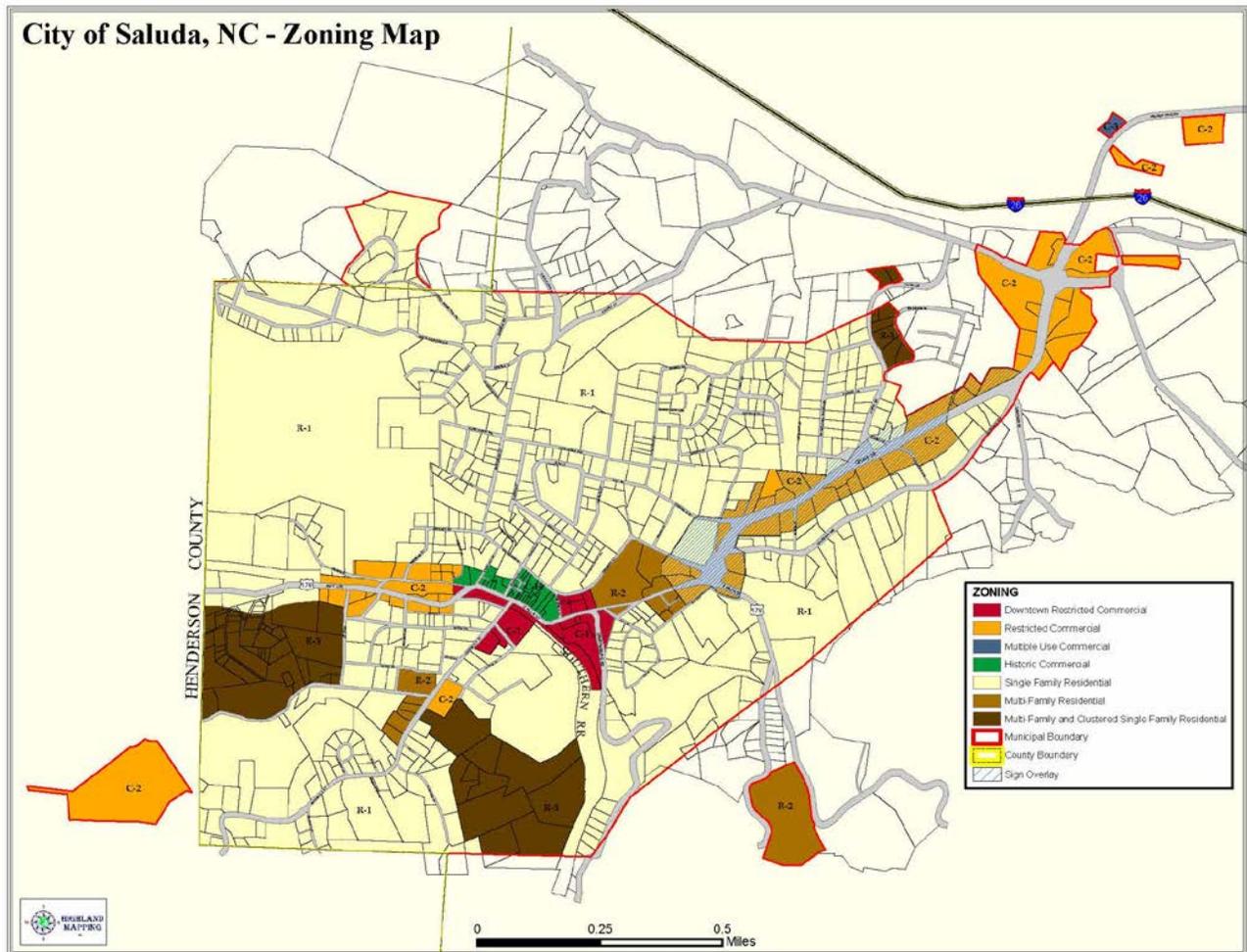
CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



2.4 Land Use and Development

The City of Saluda has both a comprehensive plan and zoning regulations that assist with encouraging growth while preserving the areas natural and historic resources.

The City has a downtown-restricted commercial area and along east Main Street, a historic commercial area (see City of Saluda, NC – Zoning Map). Much of the infrastructure along Main Street east and west of the downtown is commercial or multi-family residential. Single-family residential comprises the dominate zoning in Saluda and is located predominately north and south of Main Street. Some industrial and agricultural land exists surrounding the City but is not included within Saluda’s municipal boundaries.



Saluda Zoning Map
(City of Saluda, 2012)



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

The *Saluda Comprehensive Plan (2003)* was the first comprehensive plan developed for the City and serves as a guidance document to address issues “vital to the growth, development and protection of the natural and economic values of the City of Saluda.” The main goals of the plan include:

- Protect and preserve individual property rights, public interest, and the City character
- Update the official Zoning Ordinance
- Provide adequate, efficient, and equitable city resources and facilities

The Saluda Plan mirrors much of the Henderson and Polk Counties Comprehensive Plans, both of which address growth while preserving the natural and cultural heritage.

Development activity in Saluda is minimal, but according to the Polk County CTP, growth areas are expected predominantly to the north, north-east, and south-east of the existing municipal boundaries. There is also significant rural and/or conserved land surrounding the City, including the Green River Game Lands to the north. The Saluda Community Land Trust, Inc., (SCLT) works to preserve local land through conservation easements and land acquisition for greenways and other bicycle and pedestrian infrastructure.



*Neighborhood street character, Saluda, NC
(AECOM)*

Much of the land use growth in Saluda and surrounding areas is centered on the downtown with expectant growth to occur mainly along US 176 that traverses through the City.

2.5 Pedestrian, Bicycle, and Vehicular Traffic Counts and Crash Data

Pedestrian and Bicycle Activity

Pedestrian and bicycle counts were not available for this Plan; however, the Steering Committee noted pedestrian and bicycle activity around parks (McCreery Park, Saluda Dog Park, and Judd’s Park). They also noted pedestrian activity around Saluda Elementary School, the downtown business district, and the farmers market, which doubles as a school bus transfer center for students in Henderson County. The Committee also commented that there is high bicycle activity along Greenville Street, and that the change in grade attracts a large number of recreational bicyclists to the area.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



NCDOT Annual Average Daily Traffic Counts

NCDOT prepares Annual Average Daily Traffic (AADT) counts for state roads, which represent the traffic average for the year at specific points. Counts are collected every two years and are not available for every road. These counts in conjunction with field visits and discussions with residents help identify high traffic areas that may pose safety concerns for pedestrians and bicyclists.

Several roads within Saluda have traffic counts available. The counts are listed in Table 2-4 for the most recent year available, 2013. Ozone Drive just south of the US 74/I-26 intersection had the highest traffic count. Traffic was also heavy in the downtown area on East Main Street.

Table 2-4: Annual Average Daily Traffic (AADT) Counts

STREET	LOCATION	AADT (2013)
East Main Street	East of Church Street	2,900
East Main Street	East of Ozone Drive	920
Henderson Street	South of Poplar Street	720
Highway 176	East of Pace Street	2,200
Ozone Drive	South of Howard Gap Road	3,300

Crash Data

The NCDOT Department of Bicycle and Pedestrian Transportation in collaboration with the UNC Highway Safety Research Center developed the Crash Data Tool, which are a compilation of reported pedestrian and bicycle crashes between 1997 and 2012. There are over 40,000 crashes recorded in the database with comprehensive information such as age, speed, and vehicle type to name a few.

There is no reported bicycle or pedestrian crashes in the database for Saluda. It is possible that crashes went unreported to the NC Division of Motor Vehicles, which is the source for the database. Safety is still a concern for Saluda. The Steering Committee cited safety concerns, which include: sidewalks in disrepair, narrow sidewalks, the lack of buffer between sidewalks and roads, limited lighting, dangerous curves, and an overall lack of pedestrian and bicycle facilities within the city.



2.6 Existing Facilities

Saluda has existing sidewalks on several streets near the downtown area. The condition of these existing sidewalks varies. Some sidewalks such as those on Greenville and Henderson Street are in poor condition with cracks, broken pavement, and insufficient widths. Other sidewalks, such as those along Main Street downtown are smooth and are in relatively good condition with an adequate width. In addition to sidewalks, there are three crosswalks: Church Street north of Main Street, Main Street east of Greenville Street, and Main Street at Carolina Street. The crossing of Main Street east of Greenville Street is a striped mid-block crossing with planters on the south end. The crosswalks at Church Street north of Main Street and Main Street east of Greenville have an adequate width but could be enhanced with improved signage, pavement markings and pedestrian warning signals. This is particularly the case with the mid-block crossing at Main Street east of Greenville. The mid-block crossing of Main Street at Carolina Street does not lead anywhere on the south side of Main Street, and poses a safety concern as vehicles approaching from the west have limited visibility of the crossing due to the bridge and the curve immediately after the bridge.

Saluda does not have any existing bicycle facilities, but NC Bike Route 8 passes through Saluda on Main Street and US 176. Existing sidewalk facilities are listed in Table 2-5 and mapped on Exhibit 2-2. Overall, the sidewalk network in Saluda is poor to moderate, as there are existing facilities but many need enhancements to improve safety expand the connectivity between prime destinations.

In addition to the street lighting noted in Table 2-5, overhead streetlights are located intermittently throughout the City. The Stakeholder committee noted that lighting needed to be improved in the vicinity of Saluda Elementary School.



Sidewalk along Henderson Street, Saluda, NC (AECOM)



Sidewalk along Greenville Street, Saluda, NC (AECOM)

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Table 2-5: Existing Sidewalk Facilities

STREET	FROM	TO	SIDEWALK WIDTH*	CONDITION	STREET LIGHTING
Carolina Street	North of the Main Street intersection	Henderson Street	4-feet	Good	One street light at the southern end of Carolina St.
Cullipher Street	Main Street	Seminary Street	4-feet	Good; utility poles in sidewalk	None
Greenville Street	Hall Street	Maple Street	4-feet	Poor: cracks and gaps	Lighting at the northern end, and in the vicinity of the Saluda Fire and Rescue Station
Henderson Street	Columbia Street	Church Street	4-feet	Poor: cracks and gaps	Intermittent lighting at intersections.
Main Street	Carolina Street	Ozone Drive	4-feet	Good	Street lighting on the northern side of the street.
Seminary Street	Cullipher Street	Saluda Elementary School	4-feet	Poor: cracks and gaps	None.
US 176 Bridge	Irving Street	Main Street	4-feet	Good; insufficient rail height	None.

*Current NCDOT standards require a 5-foot sidewalk width, and 5.5 feet on bridges. Greater widths are recommended in areas with high pedestrian activity.

City of Saluda

Bicycle and Pedestrian Plan



Exhibit 2-2: Existing Facilities

Bicycle Linear Facilities

 Bicycle Route

Pedestrian Linear Facilities

 Sidewalk

 Interstate

 US Route

 Local Road

 Railroad

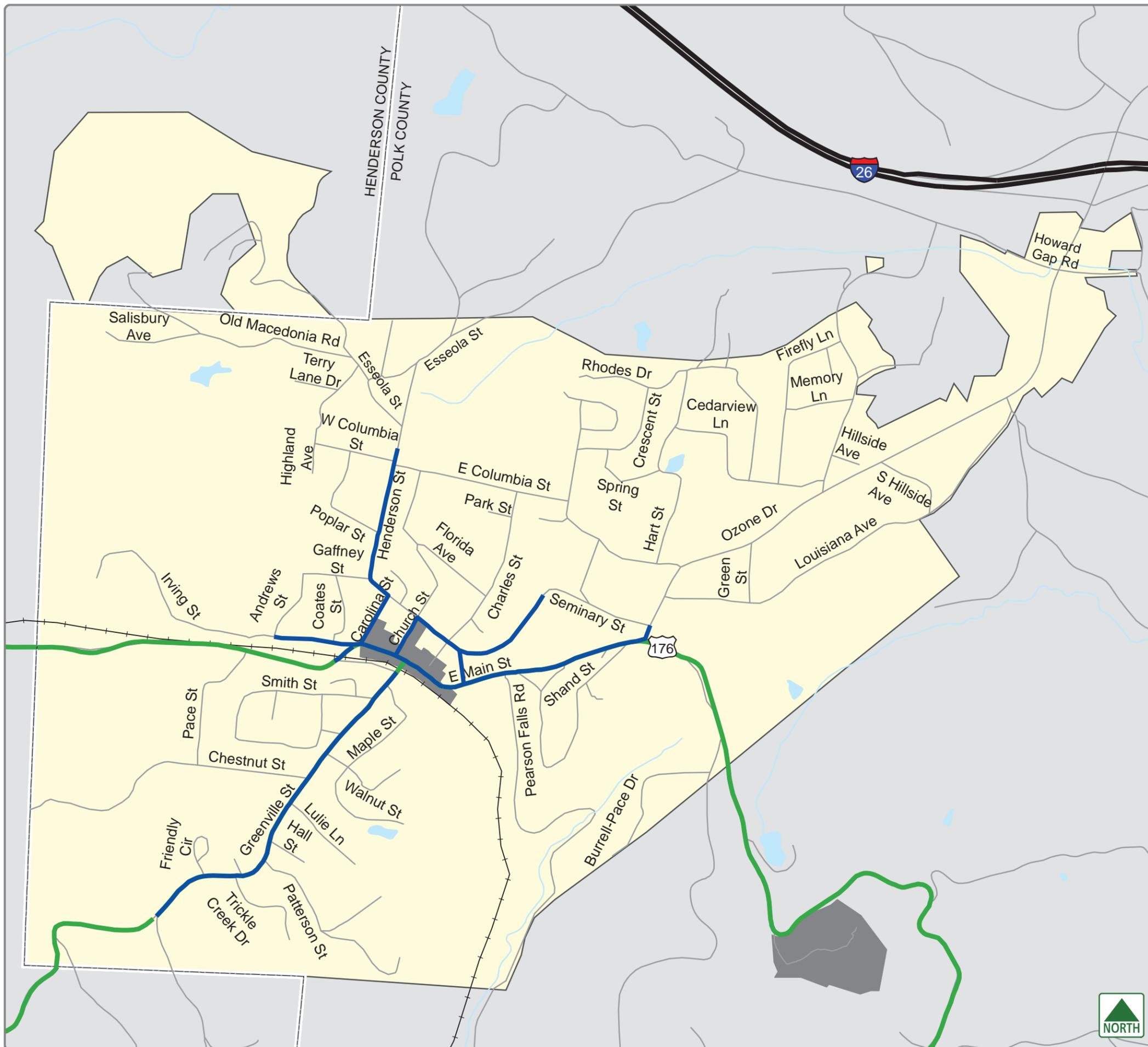
 Stream

 Waterbody

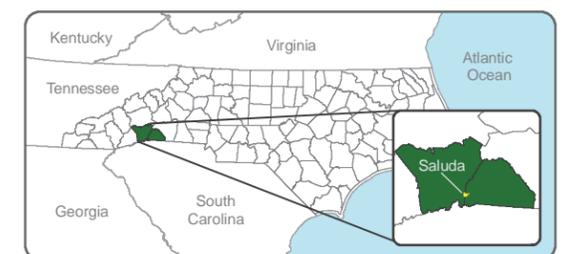
 Historic District

 Saluda City Limits

 County Boundary



January 2016





2.7 Opportunities and Constraints



Sign warning of broken pavement on Greenville Street (AECOM)

Opportunities are conditions that provide favorable bicycle and pedestrian alternatives. Constraints are conditions that limit bicycle and pedestrian access. Constraints can be analyzed and potentially become opportunities depending on actions taken to address the restriction. Through an analysis of Saluda’s existing bicycle and pedestrian facilities, a series of opportunities and constraints have been identified to help develop and structure implementation strategies.

Saluda’s location in the mountains of Western North Carolina creates both bicycle and pedestrian opportunities, and challenges to the implementation of associated infrastructure. Providing bicycle and pedestrian infrastructure will allow users to explore the

natural setting in and around the town, as well as add to the small town quaintness of the community. Improving bicycle and pedestrian access to downtown would also provide economic benefits to local businesses.

The City already has a sidewalk network, including sidewalk along many of its main thoroughfares. Much of the sidewalk was built prior to the Americans with Disability Act of 1990, and are currently substandard and in need of repair. The City and the surrounding area are also popular amongst cyclists who are drawn to the challenges that the changing terrain provides. Recreational riders in the City are common, and professional cyclist George Hincapie organizes an annual ride called the Gran Fondo Hincapie which passes through the town.



Pace Park, Saluda NC (AECOM)

Challenges to these opportunities include engineering challenges associated with steep terrain in some places, and retrofitting existing roadways that already have tight right-of-way with sidewalks and bicycle lanes.



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Opportunities

1. An existing sidewalk network that connects many of the community resources in the City.
2. Secondary impacts such as economic growth or investments as a result of visitor population using bicycle and pedestrian facilities including nature trails.
3. An active Land Conservancy (the Saluda Land Conservancy) that can be partnered with to enhance access to the parks and natural areas around the town.
4. Capitalize on existing natural resources as a way to draw local and regional visitors.
5. Better access and mobility through local and regional bicycle routes and improved sidewalks and connectivity.
6. Improved health benefits as a result of safer and better connected bicycle and pedestrian facilities.
7. Coordinate with bicycle organizations/clubs to help develop local activities and events, such as a bicycle rodeo or providing bicycle helmets to children.

Constraints

1. Sidewalks along major corridors that are in need of repair, and that are not ADA accessible.
2. Lack of existing City policies that require sidewalk and bicycle infrastructure.
3. Terrain and right-of-way challenges that may increase engineering and construction costs of pedestrian infrastructure.

2.8 Existing Plans and Programmed Projects

This plan is Saluda's first bicycle and pedestrian plan. However, there are two adopted plans that make recommendations for bicycle and pedestrian infrastructure within the town: the *Safe Routes to School Action Plan for Saluda* (2011) and the *Comprehensive Transportation Plan Study Report for Polk County* (2008).

Safe Routes to School Action Plan

Adopted in 2011, the *Safe Routes to School Action Plan* (SRTS) was a collaborate effort between NCDOT and the City of Saluda to improve safety and opportunities for students to bike and walk to Saluda Elementary School. The purposes of the plan, many of which are similar to the goals of this plan, are to:

1. Enable and encourage children, including those with disabilities, to walk and bicycle to school
2. Make bicycling and walking to school a safer and more appealing transportation option, thereby encouraging a healthy and active lifestyle from an early age.
3. Facilitate 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.

The plan makes programmatic and infrastructure recommendations to accomplish these purposes. The infrastructure recommendations consist of sidewalks, shared use paths, bicycle facilities, and improved signage. These recommendations are shown following.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

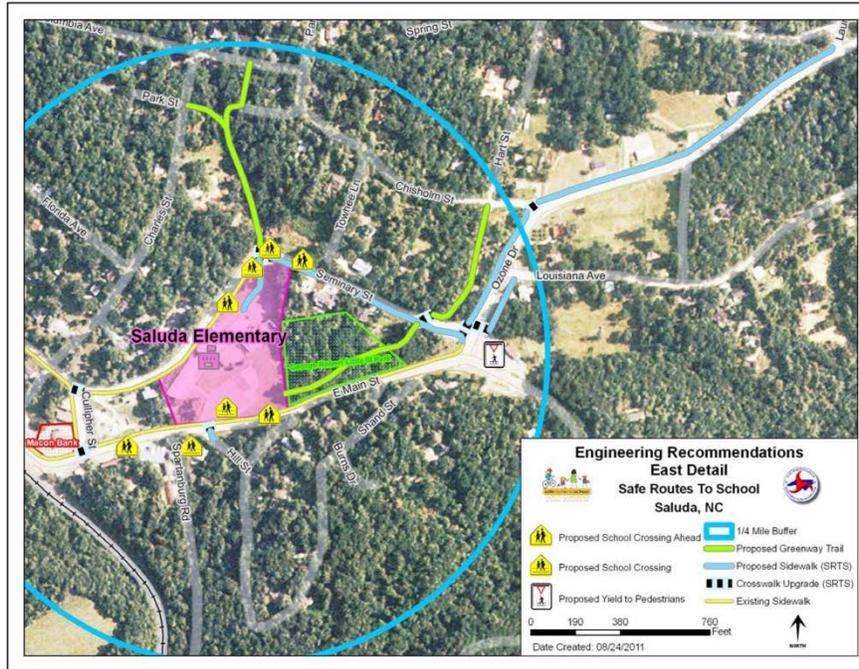


Figure 12 Saluda Engineering Recommendations - East Detail



Figure 13 Saluda Engineering Recommendations - West Detail

*Infrastructure Recommendations for Saluda Elementary School
(Safe Routes to School Action Plan, 2011)*

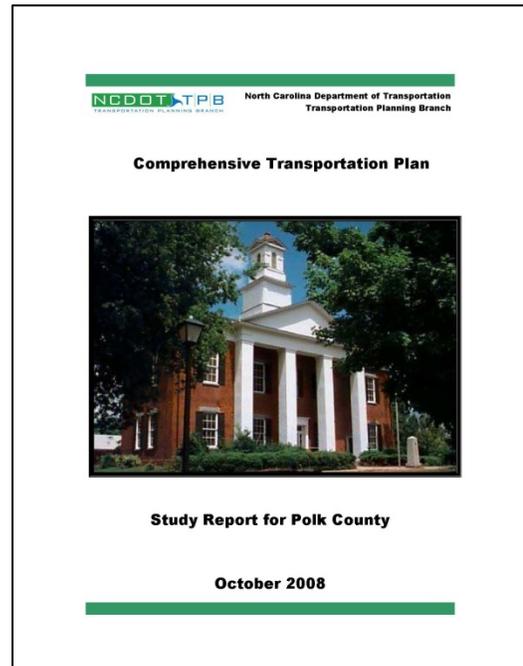


CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Polk County Comprehensive Transportation Plan

In 2008 NCDOT in cooperation with Saluda, Polk County, other municipalities in the county, the Isothermal Rural Planning Organization, the Federal Highway Administration and the US Department of Transportation formed the Comprehensive Transportation Plan (CTP) for the county. The plan includes recommendations for three transportation elements: highways, public transportation and rail, and bicycles.

The plan includes one bicycle recommendation for Saluda: wide paved shoulders on Greenville Street. This project from the CTP and the projects recommended in the SRTS plan are listed in Table 2-6.



*Polk County
Comprehensive Transportation Plan
(Polk County)*

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Table 2-6: Programmed Projects

FACILITY NAME	LOCATION	DESCRIPTION	PLAN ID*
PEDESTRIAN PROJECTS			
Carolina Street	Main Street Intersection	Sidewalk (complete missing gap), add crosswalk and curb ramps	1
Church Street	Main Street Intersection	Crosswalk and curb ramps	1
Cullipher Street	Main Street Intersection	Crosswalk and curb ramps	1
Greenville Street	Main Street Intersection	Crosswalk and curb extension	1
Greenville Street	Maple Street Intersection	Crosswalk and curb ramps	1
Greenville Street	Railroad Crossing	Improve pedestrian accommodations across the tracks	1
Henderson Street	Carolina Street Intersection	Crosswalk and curb ramps	1
Hill Street	Main Street Intersection	Crosswalk and curb ramps	1
Main Street	Carolina Street to West Main Street Parking Lot	Sidewalk on north side of US 176	1
Ozone Drive	Chisholm Street	Crossing island, crosswalk and curb ramps	1
Ozone Drive	Main Street Intersection	Crosswalk and curb ramps	1
Ozone Drive	Main Street to Laurel Drive	Sidewalk on north side, road diet	1
Ozone Drive	Seminary Street Intersection	Crossing island, crosswalk and curb ramps	1
Seminary Street	Church Street Intersection	Crosswalk and curb ramps	1
Seminary Street	Cullipher Street Intersection	Crosswalk and curb ramps	1
Seminary Street	Ozone Drive to Cullipher Street	Sidewalk (south side) and crosswalk at school bus lot	1
US 176	Pace Street and Main Street Intersections	Crossing Island	1



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

FACILITY NAME	LOCATION	DESCRIPTION	PLAN ID*
BICYCLE PROJECTS			
Greenville Street	Maple Street to Chestnut Street	Narrow travel lanes and create wide paved shoulders	1
Greenville Street	US 176 to Henderson County Line	Wide paved shoulders	2
BICYCLE & PEDESTRIAN PROJECTS			
Elementary School Path East	Saluda Elementary School to Seminary Street	Shared Use Path and crosswalks	1
Elementary School Path North	Seminary Street to Columbia Avenue	Shared Use Path and crosswalks	1

*Plan ID: 1 - Safe Routes to School Action Plan for Saluda (2011), 2 - Comprehensive Transportation Plan Study Report for Polk County (2008)

PUBLIC INPUT AND DATA COLLECTION



3.0 Public Input and Data Collection

3.1 Steering Committee

The Steering Committee for bicycle and pedestrian efforts was formed as a dedicated group of local officials, staff, stakeholders, and citizens to incorporate a diverse range of community perspectives. The Committee met twice throughout the planning process to help shape the Plan by identifying goals and objectives; identifying pedestrian constraints and opportunities; and prioritizing proposed projects.

An initial meeting was conducted between the project team and the Steering Committee Lead. This meeting set the stage for future Steering Committee meetings and the overall project process.

At the first Steering Committee meeting on February 11, 2015, the group streamlined a vision statement for the plan and discussed issues the community is facing with regards to bicycle and pedestrian infrastructure. Members discussed an interest in a plan that is feasible with small to large-scale projects that can be implemented through phased planning methods.

The second steering committee meeting was held on May 20th, 2015. At this meeting proposed infrastructure projects, policies and programs were introduced, and the committee was asked to provide feedback. Feedback from the committee and the public meeting, which was held immediately after the steering committee meeting, was incorporated into the plan.



First Steering Committee Meeting (AECOM)



Second Steering Committee Meeting (AECOM)

Table 3-1: Steering Committee

Members			
Cindy Hemenway	Susie Welsch	Bill Obermiller	Carolyn Ashburn
Cathy Jackson	Debbie Thomas	Sara Bell	Karyl Fuller
Jim Kelly	Don Clapp	Ronette Dill	James Hrynyshyn
Patty Martin	Mary Meyland-Mason	Zach Pace	Mark Oxtoby



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

3.2 Public Open House

The Public Open House was held on May 20th, 2015 immediately following the second Steering Committee Meeting. A brief presentation about the planning process and highlights of the plan was presented. In addition, maps showing the recommended projects and copies of the draft plan were available for the attendees to view. The attendees were also invited to provide feedback by completing a comment form.

A copy of all meeting materials is provided in Appendix A – Public Involvement.



*Public Open House, Saluda, NC
(AECOM)*

RECOMMENDATIONS



4.0 Recommendations

This section describes the infrastructure improvements that are recommended to provide the City of Saluda with a safe, accessible, and connected bicycle and pedestrian network. Recommended improvements include improving existing sidewalks, constructing new sidewalks, crossing improvements, on-road bicycle facilities, and multi-use paths. The projects are intended to provide safe connections between origins and destinations within the City, and generally promote exercise and mobility. The projects were developed through collaboration with the Steering Committee, field analysis, and consultation with the 2011 *Safe Routes to School Action Plan* for Saluda. All bicycle and pedestrian facility recommendations along NCDOT-maintained roadways will require review and approval by NCDOT Highway Division 14 prior to implementation.

4.1 Facility Types

Linear Bicycle Facilities

A successful bicycle network consists of on-road bicycle facilities, bike parking, intersection design, and bicycle specific signals and signage. Bicycle racks encourage cycling, provide ways to store bikes safely, and discourage users from locking bikes to railings, street trees, and other furnishings.

Dedicated bicycle lanes are the preferred on-street option to carry high volumes of bicyclists and allow them to operate at increased speeds. A bicycle lane (four to six feet in width) can, with uninterrupted flow, carry a high volume of bicycles per hour in one direction. A conventional bike lane is located adjacent to motor vehicle travel lanes and in the same direction as motor vehicle traffic. According to the FHWA³, there are five different types of linear bicycle facilities. These include:



Bicycle Sharrow
(Flickr Creative Commons, 2012)

Shared Lane Markings: A “standard width” travel lane that both bicycles and motor vehicles share. Shared-lane markings increase a motorist’s awareness of the presence of cyclists, reduce the incidence of wrong-way bicycling, and indicate to both drivers and cyclists the ideal lateral positioning of the cyclist

³ Federal Highway Administration University Course on Bicycle and Pedestrian Transportation
<http://www.fhwa.dot.gov/publications/research/safety/pedbike/05085/chapt13.cfm>



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Wide Outside Lane: An outside travel lane with a width of at least 14 feet to accommodate both bicyclists and non-motorized vehicles.

Bicycle Lane: A portion of the roadway designated by striping, signing, and/or pavement markings for preferential or exclusive use by bicycles and/or other non-motorized vehicles.

Shoulder: A paved portion of the roadway to the right of the travel way designed to serve bicyclists, pedestrians, and others.

Multiuse Path: A facility that is physically separated from the roadway and intended for use by bicyclists, pedestrians, and others. The Mountains to Sea Trail is an example of an extensive bike trail that provides opportunities for serious cyclists, casual riders, and a variety of other uses. In some areas, the trail has extensive dedication to bicycle facilities including separated facilities from the roadway, lane markings, and signage.

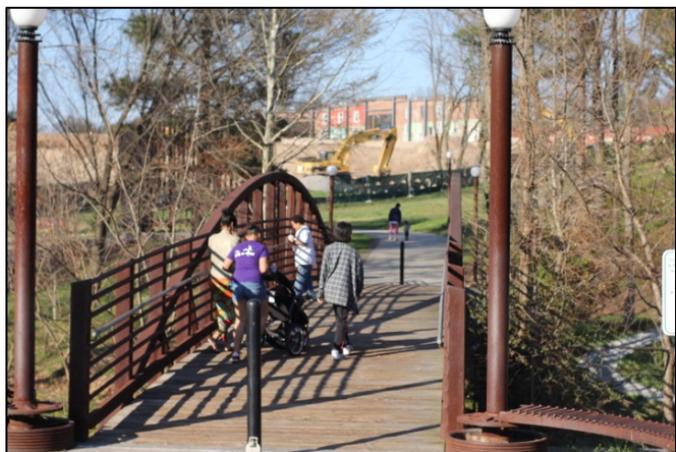
Linear Pedestrian Facilities

Walkability measures how walkable an area is for pedestrian use.

Walkability in urban, suburban, and rural communities offers many benefits including improved health benefits, reduced environmental impacts and financial commitments from decreased dependency on the automobile. Providing infrastructure and making existing facilities safer and more inviting for pedestrians can help to increase the walkability of a community.

Sidewalks are the primary elements of the pedestrian environment and are generally constructed of concrete, pavers, or other hard surface. In urban areas, sidewalks are typically located adjacent to the road with a curb to protect users from vehicular traffic. In suburban areas, sidewalks or wide paved shoulders along the roadway may be used for pedestrian use. In rural areas, wide shoulders may be the only pedestrian facility and in many cases there are no specific improvements to accommodate pedestrian users.

Pedestrian bridges are typically used to help extend walks and trails across rivers, roads, or other physical elements that create barriers for circulation. Pedestrian bridges can be utilitarian or an iconic feature of a community.



*Pedestrian Bridge
(AECOM)*

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Multiuse Facilities

NCDOT adopted a “**Complete Streets**” policy (**CS**) in 2009, which directs NCDOT to consider and incorporate all modes of transportation when building new projects or making improvements to existing infrastructure. Complete Streets are designed to be safe and comfortable for all users, including pedestrians, bicyclists, transit riders, motorists, and individuals of all ages and capabilities⁴.

Part of designing with CS principles in mind includes the impact of streets patterns on trip length, connectivity between resources, intersection use, and the overall experience of the user. Both cyclists and pedestrians can benefit from a street that has been designed with the CS policy including improvements for children and individuals with accessibility needs, health advantages, improved public transportation services, economic revitalization, safety enhancements, roadway equity, and a more livable community.

Multiuse paths are physically separated from vehicular traffic and can include bicycle paths, rail-trails, or other facilities specific to bicycle and pedestrian use. Multiuse paths can be a safer facility option because they are not shared with motor vehicles. They serve multiple purposes including recreation and transportation.

Sidepath: Sidepaths are multi-use paths located exclusively adjacent to a roadway, typically within the road ROW. This provides a buffer from vehicular traffic for bicycle and pedestrian travel.



Complete Street Designed for Pedestrians, Bicyclists, Transit Riders, and Motorists. (AECOM)



Multiuse Path (Flickr Creative Commons, Mike Juvrud, 2010)



Sidepath along a Roadway (AECOM)

⁴ NCDOT Complete Street Planning and Design Guidelines at <http://completestreetsnc.org/>



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Spot Improvements and Linear Facilities

Spot Improvements address bicycle and/or pedestrian problems at specific locations such as intersections, short lengths of a roadway, or single destinations. These types of improvements are generally low cost and enhance bicycle and/or pedestrian through surface improvements (pothole patching), signing and striping (pedestrian signs or bicycle lane striping), access improvements (traffic signaling), and bike rack installation. Other spot improvements include crosswalk markings, pedestrian signal heads, pedestrian refuges, or curb extensions.

Linear Improvements are similar to spot improvements but are specific to linear project needs such as sidewalks, bike lanes, or improvements to streetscapes.



*Signage for Pedestrian Crosswalk
(Flickr Creative Commons, John Pastor, 2007)*



*Signage for Bicycle Route
(Flickr Creative Commons, 2008)*



4.2 Recommended Facilities

Through collaboration with the Steering Committee and input from the public workshop, infrastructure projects were identified to improve bicycle and pedestrian safety, increase connectivity, and address the goals and objectives of this Plan. These projects are divided into linear facilities and spot improvements. Together, they form the infrastructure recommendations for the Town’s bicycle and pedestrian network.

The linear facility projects consist of several types: sidewalks, bicycle lanes, and shared use paths. These facility types are detailed in Section 4.1: Facility Types.

Spot improvements occur at specific points rather than along sections of roadway. Examples of spot improvements include signage, crosswalks, pedestrian signals, bicycle racks, and trail access points.

In addition to infrastructure projects, policies, ordinances, and programs have also been proposed to work in tandem with linear facilities and spot improvements. Linear and spot/intersection projects are often constructed concurrently. These policies, ordinances, and programs are outlined in Section 4.4 and 4.5: Policies and Programs.

Linear Facilities

Linear Facilities are classified further by their activity type: pedestrian, bicycle, and shared use. Together, linear facilities form a comprehensive bicycle and pedestrian network to provide safe transportation choices for the community. A total of eight linear facility projects are recommended, and are described below and shown on Exhibit 4-1, Exhibit 4-2, Exhibit 4-3, and Exhibit 4-4. The map ID in the table corresponds to these exhibits.

Recommended pavement markings for bicycles are proposed for both lane directions to adequately address safety according to NCDOT typical sections (see Appendix C: Design Guidelines). In all instances, sidewalks are proposed for one side of the road.

The improvements recommended below are meant to improve connectivity between key points of interest in Saluda. Improving bicycle and pedestrian facilities between these points of interest aligns with the Goals established by the Steering Committee. In general, the purpose for all proposed projects is to provide a bicycle and pedestrian network that provides connectivity between the community facilities in the City, and the need for the proposed projects is to provide improvements to the network.



Saluda, NC
(AECOM)



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Greenville Street Bicycle Improvements

Greenville Street is popular amongst recreational bicyclists, many of whom use it as part of a route that starts in Greenville, SC, and loops through Saluda before returning down the mountain to Greenville. Existing roadway conditions along Greenville Street from the City limits to Main Street include 10-foot lanes, curb and gutter, and sidewalk with a one-foot grassy median between the curb and sidewalk. The Polk County CTP recommends the narrowing of travel lanes to create space for shoulders; however, space limitations on the roadway make this recommendation unfeasible. Instead, shared lane pavement markings (such as sharrows) are recommended from the city limits to Main Street.



*Bicyclist along Greenville Street, Saluda, NC
(AECOM)*

Ozone Drive Bicycle Improvements

Ozone Drive from US 176 north to Howard Gap Road is a popular route amongst recreational bicyclists, and is also used as part of the Gran Fondo Hincapie, a regional cycling event bringing in thousands of participants and spectators that traverses 80 miles along the Blue Ridge Foothills. The road is currently a two-lane road with varying shoulder widths with a total cross-section of between 25 and 30 feet. Because shoulder widths vary based on the adjacent topography, providing 4-foot paved shoulders on both sides of the road would require roadway improvements and is not recommended in the short-term. Further, the posted speed limit on Ozone Drive is 45 MPH which makes pavement markings such as sharrows not feasible (NCDOT standards limit pavement markings to streets with speeds less than 35 MPH). Therefore, the long term recommendation for Ozone Drive is to investigate the feasibility of making roadway improvements that would provide consistent 4-foot paved shoulders on both sides of Ozone Drive.

US 176/Main Street Bicycle Improvements

Bicycle improvements along this corridor are limited by topographical constraints, the railroad right-of-way, existing sidewalk, and downtown on-street parking. Because of these limitations, construction of wide paved shoulders or bike lanes is not consistently feasible throughout the corridor. Instead, pavement markings such as sharrows and bicycle signage are recommended throughout the corridor. It is recommended to also upgrade the bridge railing along US 176/Main Street, which currently falls below the NCDOT required 42-inch height. As noted, this corridor is currently an NCDOT bicycle route (NC 8/Southern Highlands), and is popular amongst recreational cyclists.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Greenville Street Sidewalk Improvements

The sidewalk along the west side of Greenville Street from south of Chestnut Street to Main Street is in deteriorating condition and does not meet standard ADA requirements. Pavement on the sidewalk is broken and cracked, and there are no curb cuts at intersections and driveways. Improvements to the sidewalk would be challenging because there are decorative retaining walls that abut the sidewalk at certain properties, and utility poles are located between the sidewalk and street. Additionally, the curb and gutter along the road is in poor condition and would require roadway improvements in order to improve the sidewalk. These constraints make bringing the sidewalk up to a 5-foot standard difficult and expensive. Instead, replacing the sidewalk in place and installing curb-cuts for wheelchairs at intersecting streets is recommended. Coordination with the Norfolk Southern Railroad should be included in the project to determine the appropriate type of pedestrian crossing of the railroad tracks. Because the costs associated with these improvements are expected to be high, replacement of the sidewalk is a long-term recommendation. In the short term, maintenance to repair cracked pavement is recommended. Maintenance could entail evaluating the pavement structure, and rehabilitating as required.

Main Street/US 176 Sidewalk

This project would provide sidewalk improvement along Main Street/US 176 from downtown to Ozone Drive. Students from Saluda Elementary School use sidewalks on Main Street to access the school bus transfer location on the west side of downtown, and east of the school students walk to and from residences. The Saluda Safe Routes to School (SRTS) plan and members of the bicycle and pedestrian steering committee both detailed that high speeds and traffic volumes make walking along this stretch of Main Street uncomfortable, particularly since there is no physical barrier or vegetated median between the sidewalk and road. There is currently sidewalk on the back of curb on the north side of Main Street that is four feet wide and extends from downtown to Ozone Drive. It was also noted in the SRTS plan and by steering committee members that the eastern most curb cut associated with the Macon Bank is within 30 feet of Cullipher Street and currently accommodates traffic both entering and exiting the bank property. This complicates the dynamics of the intersection and increases the potential for conflict between motor vehicles entering and exiting the Macon Bank property, motor vehicles turning from/onto Cullipher Street, and pedestrians.

Stakeholder and public input indicated that more students walk west toward downtown (and ultimately the school bus transfer site) than east along Main Street toward Ozone Drive. They also noted improvements to walking conditions along Main Street west of the school were a high priority. Because improvements west of the school are prioritized higher than east of the school, this project has been split into two sections, with improvements from the entrance of the school west (Section A) prioritized over improvements east of the school entrance (Section B).

Section A (Main Street sidewalk improvements from parking lot entrance at Saluda Elementary west to downtown): Replace the existing sidewalk with a 5-foot sidewalk and 1-foot vegetated median between the curb and sidewalk. Challenges to this project include engineering challenges associated with the surrounding topography as well as potential ROW requirements. As part of the



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

recommendation, the City should request that Macon Bank convert the curb cut closest to Cullipher Street to a right-in/right out entrance. These recommended improvements, along with the recommended intersection improvements discussed below at Cullipher Street and Church Street would provide a smoother and safer route from the school to downtown and the school bus transfer site.

Section B (Main Street sidewalk improvements from parking lot entrance at Saluda Elementary east to Ozone Drive): Replace the existing sidewalk with a 5-foot sidewalk and 1-foot vegetated median between the curb and sidewalk. Challenges to this project include engineering challenges associated with the surrounding topography as well as potential ROW requirements.

Ozone Drive Sidewalk

Ozone Drive was discussed in the Saluda SRTS plan as being an important part of getting students from their homes in the north and east part of the City to Saluda Elementary School. Sidewalks were recommended in the SRTS plan on the north side of Ozone Drive from Main Street to Laurel Drive and on the south side from Main Street to Louisiana Avenue. Sidewalks were again identified by the steering committee for this plan from Main Street to Laurel Drive and are recommended as a long term project. Sidewalk should be constructed on the north side at the least as it would provide connectivity to Saluda Elementary/downtown from residences along Laurel Drive. Installing sidewalks would be expensive, as curb and gutter would need to be constructed along Ozone Drive.

High speeds were identified as a concern in both the SRTS plan and in steering committee meetings associated with this plan. In the short term, it is recommended the City request NCDOT reduce the speed limit on Ozone Drive to 35 MPH, and conduct a speed study to determine appropriate traffic calming treatments such as narrowing travel lanes.

Cullipher Street Sidewalk

Cullipher Street has sidewalk along its west side from Main Street to Seminary Street. The sidewalk is below standard with utility poles in the middle of the sidewalk. Steering committee members noted that Cullipher Street is used by students who walk to and from Saluda Elementary School traveling from the neighborhood north of Main Street. Recommendations for this project include replacement of the existing sidewalk with a 5-foot sidewalk located at least 1-foot behind existing curb and gutter. Challenges to this project include engineering challenges associated with the surrounding topography and utility relocation. Because the engineering challenges are considerable, this project is recommended as a long-term project.



*Utility poles in the middle of the sidewalk.
Cullipher Street, Saluda, NC
(AECOM)*

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Esseola Drive Shared Use Path

Esseola Drive runs adjacent to the Bradley Nature Preserve which has several hiking trails. There is no parking for the hiking trails, so users must walk along Esseola Drive to access the nature preserve. This presents a safety issue for pedestrians who have no pedestrian facilities along Esseola Drive. In the short-term, it is recommended that signage alerting drivers to the presence of pedestrians be added to Esseola Drive. Long term, it is recommended that the City partner with the Saluda Community Land Trust to construct a multi-use path or side path on the south side of Esseola Drive that would access the hiking trails from an off-site parking location, potentially at the Autumn Care Nursing Home at 501 Esseola Drive.

Henderson Street Sidewalk

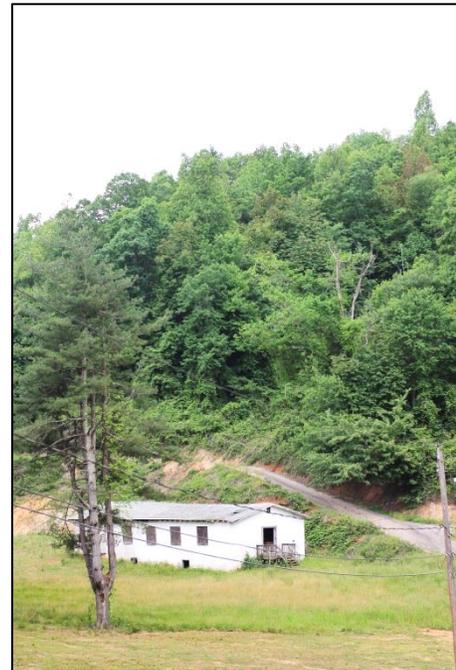
Improvements to the existing sidewalks along Henderson Street from Church Street to Columbia Avenue are recommended as a long term improvement. Currently, sidewalks are 4-feet wide, with a grassed median between the sidewalk and the back of curb. There are also no ADA-accommodations. Recommendations include improving the sidewalk to a 5-foot sidewalk on the back-of-curb with ADA curb ramps at intersections.

Seminary Street

Seminary Street was identified in the SRTS plan as being one of the primary walking routes for students at Saluda Elementary School. Seminary Street was also identified by the steering committee for this plan as needing sidewalk improvements. There is an existing segment of 4-foot sidewalk on the south side of Seminary Street beginning north of Saluda Elementary School and extending to Charles Street (where Seminary Street becomes Henderson Street). The long term recommendation is to complete the sidewalk on the south side of Seminary Street to Ozone Drive with ADA-compliant curb ramps for the bus lot entrance crossing. Sidewalk construction would require roadway upgrades to include curb and gutter along this section.

Judd's Peak Greenway

The Judd's Peak greenway/path would connect two community resources, the Saluda Dog Park and Judd's Peak.



*View looking towards Judd's Peak,
Saluda, NC
(AECOM)*



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Spot Improvements

Spot improvement projects are proposed at intersections and crossings to improve safety for pedestrians and bicyclists.

Several crosswalks are proposed along Main Street and Greenville Street. In addition to the crosswalks described below, a crosswalk will be constructed across Carolina Street at Main Street as part of the sidewalk extension project along Carolina Street and Main Street. These crosswalks, in combination with appropriate signage are intended to improve safety for pedestrians by providing increased visibility. At some locations, where new sidewalks are proposed, crosswalks will be installed where relevant once the sidewalks are constructed. The proposed new crosswalks are:

- Cullipher Street at Main Street, north side of the intersection
- Church Street at Main Street, north side of the intersection
- Main Street at Greenville Street, west side of the intersection
- Maple Street at Greenville Street, east side of Greenville Street
- Ervin Street at Greenville Street, west side of Greenville Street
- Smith Street at Greenville Street, west side of Greenville Street
- Kilver Street at Greenville Street, west side of Greenville Street
- Chestnut Street at Greenville Street, west side of Greenville Street
- Ozone Drive at Main Street, north side of the intersection
- Greenville Street at Saluda Senior Center (mid-block crossing)

In addition to the recommended crosswalks, improvements to the mid-block crossing of Main Street just east of the intersection with Greenville Street are recommended. The existing striped crosswalk should have flashing lights and additional signage to alert drivers to the potential presence of pedestrians. This crosswalk is used by visitors to Saluda who park in the parking lot on the south side of the railroad tracks and want to access downtown shops and restaurants. The existing midblock crossing which crosses Main Street at Carolina Street is recommended for removal during the next repavement cycle based on safety issues and lack of connectivity.

Other, non-crosswalk spot improvements are also recommended. Two bicycle parking facilities (i.e. bike racks) are recommended to be installed downtown. While the general recommendation is for a bike rack on either side of the intersection of East Main Street and Greenville Street, the actual location of the bike racks can be determined by the town based on local conditions.

Access points are proposed at the entrances to shared use paths. Bollards will be installed at these access points to prevent unauthorized access to motor vehicles. Bollards are designed to be lowered or removed in case of an emergency for police, fire, and rescue access. Wayfinding signs and maps would be included at access points as well to orient visitors and promote Saluda's downtown and natural areas.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Finally, additional lighting is recommended along Main Street east of downtown up to the Saluda Elementary School. The additional street lights are meant to supplement the existing street lights to make this area a safer option for walking after dark.

Pedestrian, bicycle and shared use spot improvements are listed in **Error! Reference source not found.** and are graphically shown on Exhibit 4-1, Exhibit 4-2, Exhibit 4-3, and Exhibit 4-4. The map ID in the table corresponds to the exhibit.

Prioritization

Projects were prioritized in order to most efficiently and effectively improve bicycle and pedestrian safety and connectivity in Saluda and to respond to public input. In a context where funding is limited, prioritization is essential for achieving the maximum benefits under constrained budgets. Providing a method and framework by which to prioritize projects assists in making decisions in a data-driven format and reduces subjectivity.

Projects were prioritized by applying several qualitative criteria that relate to the Plan's vision, goals, and objectives while at the same time accounts for the community's interests. These criteria were agreed upon by the Steering Committee. The criteria applied to linear facilities for bicycle, pedestrian, and shared use paths included the following:

Including a community interest criterion allowed the steering committee and the public further input into the prioritization process.

Each criterion received a score between 1 and 3. The scores in the community interest category were calculated by averaging the points received from the Steering Committee members, who were invited to score

Projects were then organized into three priority groups: low, medium, and high. Spot improvements were not prioritized because they vary between types (e.g. crosswalk vs bike rack) and thus a comparison between the types would not offer a fair prioritization. In addition, it is also assumed that some would be built concurrently with the linear facility.

- **Connectivity** – does the project connect origins and destination identified by the steering committee?
- **Implementation** – based on physical and financial constraints, how likely is it that the project can be constructed?
- **Safety** – would the project result in a safer environment for a bicyclist or pedestrian?
- **Community Interest** – is the project a project that is supported by a majority of citizens?



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

The results from the prioritization process are provided in Table 4-2. Prioritization results are meant to serve as a general guide. There may likely be opportunities to implement these projects in an order different than the order in which they were prioritized. For example if NCDOT is repaving Greenville Street, then it would be advantageous to explore lane restriping and shared lane markings even though it may have ranked lower than other projects. The prioritization in this Plan should generally be followed as it directly reflects the public input from Saluda residents and the Steering Committee. This should not, however, prevent the City from taking advantage of pedestrian or bicycle improvements as opportunities present themselves.

Table 4-1: Prioritization Criteria

CRITERIA	1 POINT	2 POINTS	3 POINTS
Connectivity	<ul style="list-style-type: none"> Limited connectivity improvements to a single community feature Does not connect or tie into any other bicycle and/or pedestrian facilities 	<ul style="list-style-type: none"> Improves connectivity between more than one community feature Connects/ties into another bicycle and/or pedestrian facility 	<ul style="list-style-type: none"> Increases connectivity to multiple community features Connects/ties into two or more bicycle and/or pedestrian facilities
Implementation	<ul style="list-style-type: none"> Privately owned land Right-of-way constraints Outside of town limits 	<ul style="list-style-type: none"> Privately owned land where the property owner is willing to grant an easement, sell or donate right-of-way. Right-of-way constraints 	<ul style="list-style-type: none"> Publicly owned land Available right-of-way
Safety	<ul style="list-style-type: none"> No reported pedestrian, bicycle, or vehicular crashes Residential street, low traffic volumes 	<ul style="list-style-type: none"> No reported pedestrian, bicycle, or vehicular crashes Major road, heavier traffic volumes 	<ul style="list-style-type: none"> Reported pedestrian, bicycle, or vehicular crashes Major road, heavier traffic
Community Interest	<ul style="list-style-type: none"> Low Interest 	<ul style="list-style-type: none"> Medium Interest 	<ul style="list-style-type: none"> High Interest

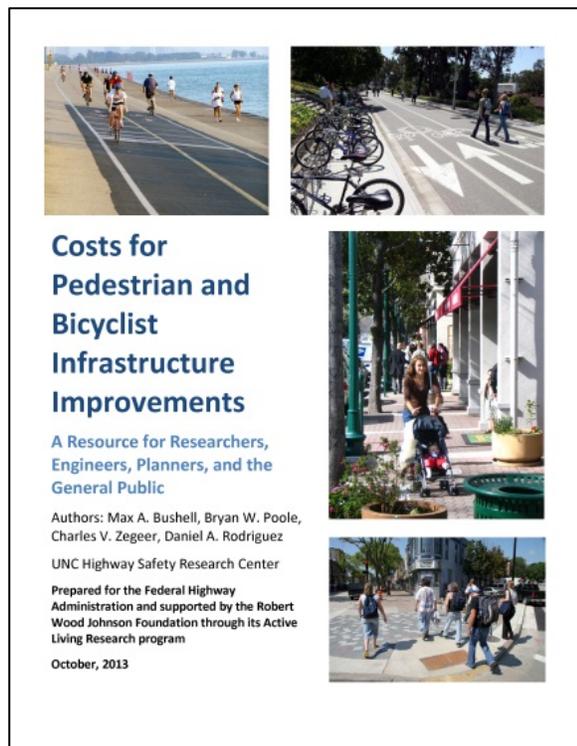
Bicycle and pedestrian facilities are prioritized together because they typically share common road segments. It is advantageous to implement bicycle and pedestrian projects on the same road segment simultaneously in order to realize cost savings and minimize disruptions due to construction.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Cost Estimates

Costs for infrastructure projects were estimated using general construction costs from the Pedestrian and Bicycle Information Center (PBIC). PBIC receives funding from the U.S. Department of Transportation Federal Highway Administration and is part of the University of North Carolina Highway Safety Research Center.



In October 2013, the PBIC released a report titled *Costs for Pedestrian and Bicyclist Infrastructure Improvements*. This report compiled over 1,700 cost figures from construction and engineering bids nationwide in order to provide cost estimates for over 70 types of bicycle and pedestrian facilities. Most cost figures included are from 2010, 2011, and 2012. Interviews with various departments of transportation around the country were also conducted as part of this report. Given the comprehensive nature of this study, it was the source used to estimate costs of the proposed infrastructure projects. The report provides the average, median, high, and low cost estimates for each item. The median estimate was used for the purposes of this Plan as the average estimate may be skewed by outliers.

The estimated costs are approximate and are subject to change based on the current price of materials and labor. They also may be dependent on the actual conditions which will be determined during the planning and engineering phase. The estimates provided in this

document include engineering, design, and installation. They do not include the costs of complementary site amenities such as trash receptacles, restroom facilities, benches, landscaping, water fountains, etc. The estimates provided are intended to serve as a relative guide for a rough order of cost magnitude.

The total estimated cost of all facilities (18 linear facility projects and 16 spot improvements) is \$721,400. Estimated costs for linear facilities are included in Table 4-2 and spot improvements in Table 4-3.

Cost figures used in project estimates are included in Appendix E: Cost Estimates and Prioritization for linear facilities and spot improvements.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Table 4-2: Proposed Linear Facilities

PRIORITY	FACILITY NAME	PROJECT EXTENTS	LENGTH (miles)	FACILITY GROUP	FACILITY TYPE	COST ESTIMATE*	POTENTIAL IMPLEMENTATION CONSTRAINTS	MAP ID**
High	Greenville Street bicycle improvements	City limits to downtown	0.88	Bicycle	Bicycle sharrow and signage	\$ 10,000	Narrow lanes and limited ROW prevents dedicated bicycle lanes.	1
High	Ozone Drive bicycle improvements	US 176 to Howard Gap Road	1.00	Bicycle	Paved shoulder	\$ 10,000	Inconsistent shoulder widths and surrounding topography prevents dedicated bicycle lanes. Paved shoulders are recommended for the longer-term with future roadway resurfacing providing an opportunity for restriping/widening	2
High	Main Street/US 176 bicycle improvements	Eastern city limits to western city limits	1.35	Bicycle	Bicycle sharrow and signage	\$ 10,000	Inconsistent shoulder widths and surrounding topography prevents dedicated bicycle lanes.	3
High	Greenville Street sidewalk improvements	City Limits to downtown (Main St)	0.88	Pedestrian	Sidewalk maintenance and replacement	\$ 130,000	Fiscal constraints, above ground utilities, degraded curb and gutter, and retaining walls. Coordination with Norfolk Southern for crossing of railroad tracks.	4
High	Ozone Drive sidewalk	US 176 to Laurel Drive	0.41	Pedestrian	Sidewalk	\$ 60,000	Fiscal constraints, above ground utilities, lack of curb and gutter, and retaining walls.	5
High	Main Street/US 176 sidewalk (A)	Downtown to Saluda Elementary School parking lot entrance	0.09	Pedestrian	Sidewalk replacement	\$ 20,000	Fiscal constraints, engineering challenges associated with topography, coordination with Macon Bank, right of way limitations.	6a
High	Main Street/US 176 sidewalk (B)	Saluda Elementary School parking lot entrance to Ozone Drive	0.22	Pedestrian	Sidewalk replacement	\$ 40,000	Fiscal constraints, engineering challenges associated with topography, right of way limitations.	6b
Medium	Cullipher Street sidewalk	E. Main Street to Seminary St.	0.06	Pedestrian	Sidewalk replacement	\$ 10,000	Fiscal constraints, above ground utilities, right-of-way limitations.	7
Medium	Esseola Street shared use path.	Henderson Street to the Bradley Nature Preserve	0.23	Shared use path	Shared use path	\$ 20,000	Coordination with the Saluda Community Land Trust and the Autumn Care Nursing Home.	8
Medium	Henderson Street sidewalk	Columbia Street to Church Street	0.30	Pedestrian	Sidewalk replacement	\$ 50,000	Fiscal constraints.	9



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

PRIORITY	FACILITY NAME	PROJECT EXTENTS	LENGTH (miles)	FACILITY GROUP	FACILITY TYPE	COST ESTIMATE*	POTENTIAL IMPLEMENTATION CONSTRAINTS	MAP ID**
Medium	Seminary Street sidewalk	Church Street to Ozone Drive	0.47	Pedestrian	Sidewalk	\$ 70,000	Fiscal constraints, lack of curb and gutter, engineering challenges associated with topography.	10
Medium	Judd's Peak greenway	Saluda dog park to Judd's Peak	0.38	Shared use path	Greenway	\$ 40,000	Fiscal constraints, project would be constructed outside of the road right-of-way and would therefore require right-of-way acquisition or an easement.	11
Low	Chestnut Street sidewalk	Pace Street to Greenville St.	0.19	Pedestrian	Sidewalk	\$ 30,000	Fiscal constraints, lack of curb and gutter, space limitations, engineering challenges associated with topography.	12
Low	Laurel Drive sidewalk	Ozone Drive to Howard Gap Rd	0.59	Pedestrian	Sidewalk	\$ 90,000	Fiscal constraints, lack of curb and gutter, space limitations, engineering challenges associated with topography, multi-jurisdictional coordination.	13
Low	Esseola Street sidewalk	Henderson Street/Columbia St. to the Cemetery	0.21	Pedestrian	Sidewalk	\$ 30,000	Fiscal constraints, lack of curb and gutter, space limitations, engineering challenges associated with topography.	14
Low	Main Street/US 176 sidewalk (2)	Ozone Drive to city limits	0.28	Pedestrian	Sidewalk	\$ 40,000	Fiscal constraints, lack of curb and gutter, above ground utilities, space limitations, engineering challenges associated with topography.	15
Low	Ervin Street/US 176 sidewalk	Pace Street to Greenville St.	0.23	Pedestrian	Sidewalk	\$ 40,000	Fiscal constraints, lack of curb and gutter, space limitations, engineering challenges associated with topography.	16
Low	Pace Street (unpaved road) shared use path	Chestnut Street to US 176	0.38	Shared use path	Shared use path	\$ 40,000	Fiscal constraints, space limitations, engineering challenges associated with topography.	17
TOTAL						\$ 670,000		

*Costs have been rounded to the nearest hundred or thousand.

**Map ID does not denote project ranking.

Note: Cost estimates may vary considerably due to potential project development constraints.



Table 4-3: Proposed Spot Improvements

PRIORITY	LOCATION	FACILITY GROUP	FACILITY TYPE	COST ESTIMATE*	POTENTIAL IMPLEMENTATION CONSTRAINTS	MAP ID**
High	Cullipher St at Main St	Pedestrian	High Visibility crosswalk; stop bar for south-bound traffic on Cullipher Street	\$ 3,000	Above ground utilities on northeast side of intersection.	18
High	Church St at Main St	Pedestrian	High Visibility crosswalk	\$ 3,000	No constraints anticipated.	19
Medium	Main Street at Greenville Street	Pedestrian	High Visibility crosswalk	\$ 3,000	Coordination with Norfolk Southern Railroad.	20
Medium	Maple St at Greenville St	Pedestrian	High Visibility crosswalk	\$ 3,000	No constraints anticipated.	21
Medium	Ervin Street at Greenville St	Pedestrian	High Visibility crosswalk	\$ 3,000	No constraints anticipated.	22
Medium	Smith St at Greenville St	Pedestrian	High Visibility crosswalk	\$ 3,000	No constraints anticipated.	23
Medium	Kilver St at Greenville St	Pedestrian	High Visibility crosswalk	\$ 3,000	No constraints anticipated.	24
Medium	Chestnut St at Greenville St	Pedestrian	High Visibility crosswalk	\$ 3,000	No constraints anticipated.	25
Medium	Greenville St at Saluda Senior Center	Pedestrian	Mid-Block crosswalk; flashing beacon	\$ 8,000	No constraints anticipated.	26
Medium	Main Street between Charles and Church Street (improvement)	Pedestrian	Install flashing beacon	\$ 5,000	No constraints anticipated.	27
Medium	Carolina Street at Main Street	Pedestrian	Remove crosswalk	\$ 0***	No constraints anticipated.	28
Medium	E Main Street (near Greenville St Intersection)	Bicycle	Bicycle Parking	\$ 500	Coordination with downtown businesses for optimal location.	29
Medium	E Main Street (near Greenville St Intersection)	Bicycle	Bicycle Parking	\$ 500	Coordination with downtown businesses for optimal location.	30
Medium	Shared use path connections (Judd's Peak Greenway)	Shared Use Path	Access points	\$ 5,200	Coordination with Saluda Land Conservancy.	31
Medium	Shared use path connections (Esseola Street shared use path).	Shared Use Path	Access points	\$ 5,200	Coordination with Saluda Land Conservancy.	32
Low	Main St at Ozone Drive	Pedestrian	High Visibility crosswalk	\$ 3,000	No constraints anticipated.	33
TOTAL				\$ 51,400		

*Costs have been rounded to the nearest hundred or thousand.

**Map ID does not denote project ranking.

***Removal of the crosswalk can be done when the pavement is milled the next time Main Street is repaved, thereby removing any costs.

City of Saluda

Bicycle and Pedestrian Plan



Exhibit 4-1: Proposed Bicycle Projects

Bicycle Spot Improvements

- Bicycle Parking

Bicycle Linear Facilities

- Bicycle Sharrows

- Interstate

- US Route

- Local Road

- Railroad

- Stream

- Waterbody

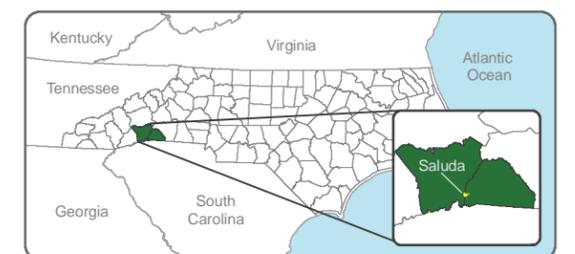
- Historic District

- Saluda City Limits

- County Boundary



January 2016



City of Saluda

Bicycle and Pedestrian Plan



Exhibit 4-2: Proposed Pedestrian Projects

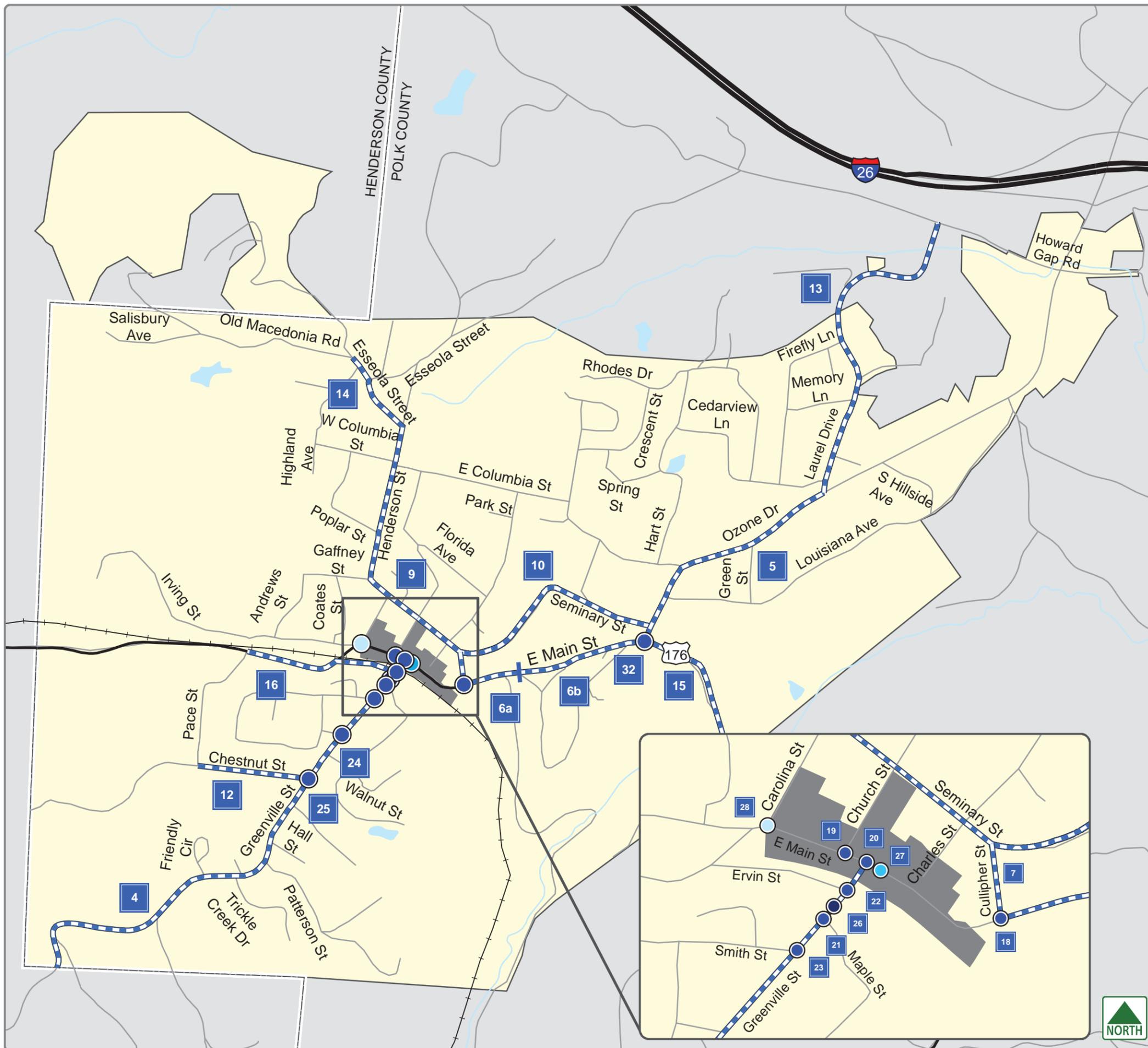
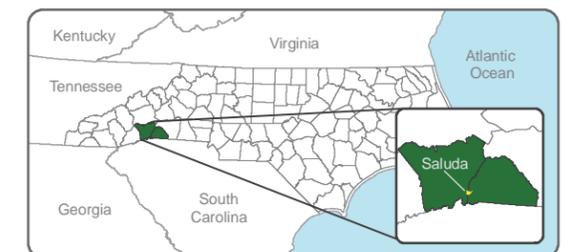
Pedestrian Spot Improvements

- Mid-block Crossing
- High-visibility Crosswalk
- Pedestrian Signal
- Crosswalk Removal

Pedestrian Linear Facilities

- Sidewalk
- Interstate
- US Route
- Local Road
- Railroad
- Stream
- Waterbody
- Historic District
- Saluda City Limits
- County Boundary

January 2016



City of Saluda

Bicycle and Pedestrian Plan



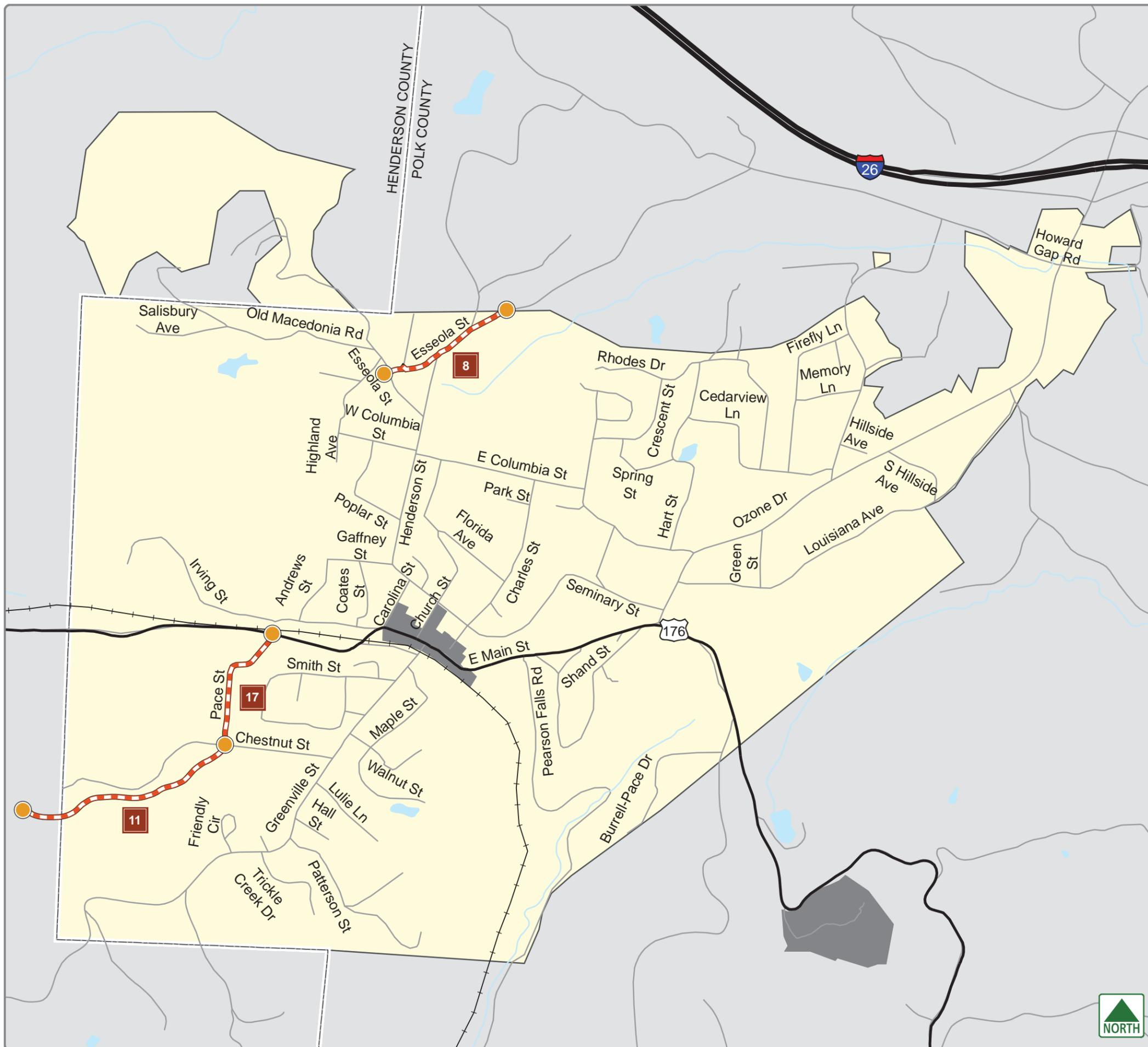
Exhibit 4-3: Proposed Shared Use Path Project Projects

Shared Use Path Spot Improvements

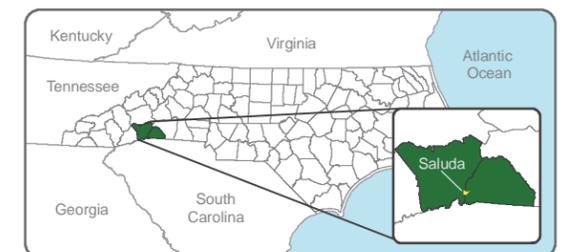
- Access Points (5) - Map ID 31

Shared Use Path Linear Facilities

- Shared Use Path
- Interstate
- US Route
- Local Road
- Railroad
- Stream
- Waterbody
- Historic District
- Saluda City Limits
- County Boundary



January 2016

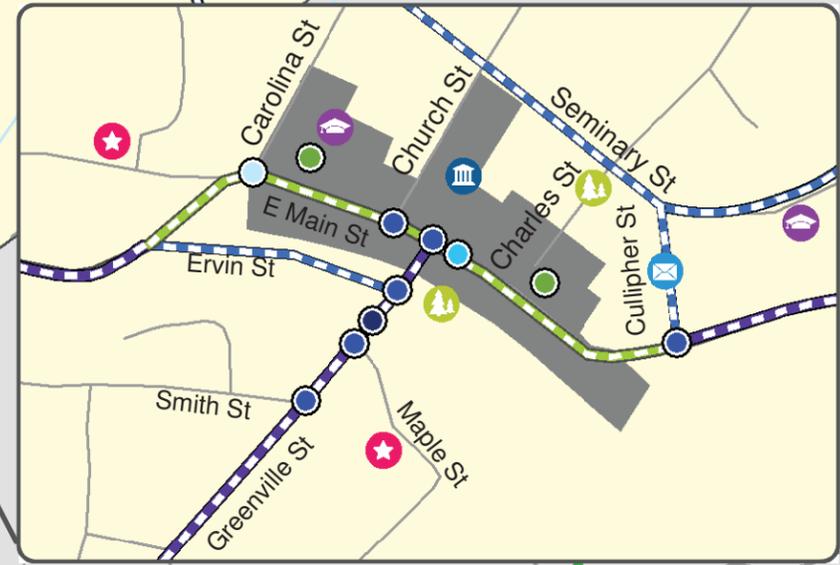
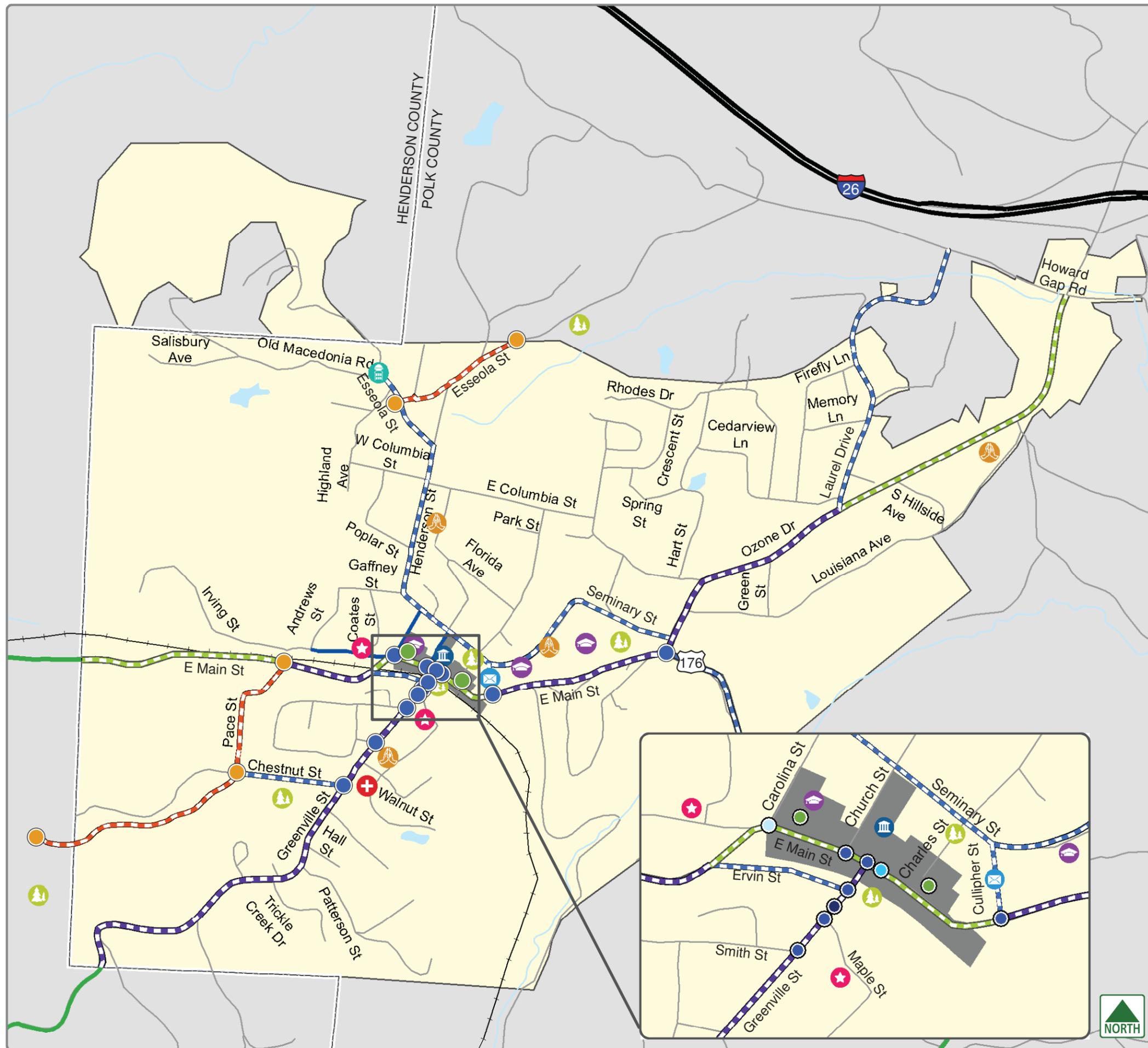


City of Saluda

Bicycle and Pedestrian Plan



Exhibit 4-4: Proposed Bicycle and Pedestrian Network



Proposed Network

- Bicycle Spot Improvements
- Pedestrian Spot Improvements
- Shared Use Path Spot Improvements
- Bicycle and Pedestrian Linear Facilities
- Pedestrian Linear Facilities (only)
- Bicycle Linear Facilities (only)
- Shared Use Path Linear Facilities

Existing Facilities

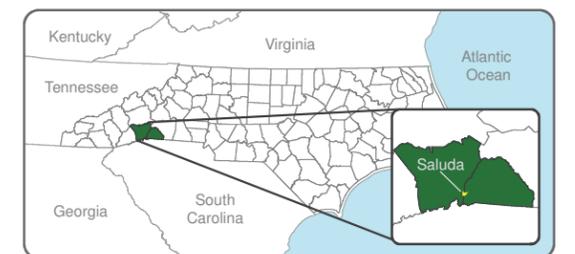
- Sidewalk
- Designated Bicycle Route

Community Features

- Commercial
- Education
- Government
- Historic/Cultural
- Parks/Recreation
- Place of Worship
- Public Safety/Health
- Point of Interest
- Post Office

- Stream
- Interstate
- US Route
- Railroad
- Local Road
- Waterbody
- Historic District
- Saluda City Limits
- County Boundary

January 2016





CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

4.3 Signature Projects

Main Street Improvements

US 176 passes through downtown Saluda and is known locally as Main Street. Main Street connects many of the community facilities in the town, including downtown businesses, the Saluda Public Library, and Saluda Elementary. Main Street is also the first impression of Saluda for visitors and those passing through the community. There are sidewalks on the north side of Main Street from Saluda Elementary through downtown, although they do not meet ADA standards from Cullipher Street to Saluda Elementary. Further, Main Street has a high volume of vehicles and there is not a vegetated median between the sidewalks and the roadway making walking uncomfortable. This is especially noticeable from Ozone Drive to downtown, and represents a barrier to students from walking to school, or walking to the school bus transfer site just west of downtown. Many of the recommendations in

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Table 4-4 and Table 4-5 were also included in the Safe Routes to School Action Plan for Saluda in 2011. See Exhibit 4-5: Main Street Signature Projects for a map of projects proposed.

Main Street/US 176 is also a state designated bike route known as the NC State Bike Route 8 – Southern Highlands. There are signs marking the route through the City, but there are no bike facilities on the road to accommodate bicyclists.



*E Main Street, Saluda NC
(AECOM)*



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Table 4-4: Main Street Linear Improvements

PROJECT NAME	DESCRIPTION	DISTANCE	COST	BENEFIT
US 176/Main Street	Install bike sharing signage and pavement markings.	1.35 miles	\$10,000	<ul style="list-style-type: none"> • Provides bicycle facility connection between multiple community facilities • Improves safety of bicyclists along one a state designated bike route.
Main Street/US 176	Improve sidewalks and crosswalks	0.51 miles	\$60,000	<ul style="list-style-type: none"> • Upgrades existing sidewalk to ADA standards • Provides improved sidewalk coverage from Saluda Elementary school to downtown and the bus transfer facility. • Provides safer walking conditions for students.

*Costs are estimates and can vary widely

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Table 4-5: Main Street Spot Improvements

SPOT IMPROVEMENTS	LOCATION	COST	BENEFIT
High Visibility Crosswalk	Church St and Main St	\$3,000	Provides continuous pedestrian connectivity along Main Street.
High Visibility Crosswalk	Cullipher St and Main St	\$3,000	Provides continuous pedestrian connectivity along Main Street.
High Visibility Crosswalk	Main Street between Charles and Church Street	\$3,000	Improves the mid-block crossing which accesses the public parking on the south side of the railroad.
High Visibility Crosswalk	Main Street at Greenville Street	\$3,000	Provides safe pedestrian connectivity to Greenville Street.
Crosswalk Removal	Main Street at Carolina Street	\$0.00	Removes unsafe crosswalk that provides no connectivity.
Bicycle Parking (two locations)	E Main Street	\$1,000	Provides bicycle parking in downtown Saluda.

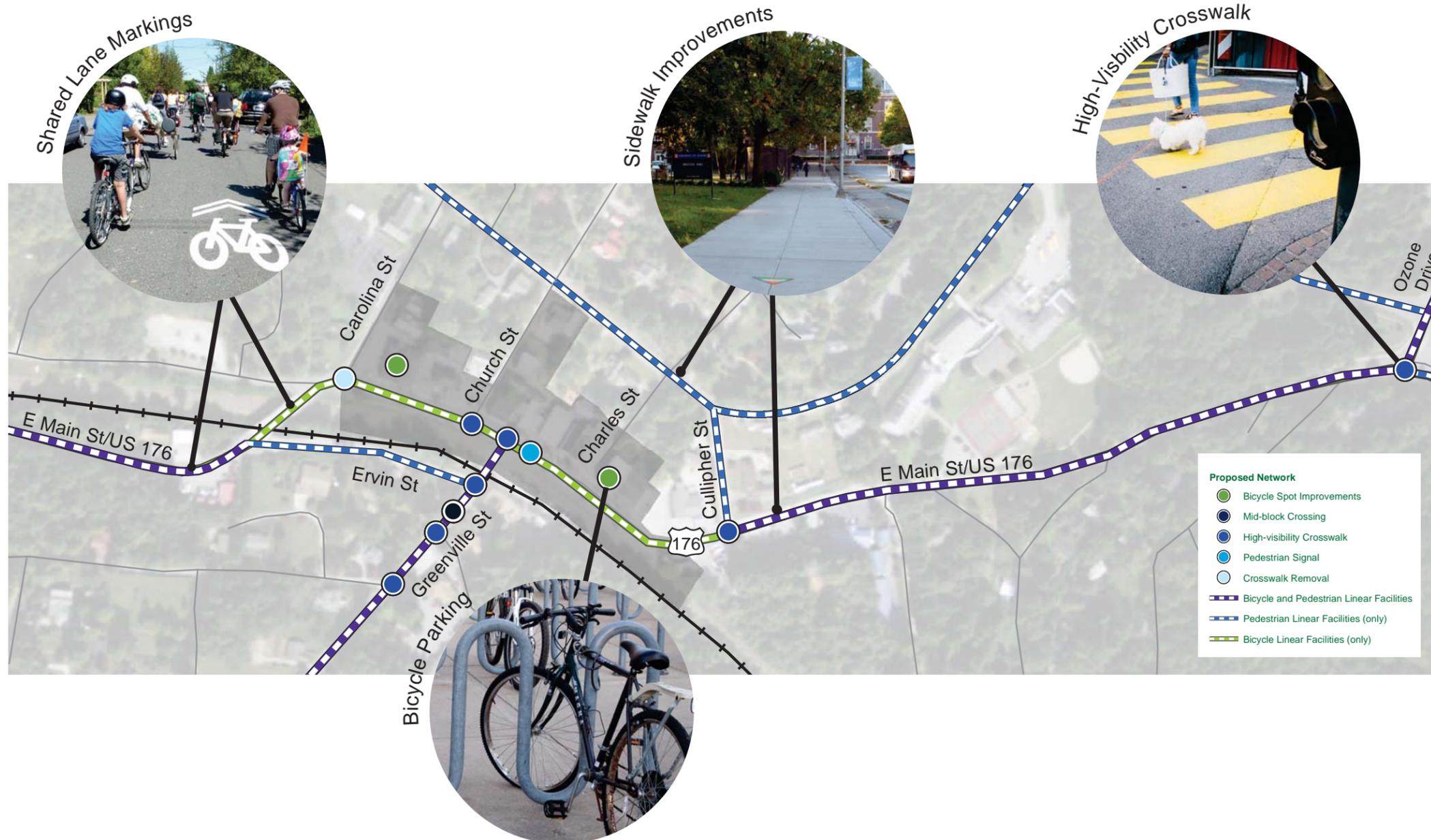
*Costs are estimates and can vary widely

City of Saluda

Bicycle and Pedestrian Plan



Exhibit 4-5: E Main Street Signature Projects



Goals of Signature Projects

Improve safety through completing bicycle and pedestrian connections to be compliant with ADA standards along one of the most heavily traveled roads in Saluda.

Active living principles can be addressed through the health benefits residents and visitors experience from improved bicycle, pedestrian, and shared-use path for new or upgraded facilities.

Through infrastructure improvements, positive impacts to the economic and transportation efficiency of Saluda's primary roadway corridor can be achieved. These facilities can also encourage recreational tourism for visitors traveling to or through Saluda.

Promote community and environmental stewardship through providing better access to outdoor facilities and to encourage the use of more environmentally friendly transportation choices.

Create social spaces for the Saluda community to enjoy for leisure and recreation, helping to encourage public interaction and use of the City's attributes.

Project Type	Facility Type	Project Location
Bicycle Linear Facility	Bicycle Shared Lane Markings and Signage	US 176/E Main St
Bicycle Spot Facility	Bicycle Parking	Main St/west Greenville St
Bicycle Spot Facility	Bicycle Parking	Main St/east Greenville St
Pedestrian Linear Facility	Sidewalk Replacement	Main St/ US 176
Pedestrian Spot Facility	High-Visibility Crosswalk	Church St/E Main St
Pedestrian Spot Facility	High-Visibility Crosswalk	Cullipher St/E Main St
Pedestrian Spot Facility	High-Visibility Crosswalk	Main St/Greenville St
Pedestrian Spot Facility	Pedestrian Signal	Main St (East of Greenville Intersection)
Pedestrian Spot Facility	Crosswalk Removal	Main St/Carolina St

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Greenville Street Improvements

Greenville Street approaches downtown Saluda from the south and in some ways acts as gateway to the City. There are numerous community facilities along the Greenville Street including the Saluda Senior Center, the Saluda United Methodist Church, McCreery Park and, further south, access to the Saluda Dog Park along Chestnut Street. There is also a bed and breakfast, the Saluda Inn, at the corner of Greenville Street and Chestnut Street. The road includes sidewalks on the western side from Maple Street to approximately 500 feet south of Chestnut Street, and on the eastern side from McCreery Park to the Saluda Senior Center; however, the sidewalk pavement is cracked and broken, and currently does not meet ADA standards. Additionally, Steering Committee members noted that many cyclists use Greenville Street for longer regional rides, including the Gran Fondo Hincapie. Based on these factors, it is not surprising that the bicycle and pedestrian projects along Greenville Street were the highest ranked projects in this Plan and had the some of the greatest community interest. Making these improvements to Greenville Street will make the street a more complete street by providing access to all modes of transportation and improve the safety that citizens and visitors need to reach the community destinations located along this corridor.

See Table 4-6 and Table 4-7 for linear and spot improvement projects along Greenville Street. See Exhibit 4-6 for the Greenville Street signature projects.



*Greenville Street at E Main Street, Saluda NC
(AECOM)*



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Table 4-6: Greenville Street Linear Projects

PROJECT NAME	DESCRIPTION	DISTANCE	COST	BENEFIT
Greenville Street Bike Lane	Install bike sharing signage and pavement markings.	0.88 miles	\$10,000	<ul style="list-style-type: none"> Provides bicycle facility connection between multiple community facilities Improves safety of bicyclists along one of the most heavily traveled roads in Saluda
Greenville Street Sidewalk Improvements	Repair and replace sidewalks and crosswalks	0.88 miles	\$130,000	<ul style="list-style-type: none"> Upgrades existing sidewalk to ADA standards. Provides complete sidewalk coverage from city limits to downtown.

*Costs are estimates and can vary widely

Table 4-7: Greenville Street Spot Improvements

SPOT IMPROVEMENTS	LOCATION	COST	BENEFIT
High Visibility Crosswalk	Chestnut Street at Greenville Street	\$3,000	Provides continuous pedestrian connectivity along Greenville Street.
High Visibility Crosswalk	Kilver St at Greenville St	\$3,000	Provides continuous pedestrian connectivity along Greenville Street.
High Visibility Crosswalk	Smith Street at Greenville Street	\$3,000	Provides continuous pedestrian connectivity along Greenville Street.
High Visibility Crosswalk	Maple Street at Greenville Street	\$3,000	Provides continuous pedestrian connectivity along Greenville Street.
High Visibility Crosswalk	Ervin Street at Greenville Street	\$3,000	Provides continuous pedestrian connectivity along Greenville Street.
High Visibility Crosswalk	Main Street at Greenville Street	\$3,000	Provides continuous pedestrian connectivity along Greenville Street
Mid-Block, High Visibility Crosswalk with Flashing Pedestrian Signal	Saluda Senior Center	\$8,000	Provides safe access to the Saluda Senior Center.

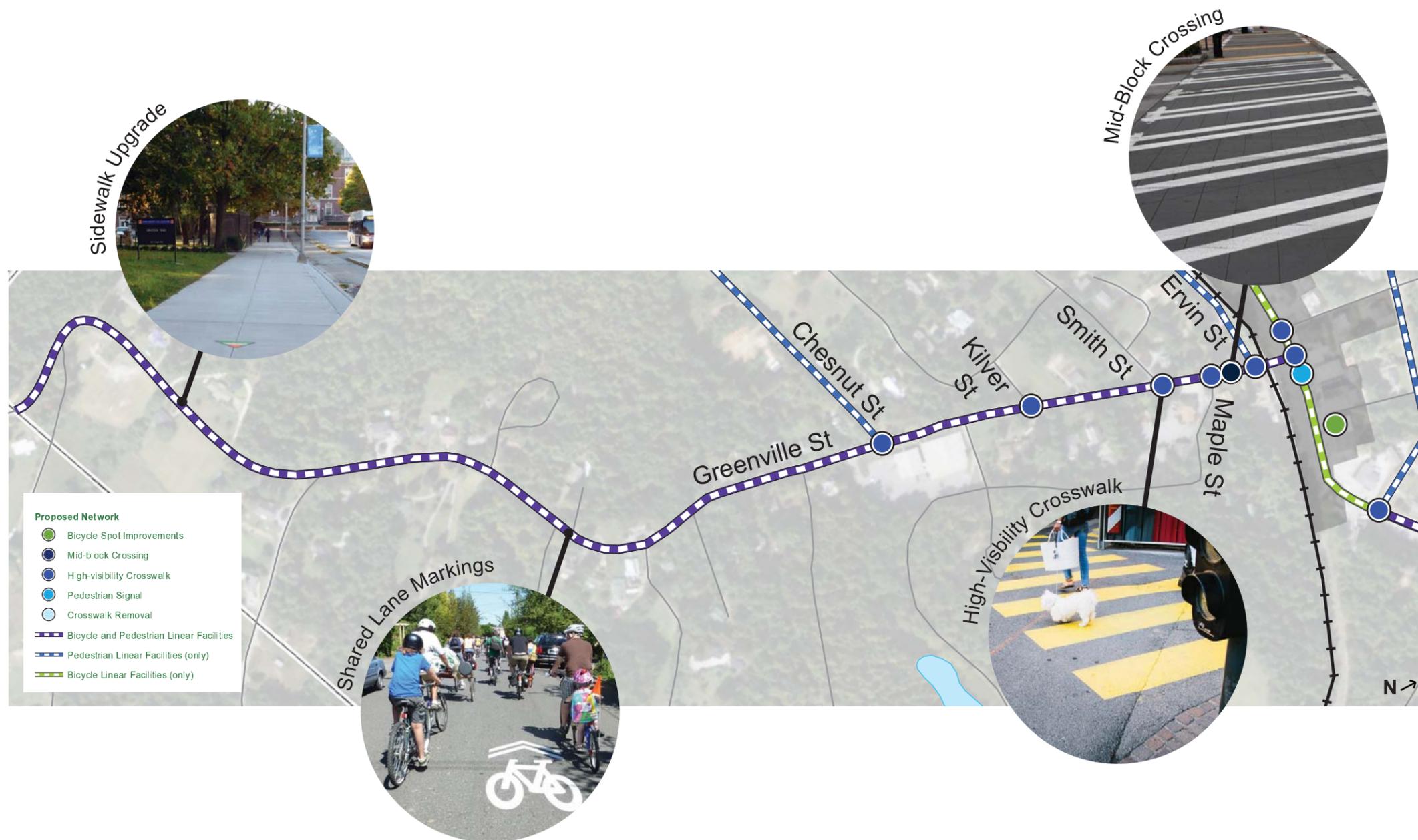
*Costs are estimates and can vary widely

City of Saluda

Bicycle and Pedestrian Plan



Exhibit 4-6: Greenville Street Signature Projects



Goals of Signature Projects

Improve safety through completing bicycle and pedestrian connections to be compliant with ADA standards along one of the most heavily traveled roads in Saluda.

Active living principles can be addressed through the health benefits residents and visitors experience from improved bicycle, pedestrian, and shared-use path for new or upgraded facilities.

Through infrastructure improvements, positive impacts to the economic and transportation efficiency of one of Saluda's primary roadway corridors can be achieved. These facilities can also encourage recreational tourism for visitors traveling to or through Saluda.

Promote community and environmental stewardship through providing better access to outdoor facilities and to encourage the use of more environmentally friendly transportation choices.

Create social spaces for the Saluda community to enjoy for leisure and recreation, helping to encourage public interaction and use of the City's attributes.

Project Type	Facility Type	Project Location
Bicycle Linear Facility	Bicycle Shared Lane Markings and Signage	Greenville St
Pedestrian Linear Facility	Sidewalk Improvements	Greenville St
Pedestrian Spot Facility	High-Visibility Crosswalk	Chestnut St at Greenville St
Pedestrian Spot Facility	High-Visibility Crosswalk	Kilver St at Greenville St
Pedestrian Spot Facility	High-Visibility Crosswalk	Smith St at Greenville St
Pedestrian Spot Facility	Mid-block Crossing	Saluda Senior Center
Pedestrian Spot Facility	High-Visibility Crosswalk	Maple St at Greenville St
Pedestrian Spot Facility	High-Visibility Crosswalk	Main St at Greenville St



Benefits of Signature Projects

- Improves safety of pedestrians and cyclists in Saluda.
- Provides safe alternative, non-vehicular travel options.
- Expands accessibility to parks, ecological resources, government services, and retail businesses.
- Increases opportunities for active living, which improves the quality of life for residents
- Enhances the aesthetics of Greenville Street which will be positive for tourism and local businesses.

Constraints of Signature Projects

- Potential Right-of-Way limitations for bicycle and pedestrian facilities.
- Costs or funding of the projects.
- Utility poles and other utilities may present design, engineering, and construction challenges.

Opportunities of Signature Projects

- Improve community health and well-being
 - Pedestrian and bicycle facilities will provide opportunities for the community to make active lifestyle choices.
 - Create a walking club to encourage community members to walk more regularly.
 - Develop a system of wayfinding throughout the City that directs pedestrians and bicyclists to the community features and popular destinations and provides distances.
 - Partner with Saluda Elementary School to encourage local students to walk to school.
- Increase tourism associated with historic sites and ecological resources.
 - Providing additional access to downtown from surrounding areas may result in visitors staying in Saluda longer.
 - Partner with organizations to develop events in Saluda that utilize the parks and roads in the community (e.g. a walking tour of the town, or a walking tour to one of the nature preserves that the Saluda Community Land Trust owns).



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

4.4 Policies

In 1992, NCDOT expanded its original bicycle program and created the Division of Bicycle and Pedestrian Transportation. The following year, the office was allocated the first funds specifically for pedestrian projects. Since its inception, NCDOT has initiated policies, programs, and guidance that aim to improve the pedestrian environment and make walking a viable mode of transportation.³ Bicycles are allowed on all federal, state, and secondary roads, except on freeways with limited access. Any policies and procedures relating to these roads may have an impact on bicycles.

The Zoning Ordinance of the City of Saluda (2012) and the Polk County Zoning Ordinance (2013) do not have bicycle and/or pedestrian specific facilities detailed in the respective ordinance or zoning documents. The following are recommended policies to include in planning and regulatory documents for the City of Saluda and Polk County (as appropriate and feasible).

Policies and procedures that may impact walks, trails, and complete streets are as follows:

The Americans with Disabilities Act (ADA) (1990): Requires the use of physical elements such as paved walkways, ramps with handrails, curb cuts and ramps, and minimum width standards to make pedestrian networks accessible to all users. Grades for pathways used by pedestrians cannot exceed five percent unless treated as a ramp, with a maximum slope of over eight percent for short stretches of trail.

Bicycle Policy (1991): Establishes the Board of Transportation recognizing bicycling as a “bonafide highway purpose” with the same rights and responsibilities as other highway purposes.

Board of Transportation Resolution: Bicycling & Walking in North Carolina, A Critical Part of the Transportation System (2000): A resolution to make cycling and walking a critical part of the state’s transportation system through long-range transportation planning.

Pedestrian Policy Guidelines (2001): Provides statewide uniformity in the construction of sidewalks on roadway projects.

NCDOT 2040 Plan (2012): The 2040 Plan defines North Carolina’s vision for statewide transportation system.

NCDOT Context Sensitive Solutions Goals and Working Guidelines (1992/1993): Emphasizes three guiding principles: to address the transportation need, be an asset to the community, and to be compatible with the natural and human environment.

NCDOT Complete Streets Planning and Design Guidelines (2012): The policy directs NCDOT to consider and incorporate several modes of transportation when building new projects or making improvements to existing infrastructure.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



The North Carolina Rail-Trails (NCRT) (1990): The program monitors the state's rail system, and actively pursues corridor preservation, retrieval, and conversion from abandoned rail corridors to public trails. It provides coordination between local, state, and federal agencies, allied state and national organizations, and project funding sources.

WalkBikeNC (2013): The North Carolina Pedestrian and Bicycle Plan was developed in 2013 through a partnership between multiple state agencies and private entities. The Plan reviews the current status of bicycling and walking in this state, strategies for improvement, and identifies the most efficient ways to apply these strategies.

It is based on a five-pillar framework: Mobility, Safety, Economics, Health, and Stewardship. The City of Saluda should consider implementing policies and provisions as part of its bicycle and pedestrian initiatives pursuing comprehensive strategies that incorporate bikeability and walkability in all future planning and development decisions.

Strategies recommended include, but are not limited to:

- Implementation of the Complete Streets policy
- Formation of a Bicycle and Pedestrian Advisory Committee (BPAC) or appointment of a single council member, citizen liaison, or advocate for bicycle and pedestrian activities
- Coordination with neighboring jurisdictions to expand the regional network of bike routes
- Annual review of the implementation of programs and projects recommended by this Plan

Additional Policy Recommendations: Including safe and alternative options to vehicular use can help encourage residents to walk or bike for both transportation and leisure purposes. Redevelopment and new development permitted in Saluda should provide for cycling and walking facilities. The City Board of Commissioners can encourage bicycling and pedestrian activity by promoting or including the following in updates to planning or regulatory documents:

- Requiring bicycle and pedestrian facilities in local ordinances for all new planned office, institutional, commercial and residential development.
- Promoting expansion of bicycle and pedestrian amenities on existing roadways through local ordinances
- Requiring bicycle and pedestrian facilities on all roadway improvements as a way to promote healthy living and alternative transportation options through incorporating bicycle and pedestrian facilities in amendments and updates to local ordinances
- Promoting bicycle, pedestrian, and shared use path connectivity in Saluda and surrounding communities through regional cooperative agreements and planning efforts and/or local/state ordinances

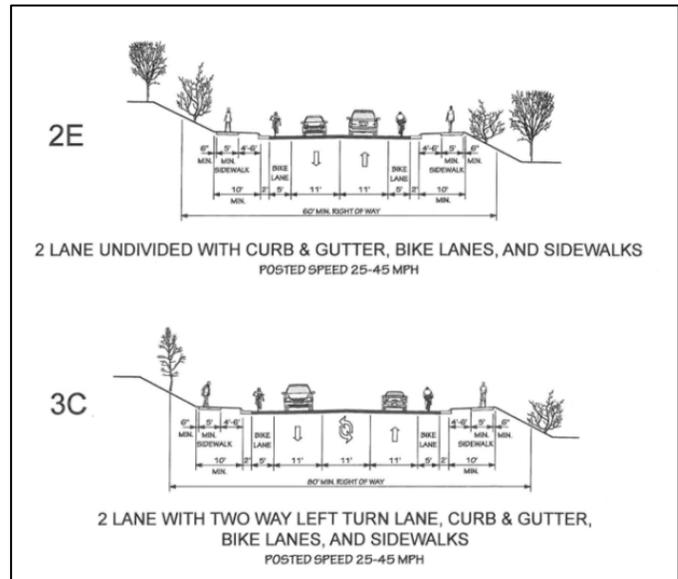
The City should advocate that land use and zoning changes comply with bicycle, pedestrian, and land use policies. Saluda should promote a more bicycle and pedestrian-friendly environment in and around new infill development, redevelopment, and natural areas.



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Requirements for new bicycle and pedestrian infrastructure should be consistent throughout the City’s planning jurisdiction as follows:

- Signage policies that designate bike usage on roadways. This is an important measure to increase driver awareness of cyclists for improved safety
- Encourage commercial development that incorporates Complete Streets policies for use by both cyclists and pedestrians
- All new office/institutional/commercial and residential developments should provide 5-foot sidewalks, provide buffering from vehicular traffic and off-street parking lots, and provide street trees that will shade sidewalks
- Trees, utility poles, and street furniture shall not be placed where they may hinder the view from pedestrian crosswalks and intersections
- When an existing sidewalk or path is closed for construction or maintenance reasons – on the walkway itself or on adjacent property – an adequate detour route should be established and signed if feasible
- All roadway resurfacing, widening, or repainting should include or consider the installment of shared lane markings for cyclists or bicycle lanes in accordance with standard NCDOT roadway widths NCDOT resurfacing schedule.⁵
- All local, state, and federal road and bridge project planning and construction projects must include reasonable non-motorized accommodation for both bicycles and pedestrians. According to NCDOT policy, 5 to 6 foot-wide sidewalks shall be included on new bridges, and a determination on providing bicycle lanes or sidewalks on one or both sides of new bridges will be made during the planning process according to the NCDOT Pedestrian Policy Guidelines. NCDOT shall fund all or part of the cost of sidewalks or wide-paved shoulders when they are mapped and recommended as part of a transportation plan
- All walkways and shared use paths must be ADA accessible



Typical Roadway Section showing Bicycle and Pedestrian Facilities (NCDOT)

⁵ <https://connect.ncdot.gov/resources/Asset-Management/Pages/HMIPDIV.aspx>

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Local Ordinance Recommendations

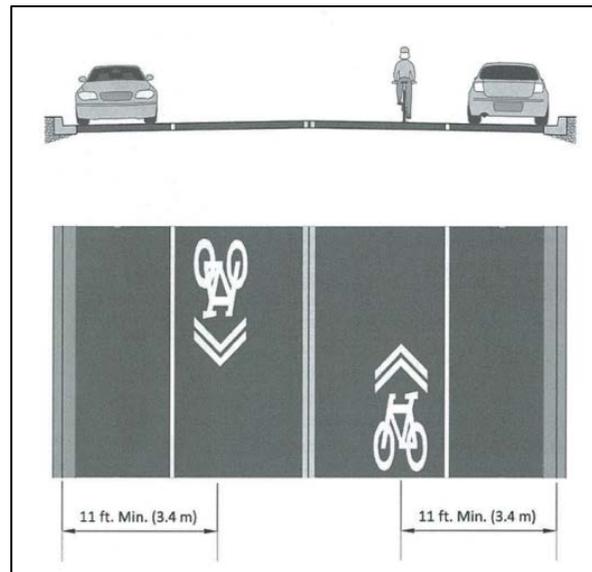
Provisions and standards in the City’s current Development Ordinance should be included to require bicycle, pedestrian, and shared use path facilities are consistent with standards contained in this Plan in an effort to provide bicycle and pedestrian-oriented development.

The existing zoning standards should be amended to require bicycle, pedestrian and shared use path facilities are consistent with standards contained in this Plan in an effort to provide bicycle and pedestrian-oriented development.

General Bicycle Infrastructure Recommendations

Currently, the City of Saluda does not have bicycle facility standards. Bicycle infrastructure including bike lanes, paved shoulders, shared and marked lanes, and shared use paths should have designated signage to help direct cyclists and enforce motorists of common roadway use. Signage and shared lane markings become an important measure for enforcement when bicycle infrastructure is planned. Local ordinances should be used to encourage these measures for improved bicycle facilities and consider implementing standards for storage and parking for cyclists where feasible.

It is recommended that bicycle lane facilities be 4 to 6 feet at a minimum. For designated bike lanes with on street parking, the bike lane should be 5 feet at a minimum, and where parking is prohibited the bike lane should be 4 feet in width at an absolute minimum. Paved shoulders are recommended to be 4 feet wide at a minimum and should include pavement markings. Where speeds are 55 mph and above, paved shoulders should be 5 feet wide at a minimum. Designated bike lanes are ideal for streets with heavy vehicle traffic as it provides improved safety measures. Bicycle lanes at intersections should be included in the design and development of potential future facilities. According to AASHTO recommendations, typical shared lanes with on street parking should be placed at 11 feet from the face of curb. Streets without on street parking, shared lane markings should be at least 4 feet from the face of curb at a minimum.



Typical Roadway Section showing Bicycle Sharrows (AASHTO)



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

General Sidewalk Recommendations

Sidewalks should be clear of obstructions such as utility poles, sign posts, fire hydrants, bike racks, newspaper stands, etc. These objects should be placed elsewhere, such as a planting buffer strip. Other standards contained in Appendix C: Design Guidelines should be incorporated into the Development Ordinance. Vertical clearance should be at least 7 feet from ground level to the bottom edge of signs or the lowest tree branches.

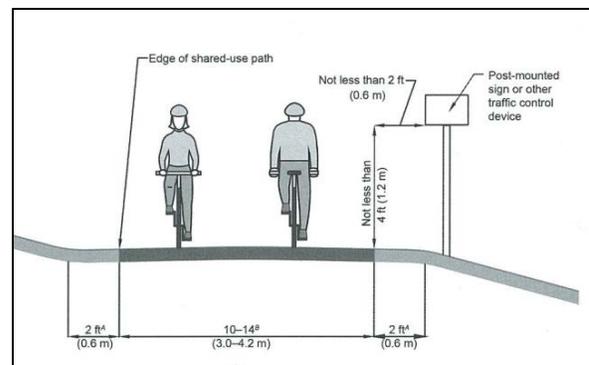
It is recommended sidewalks be a minimum of 5 feet in width, a specification based off sidewalk width requirements NCDOT and ADA recommends (AASHTO, 2012). NCDOT Division of Highways requires sidewalks standards no less than what is required by the American with Disabilities Act (ADA), which require widths of a minimum of 3 feet for a maximum of 200 feet in length, where level areas of 5x5 feet must be available for wheelchairs to be able to pass and reverse direction. ADA standards also restrict cross slopes of more than 2 percent. For these reasons, NCDOT's Division of Bicycle and Pedestrian Planning has its own Design and Construction Standards (Section 6.3.1). These standards recommend 5 feet minimum width for planting strips or buffers between curbs and sidewalks. This prevents excessive cross slopes that would otherwise occur where a driveway meets a sidewalk adjacent to the curb.

Additionally, the City should initiate a sidewalk maintenance program through the Public Works Department. Projects could be prioritized through the Bicycle and Pedestrian Advisory Committee discussed in Section 4.5 of this plan, and could be funded with city funds, if available, or by use of Powell Funds.

General Shared Use Path Recommendations

Shared use paths should accommodate both bicyclists and pedestrians through adequate widths that consider passing needs and different uses. Drainage, lighting, signage, and slope should all be considered for accessibility of shared use paths.

Paths should be 10 feet in width to accommodate both bicyclists and pedestrians including enough space for bicyclists to pass another user in the same direction (NCDOT, 2007). Access points and crossings should be visible to both road users and path users with sight lines maintained for visibility. A path should have a graded (sloped) area of at least 3 ft. to accommodate drainage and vegetation. The MUTCD (FHA standard highway signs and markings) requires a minimum of 2 feet of horizontal clearance from the edge of the path to post mounted signs or other traffic control devices. Shared use paths should be ADA compliant, including access points. These and other standards should be incorporated into future Development Ordinances for the City of Saluda.

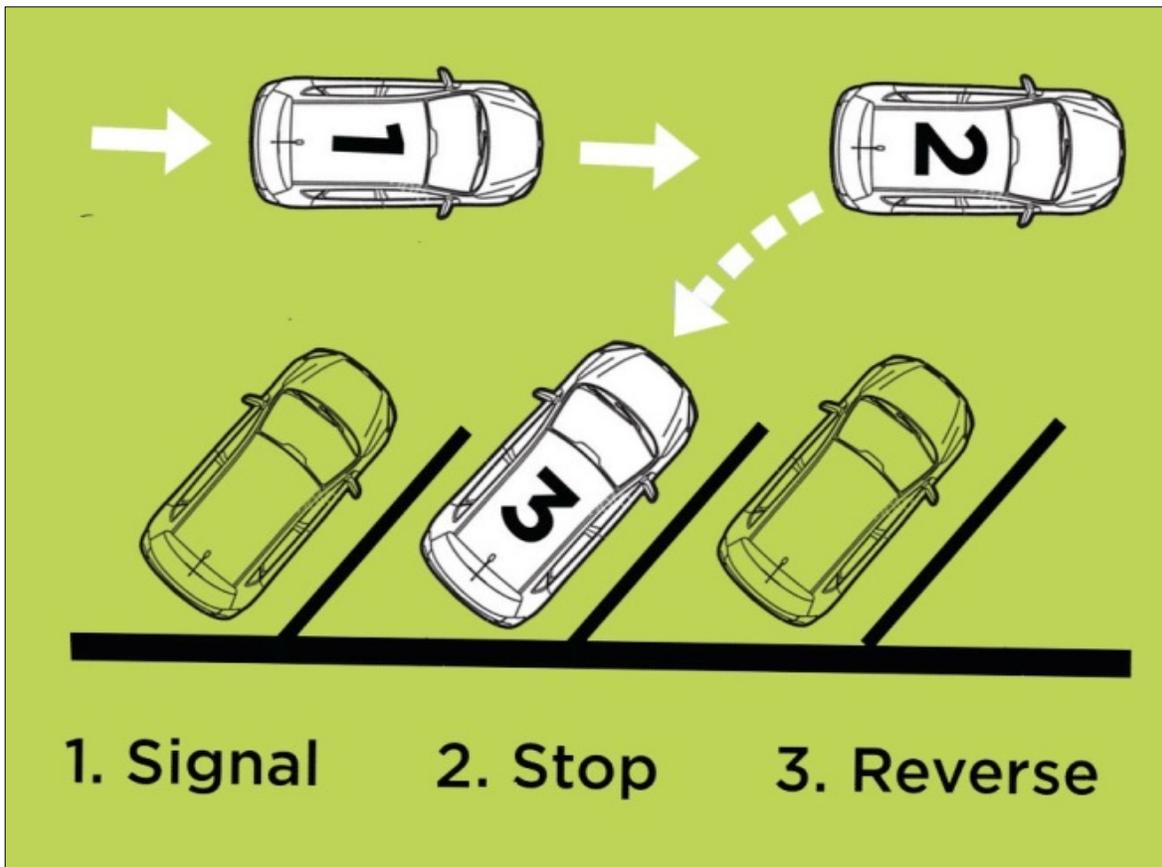


Typical Shared Use Path
(AASHTO)



Reverse Angle Parking Recommendations

Downtown Saluda features restaurants and shops that serve as a destination for residents and tourists, many of whom park in the angled spaces along Main Street. Traditional angled parking such as along Main Street (where the driver pulls directly into the space) can be dangerous to bicyclists and pedestrians because the driver backs out of a space into unknown conditions due to obstruction of vision. Since Main Street has a high number of bicyclists, the City should consider reversing the angle of parking on Main Street so drivers back into parking spaces. Reverse angle parking is a common practice in many municipalities and provides a greater level of safety through providing drivers an unobstructed view of oncoming traffic, bicyclist and/or pedestrians. Additionally, reverse angle parking offers **convenience and safety** when it comes to loading and unloading vehicles, with the back of the vehicle pointing toward the sidewalk and an open car door acting as a barrier to busy streets.



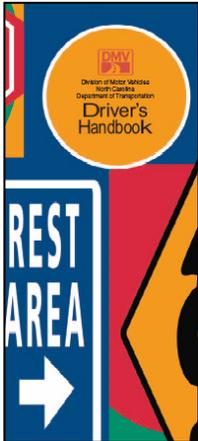
*Reverse Angle Parking Maneuver
(State of Indiana)*



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

4.5 Programs

Bicycle and Pedestrian Advisory Committee, Council Member, Citizen Liaison, or Advocate



The Steering Committee helped inform this Plan and facilitate its adoption. The efforts of the Committee should not end here. Rather, the Saluda City Council may appoint a council member or form a Bicycle and Pedestrian Advisory Committee (BPAC) or appointment of a single council member, citizen liaison, or advocate for bicycle and pedestrian activities should be formed or appointed to continue bicycle and pedestrian planning efforts and program implementation in Saluda. The choice to appoint a council member or form a committee may be based on whether a committee is warranted for a small community and whether there is interest by City residents to serve.

If an Advisory Committee is formed, it may include some existing Steering Committee members, Planning Board members, and additional residents concerned about bicycle and pedestrian issues and needs in the community. Membership of the BPAC or an appointee(s) should reflect the demographic makeup of the City in terms of age, race, and socioeconomic status. Representatives from community groups, schools, and businesses should be included. The BPAC or appointee would be charged with the principal objective of advocating for bicycle and pedestrian safety and mobility through education, encouragement, and enforcement campaigns and infrastructure projects.

The BPAC would research funding opportunities, assist with submission of grant applications, and play a role in selecting and monitoring the work of consultants designing and contractors constructing bicycle and pedestrian infrastructure. It would also serve to form partnerships between schools, businesses, and surrounding the City. The BPAC or appointee should meet regularly and provide updates to the Saluda Board of Commissioners. In addition to helping implement proposed projects the Committee should promote education, safety, encouragement, enforcement and evaluation, events, and beautification programs.

Education

Education is essential for teaching and reminding drivers of all ages the applicable laws and responsibilities of motorists as they pertain to safely sharing the road with bicyclists and pedestrians. This also includes educating police officers on bicycle and pedestrian laws.

Although children aged 5 to 15 are not yet old enough to drive, it can be expected that the majority will become automobile users. Educating elementary and middle school students (the future driving population) about bicycle and pedestrian safety provides excellent opportunity to make a difference in a two-fold manner.

Pedestrian safety, as well as how to safely maneuver an automobile while in the presence of pedestrians and bicycles can be an instrumental part of any driver's education



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



program in Saluda. This training will allow this new generation to be more aware of the simple fact that motorized vehicles do not have sole right to the transportation network, and it is everyone's responsibility to be careful when in the roadways.

More information can be found at: www.ncdot.gov/dmv

The NC Bicycle and Pedestrian laws can be found at: www.ncdot.gov/bikeped/lawspolicies/laws

Bicycle and Pedestrian Education

Many bicycle and pedestrian crashes occur because a traffic law(s) was disobeyed. Crossing signalized intersections on the red phase, bicycling or walking on the roadway in the same direction as traffic, and darting across traffic lanes are not only dangerous, they are illegal.

There is often confusion about the direction a bicyclist should ride when using on-road facilities. Bicyclists are legally expected to ride with the flow of traffic because a bicycle is deemed a vehicle according to the Motor Vehicle Laws of North Carolina. Similarly, cyclists must stop at stop signs and red lights like any roadway user. Lights and other reflectors should be used at night or during inclement weather, the law requires a headlight and rear light for bicyclists. Passing and turning when using a bicycle should use signal turns with arms and hands. There are many resources regarding bicycle education online for distribution purposes.



*Bicycle and Pedestrian Crossing
(Flickr Creative Commons, RDVRS, 2008)*

Indeed, much of the reasoning why a pedestrian breaks the law is because of conditions unknown to the motorist such as the scarcity of proper crossing locations or the absence of walkways out of the roadway. Unfortunately, many pedestrians take unnecessary risks, may not know which traffic laws apply to them, or actively choose not to follow the law. In addition to creating safe walking areas for pedestrians, walkers must be taught to respect the laws for their own safety. Pedestrian education courses should be offered at schools, libraries, or on informational web sites.

There are many national sources to help provide input for bicycle and pedestrian education. More information can be found at:

www.pedbikeinfo.org/programs/education.cfm

www.bikeleague.org/programs/education/



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Watch for Me NC



With more than 2,400 pedestrians and 960 bicyclists hit by each vehicles each year in North Carolina, NCDOT in collaboration with municipalities and universities has launched the Watch For Me NC campaign to reduce crashes through education and enforcement. Education materials in the form of a website, public service announcements, pamphlets, bus wraps, billboards, and bumper stickers have been developed and distributed to increase awareness of pedestrians and bicyclists and applicable laws. The campaign also provides increased training to law enforcement. Saluda may coordinate with the City of Asheville, which has participated in the Watch for Me NC campaign.

Many of these resources are downloadable from Watch for Me NC at: www.watchformenc.org/

Rails to Trails Feasibility Study

The rail lines that pass through the City are owned by Norfolk Southern and extend from East Flat Rock south to Landrum, South Carolina. The rail line is currently not in use, but has not been abandoned by Norfolk Southern.

The City could partner with Land Conservancy's, and regional planning initiatives, as well as the National Rails to Trails Conservancy to conduct a feasibility study to convert the rail line to a trail. Norfolk Southern has indicated it does not intend to abandon the line, which would make a full conversion to a trail impossible, but a temporary conversion using Railbanking should be investigated. Railbanking is a voluntary agreement between a railroad company and a trail agency to use an out-of-service rail corridor as a trail until a railroad might need the corridor again for rail service. Because a railbanked corridor is not considered abandoned, it can be sold, leased or donated to a trail manager without reverting to adjacent landowners.

More information on the rails to trails program can be found at: www.railstotrails.org

Ecotourism Enhancement

The City of Saluda can benefit economically from regional recreational opportunities in the areas surrounding the City. While the City is already well known for its regional events like the Coon Dog Day and the Saluda Arts Festival, ecotourism could be further enhanced by partnering with the North Carolina Department of Commerce through their Visit North Carolina unit. Visit North Carolina is a new public-private organization that has been contracted to lead North Carolina's marketing programs known as the Economic Development Partnership of North Carolina. Visit North Carolina provides technical assistance to communities who embrace tourism as an economic development strategy and seek to develop and promote

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



tourism assets. To this end, Visit North Carolina helps foster collaboration with other partners and allies in effort to attract visitors and their dollars into these areas.

The partnership with Visit North Carolina could include City representatives, the Saluda Business Association and the Saluda Community Land Trust. This partnership could help promote eco-tourism and recreational opportunities available in the area.

Safety

Bicycle Helmet Initiative

Facilitated by NCDOT's Department of Bicycle and Pedestrian Transportation (DBPT), the Initiative works to reduce bicycle related accidents of children through the promotion of helmet use, developing proper usage into and through adulthood. The DBPT supports local agencies and schools to encourage the program, offering a maximum of 24 helmets per year to each involved organization or group.

Let's Go NC - Bicycle and Pedestrian Curriculum

Aimed to instruct children between grades k-5, the program focuses on walking and biking safety and skills. As a way to promote healthy and active lifestyles, a curriculum was developed that includes aspects of the Safe Routes to School program, and classroom, video, and exercise materials.

More information can be found at: www.connect.ncdot.gov/projects/BikePed/Pages/LetsGoNC.aspx

Safe Routes to School

In 2011, Saluda collaborated with NCDOT to produce a Safe Routes to School (SRTS) Plan that intended to improve bicycle and pedestrian safety for the students in the City who bike or walk to school.

Safe Routes to School (SRTS) is a program that enables and encourages children 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.



One of the projects recommended by the plan (constructing sidewalk from Carolina Street to the school bus transfer site) is expected to be constructed soon. And many of the recommendations in this plan reinforced the recommendations in the Safe Routes to School Plan. The City should continue to work with NCDOT and the Region 2 Active Routes to School Coordinator to implement the recommendations of the Safe Routes to School Plan.



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

School Safety Patrol Programs

School Safety Patrol Programs across the United States have been responsible for decreased pedestrian/vehicle collisions. The American Automobile Association (AAA), municipalities, and schools have sponsored these important safety programs in the past, and could be implemented at Saluda Elementary School. AAA offers training and equipment to start safety patrol programs.

More information can be found at: www.exchange.aaa.com/safety/child-safety/aaa%E2%80%99s-school-safety-patrol/

WalkBikeNC: Safety and Health

North Carolina has an overweight/obesity rate of more 65 percent, increasing the risk of disease and adverse health conditions statewide (WalkBikeNC Report, Page 1-7). Through the provision of bicycle facilities, pedestrian paths and sidewalks, alternative routes to school, and improvements to roadway crossings, Saluda can improve the safety of alternate transit as a way to encourage the physical activity and health of its residents. The WalkBikeNC Plan outlines a series of programs and initiatives that can work in parallel to local and NCDOT efforts to support pedestrian infrastructure.



More information can be found at WalkBikeNC: www.ncdot.gov/bikeped/planning/walkbikenc

Enforcement and Evaluation

Essential to pedestrian safety is enforcing existing driving laws and speed limits. It is recommended that the City work with Henderson and Polk County Sheriff's Department to continue to enforce the City's speed limits to minimize bicycle and pedestrian related safety concerns.

Pedestrians also have a responsibility to abide by laws pertaining to them such as crossing at crosswalks and walking in the direction of oncoming traffic. City police should encourage pedestrians to follow the laws in the interest of safety.

Bicycle and Pedestrian Needs Checklist

The City staff can work to identify improvements on an ongoing basis for the purpose of evaluation and possible enforcement. This includes both identification of bicycle and pedestrian needs but also an opportunity for facility inspection and maintenance. A checklist can be defined using the identification of facilities in this Bicycle and Pedestrian Plan, but should be expanded on an as-needed basis.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Pedestrian Safety Education Campaign

The Guilford County Sherriff's Department should develop a Pedestrian Safety Education Campaign to place signs along road that remind pedestrians to walk facing traffic. In addition to these signs, a campaign may also include: workshops for motorists and pedestrians on applicable laws and safety and events to raise awareness such as walks.

More information can be found nationally and North Carolina specific at:
www.ncdot.gov/bikeped/safetyeducation/materials/

Events

Bicycle Rodeos

A bicycle rodeo is a skills event that offers bicyclists an opportunity to develop and practice for becoming a better bike rider. More specifically, the program is designed to help show kids in local neighborhoods how to be safer on bikes. This includes active learning opportunities for improved awareness' and safety. Often hosted by a municipality, a bicycle rodeo involves skilled instructors that can be identified through schools, law enforcement agencies, and bicycling clubs, who focus on training in bike handling skills and on-street experiences to develop confidence in traffic. The Organizer's Guide to Bicycle Rodeos provides the fundamentals of an effective program and includes organization tools, planning and designing the course(s), and various games that can be played during the event.



*Bicycle Rodeo
(Flickr Creative Commons, SLO Bike Rodeo, 2011)*

More information can be found at An Organizer's Guide to Bicycle Rodeos at :
www.bike.cornell.edu/pdfs/Bike_Rodeo_404.2.pdf

Bicycling and Walking Programs

A "Weekend Walkabout" can be coordinated with the NCDOT to bring attention to pedestrian infrastructure and highlight places to walk in the community. The event can be organized around historic sites, park walks, or neighborhood tours. Walking programs offer not only awareness, but also encourages community and/or families to be more physically active. The "Walk to School Day" and the "Bike Month," both which take place nationally every fall, can also be a used in conjunction to stimulate bicycling and walking in Saluda. This concept is included in the statewide WalkBikeNC Plan.

Program recommendations can be found at: www.walkbikenc.com/plan-resources/#program



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Bicycling or Walking Youth Engagement Contest

In the past, the NCDOT helped to host a statewide competition to both educate and engage students about walking and bicycling activities. This has been accomplished through school districts to schedule either audio, visual, or other media forms to market the health and recreational benefits of walking and/or bicycling. Events have been planned around the contest and a final vote on the best educational and promotional final project. This contest is encouraged by the WalkBikeNC Plan.

Bike or Walk to Work, Shop, School and Play Days

Designate a day, a week or month where people walk to their destinations. This can coincide with *International Walk to School Week*, or with Bike to Work Week, or with another common “Hike, Bike, and Bus” week that some municipalities sponsor. Advertise these events, have some fun events along common pedestrian routes, and offer prizes and recognition for model participants. *International Walk to School Week* typically falls on the first week of October. Walk to School events can be as simple as a few kids and parents meeting to walk to school or can be very elaborate celebrations. Event logistics range from a central walking location to people walking from their homes. Successful events have the support and participation of the principal, police and parents, and programs such as this give public agencies and representatives the opportunity to publicly support health, environment and safety initiatives.

More information can be found at Walk to School: www.walktoschool.org/

Walking Club

The community should institute a community walking club that would help encourage active life styles of residents and use of the community’s pedestrian facilities. This could include partnerships with other community resources such as schools, churches, and other groups. The walking club would allow individuals to sign up and keep track of their miles walked. The City could provide suggested routes and the mileage or distances for completing loops or other routes.

The walking club could utilize a number of existing sites that provide these standardized services, such as the American Cancer Society’s Active for Life program and the President’s

Challenge Program, more information can be found at the following sites:

www.activeforlife.org/

www.presidentschallenge.org/



Walking Club
(Flickr Creative Commons, Iain Farrell, 2012)

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Open Street Events

Once some of the recommended projects are constructed, it would create a perfect opportunity for regular special events. A festival could be set up at the City Hall, at a park, or on a greenway spurring a new experience that may draw more interest in pedestrian facilities.

An international trend is to turn major City roads into “Sunday Parkways.” This concept takes long strips of roadways (linear or in a looping pattern) and converts one or both directions of traffic to pedestrian malls or for bicycle rides during a portion of every Sunday and holiday. This encourages people to get out and walk or bicycle, increases the amount of public space, and motivates people to walk more often throughout the rest of the week. This concept is included in the statewide WalkBikeNC Plan.



*Open Street Bicycle Event
(Flickr Creative Commons, Umberto Bayj, 2012)*

Beautification

Adopt a Sidewalk Program

Adopt a Road programs are common, enabling members of the community to sponsor and help to clean a road with litter and other debris. Saluda can begin a similar program for its sidewalks and multi-use paths once they are built. This program could also be used as a means for the community to alert the City when there is a maintenance issue with a sidewalk, or as a means for a sidewalk to get special attention, funding, and improvements because of the dedication of its community sponsor. This program will encourage a sense of pride and ownership of the sidewalks, paths and infrastructure for bicyclists and pedestrians.

Wayfinding

The City should consider developing a wayfinding program for the Signature Program corridors, in particular, possibly using local artists as designers of the signs. Wayfinding programs provide bicyclists and pedestrians a navigation system through an area. Installing a system of wayfinding signs throughout downtown Saluda and surrounding area would not only enhance the bicycle and pedestrian experience in the City, but it could have additional benefits such as adding to the sense of community of Saluda, particularly if a local artist is used to design the signs. Wayfinding programs also have the additional benefit of minimizing the tendency by many cyclists to overestimate the amount of time it takes to travel by bicycle, particularly if distance and time information is included on the sign. Finally wayfinding can provide an additional level of safety for cyclists as wayfinding signs visually indicate to motorists that they are driving along a bicycle route and should use caution.

IMPLEMENTATION STRATEGY



5.0 Implementation Strategy

Achieving the vision, goals, and objectives of this Plan will require the commitment of City Officials and Staff, the A Bicycle and Pedestrian Advisory Committee (BPAC) or appointee(s), the Isothermal RPO and NCDOT, and the support and leadership from the community and other partner organizations. Guided by the goals, objectives, and strategies, the City will continue working to improve bicycle and pedestrian safety and connectivity.

The implementation strategy for this Plan includes several components to assist with translating this document into implemented programs and constructed bicycle and pedestrian facilities:

- Key Action Steps
- Project Development Strategies
- Funding Process and Sources
- Performance Evaluation Measures

5.1 Key Action Steps

The Bicycle and Pedestrian Advisory Committee (BPAC) or appointment of a single council member, citizen liaison, or advocate for bicycle and pedestrian activities is entrusted with overseeing the implementation of the Plan with assistance from City Staff and participation by the stakeholders. The BPAC or appointee(s) would be responsible for meeting regularly to receive updates and guide progress on the action steps. It would also author the annual progress report on bicycle and pedestrian conditions in Saluda. In addition, all bicycle and pedestrian facility recommendations along NCDOT-maintained roadways will require review and approval by NCDOT Highway Division 14 prior to implementation. The key action steps are listed in Table 5-1.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Table 5-1: Key Action Steps

Step	Action	Stakeholder	Timeline	
1	Adopt the Saluda Bicycle and Pedestrian Plan	Present the Plan to the Saluda Board of Commissioners for adoption.	Board of Commissioners and City Staff	January 2016
2	Establish a Bicycle and Pedestrian Advisory Committee	Form an advisory committee or appoint an individual who will be responsible for overseeing the implementation of the Plan.	Board of Commissioners and City Staff	Summer 2016
3	Strengthen partnerships with Henderson and Polk counties, the Isothermal RPO, and Saluda Elementary School	Hold an initial meeting with the stakeholders to provide an overview of the Plan's recommendations and identify opportunities for collaboration. See Sections 2.7, 4.3, 4.4, 4.5.	Henderson and Polk counties and the Isothermal RPO	Summer 2016 and ongoing
4	Coordinate with NCDOT Division 14	Hold an initial meeting with NCDOT Division 14 to discuss how the Plan's bicycle and pedestrian projects may be incorporated in upcoming transportation projects, including roadway resurfacing projects in Saluda specifically along the roads associated with the two Signature Projects, Main Street Improvements and Greenville Street Improvements. NCDOT 3-yr resurfacing schedule: https://connect.ncdot.gov/resources/Asset-Management/Pages/HMIPDIV.aspx See Sections 4.3, 4.4, 4.5.	NCDOT Division 14 and City Staff	Ongoing
5	Coordinate with Isothermal RPO to include infrastructure projects in the regional planning process	Hold an initial meeting with Isothermal RPO to review the Plan's infrastructure projects to include them where appropriate in regional plans including any future updates to the <i>Polk County Comprehensive Transportation Plan</i> including Main Street Improvements and Greenville Street Improvements. See Sections 2.7, 4.3, 4.4, 4.5.	City Staff and Isothermal RPO	Summer 2016 and ongoing



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Step	Action	Stakeholder	Timeline
6	<p>Coordinate with local bicycle organizations and clubs such as the Blue Ridge Bicycle Club</p>	<p>Hold an initial meeting with representatives from the organizations to review the plan's goals and objectives and to discuss potential opportunities for collaboration with items such as the establishment of a Regional Bicycle Network, as well as other programs and policies.</p>	<p>City Staff, BPAC/appointee, and representatives from the bicycle organizations</p> <p>Summer 2016</p>
7	<p>Include bicycle/pedestrian facilities in City Ordinances; establish a sidewalk maintenance program.</p>	<p>Draft amendments to City Ordinances following the recommendations of this Plan in order to support bicycle and pedestrian infrastructure in existing and new development. Also, develop a sidewalk maintenance program through the City's Public Works Department</p> <p>See Sections 2.7, 4.4, 4.5.</p>	<p>Board of Commissioners and City Staff</p> <p>Summer 2016</p>
8	<p>Apply for alternative funding sources for the Plan's projects and programs</p>	<p>Refer to the funding sources identified in this Plan; apply for funds in addition to the STIP process to implement the Plan's programs and projects.</p>	<p>BPAC/appointee and City Staff</p> <p>Ongoing</p>
9	<p>Coordinate with the Saluda Community Land Trust</p>	<p>Develop a partnership between the City and the SCLT that can identify strategies and funding sources for projects that enhance both the City and the SCLT.</p> <p>See Section 2.4. 4.5</p>	<p>City Staff and SLCT</p> <p>Ongoing</p>
10	<p>Partner with NC Department of Commerce</p>	<p>Develop and partnership between the NC Department of Commerce, the Saluda Business Association, and the SCLT that will serve to promote ecotourism in the City.</p> <p>See Section 4.5</p>	<p>City Staff, NC Department of Commerce, Saluda Business Association, SCLT</p> <p>Summer 2016/On going</p>

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Step	Action	Stakeholder	Timeline
11	Develop programs that educate residents on the health benefits of walking and biking See Section 4.5	Partner with the Polk County Health Department, local schools, and other community organizations to develop encouragement and educational programs that promote the healthy aspects of bicycle and pedestrianism. BPAC/appointee, and City Staff	Summer 2016/On going
12	City Budget Planning Report/Memo Identify potential funding sources for bicycle and pedestrian programs, projects and maintenance in the City's budget such as Powell Bill funds. Most infrastructure projects will require a local match.	BPAC/appointee, Board of Commissioners and City Staff	Summer 2016
13	Coordinate with Region 2 Active Routes to School Coordinator See Section 4.5.	Coordinate with the Region 2 Active Routes to School Coordinator to establish and develop policy for implementation and/or training or programs for Saluda. BPAC/appointee, City Staff, NCDOT, NC Division of Public Health	Winter 2017
14	Rails to Trails Feasibility Study See Section 4.5.	Coordinate with the National Rails to Trails Conservancy to conduct a feasibility study for converting the rail line to a temporary trail through Railbanking. www.railstotrails.org BPAC/appointee, Board of Commissioners, City Staff, Land Conservancy, Norfolk Southern	Winter 2017
15	Wayfinding Study See Section 4.5.	Identify the location of wayfinding signage and develop a system of unique and branded signs, possibly using a local artist. BPAC/appointee, Board of Commissioners, City Staff	Winter 2017
16	Watch for Me NC See Section 4.5.	Apply to participate in NCDOT's Watch for Me NC campaign to raise awareness and provide educational resources to promote bicycle and pedestrian safety to residents, drivers, and law enforcement. BPAC/appointee, and City Staff	Winter 2017/On going



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Step	Action	Stakeholder	Timeline
17 Saluda Bicycle and Pedestrian Annual Report/Memo	Prepare the first Saluda Bicycle and Pedestrian Annual Report assessing progress made over the past year using the performance and evaluation measures included in this Plan.	BPAC/appointee and City Staff	Winter 2017



5.2 Project Development Strategies

Before constructing infrastructure projects proposed in this Plan, the project development process will need to occur, which involves:

- Engineering and design (feasibility study)
- Identifying right-of-way availability and needs
- Analysis of affected property owners
- Public Involvement
- Design-level cost estimates
- Identification of funding source(s)

The project development process will vary depending on whether the project is on-road or off-road on new location. Wide paved shoulders and sidewalks would be considered on-road facilities because they are typically constructed within the road right-of-way. Retrofit bicycle and pedestrian projects may involve obtaining additional right-of-way and/or easements from adjacent property owners. The shared use paths proposed in Saluda are off-road facilities because they would not be built within the road right-of-way.

Both on-road and off-road projects will require an engineering and design phase, also known as a feasibility study. A feasibility study would likely be done for each proposed project, or a small group of inter-related projects. The study will examine the utility and right-of-way issues associated with a proposed facility and provide detailed plans and profiles. The study would determine if right-of-way acquisition is necessary for the project. The study should be conducted in consultation with NCDOT where occurring within NCDOT right-of-way. Saluda may need to fund or provide a local contribution towards this study.

Public involvement is a critical component to solicit community input on the location, design, and function of the facility project.

The key differences in the project development strategies between on-road and off-road facilities are explained below.

Pedestrian and Bicycle Facilities

Many of the pedestrian and bicycle projects proposed in this Plan would be on-road facilities within NCDOT right-of-way that require coordination with NCDOT. In Saluda, the local highway division is NCDOT Division 14. As identified in the key action steps table, coordination with the Division should be initiated following the adoption of this Plan. There may be opportunities to include the on-road bicycle and pedestrian facilities proposed by this Plan in road repaving and widening projects.

There are more state funding opportunities for bicycle and pedestrian projects that are included as part of a larger road project than those that are independent projects. This funding distinction between incidental and independent projects is discussed further in Section 5.3: Funding Sources.



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Shared Use Facilities

Shared use projects proposed in this Plan would be off-road facilities that require different strategies for project development. The key difference between on-road and off-road facilities are that off-road facilities are often constructed outside of the road right-of-way. In these instances, private land will need to be acquired or a land and possibly a construction easement be negotiated with the private landowner in order for the project to be realized.

Saluda may partner with Henderson and Polk counties as well as conservation and land trust organizations to secure needed easements or acquire land for the shared use projects. There are several land trusts in the area, including the Saluda Community Land Trust, Inc. (SCLT). Since its founding in 2007, SCLT has secured conservation easements, improved trails, and removed invasive plants. Its mission is:

“To preserve Saluda’s rural character by preserving farm and forest land in and around Saluda by:

- Preserving undeveloped land in commercial and residential areas for agricultural or public use
- Establishing greenways connecting people, land, and community
- Preserving Saluda’s rural small town character by protecting it’s unique natural resources
- Empowering Saluda community members to take ownership of their land and use it for the best practices.”

Other land trusts include the Carolina Mountain Land Conservancy in Henderson County and Pacolet Area Conservancy in Polk County.

For facilities that are planned adjacent to streams and waterbodies, it is important to consider buffer regulations and applicable watershed protections. Saluda is in the Broad River Basin. During the engineering phase, coordination should be undertaken with the Henderson County Soil & Water Conservation District, the Polk County Planning Soil and Water Department, and the North Carolina Department of Environment and Natural Resources (NCDENR) in order to ensure that facilities are engineered to avoid buffer zones and/or ecologically sensitive areas.

These facilities may be designed in conjunction with enhancing or constructing vegetated stream buffers to improve water quality. Such projects may be eligible for funding from the Clean Water Management Trust Fund, as discussed in the next section.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



5.3 Funding Sources

This section discusses the state funding process and other potential funding sources. Bicycle and pedestrian projects fall into two funding categories: independent projects and incidental projects. Independent projects are those that are unrelated to a roadway project such as adding sidewalks to an existing road. Adding sidewalks on Carolina Street would be an example of an independent project.

Incidental projects are those that are included as part of a roadway project. Given that there are no programmed projects in Saluda, no incidental projects are likely in Saluda.

State Funding Process

In June 2013 the North Carolina General Assembly overhauled the process for funding state transportation projects by ratifying the Strategic Transportation Investments (STI) Law (House Bill 817). This law establishes the Strategic Mobility Formula to allocate funds based on quantitative criteria and local input. The formula is intended to: “to maximize North Carolina’s existing transportation funding to enhance the state’s infrastructure and support economic growth, job creation and high quality of life.”

The formula funds projects according to three categories: Division Needs (30 percent), Regional Impact (30 percent), and Statewide Mobility (40 percent). The local NCDOT division and Metropolitan/Rural Planning Organization (M/RPO) provide input in the Division Needs Category.

Bicycle and pedestrian projects (separate from facilities included as part of a roadway project) may be funded through the Division Needs category with certain restrictions. In the current STIP (2016-2025) bicycle and pedestrian projects represent 23 percent of Division Needs projects.

It is strongly recommended the City of Saluda communicate interests with the Division and RPO as a way to provide local input for needed projects or upgrades, which could be included as a part of regional programs. This communication is vital due to Saluda’s size, as state funds are limited and competitive.

Coordination with NCDOT Division and RPO

As noted in the funding stipulations above, adopting this Plan is a necessary first step for improving bicycle and pedestrian safety and mobility in Saluda. Coordination with local NCDOT Division 14 and Isothermal RPO representatives will be critical to implementing the infrastructure projects proposed in this Plan. The Congestion Mitigation and Air Quality Improvement (CMAQ), Highway Safety Improvement Program (HSIP), and Surface Transportation Program – Direct Allocation (STP-DA) are three programs that could potentially fund bicycle and pedestrian infrastructure projects in Saluda.

CMAQ is administered by the NCDOT Transportation Planning Branch and requires that the local applicant estimate the positive impacts of building a bicycle or pedestrian project on local air quality. HSIP funds bicycle and pedestrian projects based on crash history and safety factors through a competitive process. It is



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

administered by the NCDOT Transportation Mobility and Safety Unit. STP-DA is managed by GUAMPO and is eligible for use on bicycle and pedestrian projects. CMAQ and STD-DA require 20% local matches.

Additionally, the inclusion of Saluda's bicycle and pedestrian projects in the Isothermal RPO's long range planning efforts would make bicycle and pedestrian projects as defined in this plan more competitive for funding.

Other Funding Sources

Saluda should consider alternate funding sources to augment state funds for bicycle and pedestrian projects, which are competitive. The programs listed below may be used to fund entire projects or be directed towards covering the cost of spot improvements like crosswalks or amenities such as benches and signage. Potential funding sources are listed on the next page; more details are included in Appendix D: Funding Sources.

Federal Funding Sources

- Highway Safety Improvement Program (HSIP)
- State and Community Highway Safety Grant Program (Section 402)
- Surface Transportation Program (STP)
- Transportation Alternatives Program (TA or TAP)
- Urbanized Area Formula Program (UZA)

State Funding Sources

- Clean Water Management Trust Fund
- Land and Water Conservation Fund
- Parks and Recreation Trust Fund (PARTF)
- Powell Bill
- Recreational Trails Program
- Strategic Mobility Formula

Local Funding Sources

- Capital Reserve Fund
- Community Crowdfunding
- Fees
- General Obligation Bonds
- Special Tax District

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Nonprofit Funding Sources

- Blue Cross Blue Shield of North Carolina Foundation
- Polk County Community Foundation
- Blue Ridge Bicycle Club
- Kate B. Reynolds Charitable Trust
- Robert Wood Johnson Foundation

In the last several years the internet has revolutionized fundraising. This new form of fundraising, called crowdfunding enables people all over the world to start a fundraising effort and provides an easy mechanism for others to make donations. Platforms such as Citizeninvestor and Indiegogo are online communities that act as funding platforms for a diverse range of projects. Individuals or organizations post projects for a nominal fee and individuals make contributions via credit card. Costs include a 4 percent fee charged by the crowdfunding platform (e.g. Indiegogo) and a 3 – 5 percent fee charged by the credit card company.

This type of fundraising would be particularly useful for funding spot improvements and amenities such as benches or crosswalks.

Citizeninvestor: Projects are formed from “cities or official city partners” that focus on micro-projects (4-5 years). <http://www.citizeninvestor.com/>

Indiegogo: Similar to the successful crowdfunding platform, Kickstarter, Indiegogo is more locally oriented and trends toward civic-based projects. <http://www.indiegogo.com/>

5.4 Performance and Evaluation Measures for Plan Implementation

In order to evaluate the progress and effectiveness of the Saluda Bicycle and Pedestrian Plan, the following table (Table 5-2) lists evaluation criteria and examples of achieved progress that the Bicycle and Pedestrian Advisory Committee and Board of Commissioners can use. These criteria and milestones are based on the goals and objectives of this Plan. The table is intended to serve as a general guide – the BPAC should tailor these evaluation criteria to the community by adopting quantitative metrics where possible such as the number of miles of sidewalk constructed annually.

The evaluation of the Plan should occur annually and be published in the form of a memo or report made available to the residents of Saluda. The report should detail the progress made to date and the priorities for the coming year. This annual report will help to demonstrate the benefits of pedestrian infrastructure and programs as well as generate further support for the ongoing work of the A Bicycle and Pedestrian Advisory Committee (BPAC) or appointment of a single council member, citizen liaison, or advocate for bicycle and pedestrian activities.



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Table 5-2: Performance and Evaluation Measures for Plan Implementation

PLAN GOAL	PLAN OBJECTIVE	PERFORMANCE EVALUATION	EXAMPLES OF PROGRESS ACHIEVED
GOAL & OBJECTIVE 1: Bicycle and Pedestrian Safety			
Improve safety for pedestrians and cyclists, with an emphasis on already heavily used routes.	Implement policies and programs to improve pedestrian and cyclist safety and educate the community.	Number of safety education campaigns annually in the community	Participation in the Watch for Me NC program
		Number of bicycle and pedestrian-related safety incidents	Reduction in existing speed limits to increase safety and prevent potential incidents
GOAL & OBJECTIVE 2: Bicycle and Pedestrian Network			
Improve mobility by creating and providing safe pedestrian and bicycle networks, removing barriers and enhancing connections between community origins and destinations such as schools, stores, and churches.	Identify and develop bicycle and pedestrian accommodations along Saluda's roadways.	Miles of pedestrian, bicycle, and shared use facilities constructed in a specific period of time (e.g. 3 miles within 5 years)	Goal achieved for the miles of pedestrian, bicycle, and shared use facilities constructed
GOAL & OBJECTIVE 3: Environmental and Public Health Benefits of Walking and Biking			
Recognize the environmental and public health benefits of walking and biking.	Partner with schools, community groups, the county health department, environmental groups, and city government to plan and hold events that recognize and promote the health and environmental benefits of walking and biking and promote active living.	Bicycle and pedestrian counts Number of miles walked or biked annually	Increase in bicycle and pedestrian activity as measured by bicycle and pedestrian counts and number of miles walked or biked annually



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

PLAN GOAL	PLAN OBJECTIVE	PERFORMANCE EVALUATION	EXAMPLES OF PROGRESS ACHIEVED
GOAL & OBJECTIVE 4: Connect Cultural Sites and Ecological Resources			
Provide connections between community origins and destinations, including cultural and historic sites through sidewalks and bike paths.	Create walking and bicycling information and way finding to tie Saluda’s historic downtown, its cultural and historic sites, and surrounding ecological resources.	Implemented infrastructure projects that connect cultural sites and ecological resources annually	Miles/feet of sidewalks, bicycle lanes, and shared use paths constructed that connect cultural sites and ecological resources annually
		Interpretive signage and maps on bicycle and pedestrian facilities that describe the cultural and ecological context of the area	Number of way finding signs added to bicycle routes, sidewalks, and shared use paths annually
GOAL & OBJECTIVE 5: Funding and Partnerships			
Seek funding and partnerships to implement the Plan.	Identify funding sources and partnerships with local businesses, nonprofits, and the Isothermal Rural Planning Organization, NCDOT, and other regional planning and state agencies to implement the Plan.	Saluda’s bicycle and pedestrian infrastructure projects are included in the State Transportation Improvement Program (STIP)	Funding secured to implement bicycle and pedestrian infrastructure projects
	Include local partnerships such as local businesses, schools, or places of worship related to the sponsorship of events and implementation of projects/facilities.	Submission of applications for funding sources and local outreach to local partnerships for support	Grant funds and other alternative funding sources awarded to implement infrastructure and programmatic improvements

REFERENCES



References

- AASHTO (July 2004). *Guide for the Planning, Design, and Operation of Pedestrian Facilities*. American Association of State Highway and Transportation Officials. Printed by AASHTO in the United States (2004).
- AASHTO (2012). *Guide for the Development of Bicycle Facilities (Fourth Edition)*. American Association of State Highway and Transportation Officials. Printed by AASHTO in the United States (2012).
- Advocacy Advance (2014). *MAP-21 Find It, Fund It!* Advocacy Advance – Tools to Increase Biking and Walking. Retrieved from: <http://www.advocacyadvance.org/MAP21/finditfundit>
- Alliance for Biking and Walking (2014). *Bicycling and Walking in the United States: 2014 Benchmarking Report*. Pages 23; 70; 72; 75; 79; 80; 95; 96; 97; 98; 100. Alliance for Biking and Walking. Retrieved from: <http://www.bikewalkalliance.org/resources/benchmarking>
- FHWA (2014). *Bicycle & Pedestrian Program*. Federal Highway Administration's Office of Human Environment and the Bicycle and Pedestrian Information Center. Sourced from: http://www.fhwa.dot.gov/environment/bicycle_pedestrian/
- FHWA (2009). *Manual on Uniform Traffic Control Devices (MUTCD) Edition Revisions 1 and 2*. U.S. Department of Highway Administration FHWA. Retrieved from: http://mutcd.fhwa.dot.gov/kno_2009r1r2.htm
- Health by Design. (2015). *Fact Sheet: The Benefits of Sidewalks*. Health by Design – Creating Built Environments to Foster Healthy Living. Retrieved from: <http://www.healthbydesignonline.org/documents/HbDFSSidewalks.pdf>
- Henderson County (2009). *Henderson County, North Carolina 2020 Comprehensive Plan*. Henderson County. Retrieved from: <http://www.hendersoncountync.org/planning/ccp/toc.html#>
- Henderson County (2008). *County of Henderson Strategic Plan: Fiscal Years 2007-2011*. Henderson County. Retrieved from: <http://ww2.hendersoncountync.org/board/2007%20-%202011%20Strategic%20Plan.pdf>
- Henderson County (2007). *Henderson County, Land Development Code (LDC)*. Henderson County. Retrieved from: <http://www.hendersoncountync.org/planning/ldc/index.html>
- Henderson County (n.d.). *Transportation Planning*. Henderson County. Retrieved from: <http://www.hendersoncountync.org/planning/transport/index.html>
- National Complete Streets Coalition (2015). *Fact Sheets*. National Complete Streets Coalition. Retrieved from: <http://www.smartgrowthamerica.org/complete-streets/complete-streets-fundamentals/factsheets>



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

- NCDOT (1991). *NCDOT Bicycle Policy*. North Carolina Department of Transportation – Division of Bicycle and Pedestrian Transportation. Retrieved from:
<http://www.ncdot.gov/bikeped/lawspolicies/policies/>
- NCDOT (2000). *NCDOT Bridge Policy*. NCDOT Highway Design Branch / Design Services Unit. Retrieved from:
<https://connect.ncdot.gov/projects/roadway/roadwaydesignadministrativedocuments/bridge%20policy.pdf>
- NCDOT (2007). *NCDOT – Bicycle Facilities Guide: Types of Bicycle Accommodations*. NCDOT Bicycle and Pedestrian Division. Retrieved from:
<https://connect.ncdot.gov/projects/BikePed/Documents/Shared%20Use%20Pathways.pdf>
- NCDOT (2011). *Bicycle and Pedestrian Safety Strategies in North Carolina: Statewide Input and Priorities*. Page 17. Institute for Transportation Research and Education. Retrieved from:
http://www.ncdot.gov/bikeped/download/bikeped_research_SummitSynthesisReport2011.pdf
- NCDOT Complete Streets (2012). *Complete Streets Planning and Design Guidelines*. NCDOT and North Carolina Complete Streets. Retrieved from: http://www.completestreetsnc.org/wp-content/themes/CompleteStreets_Custom/pdfs/NCDOT-Complete-Streets-Planning-Design-Guidelines.pdf
- NCDOT (2013). *NCDOT Traffic County (AADT)*. NCDOT Traffic Survey Group. Retrieved from:
<http://www.ncdot.gov/travel/statemapping/trafficvolumemaps/>
- NCDOT. (2013). *North Carolina Statewide Pedestrian and Bicycle Plan Summary Document*. WalkBikeNC Pages 12; 15; 2-37. Retrieved from:
<http://www.ncdot.gov/bikeped/download/FinalSummaryDoc110113WalkBikeNC.pdf>
- NCDOT (2014). *NCDOT Typical Highway Cross Sections*. NCDOT Roadway Design Unit. Retrieved from:
<https://connect.ncdot.gov/projects/Roadway/RoadwayDesignAdministrativeDocuments/highwayrosssections.pdf>
- NCDOT (2015). *Department of Bicycle and Pedestrian Transportation, funding sources*. State Transportation Improvement Program Process. Retrieved from:
<http://www.ncdot.gov/bikeped/funding/process/>
- NCDOT (2015). *NCDOT Current STIP*. State Transportation Improvement Program. Retrieved from:
https://connect.ncdot.gov/projects/planning/Planning%20Document%20Library/LIVE_STIP.pdf
- NCDOT. (2015). *North Carolina Pedestrian and Bicycle Crash Data Tool*. Ped and Bike Info. Retrieved from: http://www.pedbikeinfo.org/pbcat_nc/index.cfm

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



- NCDOT (2015). *NC Highway Safety Improvement Program*. Highway Safety Programs and Projects Spot Improvement Program. Retrieved from: <https://connect.ncdot.gov/municipalities/PlanningGrant/Sample%20Plans/Hertford%20Sample%20Plan%20-%20Section%209.pdf>
- NCDOT (n.d.). *NCDOT Bridge Information*. NCDOT. Retrieved from: <http://www.ncdot.gov/projects/nbridges/>
- North Carolina Division of Parks and Recreation (n.d.). *Grants Overview*. North Carolina Division of Parks and Recreation. Retrieved from: <http://www.ncparks.gov/About/grants/main.php>
- Pedestrian and Bicycle Information Center (2015). *Health Benefits of Biking and Walking*. FHWA and the Highway Safety Research Center. Retrieved from: http://www.pedbikeinfo.org/data/factsheet_health.cfm
- Polk County (2013). *Polk County Zoning Ordinance*. Polk County. Retrieved from: http://www.polknc.org/docs/planning/Zoning_Ordinance_2_3_14_compiled_.pdf
- Polk County (2010). *Polk County 20/20 Vision Plan*. Polk County. Retrieved from: http://www.polknc.org/docs/20_20_Vision_Plan_3_15_2010_final_1.pdf
- Polk County (2008). *Comprehensive Transportation Plan, Study Report for Polk County*. Transportation Planning Branch North Carolina Department of Transportation. Retrieved from: <https://connect.ncdot.gov/projects/planning/TPBCTP/Polk%20County/PolkCoCTP-Report.pdf>
- Saluda, NC (2011). *Safe Routes to School Action Plan for Saluda, North Carolina*. North Carolina Department of Transportation. Retrieved from: The City of Saluda.
- Saluda, City of (2003). *Comprehensive Plan for Saluda, North Carolina*. City of Saluda. Retrieved from: <http://cityofsaludanc.com/Public/files/Comprehensive%20Plan.pdf>
- UNC (n.d.). *Pedestrian and Bicycle Crash Tool*. Highway Safety Research Center (HSRC). Retrieved from: http://www.pedbikeinfo.org/pbcat_us/
- US Census Bureau (2009-2013). *Population and Housing Narrative Profile 2009-2013 American Community Survey 5-Year Estimates*. Saluda, North Carolina. Retrieved from: http://thedataweb.rm.census.gov/TheDataWeb_HotReport2/profile/2013/5yr/np01.hrm1?SUMLEV=160&place=60180&state=37
- US Census Bureau (2009-2013). *Population and Housing Narrative Profile 2009-2013 American Community Survey 5-Year Estimates*. Guilford County, North Carolina. Retrieved from: http://thedataweb.rm.census.gov/TheDataWeb_HotReport2/profile/2013/5yr/np01.hrm1?SUMLEV=50&county=081&state=37



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

- US Census Bureau (2009-2013). *Population and Housing Narrative Profile 2009-2013 American Community Survey 5-Year Estimates*. North Carolina. Retrieved from:
http://thedataweb.rm.census.gov/TheDataWeb_HotReport2/profile/2013/5yr/np01.hrml?SUMSUM=40&state=37
- US Census Bureau (2009-2013). *Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over*. American Community Survey 5-year Estimates (2009-2013), Table B16004. Retrieved from:
<http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>
- US Census Bureau (2010 and 2000). *Total Population*. Summary File 1 100% Data, Table P1 and P001. Retrieved from: <http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>
- US Census Bureau (2009-2013). *Race*. American Community Survey 5-year Estimates (2009-2013), Table B02001. Retrieved from:
<http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>
- US Census Bureau (2009-2013). *Household Size by Vehicles Available*. American Community Survey 5-year Estimates (2009-2013), Table B25044. Retrieved from:
<http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>
- US Census Bureau (2009-2013). *Hispanic or Latino Origin by Race*. American Community Survey 5-year Estimates (2009-2013), Table B03002. Retrieved from:
<http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>
- US Census Bureau (2009-2013). *Hispanic or Latino Origin by Race*. American Community Survey 5-year Estimates (2009-2013), Table B03002. Retrieved from:
<http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>
- US Census Bureau (2009-2013). *Ratio of Income to Poverty Level in the Past 12 Months*. American Community Survey 5-year Estimates (2009-2013), Table C17002. Retrieved from:
<http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

APPENDICES



Appendix A: Public Involvement

This appendix will be completed with the following documents:

- First Steering Committee Meeting Agenda
- First Steering Committee Meeting Sign-In Sheet
- First Steering Committee Meeting Minutes
- First Steering Committee Meeting Presentation and Map
- Second Steering Committee Meeting and Public Workshop Agenda
- Second Steering Committee Meeting and Public Workshop Sign-In Sheet
- Second Steering Committee Meeting and Public Workshop Minutes
- Second Steering Committee Meeting and Public Workshop Presentation and Handouts

City of Saluda
 NCDOT Bicycle & Pedestrian Plan
 Steering Committee Meeting #1 Minutes

Attachment A
Agenda, Sign-In Sheet, and Presentation

Agenda – Steering Committee Kick-off Meeting and Working Session

February 11th, 2015 6:30 PM

4:00 PM OPTIONAL WALKING TOUR

For steering committee members that are able to arrive early, the team will take a walking tour of the town to identify impediments to bicycle and pedestrians (i.e. lack of sidewalk or roadway shoulder), and opportunities for improvements.

6:30 PM INTRODUCTIONS

Introductions by the City Staff, Steering Committee, AECOM Team

6:45 PM PROJECT OVERVIEW

Discuss the Purpose, Tasks, Project Schedule, and Role of the Steering Committee

Project Schedule

Task/Milestone	Oct '14	Nov '14	Dec '14	Jan '15	Feb '15	Mar '15	Apr '15	May '15
Notice to Proceed	★							
Task 1: Project Kick-off Meeting and Data Collection	■			○△				
Task 2: Preliminary Pedestrian and Bicycle Plan				■		△		
Task 3: Second Steering Committee Mtg. & Public Mtg./Open House							○△	
Task 4: Final Plan							■△	
Task 5: Project Management	■							

★ Notice to Proceed
 ○ Steering Committee Meeting
 △ Deliverable

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #1 Minutes

7:00 PM VISION, GOALS, AND OBJECTIVES

Review the vision, goals, and objectives of the City of Saluda’s Bicycle and Pedestrian Plan. (Refer to Attachment A)

7:15 PM REVIEW OF FIELD VISIT – WALKING TOUR

For those able, we are meeting prior to this meeting at 4 PM for a walking tour.

Please let us know of any concerns prior to the meeting by contacting Cindy Hemenway, City Clerk at chemenway@cityofsaludanc.com (828-749-2581), or Todd McAulliffe, Planner at todd.mcaulliffe@aecom.com (919-461-1438).

7:45 PM WORKING SESSION

Complete a map illustrating pedestrian issues and constraint based on the findings of the walking tour and based on information provided by Saluda.

Review the criteria for project prioritization provided by the AECOM Team.

8:15 PM NEXT STEPS

8:30 PM ADJOURN

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #1 Minutes

Minutes – Steering Committee Kick-off Meeting and Working Session
February 11, 2015 6:30 PM – 8:00 PM

ATTENDEES

- Cindy Hemenway, City Clerk/Tax Collector and Steering Committee Member
- Jim Kelly, Steering Committee Member
- Patty Martin, Steering Committee Member
- Karyl Fuller, Isothermal RPO Representative
- James Hrynshyn, Planning Board Member and Steering Committee Member
- Susie Welsh, Saluda Downtown Federation and Steering Committee Member
- Debbie Thomas, longtime resident and Steering Committee Member
- Don Clapp, Saluda Downtown Federation and Steering Committee Member
- Mary Meyland-Mason, Steering Committee Member
- Commissioner Ashburn, Saluda City Commissioner and Steering Committee Member
- Todd McAulliffe, Project Consultant (AECOM)
- Kory Wilmot, Project Consultant (AECOM)

MINUTES

The Steering Committee for the City of Saluda Bicycle & Pedestrian Plan met at 6:30 PM on Wednesday, February 11th, 2015 at the Saluda Public Library. Ten committee members were present along with project consultants Todd McAulliffe and Kory Wilmot of AECOM. The sign-in sheet, agenda and a copy of the slides are included as **Attachment A**.

Introductions

The kick-off meeting began with introductions by the project consultants followed by the committee. Members were asked to introduce themselves.

Steering Committee Presentation

Mr. McAulliffe presented an overview of the project which included a discussion of the project process and how the steering committee would be involved in the planning process. He also discussed the project purpose and briefly discussed the history of the project. The schedule was presented and the role of the steering committee as primary project inputters, plan reviewers, and plan champions was discussed. During the discussion of the public meeting one of the steering committee members asked how the public meeting would be announced and advertised. A suggestion was made to send home a

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #1 Minutes

note with students in their announcement folders. Someone else stated that the town has an e-newsletter. Another suggestion was that an announcement could be put into the utility bills.

Next, Mr. McAulliffe discussed the vision, goals and objectives of the plan (see the agenda in Attachment A for a list of these items). The group agreed to the plan vision, but a committee member suggested adding “improving accessibility” to the list at the end of the vision. It was agreed that this should be added. The group also agreed to the goals of the plan, but asked to add “as an alternative to vehicle transportation” to the third goal, and to include bicycle considerations in the last goal. Finally, the group agreed to the objectives of the plan, but indicated that lighting and signage should be added to the fifth objective. The adopted plan vision, goals and objectives is included in **Attachment B**.

The group recapped the walking tour that had occurred prior to the meeting and noted that pedestrian activity occurs along Main Street, Greenville Street, and Chestnut Street. Mr. McAulliffe recapped the walking tour by describing where they had met (Wildflour Bakery, 173 East Main Street, Saluda), and how they proceeded to Saluda Elementary, then returning along Main Street through downtown, before heading southeast along Greenville Street to Chestnut Street, and the Saluda Dog Park. The group noted that sidewalks were generally in disrepair and too narrow along Greenville Street. The group also remarked that there was quite a bit of bicycle activity along Greenville Street, and that the change in grade attracted a large number of recreational bicyclists to the area. Several committee members also noted that the sidewalks were very close to traffic, and that crossing Main Street was made challenging by a blind spot in the vicinity of Cullipher Street. The group also noted where recommendations had been made for the Safe Routes to School Plan.

Working Session

The committee gathered around a large map of the City for a working session and Mr. Wilmot annotated the map. In addition to the issues identified during the walking tour, and recap of the walking tour, the committee identified the following areas of concern, as well as pedestrian and bicyclist origins and destinations and activity:

- There are no existing bicycle facilities such as bike lanes, even along the designated bike route which runs through town.
- Sidewalks are present in many areas, but they are in disrepair, are narrow (approximately three feet wide), and are not ADA compliant. Additionally, many are uncomfortable to walk along because they are immediately adjacent to the road, with no planted grass strip.
- Traffic along Main Street often travels above the posted speed limit, making it unsafe for pedestrians.
- The lack of lighting in several places makes walking challenging after dark, especially east of downtown.

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #1 Minutes

- The primary destinations in the City are the parks (McCreery Park, Saluda Dog Park, and Judds Park), as well as Saluda Elementary School, the downtown business district, and the Farmers Market which doubles as a school bus transfer center for students in Henderson County.
- In addition to the primary destinations, there are numerous trail heads in the vicinity of the town that would likely benefit from being accessible via bicycle and pedestrian facilities.
- Recreational cyclists use Greenville Street to access the town, and then continue down the mountain to the Town of Tryon along NC 176.
- There is a mid-block pedestrian crossing along Main Street which leads to a rail crossing.

After identifying pedestrian and bicycle activity and areas of concern, the committee then discussed opportunities for pedestrian and bicycle facilities. These include:

- Bicycle facilities along Greenville Street from Main Street south to the edge of town.
- Bicycle facilities along NC 158 for the entire length of the town.
- Bicycle facilities along Ozone Drive.
- Sidewalks on Greenville, Chestnut, Pace, and Ervin Streets to the south of downtown.
- Sidewalks along Main Street from downtown west to the farmers market and Irving Street.
- Sidewalk installation and, where necessary, improvements on streets north of downtown, including Seminary and Henderson Streets and Macedonia Road.
- Improving pedestrian conditions along Church Street, including possibly converting it to a pedestrian walk way.
- Adding or upgrading sidewalk along Caroline and Charles Street.
- Adding sidewalk along Ozone Drive and Laurel Drive to access the Bradley Nature Trail Reserve.

The committee also indicated that they would like additional lighting along Main Street to the east of downtown to improve pedestrian conditions. Several committee members mentioned that crosswalks in the downtown area along Main Street should be raised or painted for decorative purposes, however the RPO representative noted that the NCDOT division typically passes construction and maintenance costs on to the town for those types of crossings.

See **Attachment C** for the marked up map.

Next Steps

Mr. Wilmot then discussed the next steps in the planning effort, which are to prioritize the pedestrian and bicycle projects, develop a preliminary pedestrian and bicycle plan, and receive input from the committee. Mr. McAulliffe mentioned that the next steering committee meeting will be held in late March or early April.

The meeting was adjourned at 8:00 pm.

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #1 Minutes

Attachment A

Vision, Goals, and Objectives

Vision of the Plan

The City of Saluda will be a place where people of all ages and diverse backgrounds have access to bicycle and pedestrian facilities and programs that promote: exercise and wellbeing, safety, connectivity, and celebration and discovery of Saluda's rich culture and history.

Goals of the Plan

- Provide safe pedestrian and bicycle routes between community origins and destinations such as Saluda Elementary School, Main Street businesses, churches, parks and neighborhoods.
- Improve safety for pedestrians and cyclists, with an emphasis on already heavily used routes.
- Encourage physical activity and wellbeing.
- Educate the community as to the benefits of pedestrian activity and applicable rules and regulations.

Objectives of the Plan

- Identify and implement programs that would promote a walking tour of the town.
- Identify and implement programs that would promote walking tours of the surrounding natural communities and would include an educational component.
- Survey the Saluda community in order to craft a bicycle and pedestrian plan representative of the community.
- Implement policies and programs to improve pedestrian and cyclist safety and educate the community.
- Identify and prioritize infrastructure projects such as sidewalks and bike lanes to improve safety and connectivity.
- Review and recommend amendments/model ordinances to provide pedestrian and cyclist safety and infrastructure in future developments.
- Identify funding sources and partnerships with local businesses, nonprofits, and the Isothermal Rural Planning Organization for implementing the Plan.

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #1 Minutes

Attachment B

ADOPTED Vision, Goals, and Objectives

Vision of the Plan

The City of Saluda will be a place where people of all ages and diverse backgrounds have access to bicycle and pedestrian facilities and programs that promote: exercise and wellbeing, safety, accessibility, connectivity, and celebration and discovery of Saluda's rich culture and history.

Goals of the Plan

- Provide safe pedestrian and bicycle routes between community origins and destinations such as Saluda Elementary School, Main Street businesses, churches, parks and neighborhoods.
- Improve safety for pedestrians and cyclists, with an emphasis on already heavily used routes.
- Encourage physical activity and wellbeing as an alternative to traditional vehicular travel.
- Educate the community as to the benefits of pedestrian and bicycle activity and applicable rules and regulations.

Objectives of the Plan

- Identify and implement programs that would promote a walking tour of the town.
- Identify and implement programs that would promote walking tours of the surrounding natural communities and would include an educational component.
- Survey the Saluda community in order to craft a bicycle and pedestrian plan representative of the community.
- Implement policies and programs to improve pedestrian and cyclist safety and educate the community.
- Identify and prioritize infrastructure projects such as sidewalks, bike lanes lighting and signage to improve safety and connectivity.
- Review and recommend amendments/model ordinances to provide pedestrian and cyclist safety and infrastructure in future developments.
- Identify funding sources and partnerships with local businesses, nonprofits, and the Isothermal Rural Planning Organization for implementing the Plan.

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #1 Minutes

2/19/2015

City of Saluda
NCDOT Bicycle & Pedestrian Plan

Steering Committee Meeting #1

February 11, 2015



Purpose of Today's Meeting

- Provide an Overview of the Project
 - Review tasks and project schedule
 - Discuss the role of the steering committee
- Vision, Goals, and Objectives
- Review findings from Walking Tour
- Work Session
 - Identify issues and constraints
 - Identify potential projects
 - Review prioritization process
- Next Steps



City of Saluda
 NCDOT Bicycle & Pedestrian Plan
 Steering Committee Meeting #1 Minutes

2/19/2015

Project Overview – Project Purpose

Walking and bicycling are two popular and universal forms of activity, yet there is a lack of access to safe places for these activities.



Planning for walking and bicycling – whether for recreation, exercise or transportation – helps to create a safer, more efficient network everyone can use.

NCDOT Bicycle & Pedestrian Plan February 11, 2015 Page 3



Project Overview – Key Tasks & Schedule

Task/Milestone	Oct '14	Nov '14	Dec '14	Jan '15	Feb '15	Mar '15	Apr '15	May '15
Notice to Proceed	★							
Task 1: Project Kick-off Meeting and Data Collection		■			○	△		
Task 2: Preliminary Pedestrian and Bicycle Plan				■			△	
Task 3: Second Steering Committee Mtg. & Public Mtg./Open House							○	△
Task 4: Final Plan								△
Task 5: Project Management	■							

★ Notice to Proceed
 ○ Steering Committee Meeting
 △ Deliverable

NCDOT Bicycle & Pedestrian Plan February 11, 2015 Page 4



City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #1 Minutes

2/19/2015

Project Overview – Role of the Steering Committee

- Attend Project Kick-Off
 - Provide input on the vision, goals, & objectives
 - Identify needs, opportunities, & constraints
- Review the preliminary plan
- Attend second steering committee meeting and comment on the plan
- Serve as champions of the final plan



Vision of the Plan

The City of Saluda will be a place where people of all ages and diverse backgrounds have access to bicycle and pedestrian facilities and programs that promote: exercise and wellbeing, safety, connectivity, and celebration and discovery of Saluda's rich culture and history.



City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #1 Minutes

2/19/2015

Goals of the Plan

- Provide safe pedestrian and bicycle routes between community origins and destinations such as Saluda Elementary School, Main Street businesses, churches, parks and neighborhoods.
- Improve safety for pedestrians and cyclists, with an emphasis on already heavily used routes.
- Encourage physical activity and wellbeing.
- Educate the community as to the benefits of pedestrian activity and applicable rules and regulations.



Objectives of the Plan

- Identify and implement programs that would promote a walking tour of the town.
- Identify and implement programs that would promote walking tours of the surrounding natural communities and would include an educational component.
- Survey the Saluda community in order to craft a bicycle and pedestrian plan representative of the community.
- Implement policies and programs to improve pedestrian and cyclist safety and educate the community.
- Identify and prioritize infrastructure projects such as sidewalks and bike lanes to improve safety and connectivity.
- Review and recommend amendments/model ordinances to provide pedestrian and cyclist safety and infrastructure in future developments.
- Identify funding sources and partnerships with local businesses, nonprofits, and the Isothermal Rural Planning Organization for implementing the Plan.



City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #1 Minutes

2/19/2015

Recap of Walking Tour

- Hazards, gaps, deficiencies
- Locations of sidewalks, worn paths, crosswalks, bicycle amenities



Working Session

- Identify key destinations and points of interest
- Identify existing bicycle and pedestrian infrastructure
- Identify potential projects



City of Saluda
 NCDOT Bicycle & Pedestrian Plan
 Steering Committee Meeting #1 Minutes

2/19/2015

Prioritization Criteria

- Connectivity
- Safety
- Implementation
- Community interest

	Connectivity	Implementation	Community Interest	Safety	Total Score	Prioritization
Project W	2	1	1	3	5	Low
Project X	3	2	3	2	10	High
Project Y	1	3	2	2	8	Med
Project Z	2	3	3	1	9	High

NCDOT Bicycle & Pedestrian Plan February 11, 2015 Page 11



Next Steps

- Project team will develop the draft plan
 - Gather additional data
 - Develop the projects
 - Coordinate with Town staff, NCDOT, and the Isothermal RPO
 - Prioritize the projects
- Review of draft plan
- Revise draft plan
- Finalize the plan

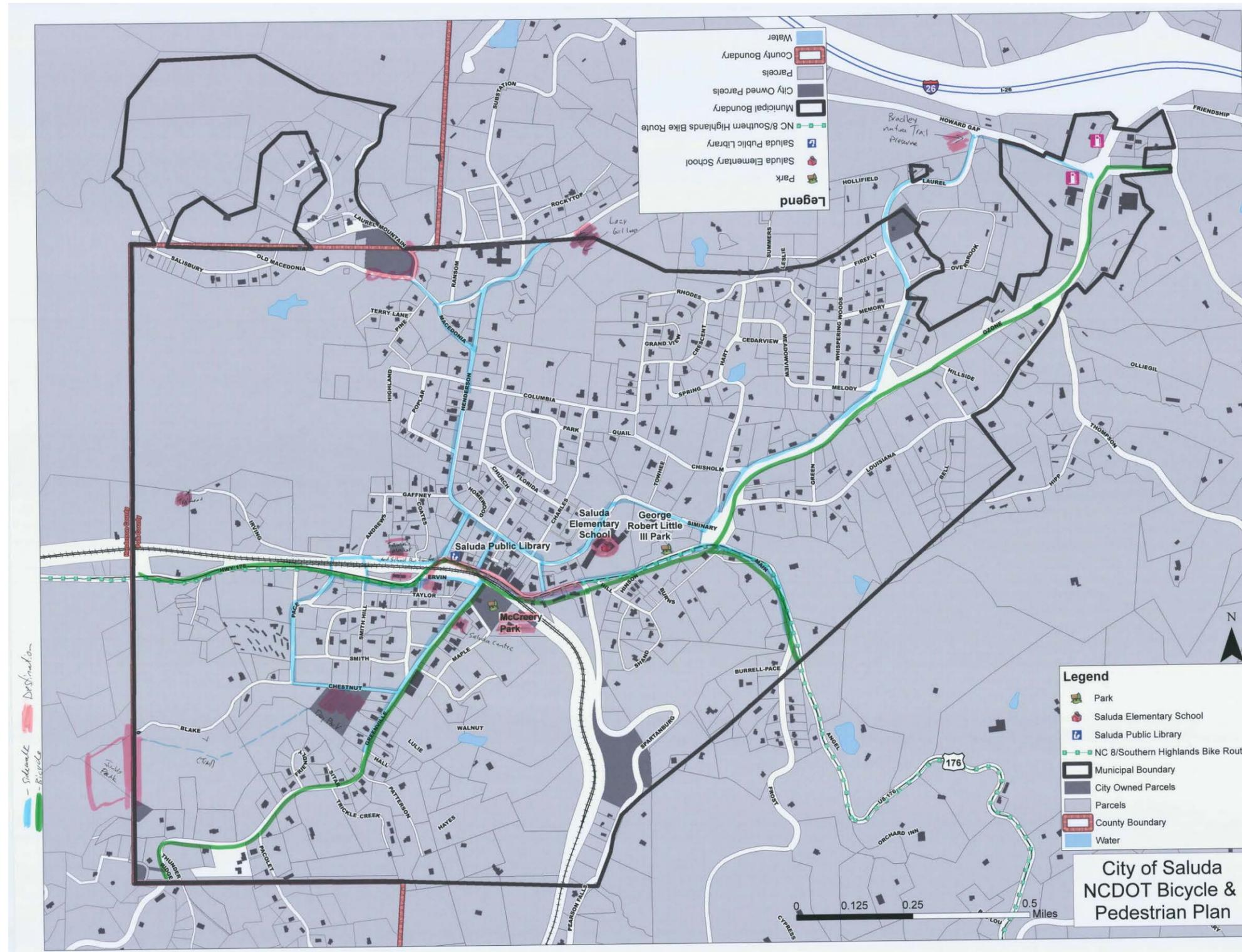


NCDOT Bicycle & Pedestrian Plan February 11, 2015 Page 12



City of Saluda
 NCDOT Bicycle & Pedestrian Plan
 Steering Committee Meeting #1 Minutes

Attachment D
 Mapping Exercise



City of Saluda
 NCDOT Bicycle & Pedestrian Plan
 Steering Committee Meeting #2 Minutes

Agenda – Steering Committee Meeting and Public Open House

May 20, 2015 5:30 PM – 8:00 PM

STEERING COMMITTEE MEETING

5:30 PM INTRODUCTIONS

Introductions by the City Staff, Steering Committee, AECOM Team

5:35PM PROJECT UPDATE

Discuss the current progress made on the Saluda Bicycle and Pedestrian Plan and the next steps following the Public Open House.

Project Schedule

Saluda Bicycle and Pedestrian Plan – Project Schedule

Task/Milestone	Oct '14	Nov '14	Dec '14	Jan '15	Feb '15	Mar '15	Apr '15	May '15	Jun '15
Notice to Proceed	★								
Task 1: Project Kick-off Meeting and Data Collection	■			○	△				
Task 2: Preliminary Pedestrian and Bicycle Plan				■			△		
Task 3: Second Steering Committee Mtg. & Public Mtg./Open House								○	△
Task 4: Final Plan								■	
Task 5: Project Management	■								

- | | |
|---|----------------------------|
| ★ | Notice to Proceed |
| ○ | Steering Committee Meeting |
| △ | Deliverable |

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #2 Minutes

5:50 PM DRAFT PLAN

Review the draft plan and discuss comments or questions from the Steering Committee

6:05 PM PRIORITIZATION

Complete the Community Interest prioritization exercise with the Steering Committee.

6:20 PM ADJOURN AND PREPARE FOR THE PUBLIC OPEN HOUSE

PUBLIC OPEN HOUSE

6:30 PM INTRODUCTIONS

6:40 PM PRESENTATION OF THE DRAFT PLAN INCLUDING PLANNING PROCESS, PROJECT SCHEDULE, AND OVERVIEW OF PLAN RECOMMENDATIONS

7:00 PM REVIEW OF PROJECT MAPS AND QUESTION/ANSWERS

8:00 PM PUBLIC OPEN HOUSE CONCLUDES

City of Saluda
 NCDOT Bicycle & Pedestrian Plan
 Steering Committee Meeting #2 Minutes

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Steering Committee | May 20, 2015 | Sign-In Sheet

Name	Address
1. Karyl Fuller	IRPO, Rutherford ton
2. RICHARD MASON	237 KIRK'S TRAIL, SALUDA NC 28773
3. Carolyn ASHBURN	498 Chisholm St. Saluda
4. James / James	411 PINE ST SALUDA
5. JONATHAN CANNON	34 SPRING CREEK LANE, SALUDA
6. Susie Welsh	832 Frost Rd. Saluda, 28773
7. Frannie Jacobus	193 Laurel mtn trail saluda 28773
8. Mary Smith	PO Box 3096, Marion, NC 28752 Active Routes to School
9. Mary Meyland-Mason	237 Kirk's Trail Saluda, NC 28773
10. Dan Clapp	664 Parcellet St Saluda 28773
11. Lynn Cass	465 Smith St. Saluda, NC 28773
12. Ellen Rogers	539 Salisbury Ave NC 28773 (mailing: PO Box 1126)
13.	
14.	
15.	

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #2 Minutes

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



Public Open House | May 20, 2015 | Sign-In Sheet

Name	Address
1. Dale Potruski	
2. Ellen Rodgers	
3. Richard Mason	
4. Lyn Cass	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	
17.	

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #2 Minutes

Minutes – Steering Committee Meeting and Public Open House
May 20th, 2015 5:30 PM – 8:00 PM

ATTENDEES

- Cindy Hemenway, City Clerk/Tax Collector and Steering Committee Member
- Karyl Fuller, Isothermal RPO Representative
- James Hrynyshyn, Planning Board Member and Steering Committee Member
- Susie Welsh, Saluda Downtown Federation and Steering Committee Member
- Don Clapp, Saluda Downtown Federation and Steering Committee Member
- Mary Meyland-Mason, Steering Committee Member
- Commissioner Ashburn, Saluda City Commissioner and Steering Committee Member
- Todd McAulliffe, Project Consultant (AECOM)
- Sarah Bassett, Project Consultant (AECOM)

MINUTES

The Steering Committee for the City of Saluda Bicycle & Pedestrian Plan met at 5:30 PM on Wednesday, Wednesday May 20th, 2015 at the Saluda Public Library. Seven committee members were present along with three members of the general public and project consultants Todd McAulliffe and Sarah Bassett of AECOM. The sign-in sheets, agenda, handout, and a copy of the slides are included as **Attachment A**.

Introductions

The kick-off meeting began with introductions by the project consultants followed by the committee. Members were asked to introduce themselves.

Project Update

Mr. McAulliffe gave an update on what the status of the project and where we were at in the project planning process, including the next steps for completing the plan after tonight's meeting.

Draft Plan

Mr. McAulliffe reviewed the overall outline of the plan with the committee and discussed some of the findings presented in the key sections. He then asked the committee members to provide any comments or ask questions that they may have had about the draft plan.

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #2 Minutes

- The poor condition of the sidewalks along Greenville Street and in other locations in the town was reiterated. Members specifically noted that they are unsafe for the elderly.
- Steering committee members also noted that bicycle and pedestrian improvements could be used as recreation and improve the tourism prospects for the City. Other members noted that improving walking conditions for students at Saluda Elementary.
- Many members had questions about the costs and engineering components of the projects. Mr. McAulliffe noted that the costs were a high-level estimate, and the more specific costs would be available as the projects progressed through the feasibility and design phases. He also clarified the process for the infrastructure projects where the planning process is only the initial phase, and the design phase comes later.
- Several projects were removed from consideration. Notably:
 - Charles Street sidewalks were removed because there is no formal street that connects Henderson Street and Main Street, and the plan is to convert the alley to Pace Park.
 - Church Street is a low-vehicular volume street that does not need sidewalks.
 - Carolina Street/Irving Street has sidewalk that is expected to be built.
- Mr. McAulliffe also introduced the concept of reverse angle parking asked if that was something the steering committee wanted to see added to the plan. The majority of the members said yes.

Prioritization

After all of the comments were discussed, Mr. McAulliffe then explained the prioritization process for the infrastructure projects and for the policy/program projects. Each committee member was asked to pick their top-five projects from both lists (one from each list). The results from this prioritization will be used to update the plan rankings as listed in the plan. This will help the community and steering committee prioritize which projects to focus on as they begin the implementation process.

Public Open House

Several members of the general public attended the Steering Committee meeting. Additionally, one member of the community attended the Public Open House. The consultant staff used this additional time to discuss the draft plan and projects with the committee.

The meeting was adjourned at 8:00 pm.

City of Saluda NCDOT Bicycle & Pedestrian Plan

Public Open House

May 20, 2015



AECOM

Purpose of Today's Public Open House

- Provide an Overview of the Plan
- Review the Vision, Goals, and Objectives
- Highlight the Findings and Recommendations



Plan Overview

- Saluda’s first City-wide bicycle and pedestrian plan
- Follows the 2011 Safe Routes to School Action Plan for Saluda
- Funded by a grant from NCDOT with matching funds from the City
- Led by a Steering Committee and Project Consultant
- Plan’s Purpose:
 - Evaluate existing bicycle and pedestrian conditions
 - Recommend programmatic and infrastructure projects to improve Safety, Connectivity, and Well-being.



Vision

The City of Saluda will be a place where people of all ages and diverse backgrounds have access to bicycle and pedestrian facilities and programs that promote: exercise and wellbeing, safety, accessibility, connectivity, and celebration and discovery of Saluda's rich culture and history.



Saluda's Town Motto

Progress through unity,
cooperation, and
understanding.

Summary of the Goals and Objectives

1. Bicycle and Pedestrian Safety
2. Bicycle and Pedestrian Network
3. Physical Activity, Health, and Wellbeing
4. Connect Cultural and Historic Sites
5. Bicycle and Pedestrian Education
6. Funding and Partnerships



Findings

- No existing bicycle infrastructure and limited pedestrian facilities many of which are in need of repair
- Roads are narrow with limited shoulders
- Safety is a concern especially for residents walking along uneven sidewalks
- Residents would like bicycle lanes, sidewalks, and shared use paths to improve safety, connectivity, and health



Infrastructure Recommendations

– Linear Facilities (20 projects)

- Bicycle Lanes
- Sidewalks
- Shared Use Paths

– Spot Improvements (15 projects)

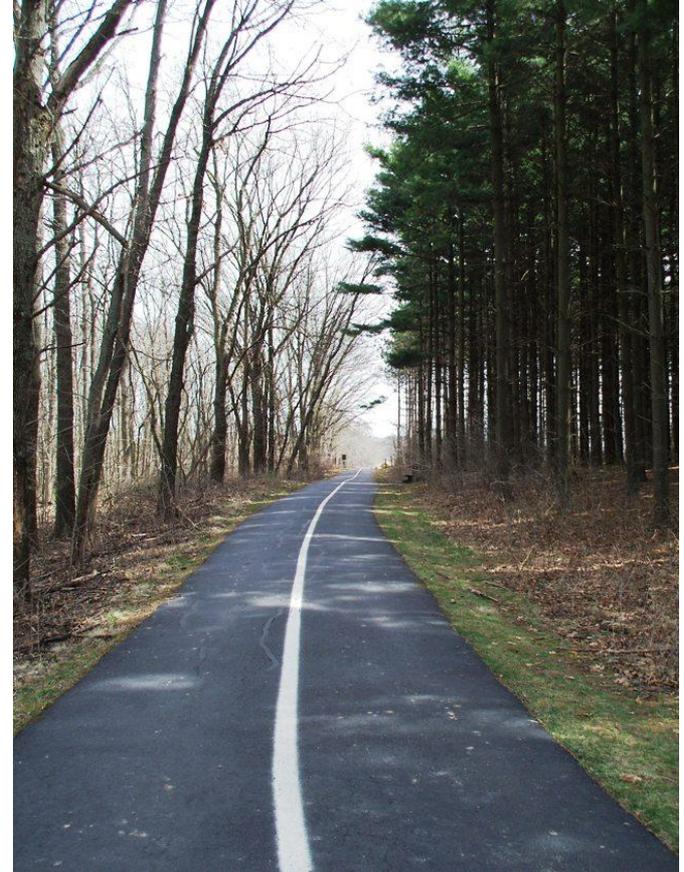
- Marked Crosswalks
- Pedestrian Signals
- Bicycle Parking



Examples of Wide Paved Shoulders and Bike Lanes



Examples of a Shared Use Path



Examples of a Pedestrian Crosswalk



Programmatic Recommendations

- Form a Bicycle and Pedestrian Advisory Committee
- Reduce Speed Limits
- Participate in the Watch for Me NC Campaign
- Coordinate with local and regional business, churches, organizations, and other government agencies to promote bicycle and pedestrian planning



Next Steps

- Project team will:
 - Prioritize the projects based on your input
 - Finalize the Plan
- Key Action Steps for implementing the plan are shown to the right

Key Action Steps

1. Adopt the Saluda Bicycle and Pedestrian Plan.
2. Establish a Bicycle and Pedestrian Advisory Committee.
3. Strengthen partnerships with Henderson and Polk counties and the Isothermal RPO
4. Coordinate with NCDOT Division 14 to incorporate projects on a regional scale.
5. Coordinate with Isothermal RPO to include infrastructure projects in the regional planning process.
6. Amend City Ordinances.
7. Apply for alternative funding sources for the Plan's projects and programs.
8. Program local funds for bicycle and pedestrian projects.

Thank You

Cindy Hemenway, City of Saluda

chemenway@cityofsaluda.com

John Vine-Hodge, NCDOT Project Manager

javinehodge@ncdot.gov

Todd McAulliffe, AECOM Consultant Project Manager

todd.mcaulliffe@aecom.com

City of Saluda
 NCDOT Bicycle & Pedestrian Plan
 Steering Committee Meeting #2 Minutes

STEERING COMMITTEE PROJECT RANKING

Please choose your top **5** projects from the Draft Saluda Bicycle and Pedestrian Plan by placing an **X** in the green column of the **5** projects of your choosing.

Proposed Linear Bicycle, Pedestrian, and Shared Use Path Facilities

FACILITY NAME	FROM	TO	FACILITY TYPE	Top 5
Greenville Street (1)	Main Street	Saluda City Limits	Install wide paved shoulder, bike sharing signage and pavement markings.	
Ozone Drive (1)	Main Street	Howard Gap Road	Install wide shoulder, bike sharing signage and pavement markings.	
US 176/Main Street	City limits (west)	City limits (east)	Install wide shoulder, bike sharing signage and pavement markings.	
Carolina Street	W. Main Street	Henderson Street	Construct sidewalk	
Chestnut St	Pace St	Greenville St	Construct sidewalk	
Charles Street	W. Main Street/Pace Park	Henderson Street	Construct sidewalk	
Cullipher St	Seminary St	E Main St	Construct sidewalk	
Esseola Street	Macedonia Road	Saluda City Limits/Lazy Girl Loop Trailhead	Construct sidewalk	
Greenville Street (2)	Main Street	Saluda City Limits	Sidewalk improvements	

City of Saluda
 NCDOT Bicycle & Pedestrian Plan
 Steering Committee Meeting #2 Minutes

FACILITY NAME	FROM	TO	FACILITY TYPE	Top 5
Henderson St	Charles St	Macedonia Road	Sidewalk improvements	
Irving Street	W. Main Street	Andrews Street	Construct sidewalk	
Laurel Drive	Ozone Drive	Howard Gap Road	Construct sidewalk	
Macedonia Road	Henderson Street	Old Macedonia Road	Construct sidewalk	
Main Street/US 176 (1)	Carolina Street	Ozone Drive	Sidewalk improvements	
Main Street/US 176 (2)	Ozone Drive	Frost Road	Construct sidewalk	
Maple/Ervin Street/US 176	Greenville Street	Pace Street	Construct sidewalk	
Ozone Drive (2)	NC 176	Laurel Drive	Construct sidewalk	
Seminary Street	Ozone Drive	Charles Street	Sidewalk improvements	
Judd's Peak Path	Saluda dog park	Judd's Peak trail head	Construct shared use path	
Pace Street Connector	Chestnut Street	US 176	Construct shared use path	

City of Saluda
 NCDOT Bicycle & Pedestrian Plan
 Steering Committee Meeting #2 Minutes

STEERING COMMITTEE POLICY RANKING

Please select your top **5** policies from the Draft Saluda Bicycle and Pedestrian Plan by placing an **X** in the green column of the **5** policies of your choosing.

Proposed Policies

POLICY NAME	DESCRIPTION	Top 5
Watch for Me NC	Campaign to reduce crashes through education	
NC Crossing Guard	Training program for school crossing Officers	
Rails to Trails Feasibility Study	Converts abandoned railroad tracks into biking and walking trails	
Bicycle Helmet Initiative	Promote helmet use through supplies and training	
Let's go NC	Instruct children K-5 on bike/ped safety and skills	
Streetwise Cycling	Targets adult motorists of rights/responsibilities of bicyclists	
Safety Patrol Program	AAA training/equipment for safety patrol programs	
Walk Bike NC	Programs/initiatives that work with pedestrian infrastructure	
Share the Road	Posters to inform/encourage driver awareness of pedestrians	
Bike/Pedestrian Needs Checklist	A bike/pedestrian checklist updated regularly by the community	
Pedestrian Safety Campaign	Campaign for Police to designate signs for pedestrian safety	
Bicycle Rodeos	Skills event for bicyclists to develop/practice cycling	
Bicycle and Walking Programs	A "Weekend Walkabout" for bringing attention to pedestrians	
Bicycle or Walking Youth Competition	Competition to educate/engage youth	
Bike or Walk Day	Designate a day, week, month to walk to destination(s)	
Walking Club	Community walking club to encourage active lifestyles	

City of Saluda
NCDOT Bicycle & Pedestrian Plan
Steering Committee Meeting #2 Minutes

POLICY NAME	DESCRIPTION	Top 5
Open Street Events	Festival to celebrate bike/ped facilities and bring awareness	
Adopt a Sidewalk Program	Adopt a sidewalk or shared use path	



A "standard width" travel lane that both bicycles and motor vehicles share. Shared-lane markings increase a motorist's awareness of the presence of cyclists, reduce the incidence of wrong-way bicycling



The primary elements of the pedestrian environment and are generally made of concrete or pavers. Sidewalks ideally should have a buffer between the pedestrian and motorist.



A paved portion of the roadway to the right of the travel way designed to serve bicyclists, pedestrians, and others.



Converts abandoned railroad tracks into biking, hiking and walking trails that preserve and promote historic and natural community features.



Encourages cycling by making it safe and more convenient. Signage makes drivers aware of cyclists and helps to guide bicyclists of designated bike routes.



Designates areas with high pedestrian activity or roadway crossing. Alerts drivers to slow down and increases pedestrian safety.



A self-service kiosk for bicycle maintenance. These facilities may include pumps, work stands, or maintenance tools.



A designated crossing on roadways for pedestrians. They are designed for motorist visibility to increase pedestrian safety.



Allows for secure and convenient parking of bicycles, minimizing parking alongside street signs or lighting. The most common type of bicycle parking are bike racks.



Physically separated from vehicular traffic and may include bicycle paths, side paths, or trails. They are protected facility because they are not shared with motor vehicles.

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



The Saluda Bicycle and Pedestrian Plan (the Plan) is a culmination of a planning process to improve bicycle and pedestrian safety, connectivity, and health and well-being through infrastructure projects and community policies and programs. The purpose of the Plan was to evaluate the existing bicycle and pedestrian conditions within Saluda and recommend programmatic and infrastructure projects to improve safety, connectivity, and well-being.

RECOMMENDED PROJECTS



Bicycle Lanes
 Bicycle Parking
 Bicycle Maintenance Station
 Bicycle Route Signs



Sidewalk Improvements
 High-Visibility Crosswalks



Shared Use Paths

PROJECTS BY THE NUMBERS



20 Linear Bicycle and Pedestrian Projects



15 Bicycle and Pedestrian "Spot" Improvements



8.6 Miles of Linear Bicycle and Pedestrian Facilities

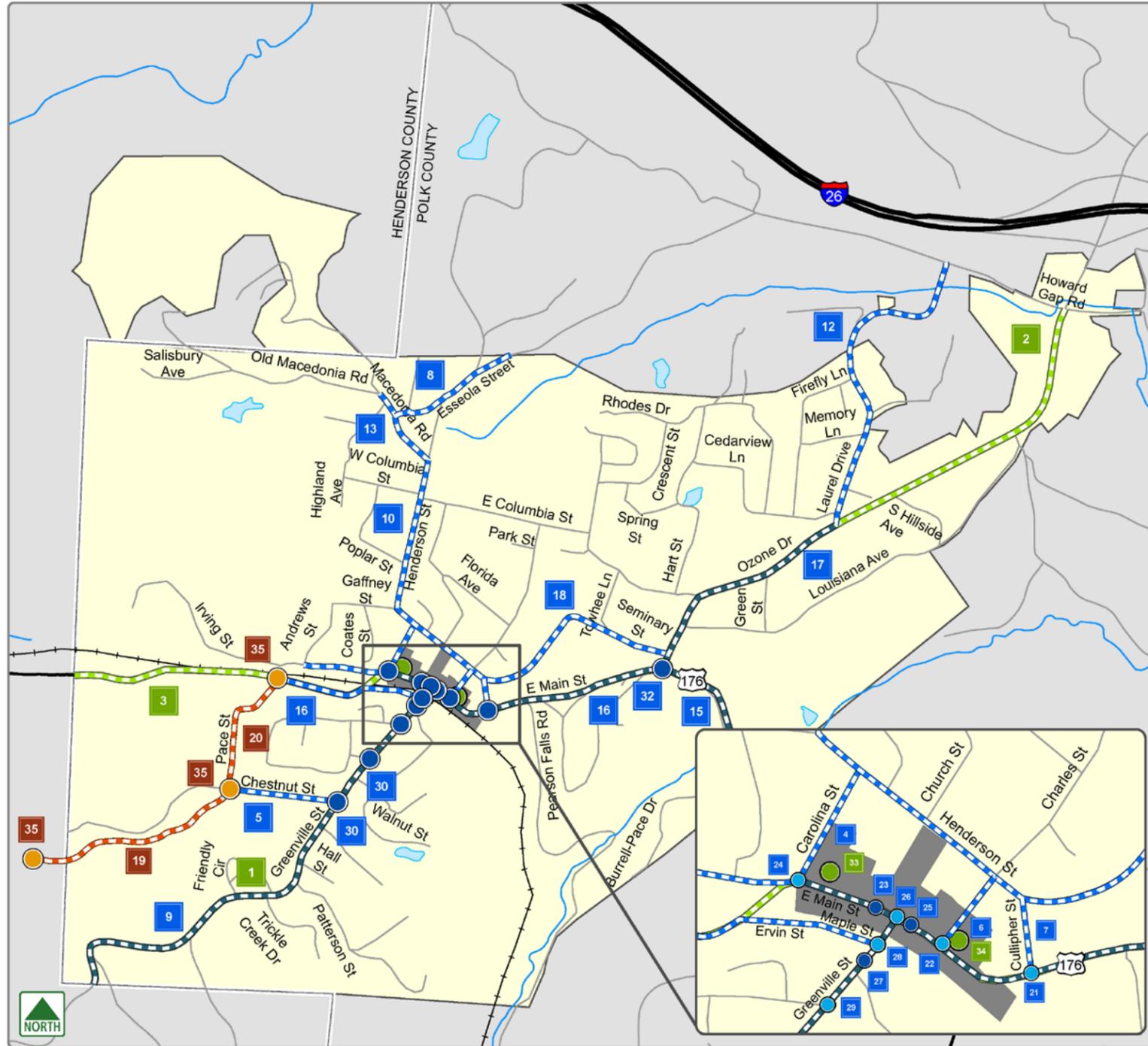
\$2,163,200 of Proposed Improvements

KEY ACTION STEPS

- Adopt the Saluda Bicycle and Pedestrian Plan
- Establish a Bicycle and Pedestrian Advisory Committee
- Strengthen partnerships with Henderson and Polk counties and the Isothermal RPO
- Coordinate with NCDOT Division 14 to incorporate projects regionally
- Coordinate with Isothermal RPO to include infrastructure projects in regional planning processes
- Amend City Ordinances and Zoning Code
- Apply for alternative funding sources for the Plan's recommended projects and programs
- Program local funds for bicycle and pedestrian projects



City of Saluda
 NCDOT Bicycle & Pedestrian Plan
 Steering Committee Meeting #2 Minutes



City of Saluda

Bicycle and Pedestrian Plan



Proposed Bicycle and Pedestrian Network

Proposed Network

- Bicycle Spot Improvements
- Pedestrian Spot Improvements
- Shared Use Path Spot Improvements
- Bicycle Linear Facilities
- Pedestrian Linear Facilities
- Bicycle and Pedestrian Facilities
- Shared Use Path Linear Facilities
- Interstate
- US Route
- Local Road
- Railroad
- Stream
- Waterbody
- Historic District
- Saluda City Limits
- County Boundary

May 2015





Appendix B: State and Federal Policies

Applicable state and federal policies pertaining to bicycle and pedestrian programs and facilities are summarized in Table B-1 below.

Table B-1: State and Federal Policies

POLICY	APPLICABILITY TO BICYCLE AND PEDESTRIAN PLANNING
Federal Policies	
<p>Americans with Disabilities Act (ADA) (1990)</p>	<p>Ratified in 1990, ADA prohibits discrimination on the basis of disability. Title III pertains to public accommodations including transportation. Federally funded bicycle and pedestrian projects must comply with the Americans with Disabilities Act.</p>
<p>American Association of State Highway and Transportation Officials (AASHTO)</p>	<p>AASHTO publishes design standards for transportation facilities including bicycle and pedestrian projects. These standards are often adopted by state departments of transportation, helping in the design of safe and efficient bicycle and pedestrian facilities.</p>
<p>Manual on Uniform Traffic Control Devices (MUTCD) (2009)</p>	<p>The MUTCD defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel. The MUTCD is published by the Federal Highway Administration (FHWA) under 23 Code of Federal Regulations (CFR), Part 655, Subpart F.</p>
<p>Moving Ahead for Progress in the 21st Century (MAP-21) (2012)</p>	<p>MAP-21 funds surface transportation programs and creates a streamlined, performance-based, and multimodal program to address the many challenges facing the U.S. transportation system. MAP-21 reorganizes many of the dedicated bicycle and pedestrian funding programs into other functions.</p> <p>Applicable programs under MAP-21 for bicycle and pedestrian projects include: Transportation Alternatives Program (TAP), Congestion Mitigation and Air Quality Improvement (CMAQ), and Surface Transportation Program (STP).</p>
<p>Title VI of the Civil Rights Act of 1964 and Executive Order 12898 (1964, 1998)</p>	<p>Title VI of the Civil Rights Act of 1964 requires that each federal agency ensure that no person is excluded, denied, or discriminated based on race, color, national origin, age, sex, disability.</p> <p>Executive Order 12898 signed by President Bill Clinton in 1994 requires that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human</p>



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

POLICY	APPLICABILITY TO BICYCLE AND PEDESTRIAN PLANNING
	health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.
United States Department of Transportation Mission Statement (2010)	<p>The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems.</p> <p>Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.</p>
State Policies	
NCDOT Bicycle Policy	<p>The NCDOT Bicycle Policy states that bicycling is a “bonafide” highway purpose subject to the same rights and responsibility and eligible for the same considerations as other highway purposes. It also designates bicycle facility planning be included in the state thoroughfare and project planning process.</p> <p>http://www.ncdot.gov/bikeped/download/bikeped_laws_Bicycle_Policy.pdf</p>
NCDOT Board of Transportation Resolution for Bicycling and Walking	<p>The resolution states that the North Carolina Board of Transportation strongly reaffirms its commitment to improving conditions for bicycling and walking, and recognizes non-motorized modes of transportation as critical elements of the local, regional, and national transportation system. . It also acknowledges the benefits that bicycling and walking offer: cleaner air, reduced congestion, more livable communities, more efficient use of road space and resources and healthier people.</p> <p>http://www.ncdot.gov/bikeped/download/bikeped_laws_BOT_Mainstreaming_Resolution.pdf</p>
NCDOT Bridge Policy	<p>The NCDOT Bridge Policy states that sidewalks should be included on new bridges with curb and gutter approaches that are not controlled access facilities. Sidewalks may be on one or both sides of the bridge. The sidewalk should be a minimum of 5 to 6 feet wide.</p> <p>https://connect.ncdot.gov/projects/Roadway/RoadwayDesignAdministrativeDocuments/Bridge%20Policy.pdf</p>
NCDOT Complete Streets	<p>Adopted in July 2009, the Complete Streets policy encourages alternative forms of transportation; increases connectivity between neighborhoods, streets, and transit systems; and improves safety for pedestrian, cyclists, and motorists.</p> <p>http://www.completestreetsnc.org/</p>

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



POLICY	APPLICABILITY TO BICYCLE AND PEDESTRIAN PLANNING
NCDOT Division of Bicycle and Pedestrian Transportation	The NCDOT Division of Bicycle and Pedestrian Transportation assists communities across the state improve bicycle and pedestrian safety and mobility. The Division provides technical assistance, design guidelines, and resources such as the Watch for Me NC campaign.
NCDOT Greenway Policy	<p>In 1994, NCDOT adopted guidelines to consider greenways and greenway crossings during the highway planning process. This policy was incorporated so that critical corridors which have been adopted by localities for future greenways will not be severed by highway construction.</p> <p>http://www.ncdot.gov/_templates/download/external.html?pdf=http%3A//www.ncdot.gov/bikeped/download/bikeped_laws_Greenway_Admin_Action.pdf AND http://www.ncdot.gov/bikeped/download/GuidelinesForGreenwayAccommodations.pdf</p>
NCDOT Mission Statement	NCDOT's mission is: "Connecting people and places safely and efficiently, with accountability and environmental sensitivity to enhance the economy, health and well-being of North Carolina." Bicycle and pedestrian facilities help to accomplish this mission by improving safety, encouraging physical activity, and providing environmentally friendly alternatives to motorized transportation.
NCDOT Pedestrian Policy Guidelines	<p>The NCDOT Pedestrian Policy states that the Department of Transportation will replace existing sidewalks disturbed as a result of a highway improvement. The Department is authorized to construct new sidewalks adjacent to State highway improvement projects at the request of the municipality provided the municipality agrees to reimburse for the construction cost of the sidewalks. Maintenance of sidewalks will be the responsibility of the municipality.</p> <p>http://www.ncdot.gov/bikeped/download/bikeped_Ped_Policy.pdf</p>
Strategic Mobility Formula	The Strategic Transportation Investments (STI) law signed June 2013 establishes the Strategic Mobility Formula for funding transportation projects in North Carolina. The formula divides bicycle and pedestrian projects into incidental and independent projects. Incidental projects are included in larger transportation projects while independent projects are standalone such as adding a sidewalk to an existing road. Independent projects are capped at 20 projects per M/RPO annually.

Sources: Advocacy Advance, American Association of State Highway and Transportation Officials, Federal Highway Administration, North Carolina Department of Transportation, United States Department of Transportation



Appendix C: Design Guidelines

General design guidelines are contained in this appendix according to AASHTO (2004) Guide for the Planning, Design, and Operation of Pedestrian Facilities (Fourth Edition), AASHTO (2012) Guide for the Development of Bicycle Facilities (Fourth Edition), the FHWA Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition Revisions 1 and 2, and NCDOT typical highway cross sections. NCDOT adheres to these guidelines and the state Complete Streets guidelines in its design of bicycle and pedestrian facilities. The following design guidelines are included in this appendix:

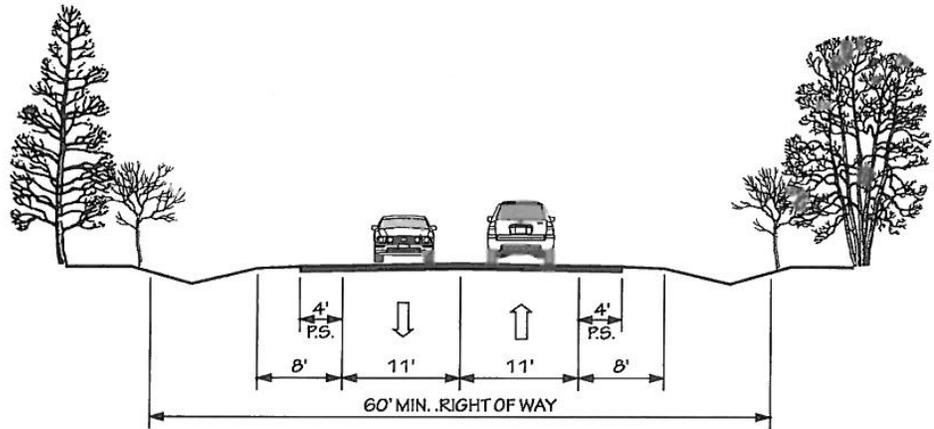
- Sidewalks
- Paved Shoulders
- Bicycle Lanes
- Shared Use Paths
- Crosswalks and crossings
- Pedestrian signals
- Pavement Markings and Signage
- Wayfinding



BICYCLE AND PEDESTRIAN

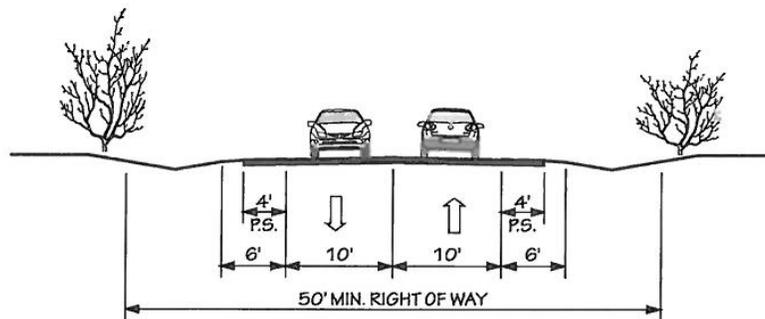
Typical Sections

2B



2 LANES UNDIVIDED
POSTED SPEED 45 MPH OR LESS

2C

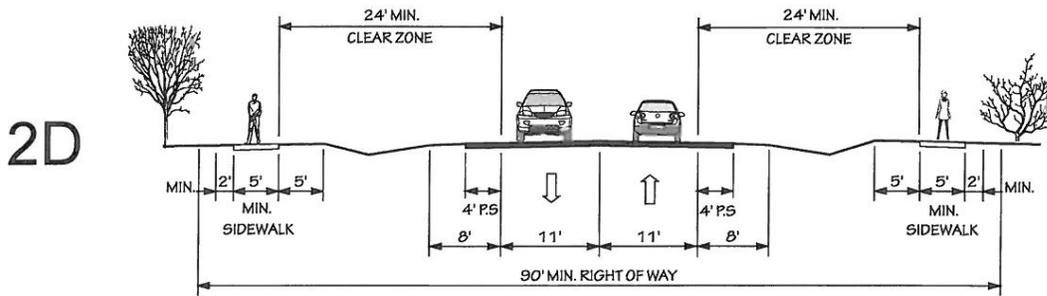


2 LANE UNDIVIDED WITH PAVED SHOULDERS
POSTED SPEED 25 - 35 MPH



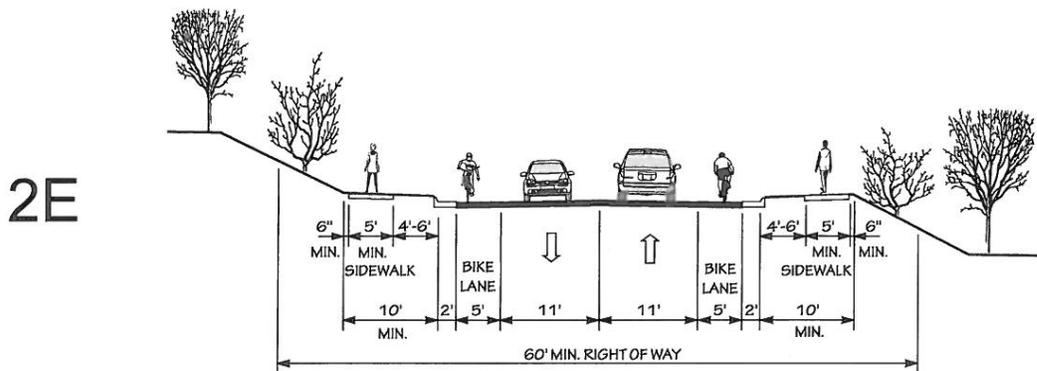
BICYCLE AND PEDESTRIAN

Typical Sections



2 LANE UNDIVIDED WITH PAVED SHOULDERS AND SIDEWALKS
 POSTED SPEED 25-45 MPH

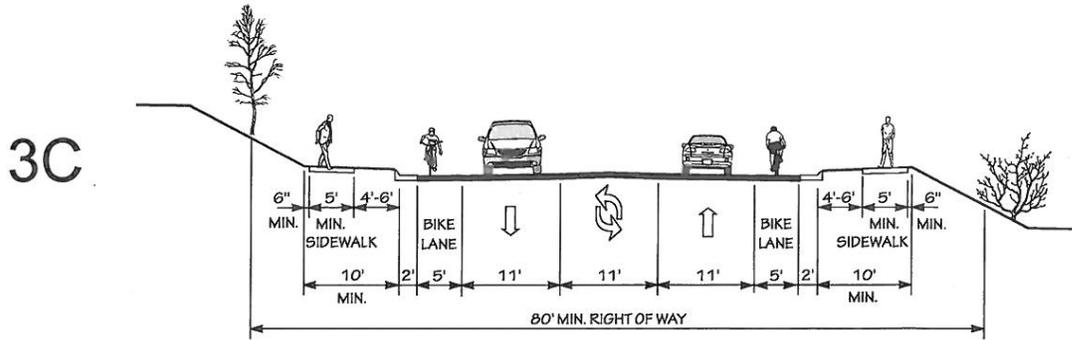
2 LANE UNDIVIDED WITH PAVED SHOULDERS AND SIDEWALKS
 POSTED SPEED 25-45 MPH





BICYCLE AND PEDESTRIAN

Typical Sections



2 LANE WITH TWO WAY LEFT TURN LANE, CURB & GUTTER, BIKE LANES, AND SIDEWALKS

POSTED SPEED 25-45 MPH

Dimensions

Typical Section	2B	2C	2D	2E	3C
Posted Speed	45 mph or less	25 - 35 mph	25 - 45 mph	25 - 45 mph	25 - 45 mph
Paved Shoulder Width	4 ft.	4 ft.	4 ft.	–	–
Sidewalk width:	–	–	5 ft.	5 ft.	5 ft.
Sidewalk buffer width to edge of pavement:	–	–	24 ft.	6 - 8 ft.	6 - 8 ft.
Bicycle lane width:	–	–	–	5 ft.	5 ft.
Gutter pan width:	–	–	–	2 ft.	2 ft.
Travel lane width:	11 ft.	10 ft.	11 ft.	11 ft.	11 ft.
Travel lanes + turning lane:	2 lanes	2 lanes	2 lanes	2 lanes	2 + 1 lanes
Right-of-way minimum:	60 ft.	50 ft.	90 ft.	60 ft.	80 ft.
Curb and Gutter	No	No	No	Yes	Yes

Sources: NCDOT Typical Highway Cross Sections (2014)



BICYCLE AND PEDESTRIAN

Design Guidelines

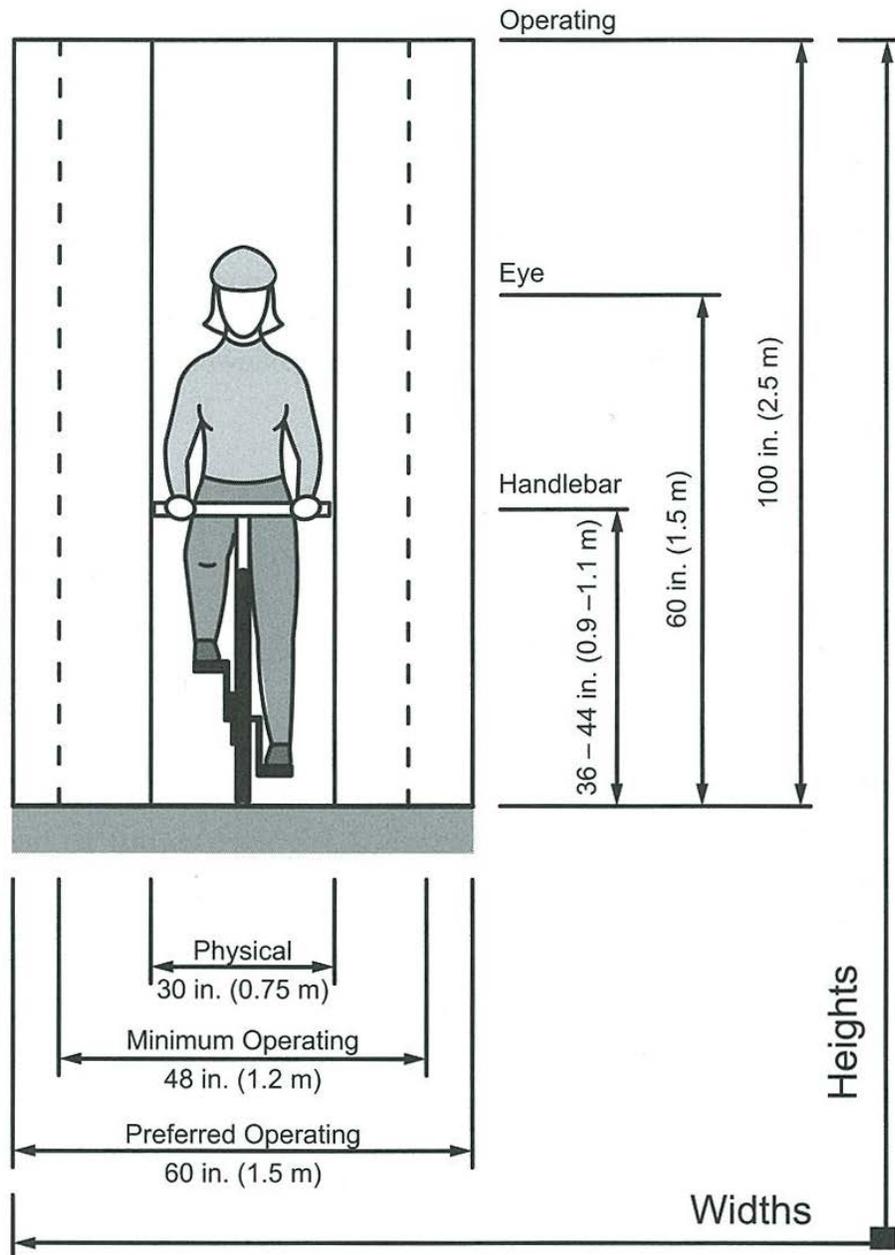
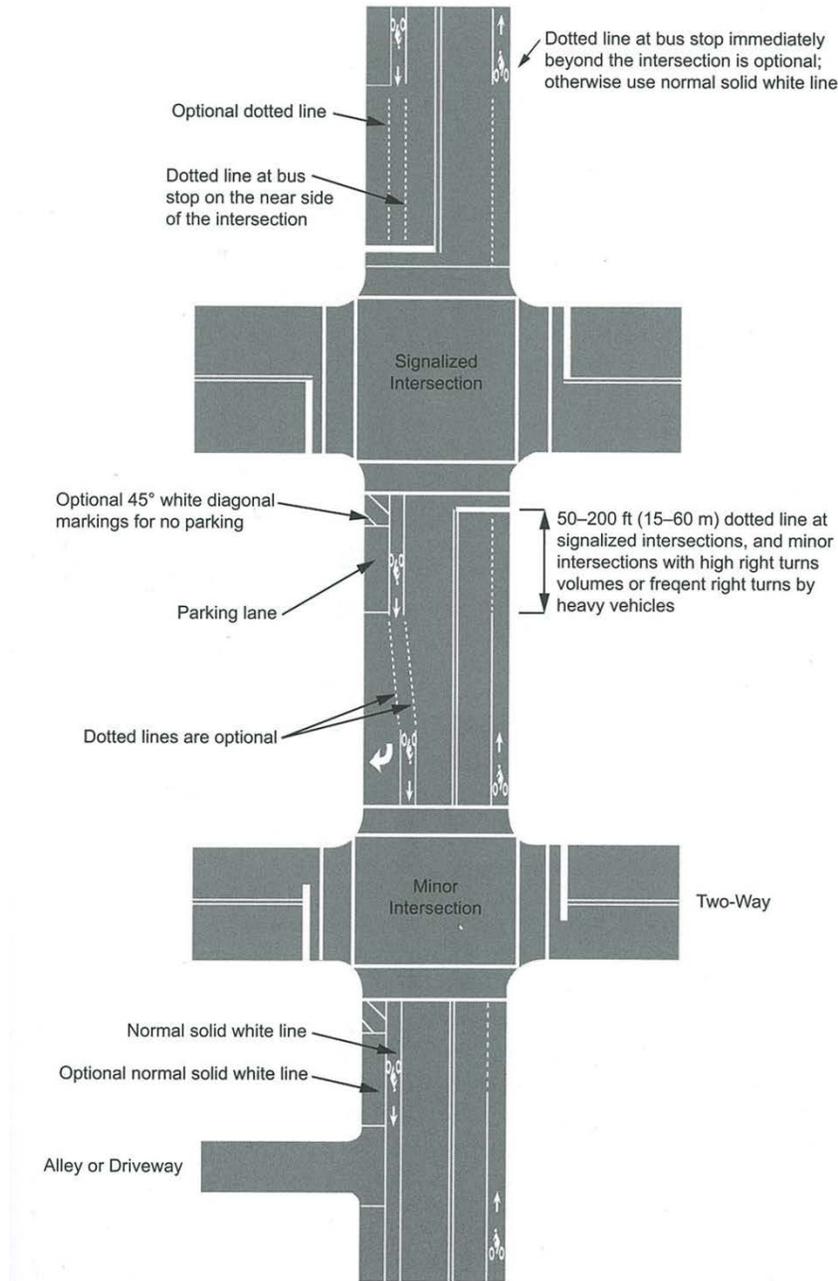


Figure 3-1. Bicyclist Operating Space



BICYCLE AND PEDESTRIAN

Design Guidelines



Note: At major driveways, the bike lane lines should be discontinued or dotted lines are optional.

Figure 4-16. Typical Bike Lane Pavement Markings



BICYCLE AND PEDESTRIAN

Design Guidelines

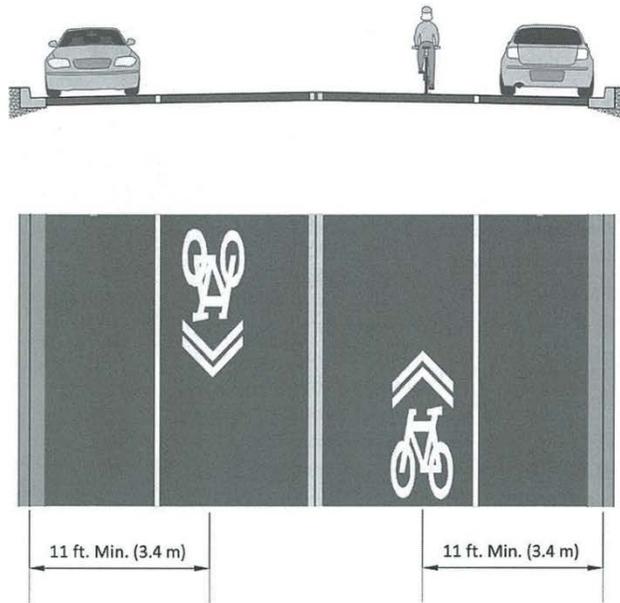


Figure 4-5. Typical Shared-Lane Marking Cross Section on Street with Parking

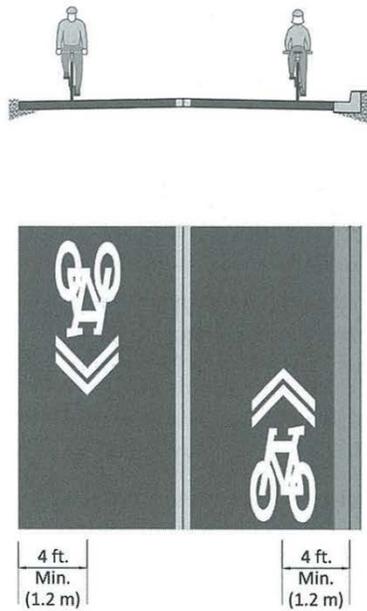


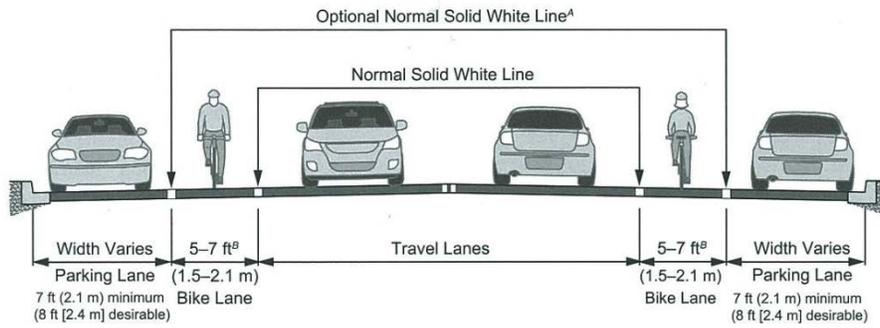
Figure 4-6. Typical Shared-Lane Marking Cross Section on Street with No On-Street Parking



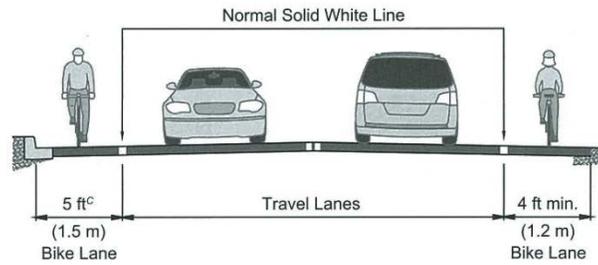
CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

BICYCLE AND PEDESTRIAN

Design Guidelines



On Street Parking



Parking Prohibited

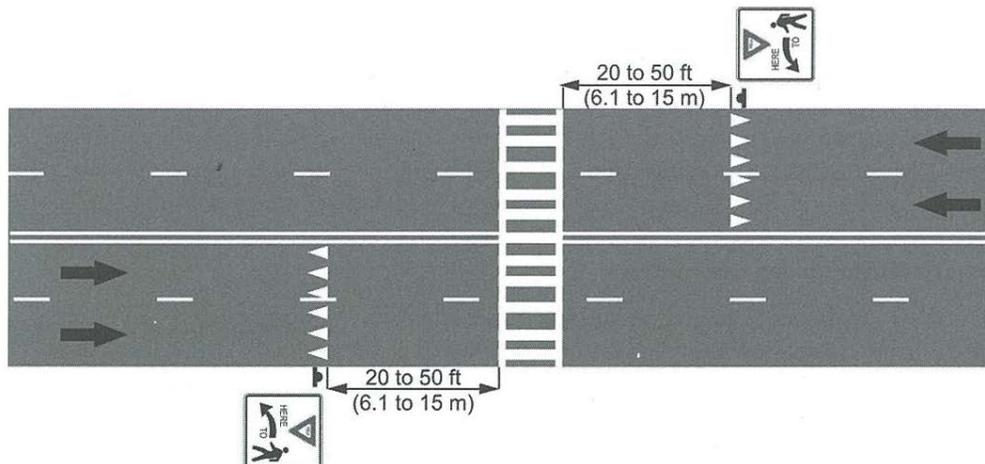


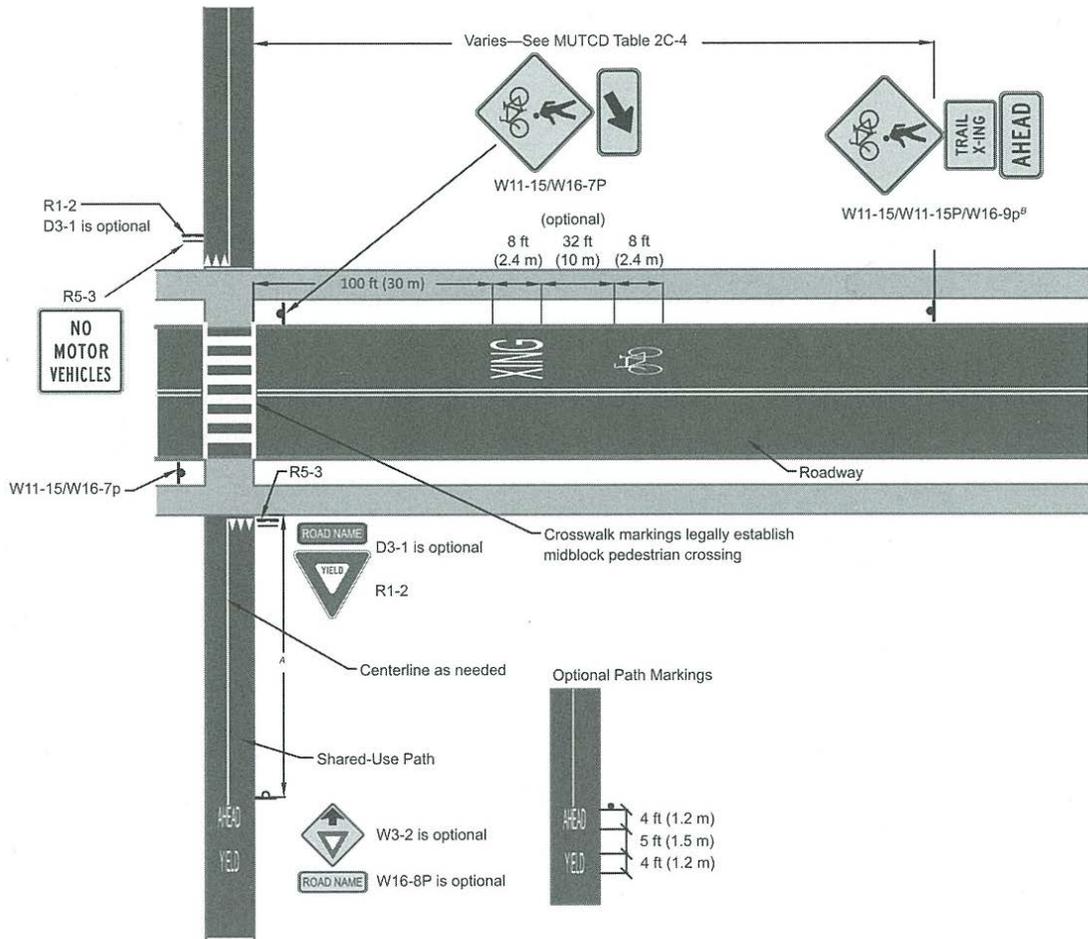
Figure 5-23. Advance Yield Signs and Markings

Sources: AASHTO (2012) *Guide for the Development of Bicycle Facilities (Fourth Edition)*. Pages: 3-7, 4-5, 4-15, 4-19, 5-2, 5-23, 5-39.



SHARED USE PATHS

Design Guidelines



Notes:

- ^A Advance warning signs and solid centerline striping should be placed at the required stopping sight distance from the roadway edge, but not less than 50 ft (15 m).
- ^B W11 series sign is required, supplemental plaques are optional.

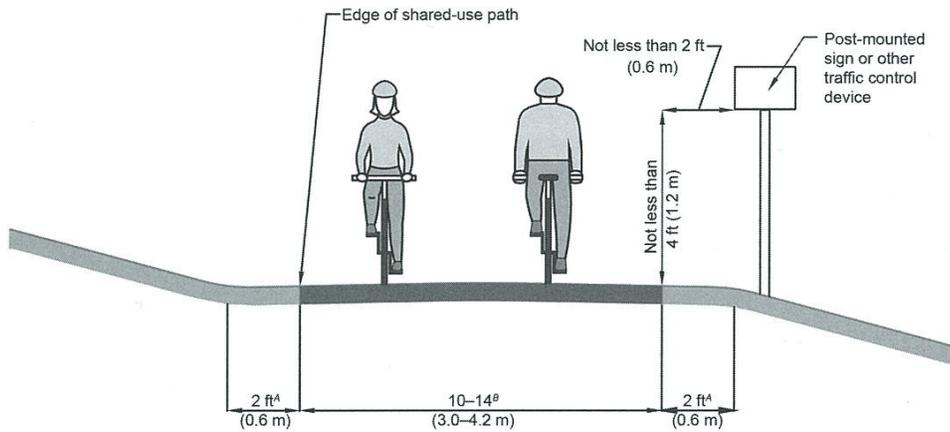
Figure 5-17. Example of Mid-Block Path–Roadway Intersection—Path Is Yield Controlled for Bicyclists



SHARED USE PATHS

Design Guidelines

- On steep grades to provide additional passing area; or
- Through curves to provide more operating space.



Notes:

^A (1V:6H) Maximum slope (typ.)

^B More if necessary to meet anticipated volumes and mix of users, per the *Shared Use Path Level of Service Calculator* (9)

Figure 5-1. Typical Cross Section of Two-Way, Shared Use Path on Independent Right-of-Way

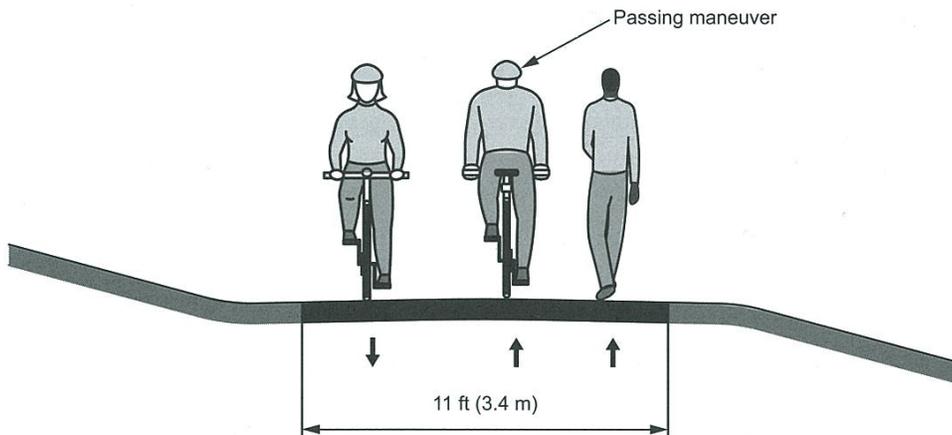


Figure 5-2. Minimum Width Needed to Facilitate Passing on a Shared Use Path



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

SHARED USE PATHS

Design Guidelines

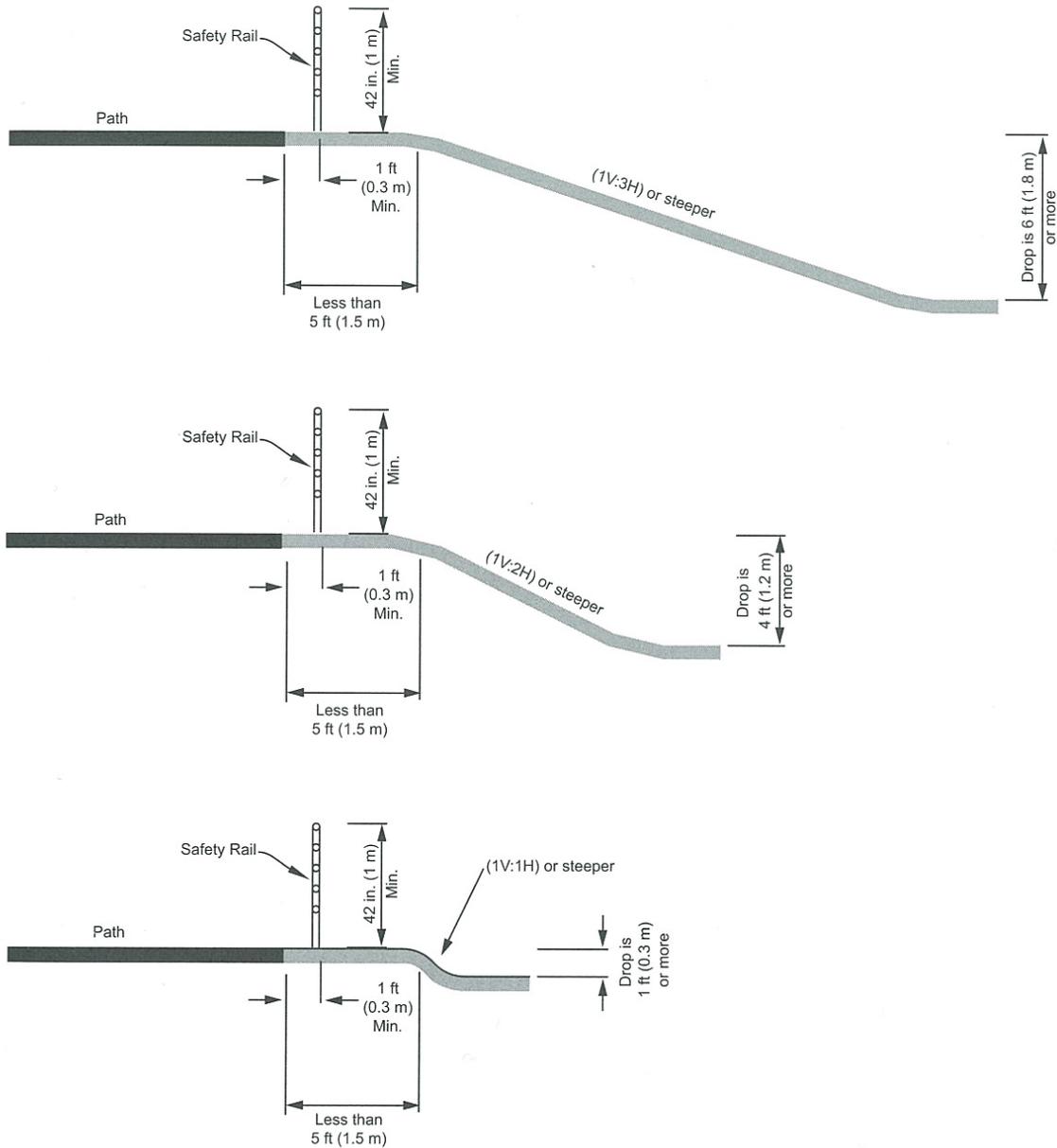


Figure 5-3. Safety Rail Between Path and Adjacent Slope

Sources: AASHTO (2012) *Guide for the Development of Bicycle Facilities (Fourth Edition)*. Pages: 5-4, 5-7.



SHARED USE PATHS

Design Guidelines

Sidepaths

The following design guidelines from the Pedestrian and Bicycle Information Center should be considered for sidepaths that are built parallel to roadways:

- Shared-use paths are a complement to the roadway network; they are not a substitute for providing access on streets.
 - Connections to the regular street network are important, but a high number of crossings at intersections create potential conflicts with turning traffic.
 - At intersections with roadways, paths should be signed, marked, and/or designed to discourage or prevent unauthorized motorized access.
 - All users should be encouraged to stay right. An exception may be paths along waterways or other features that capture the attention of pedestrians. In these instances, markings and/or signage may be used to encourage pedestrians to stay on the side of the path closest to the attraction to reduce conflicts associated with pedestrians crossing the pathway.
 - Since nearly all shared use paths are used by pedestrians, they need to meet the accessibility requirements of the Americans with Disabilities Act (ADA).
1. In areas with extremely heavy pathway volume, it may be necessary to segregate pedestrians from wheeled users.

Source: Pedestrian and Bicycle Information Center (2015) *Shared-Use Paths/Sidepaths*.
http://www.pedbikeinfo.org/planning/facilities_ped_paths.cfm



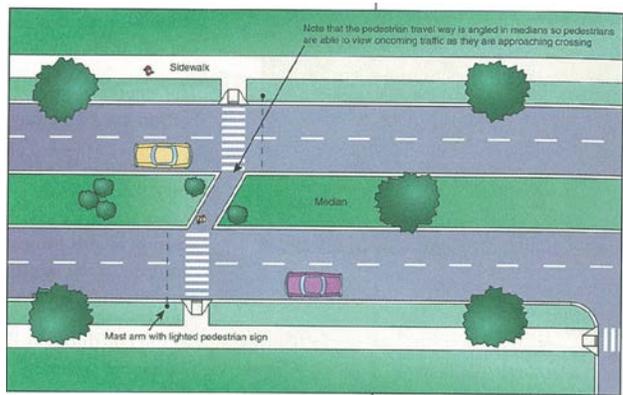
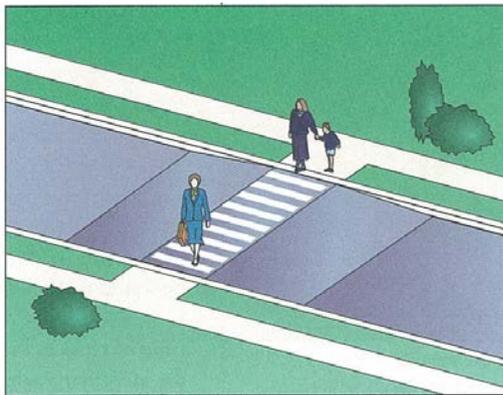
CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

PEDESTRIAN TREATMENTS

Crossings

The following key issues should be considered when designing pedestrian crossings according to AASHTO:

- Assumptions: Assume that pedestrians want and need safe access to all destinations that are accessible to motorists. Additionally, pedestrians will want to have access to destinations not accessible to motorists such as trails and parks.
- Generators and Destinations: Typical pedestrian generators and destinations include residential neighborhoods, schools, parks, shopping areas, and employment centers. All transit stops require that pedestrians be able to cross the street.
- Controlled Intersections: All intersections that have signals, stop signs, or yield signs to facilitate motor vehicle crossing of streets and arterials must also be designed to accommodate pedestrians.
- Uncontrolled Locations: Pedestrians need safe access at many uncontrolled locations, including both intersections and midblock locations.
- Frequency: Pedestrians must be able to cross streets and highways at regular intervals. Unlike motor vehicles, pedestrians cannot be expected to go a quarter mile or more out of their way to take advantage of a controlled intersection.



Source: AASHTO (2004) *Guide for the Planning, Design, and Operation of Pedestrian Facilities (Fourth Edition)*. Pages: 81, 91 and 93.

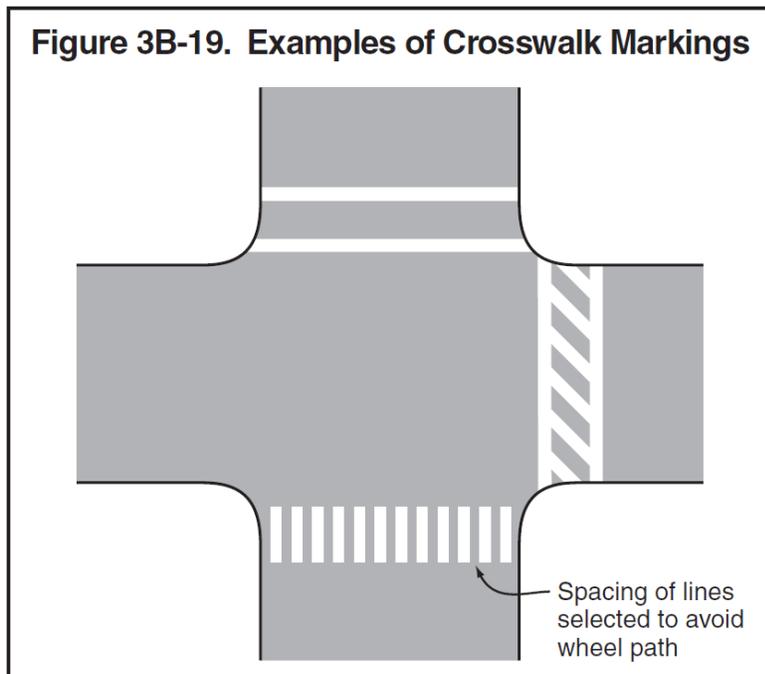


PEDESTRIAN TREATMENTS

Crosswalks

According to the Manual on Uniform Traffic Control Devices, these following guidelines apply to crosswalks:

- Crosswalk lines should not be used indiscriminately. An engineering study should be performed before a marked crosswalk is installed at a location away from a traffic control signal or an approach controlled by a STOP or YIELD sign. The engineering study should consider the number of lanes, the presence of a median, the distance from adjacent signalized intersections, the pedestrian volumes and delays, the average daily traffic (ADT), the posted or statutory speed limit or 85th-percentile speed, the geometry of the location, the possible consolidation of multiple crossing points, the availability of street lighting, and other appropriate factors.
- New marked crosswalks alone, without other measures designed to reduce traffic speeds, shorten crossing distances, enhance driver awareness of the crossing, and/or provide active warning of pedestrian presence, should not be installed across uncontrolled roadways where the speed limit exceeds 40 mph and either:
 - A. The roadway has four or more lanes of travel without a raised median or pedestrian refuge island and an ADT of 12,000 vehicles per day or greater; or
 - B. The roadway has four or more lanes of travel with a raised median or pedestrian refuge island and an ADT



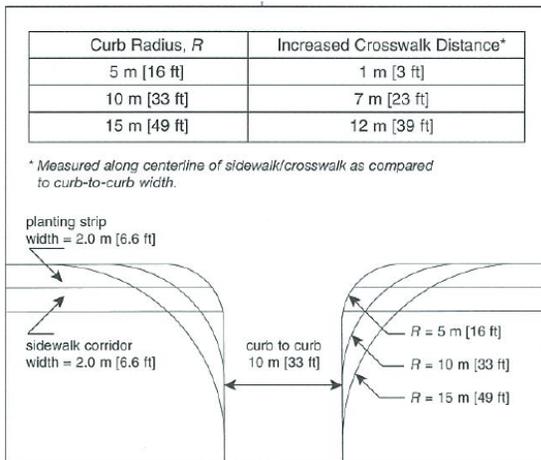
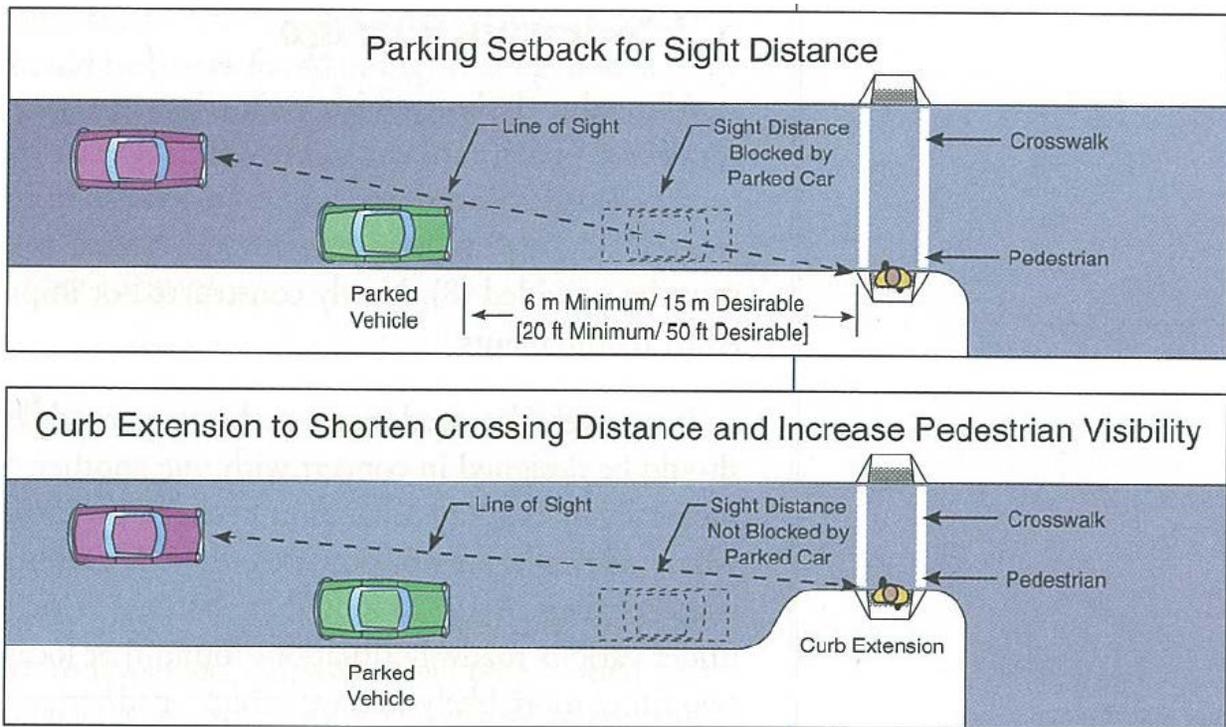
Source: Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition Revisions 1 and 2.



PEDESTRIAN TREATMENTS

Curb Extensions and Curb Radii

Curb extensions increase pedestrian visibility and shorten the crossing distance as shown in the diagram below. They should be located in areas where they will not create a safety hazard to pedestrians caused by larger vehicles turning and encroaching onto the curb.



Smaller curb radii may be considered to limit the speed of vehicles and shorten the crossing distances for pedestrians. However, curb radii should be decided on a case-by-case basis, as they also decrease efficiency for vehicles and can increase the chance of a vehicle driving over the curb and hitting the pedestrian.

Source: AASHTO (2004) *Guide for the Planning, Design, and Operation of Pedestrian Facilities (Fourth Edition)*. Pages: 44, 53 and 74.

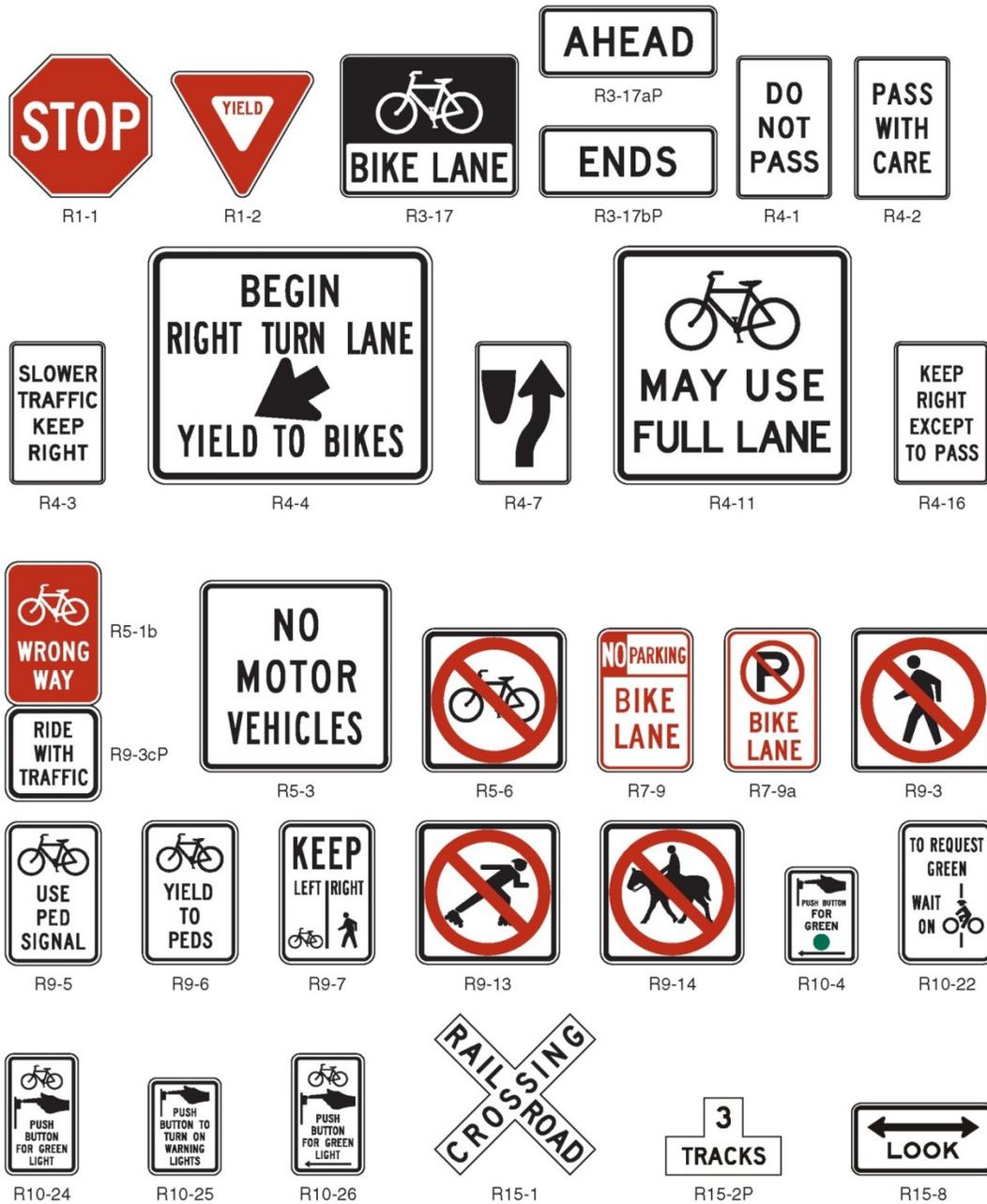


CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

BICYCLE AND PEDESTRIAN SIGNAGE

Bicycle Signage

Figure 9B-2. Regulatory Signs and Plaques for Bicycle Facilities

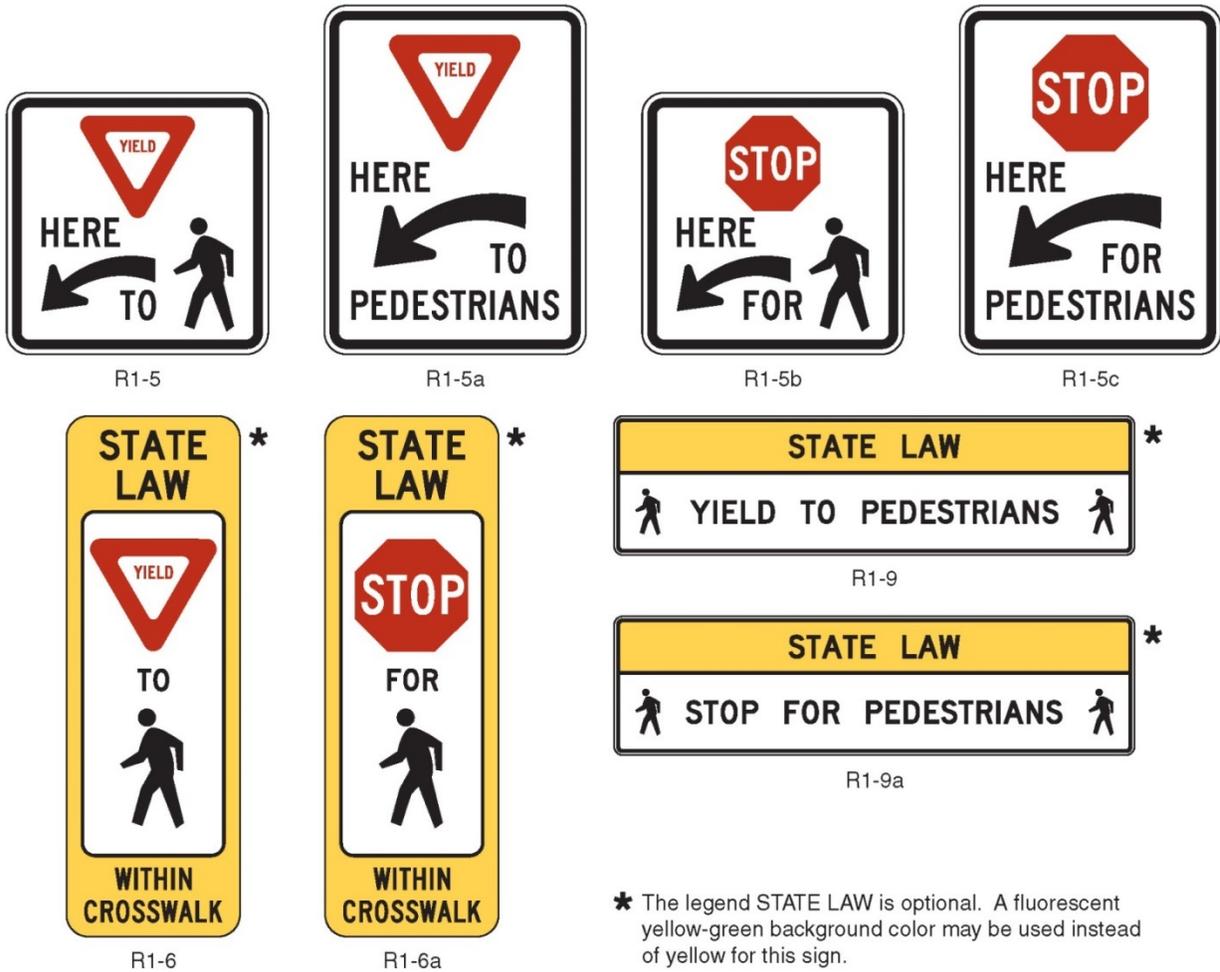




BICYCLE AND PEDESTRIAN SIGNAGE

Pedestrian Signage – Unsignalized

Figure 2B-2. Unsignalized Pedestrian Crosswalk Signs





BICYCLE AND PEDESTRIAN SIGNAGE

Pedestrian Signage – Signalized

Figure 2B-26. Pedestrian Signs and Plaques (Sheet 1 of 2)

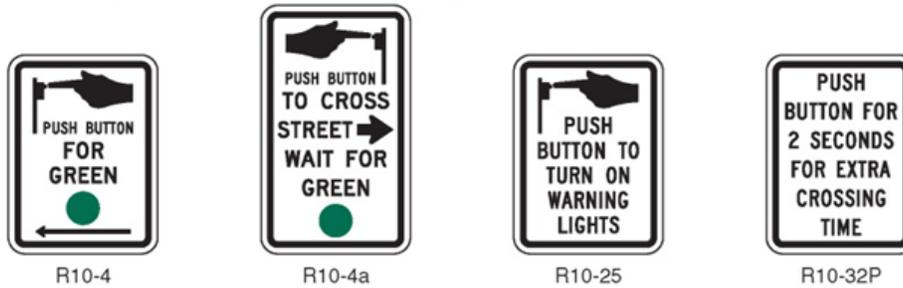




BICYCLE AND PEDESTRIAN SIGNAGE

Pedestrian Signage – Signalized

Figure 2B-26. Pedestrian Signs and Plaques (Sheet 2 of 2)



Sign Design Guidelines

- Signs should only be installed when they fulfill a need based on an engineering study or engineering judgment.
- In general, signs are often ineffective in modifying driver behavior, and overuse of signs can diminish their effectiveness
- Minimum mounting height for signs where pedestrians are present is 7 feet
- As an advance warning device, the pedestrian crossing sign (W11-2) should be installed in advance of midblock crosswalks or locations where unexpected entries into the roadway by pedestrians might occur
- The school advance warning sign (S1-1) should be used in advance of the first installation of the school speed limit sign assembly and should be installed in advance of locations where school buildings or grounds are adjacent to the highway. It should be supplemented with the Ahead sign (W16-9P).

Pedestrian Signal Design Guidelines

- Symbols for pedestrian signal indications should be at least 6 inches high
- Pedestrian signal indications should be conspicuous and recognizable to pedestrians at all distances from the beginning of the controlled crosswalk to a point 10 feet from the end of the controlled crosswalk, during both day and night.
- For crosswalks where the pedestrian enters the crosswalk more than 100 feet from the pedestrian signal indications, the symbols should be at least 9 inches high
- Pedestrian signal heads should be mounted with the bottom of the signal housing including brackets not less than 7 feet nor more than 10 feet above sidewalk level and shall be positioned and adjusted to provide maximum visibility at the beginning of the controlled crosswalk
- If pedestrian signal heads are mounted on the same support as vehicular signal heads, there shall be a physical separation between them

Source: AASHTO (2004) *Guide for the Planning, Design, and Operation of Pedestrian Facilities (Fourth Edition)*. Pages: 105, 111-114.



BICYCLE AND PEDESTRIAN SIGNAGE

Pedestrian Signage – School Areas

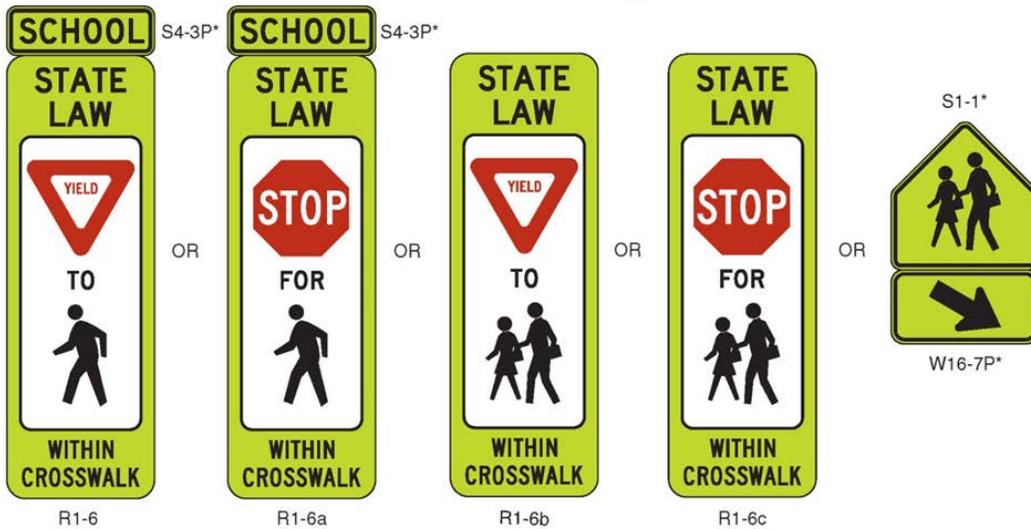
Figure 7B-6. In-Street Signs in School Areas

A - In advance of the school crossing



* Reduced size signs:
 S1-1 12 x 12 inches
 S4-3P 12 x 4 inches
 W16-7P 12 x 6 inches
 W16-9P 12 x 6 inches

B - At the school crossing



Notes:

1. The use of the STATE LAW legend is optional on the R1-6 series signs (see Section 7B.12).
2. The use of the SCHOOL plaque above the R1-6 and R1-6a signs is optional.



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

BICYCLE AND PEDESTRIAN SIGNAGE

Wayfinding Signage

Figure 2D-18. Examples of Community Wayfinding Guide Signs

A - Community Wayfinding Guide Signs with Enhancement Markers



B - Destination Guide Signs for Color-Coded Community Wayfinding System



Sources: Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition Revisions 1 and 2.



Appendix D: Funding Sources

Table D-1 below provides a list of funding sources, eligible projects, potential award amounts, and match requirements for bicycle and pedestrian infrastructure projects and programs in Saluda.

Table D-1: Funding Sources

SOURCE	ELIGIBLE PROJECTS	FINANCIAL
Federal Funding Sources		
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	<ul style="list-style-type: none"> • Projects to improve air quality and reduce traffic congestion • Projects must be in STIP • Technical assistance 	<ul style="list-style-type: none"> • Typically requires 20% match • \$2 billion authorized in FY 2013
Highway Safety Improvement Program (HSIP)	<ul style="list-style-type: none"> • Bicycle or pedestrian projects on any public road, bike path, or trail 	<ul style="list-style-type: none"> • Typically requires 10% match • \$2 billion authorized in FY 2013
State and Community Highway Safety Grant Program (Section 402)	<ul style="list-style-type: none"> • Education, enforcement, and research programs designed to reduce traffic crashes, deaths, injuries, and property damage 	<ul style="list-style-type: none"> • Administered by the Governor’s Representative for Highway Safety • \$235 million authorized in FY 2013
Surface Transportation Program (STP)	<ul style="list-style-type: none"> • Projects on federal-aid highway • Safety brochure or book • Technical assistance 	<ul style="list-style-type: none"> • Typically requires 20% match • \$10 billion authorized in FY 2013
Transportation Alternatives Program (TAP)	<ul style="list-style-type: none"> • Pedestrian and bicycle facilities • Recreational trails • Safe Routes to School projects • Technical assistance • Programmed through the Strategic Transportation Investments – Strategic Mobility Formula process 	<ul style="list-style-type: none"> • Typically requires 20% match • Can be received directly by local governments • \$808 million authorized in FY 2013
Urbanized Area Formula Program (UZA)	<ul style="list-style-type: none"> • Public transportation projects • In urbanized areas of more than 200,000 at least 1% of funds must be used for bicycle and pedestrian 	<ul style="list-style-type: none"> • Typically requires 20% match • \$2 billion authorized in FY 2013



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

SOURCE	ELIGIBLE PROJECTS	FINANCIAL
	facilities	
State Funding Sources		
Clean Water Management Trust Fund (CWMTF)	<ul style="list-style-type: none"> • Projects that enhance or restore degraded waters, acquire land with ecological, cultural, and historic significance • Greenway (shared use path) projects are eligible 	<ul style="list-style-type: none"> • Requires matching funds • Annual grant cycle
Land and Water Conservation Fund (LWCF)	<ul style="list-style-type: none"> • Land acquisition and/or development projects for public outdoor recreation and/or to protect outstanding natural or scenic resources • Projects must be on a single site 	<ul style="list-style-type: none"> • Requires 50% match • Administered by the Division of Parks and Recreation
Parks and Recreation Trust Fund (PARTF)	<ul style="list-style-type: none"> • Acquisition and/or development of park and recreational projects 	<ul style="list-style-type: none"> • Requires 50% match • Administered by the Division of Parks and Recreation
Powell Bill	<ul style="list-style-type: none"> • “Maintaining, repairing, constructing, reconstructing or widening of any street or public thoroughfare within the municipal limits or for planning, construction, and maintenance of bikeways, greenways or sidewalks.” 	<ul style="list-style-type: none"> • Annual allocation from the State to qualifying municipalities • \$30,875 awarded to Saluda in FY 2014
Recreational Trails Program	<ul style="list-style-type: none"> • Trail construction • Trail facilities and amenities • Programs that promote safety and environmental protection as they relate to recreational trail projects 	<ul style="list-style-type: none"> • Maximum grant award \$200,000 • Requires 25% match • Federal funds managed by the Division of Parks and Recreation
Strategic Mobility Formula	<ul style="list-style-type: none"> • Limited funding for bicycle and pedestrian projects that are at least \$100,000 and included in a locally adopted plan • Programmed through the Strategic Transportation Investments – Strategic Mobility Formula process 	<ul style="list-style-type: none"> • State funds may not be used for a local match (except for Powell Bill funds) • MPOs/RPOs may submit up to 20 bicycle/pedestrian projects • Right-of-way is not an eligible expense
Safe Routes to School (SRTS)	<ul style="list-style-type: none"> • Infrastructure projects within 2 miles of a K-8 school 	<ul style="list-style-type: none"> • No match required • Currently funding with leftover

CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN



SOURCE	ELIGIBLE PROJECTS	FINANCIAL
	<ul style="list-style-type: none"> Project must be within the public right-of-way 	SRTS funds, once expended TAP funds will be used and programmed through the Strategic Transportation Investments – Strategic Mobility Formula process
Local Funding Sources		
Capital Reserve Fund	<ul style="list-style-type: none"> May be used to fund bicycle and pedestrian infrastructure projects 	<ul style="list-style-type: none"> The City Board of Commissioners would establish the fund through an ordinance May be financed through City budget allocations, grants, and donations
Community Crowdfunding	<ul style="list-style-type: none"> Unrestricted source of funds, would apply to bicycle and pedestrian linear facilities and spot improvements 	<ul style="list-style-type: none"> City residents make monetary contributions through online platforms such as Citizenvestor City would pay a nominal fee
Fees	<ul style="list-style-type: none"> The fee ordinance would establish which projects are eligible Shared use path projects may be eligible for funds generated by stormwater fees as these projects could mitigate the effects of runoff 	<ul style="list-style-type: none"> Would require adoption by the City Board of Commissioners Fee types may include stormwater fees assessed per area of impervious surface or streetscape fees assessed per length of street frontage
General Obligation Bonds	<ul style="list-style-type: none"> May be used to fund bicycle and pedestrian infrastructure projects 	<ul style="list-style-type: none"> Would require adoption by the City Board of Commissioners Would require approval by City residents
Special Tax District	<ul style="list-style-type: none"> May be levied by the municipality to raise funds to provide services or fund projects such as bicycle and pedestrian infrastructure projects 	<ul style="list-style-type: none"> Would require adoption by the City Board of Commissioners
Tax Increment Financing	<ul style="list-style-type: none"> Pedestrian and bicycle infrastructure improvements, land acquisition, utilities, and other improvements 	<ul style="list-style-type: none"> Increased property values resulting from the constructed facility are used to pay the debt borrowed to build the facility

Data sources: Advocacy Advance, MAP-21 Find It, Fund It!; NCDOT, Strategic Transportation Investments; NC Clean Water Management Trust Fund; NC Division of Parks and Recreation



Appendix E: Cost Estimates

This appendix contains the cost figures used in the project estimates process. The cost figures are from the Pedestrian and Bicycle Information Center’s *Costs for Pedestrian and Bicyclist Infrastructure Improvements*.

Table E-1: Cost Estimate Figures for Linear Facilities

ITEM	ESTIMATED COST (per mile)*	DESCRIPTION
<p>Sidewalk (1 Side / 2 Sides)</p>	<p>\$142,500 / \$285,000</p>	<p>Sidewalk is concrete and 5 feet wide, 4 inches thick.</p>
<p>Bicycle Lane</p>	<p>\$90,000</p>	<p>Bicycle lane is 5 feet wide</p>
<p>Shared Use Path</p>	<p>\$330,000</p>	<p>PBIC Report provided a cost figure of \$261,000/mile for an 8 foot wide paved path. This was factor was scaled proportionally for a 10 foot wide path.</p>

*Costs rounded to the nearest \$5,000.



CITY OF SALUDA BICYCLE AND PEDESTRIAN PLAN

Table E-2: Cost Estimate Figures for Spot Improvements

ITEM	ESTIMATED COST (per item)*	DESCRIPTION
Striped Crosswalk	\$300	Regular striped crosswalk. Price given is per linear segment.
Crossing Island	\$10,000	Also known as pedestrian refuges, islands are placed in the center of street at mid-block crossings
Bicycle Rack	\$500	A traditional inverted U-shaped rack for parking and securing bicycles
Bollard	\$700	Bollards are posts embedded in the ground at entrances to shared use paths to separate pedestrians and cyclists from motorized traffic.
Flashing Beacon	\$5,000	Flashing beacons are typically used in conjunction with pedestrian crossings to provide an enhanced warning for vehicles to yield to pedestrians.
Wayfinding/ information sign	\$500	Provides maps and information about the facility

*Costs rounded to the nearest hundred or thousand.



Maple St



MAPLE