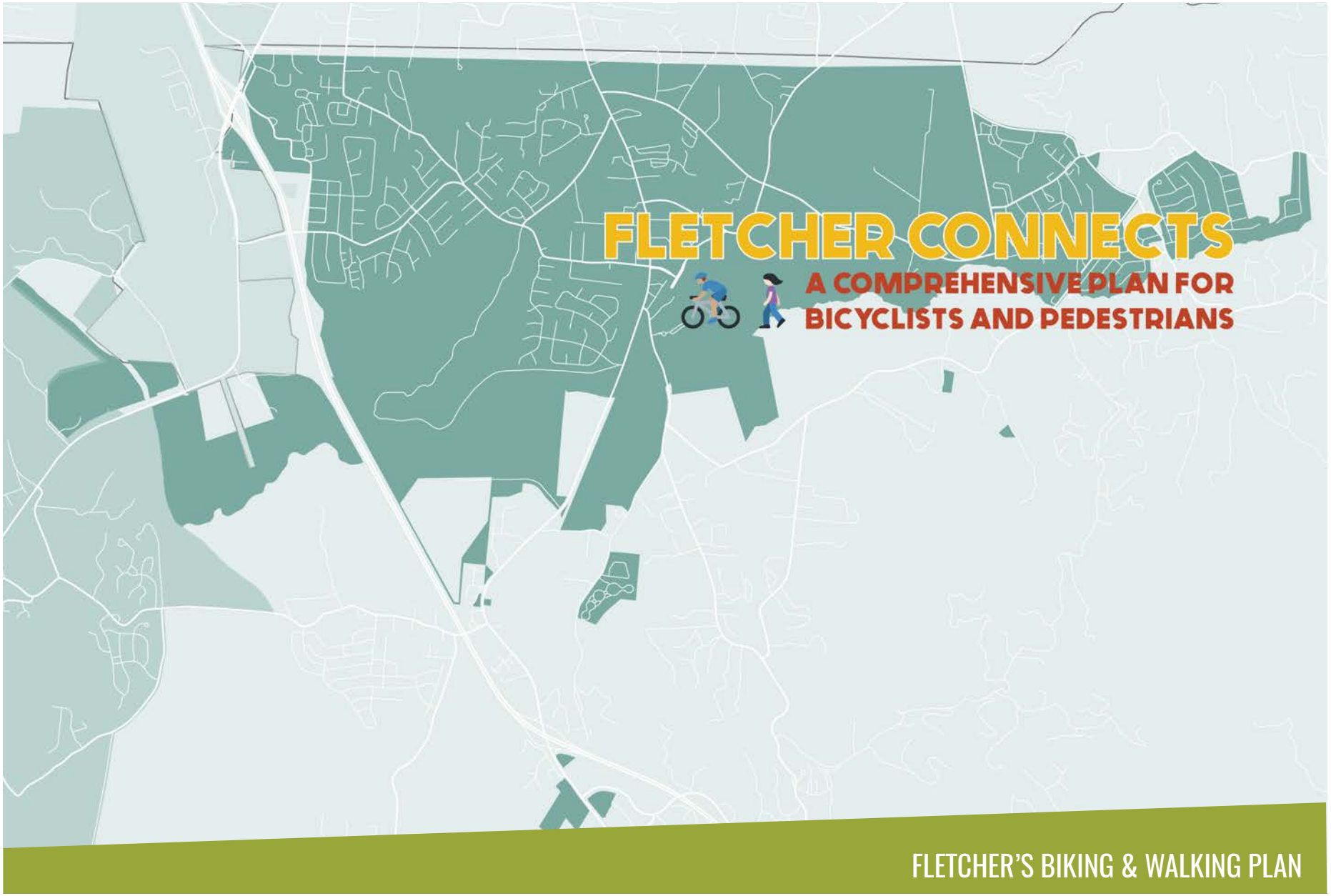
FLETCHER CONNECTS: A Comprehensive Bicycle and Pedestrian Plan

NOVEMBER 2020



FLETCHER CONNECTS

A COMPREHENSIVE PLAN FOR BICYCLISTS AND PEDESTRIANS

FLETCHER'S BIKING & WALKING PLAN

ACKNOWLEDGMENTS

A plan like Fletcher Connects represents the combined efforts of many individuals and organizations. The following people had a critical role in the creation of this document.

THE MANY RESIDENTS AND VISITORS OF FLETCHER

FLETCHER TOWN COUNCIL (ADOPTING BOARD)

Mayor Rod A. Whiteside

Mayor Pro-Tem Bob Davy

Councilwoman Sheila Franklin

Councilman Preston Blakely

Councilman Eddie Henderson

FLETCHER PLANNING BOARD / ZONING BOARD OF ADJUSTMENT

George Clayton

Duane Gentle

Lucas Armeña

Joe Tandy

Pat Clark

Keith Reed

Robert Lance

Grace Deal

FLETCHER CONNECTS STEERING COMMITTEE

Rod Whiteside, *Fletcher Mayor*

Greg Walker, *Town of Fletcher Parks and Recreation Director*

Hunter Jones, *Town of Fletcher Parks and Recreation*

Donald "Jabbo" Pressley, *Town of Fletcher Public Works Director*

LoriKay Paden, *Fletcher Area Business Association, Fletcher YMCA*

Michael Luplow, *Fernleaf Charter School*

Janna Peterson, *Henderson County*

Joe Sanders, *AARP and Blue Ridge Bicycle Club*

Daphne Kirkwood, *iDaph: Race Event Planning*

Grace Deal, *Fletcher Planning Board*

Tristan Winkler, *French Broad River Metropolitan Planning Organization (FBRMPO)*

Vanessa Goldberg, *Fletcher Parks and Recreation Advisory Board*

Eddie Barrell, *Fletcher Town Council*

FLETCHER PROJECT MANAGER

Eric Rufa, CFM, *Fletcher Planning Director*

North Carolina Department of Transportation (NCDOT)

Steve Williams, *North Carolina Department of Transportation (NCDOT) Division 14 Planning Engineer*

Kathryn Zeringue, *NCDOT Integrated Mobility Division*

CONSULTING TEAM

Traffic Planning and Design, Asheville NC

Kristy Carter, AICP

Christy Staudt, PE

Rachael Bronson, AICP

Chipley Consulting, Asheville NC

Sealy Chipley

TOWN COUNCIL ADOPTION DATE

November 9, 2020

Integrated Mobility Division
N.C. DEPARTMENT OF TRANSPORTATION

BLUE RIDGE BICYCLE CLUB
Western North Carolina

Thank you to the Blue Ridge Bicycle Club for providing matching funds for the Fletcher Connects planning process.

PLANNING FOR ALL AGES & ABILITIES

TABLE OF CONTENTS

TABLE OF CONTENTS

INDEX OF CHARTS, FIGURES, IMAGES, MAPS, PROJECTS & TABLES

CHARTS

FIGURES

IMAGES

INDEX OF CHARTS, FIGURES, IMAGES, MAPS, PROJECTS & TABLES

MAPS

INDEX OF CHARTS, FIGURES, IMAGES, MAPS, PROJECTS & TABLES

PROJECTS

TABLES

RIDING BICYCLES AT BILL MOORE PARK

01. INTRODUCTION

Fletcher's residents and Town leadership have placed a priority on sidewalk and greenway expansion with recent pedestrian and greenway planning and construction efforts. That, coupled with the fact that Fletcher is the second-fastest-growing community in Henderson County, led the initiation of this project. In 2018, the Town of Fletcher applied for a Bicycle and Pedestrian Planning Grant from the NCDOT Integrated Mobility Division; and in 2019, they were awarded funding to develop a Pedestrian and Bicycle Plan. This Plan will provide a framework for the Town, residents, NCDOT, developers and other partners to create the vision of a multimodal network and supporting policies.

VISION & GOALS

Vision and goal statements are helpful for planning projects such as this, as it provides focus and allows any recommendations to be measured against the stated community desires. A vision statement is aspirational and is typically interpreted as someone in the future speaking about their present-day. The following represents the project vision and goals as developed with the Project Steering Committee.

The following goals set the foundation for this Plan:

1. Build a safe and comfortable network
2. Expand the network
3. Foster healthy people and the environment
4. Promote access to destinations, including parks and recreation facilities, proximity to jobs, proximity to schools, proximity to basic needs (food, medical, etc.)
5. Promote an equitable and inclusive Fletcher

WHY THIS PLAN IS IMPORTANT

Building walk and bicycle friendly communities has certainly become more commonplace in the US over the last decade, and for good reason. The return on investment from multimodal programs and infrastructure is significant; bicycling and walking is great for communities large and small, urban and rural, and everything in between. These benefits are not just at the community level but also for the individual quality of life. In a community like Fletcher, where there is currently limited bicycle and pedestrian facilities, these benefits are especially meaningful, and the impacts will be significant.

Pedestrian Mobility

A pedestrian is the fundamental transportation user and is the baseline for any transportation system. By planning for people walking, we are planning for all users, including the most vulnerable: young, elderly, and disabled. Walking provides quick and convenient access and is the most affordable transportation mode. In addition, walking is a part of every trip. Whether a person choses walking, bicycling, transit or personal vehicle as their primary mode of transportation, each trip begins and ends as a pedestrian. Mobility for people walking is essential to any community's transportation system.

Bicycle Mobility

Similar to walking, bicycling provides quick and convenient access to destinations. A bicycle provides a user the option to travel farther than they can on foot, thereby increasing mobility for short trips. A bicycle is more affordable than a vehicle, and bicycling is more accessible in the sense that it does not require a license to use. Efficiencies are gained for people traveling by bicycle while still offering an affordable, accessible option of transportation.

Equity: Driving Isn't an Option for Everyone

Simply put, travel by vehicle isn't an option for everyone. Many people are physically unable to drive a vehicle, cannot afford the onerous costs of car ownership (see Figure 1 for a description of costs), or choose to not drive for other reasons. Socio-economic factors such as age, disability, race and income all impact transportation choice. Providing transportation options and access for these individuals can mean freedom of movement, which translates as significant benefits to the health of the individual and community.

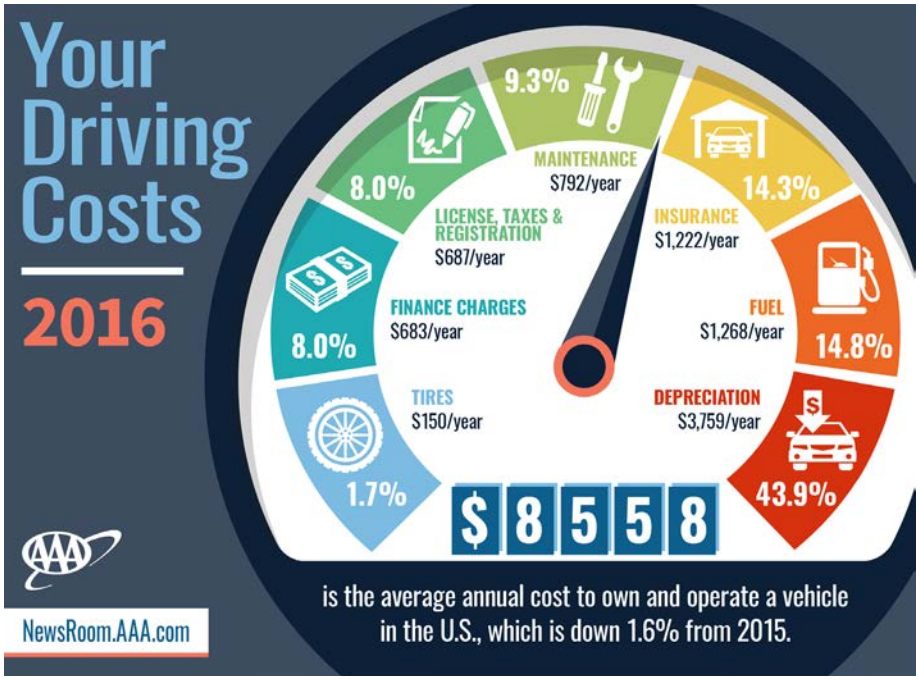
Age

According to the US Census, by 2035 there will be more people over the age of 65 in the United States than under 18. In Fletcher alone, the population of those over the age of 65 living in the town rose 22% between 2010 and 2018.[1] The 2018 League of American Bicyclists Benchmarking Report reveals that the percentage of walking trips taken by people over the age of 65 in the US rose from 8.8% in 2009 to 13.8% in 2017 – an increase

[1] *U.S. Census Bureau (2018). Age and sex subject tables, 2014-2018 American Community Survey 5-year estimates. [Data set]. https://data.census.gov.*

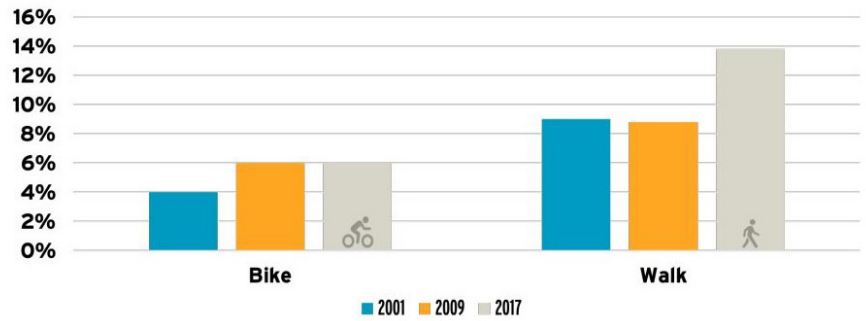
Image 1. People Walking Along Souther Road in Fletcher

Figure 1. According to AAA, 2019 It Costs $9,282/Year to Own and Drive a Car; the Following Infographic Describes Costs in 2016



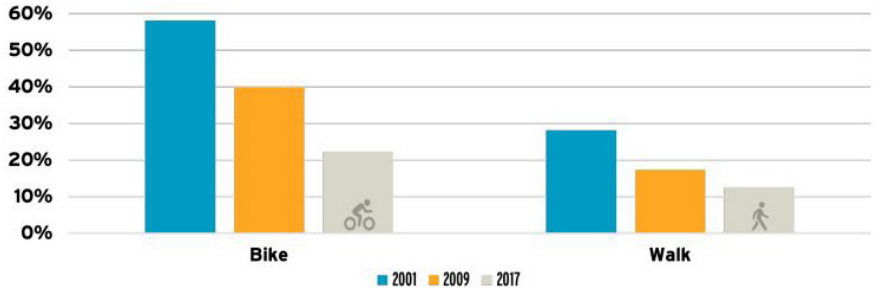
Source: AAA, NewRoom.AAA.Com

Figure 2. Percent of Trips by People Over the Age of 65



Source: League of American Bicyclists Benchmarking Report

Figure 3. Percent of Trips by Children & Youth (Age 5 to 15)



Source: League of American Bicyclists Benchmarking Report

that was greater than the increase in the share of that population.[2] These findings, coupled with the growth of the elderly population, is a reminder that people in this already growing age group are walking more and will become increasingly reliant on this mode of travel. Figure 2 from the 2018 Benchmarking Report reveals this increase in walk mode share among the elderly, along with a slight increase for those choosing to bike (mode share, sometimes referred to as mode split, is the percent of people that use a particular mode of transportation).

On the other end of the age spectrum, increasingly fewer children bike and walk to school than 50 years ago. In 1969, 48% of children walked or biked to school and in 2009 that number fell to 13%.[3] Data from the 2017 National Household Travel Survey (NHTS) from the Bureau of Transportation Statistics reveals that biking and walking for any purpose has also declined significantly from 2001 to the recent assessment of the 2017 NHTS for youth, as shown in Figure 3.[4]

Like the elderly, this age group does not have the ability or resources to drive a vehicle. It is important to consider their mobility needs as we plan transportation systems. Multimodal systems provide freedom of mobility and access to more resources for the next generation. In addition, an expanded network for walking and biking provides additional access to outdoor activities and access to physical activity, which is essential given the increase in obesity among youth.[5]

[2] The League of American Bicyclists. (2018). Bicycling and Walking in the United States: 2018 Benchmarking Report. https://bikeleague.org/benchmarking-report.
[3] The League of American Bicyclists. (2018). Bicycling and Walking in the United States: 2018 Benchmarking Report. https://bikeleague.org/benchmarking-report.
[4] The League of American Bicyclists. (2018). Bicycling and Walking in the United States: 2018 Benchmarking Report. https://bikeleague.org/benchmarking-report.
[5] Centers for Disease Control and Prevention. (2019, June 24). Childhood Obesity Facts. https://www.cdc.gov/obesity/data/childhood.html#:~:text=Prevalence%20of%20Childhood%20Obesity%20in%20the%20United%20States&text=For%20children%20and%20adolescents%20aged,to%2019%2Dyear%2Dolds.

Disability

The US Census reveals that 12.6% of the US population has a disability, as does 11.5% of Fletcher's population.[6] Data from the NHTS reveals that 3.6 million of the US population (1.1%) do not leave their home because of their disability. Those that do leave their home take fewer trips per day, and 7 out of 10 people reduce their travel altogether.[7] This is a significant portion of the US population that may need other transportation options than what is provided by a motor vehicle.

Income

NHTS data reveals that for many in the lower-income brackets, bicycling is more about earning a living than it is for recreation. According to the 2017 NHTS, 20% of all trips by bike were taken to work to earn a living and 7% of walk trips for the same purpose. Between 2009 and 2017, bicycling trips taken to "earn a living" increased from 12.7% to 20% of all trips. According to Census data, bicycling and walking are a more common means of transportation to work for those who earn less. In every state, people who walk to work are more likely to have incomes of 150% of the federal poverty level or less than the general population.[8] In Fletcher, 8.5% of households are considered in poverty; cost-burdened households in Fletcher accounted for 25.8% of owners with a mortgage and 42.6% of renters (households that pay 30% or more of their income on housing costs).[9] These findings emphasize the importance that viable transportation options are to ensure that people of lower-income, who are in most need, can continue to access jobs.

[6] U.S. Census Bureau (2018). Disability characteristics, 2014-2018 American Community Survey 5-year estimates. [Data set]. https://data.census.gov
[7] Lawrence, Stephanie. (2018, December 11). Travel Patterns of American Adults with Disabilities. Bureau of Transportation Statistics. https://www.bts.gov/topics/passenger-travel/travel-patterns-american-adults-disabilities
[8] The League of American Bicyclists. (2018). Bicycling and Walking in the United States: 2018 Benchmarking Report. https://bikeleague.org/benchmarking-report.
[9] U.S. Census Bureau (2018). 2014-2018 American Community Survey 5-year estimates. [Data set]. https://data.census.gov

Image 2. Person in a Wheelchair Navigating a Narrow and Constrained Sidewalk

Image 3. Walking the Greenways and Paths in Bill Moore Park

Race

According to NHTS data, race is also a predictor of reliance on walking. In all but a few US states, people of color are over-represented among people who commute to work by foot. Taking this a bit further, people of color are also much more likely to be over-represented among people who take transit to work than those who walk to work, according to a review from the 2018 Benchmarking Report of the 50 largest cities in the US.[10]

The Benefits

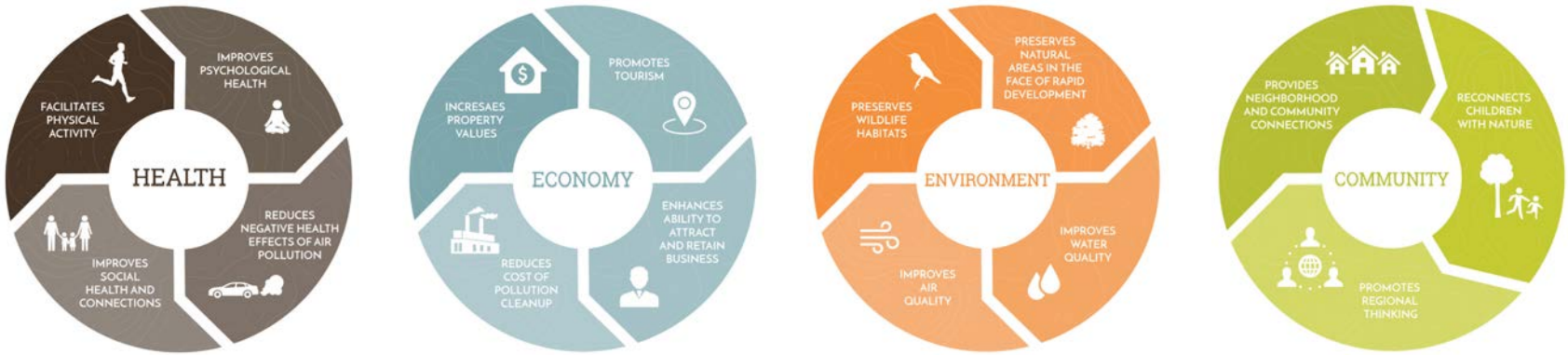
These data and findings all point to the importance of biking and walking for quality of life. Mobility for people choosing to walk or bike is critical to access to jobs, healthcare, resources and their community. The freedom of mobility choice is powerful to ensure individuals and the communities they thrive in.

Safety

When roads are designed to be safe and accommodating for people walking and biking, they become safer for all transportation users.[11] By designing for these baseline users, communities can build safe transportation systems that everyone deserves.

[10] The League of American Bicyclists. (2018). Bicycling and Walking in the United States: 2018 Benchmarking Report. https://bikeleague.org/benchmarking-report.
[11] Wesley E. Marshall, Nicholas N. Ferenchak. (2019). Why cities with high bicycling rates are safer for all road users. Journal of Transport & Health. DOI: 10.1016/j.jth.2019.03.004

Figure 4. The Many Benefits of Bicycling and Walking Infrastructure



Source: Carolina Thread Trail

Vulnerable Users

People walking and biking are known as vulnerable users of our streets given the inherent fact that they are not protected by a vehicle and the laws of physics are against them if involved in a collision with a car. These users are also vulnerable because they are disproportionately represented in crashes, a trend that has been increasing consistently for over a decade. Figure 5 underscores this issue, showing the increasing share of all traffic fatilities that involve a pedestrian, a statistic that is much higher than the percentage of users that travel by foot.

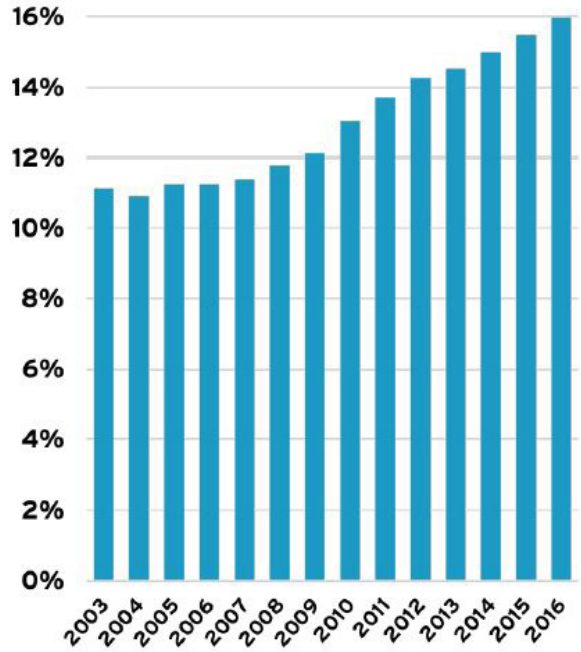
The most recent data from National Highway Traffic Safety Administration (NHTSA) reveals some equally sobering statistics. In 2017, on average, a person walking was killed every 88 minutes in traffic crashes in the US. That equates to more than 16 people a day, almost 115 people a week. This comprises 16% of the total traffic fatalities.[12] In 2017, there were 783 people on bicycles killed in crashes with motor vehicles, accounting for 2.1% of all traffic fatalities.[13]

According to data presented from NC Vision Zero, a statewide initiative to reduce fatalities and serious injuries using data-driven prevention strategies, there were 231 people killed while walking in North Carolina in 2019 (a 2% increase from 2019). Each year in North Carolina, more than 2,400 people walking are involved in collisions with vehicles (Figure 6). In 2019, 17 people biking were killed on state roads, and an average of 960 people biking were involved in crashes with vehicles annually.[14] The current conditions section of this report explores these statistics for Fletcher in further detail.

Solution: Safety in Numbers

Although these findings present significant challenges, there are proven countermeasures and solutions at hand. There is an observed and well-

Figure 5. Percent of All Traffic Fatalities that are Pedestrians



Source: League of American Bicyclists Benchmarking Report

Figure 6. NC Pedestrian Crash Statistics

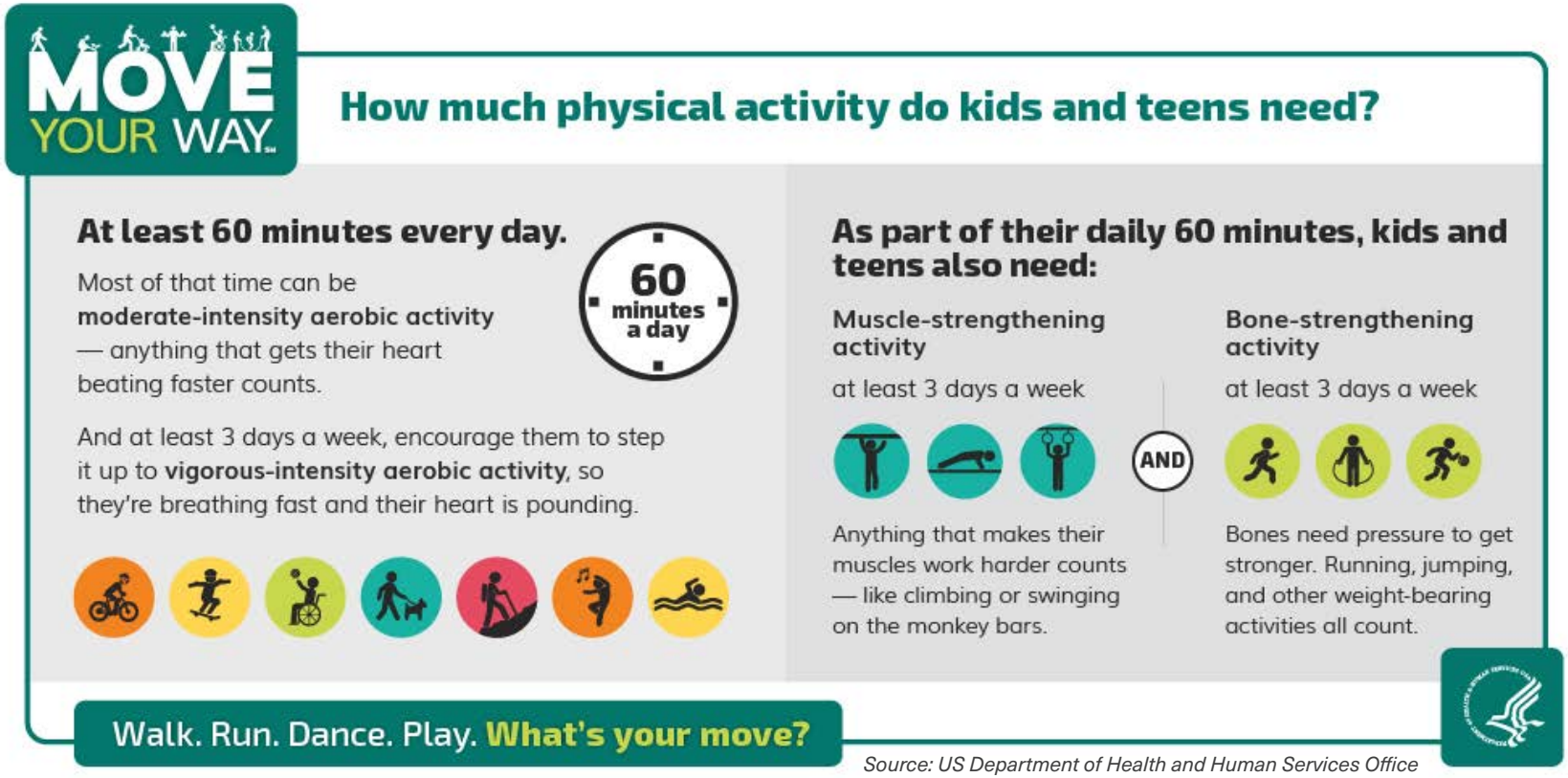
Source: NC Vision Zero

[12] *National Highway Traffic Safety Administration, National Center for Statistics and Analysis. (2019, March). 2017 Data: Pedestrians. Traffic Safety Facts. Report No. DOT HS 812 681. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812681*

[13] *National Highway Traffic Safety Administration, National Center for Statistics and Analysis. (2019, June). 2017 Data: Bicyclists and other cyclists. Traffic Safety Facts. Report No. DOT HS 812 765. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812765#:~:text=Seventy%2Dfive%20percent%20of%20pedalcy,in%20crashes%20in%20urban%20areas.&text=Over%20the%20past%2010%20years,increased%20from%2041%20to%2047.*

[14] *NC Vision Zero (2020). Safety Dashbard [Data set]. www.ncvisionzero.org*

Figure 7. Physical Activity Recommendations for Kids and Teens



Source: US Department of Health and Human Services Office of Disease Prevention and Health Promotion.

documented pattern in traffic safety known as "safety in numbers." This concept reveals that the more people that travel by walking and biking, the safer conditions become. The 2018 Benchmarking Report explores this topic for the 50 largest cities in the US, where the inverse relationship between rates of use and fatalities is clear. Various other studies have proven this point: communities that grow their infrastructure for people biking and walking find decreased rates of fatalities, crashes and serious injuries across the board. As will be explored in the following sections, there are numerous individual and community benefits result when more people walk and bike.

Health

Roads that are safer for people walking and biking offer inherent health benefits given the reduction of serious injury and fatality. In addition to these positive outcomes, there are several related health outcomes to bicycling and walking.

The Centers for Disease Control find that adults reap substantial health benefits from just 20-25 minutes/day of physical activity, and these benefits increase even more with 40-45 minutes a day of activity. However, currently only half of the adults living in the US meet the recommended levels of

CDC Activity Friendly Routes

Activity-friendly routes to everyday destinations is a strategy that improves the design of communities by connecting routes such as sidewalks, trails, bicycle lanes, and public transit to destinations such as grocery stores, schools, worksites, libraries, parks, or health care facilities. This strategy makes it safe and easy to walk, bicycle, or wheelchair roll for people of all ages and abilities. States, local governments, and community organizations use the following approaches to carry out this strategy:

- Complete Streets Policies: Complete Streets policies support the routine design and operation of streets and communities that are safe for all pedestrians, regardless of age, ability, or transportation mode. Key features found on Complete Streets include sidewalks, protected bike lanes, special bus lanes, comfortable and accessible transit stops, frequent crossing opportunities, median islands, accessible pedestrian signals, and curb extensions.

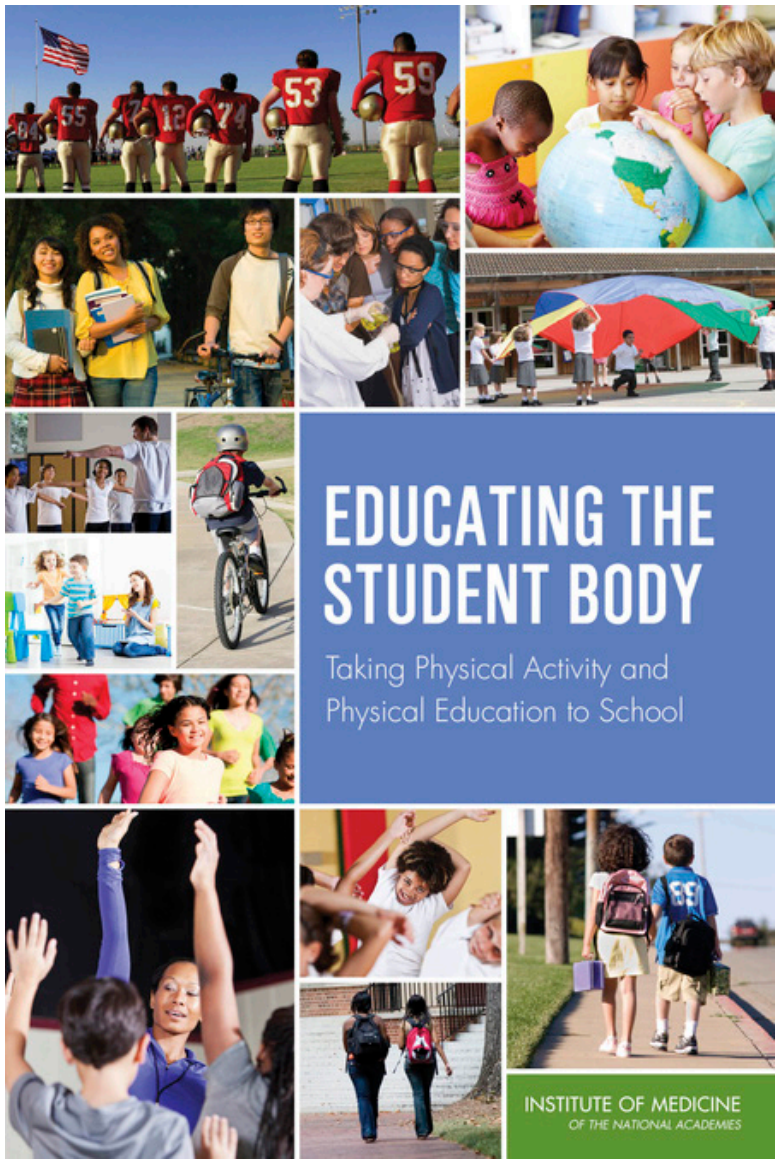
- Comprehensive or Master Plans: A comprehensive plan, also called the general plan or community master plan, is the official statement of a local government establishing policies for its long-term development. These documents can be created through a collaboration between citizens, planners, and city leaders to include policies that guide investments to improve residents' health outcomes by increasing physical activity opportunities.

- Zoning Policies: Zoning policies influence the design of communities and the location of different land use types, such as commercial and residential development. This can influence distances between the two and in turn the feasibility for active travel. Policies outlined in comprehensive or master plans often guide zoning codes and other land development regulations.

- Safe Routes: Safe routes is a comprehensive approach to improve safety and security for everyone walking, bicycling, and wheelchair rolling. Safe Routes approaches such as Safe Routes to School and Safe Routes to Parks include infrastructure improvements for better traffic laws, safety education, and incentives to encourage walking and bicycling to community destinations.

Source: Centers for Disease Control and Prevention. (2020, June 9). Activity Friendly Routes to Everyday Destinations. (2020, August 24). https://www.cdc.gov/nccdphp/dnpao/features/walk-friendly-communities/index.html

Figure 8. Educating the Human Body



Source: Centers fro Disease Control and Prevention

physical activity. For children, this target should be around 60 minutes/day (Figure 7). Walking alone is proven to offer numerous health benefits for the brain, heart, and physical health, including a reduction in chronic disease, heart disease and cancer. The CDC offers several strategies that promote healthy living by modifying the built environment to provide walking and biking opportunities. As noted by the CDC: "Ultimately, individuals make the decision to walk. However, the decision to walk can be made easier by improving and connecting routes and destinations in communities. Modifying the built environment makes it easier for people of all ages and abilities to walk, bike, run, or roll."[15]

Fletcher is not exempt from the many national health concerns that are linked to inactivity. Statistics indicate that Henderson County has a 35.4% rate of overweight individuals and a 9.9% rate of adult diabetes. The County has identified Physical Activity and Nutrition as the number three health improvement priority and has established the Henderson County Committee for Activity and Nutrition (HC-CAN) to help identify and implement programs. HC-CAN is working on projects and programs to increase opportunities to be physically active and increase accessibility of healthy foods. One such project is the development of the County Greenway Master Plan.

Increased physical activity has been shown to slow down aging in the elderly, and in children, it has been shown to improve learning. In a comprehensive study, called Educating the Student Body: Taking Physical Activity and Physical Education to School (Figure 8) , researchers conducted a comprehensive physical activity program for youth. The findings include enhancements to attention, memory and greater capacity for learning, with most positive influences on mathematics and reading subject matters.[16]

[15] Centers for Disease Control and Prevention. (2020, August 24). Designing Activity-Friendly Communities. https://www.cdc.gov/nccdphp/dnpao/features/walk-friendly-communities/index.html

[16] Institute of Medicine. 2013. Educating the Student Body: Taking Physical Activity and Physical Education to School. Washington, DC: The National Academies Press. https://doi.org/10.17226/18314.

Figure 9. Fletcher is Home to Two Widely Popular Bicycle Parts Manufacturers

Economics

Bicycling and walking improve the economy at many scales – the individual, business and community.[17] Recent studies from North Carolina also provide significant evidence of the economic benefit of greenways.

The Individual

The cost of purchasing, maintaining and parking a bicycle (or in the case of walking, no bicycle is involved) is significantly less than a vehicle, allowing any additional income to be dedicated to other needs. The ease of access by foot and bike also translates to better access to resources and other individual needs, such as healthcare and basic shopping needs. Biking and walking reduce healthcare costs to the individual and allows more leisure time, which translates to mental health benefits.

Business Community

When employees partake in more bicycling and walking, businesses benefit due to reduced healthcare costs and less sick time. The outdoor industry also benefits when there are more dedicated bicycle and pedestrian facilities given the increase in sales resulting in more jobs, wages, and business output. Fletcher is home to two international bicycle parts manufacturers – Cane Creek Cycling Components and FOX. Finally, the construction and operations/maintenance of bicycle and pedestrian facilities also results in benefits to the business community in terms of jobs, wages and business output.

Community At-Large

The community benefits from bicycling and walking infrastructure in three primary ways: increase in property values, property tax, and the benefits to the environment. Many communities leverage the potential of bicycle-specific tourism and understand that bicycle and pedestrian infrastructure, which is more cost-effective than other forms of infrastructure, is a way to create jobs. There are also societal benefits when traffic congestion is reduced as a result of more bicycling and walking.

Benefits in NC

Two recent studies in North Carolina underscore these benefits. In 2016, NC State University's Institute of Transportation Research and Education (ITRE) released findings from a study that provides empirical evidence that constructing bicycle and pedestrian facilities, particularly those that fill a critical link in non-motorized transportation network, will result in measurable positive impacts. Specifically, they found that after construction of a bicycle and pedestrian bridge, trail users' annual expenditures supported an additional 43 jobs, $1.3 million in employee compensation, and $4.9 million in gross business revenues.[18]

In 2018, ITRE released a study evaluating the economic impacts of four shared use paths in North Carolina.[19] The study found that every $1.00 of trail construction supports $1.72 annually from local business revenue, sales tax revenue, and benefits related to health and transportation. See Figure 10 for additional study findings.

[17] *Flusche, Darren. (2012, July). Bicycling Means Business: The Economic Benefits of Bicycle Infrastructure. The League of American Bicyclists. https://bikeleague.org/sites/default/files/Bicycling_and_the_Economy-Econ_Impact_Studies_web.pdf*

[18] *Institute of Transportation Research and Education. (2014). Bridging the Gap: Economic, Health and Transportation Impacts from Completing a Critical Link in a 22-mile rail trail. https://itre.ncsu.edu/focus/bike-ped/att-beforeafter/*

[19] *Institute of Transportation Research and Education. (March 2018). Evaluating the Economic Impact of Shared Use Paths in North Carolina. https://itre.ncsu.edu/focus/bike-ped/sup-economic-impacts/*

Mobility & Sustainability

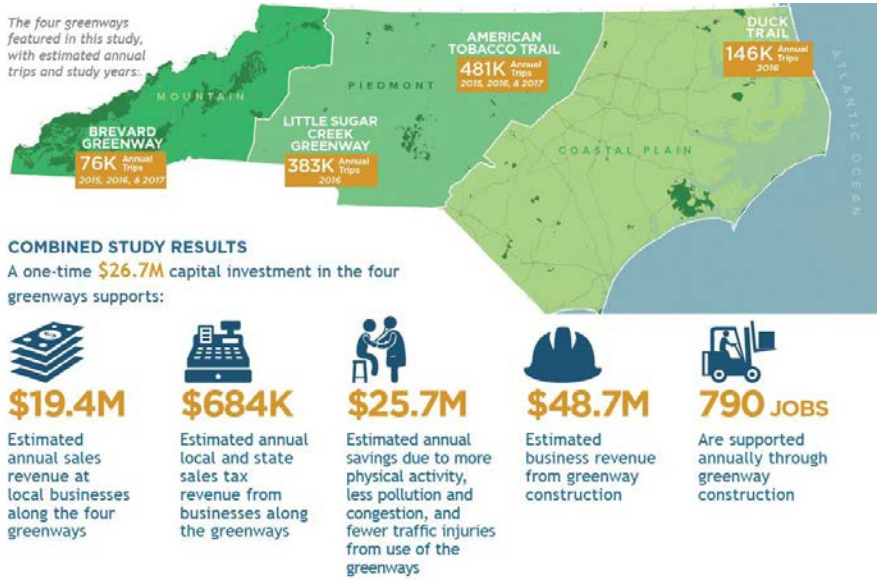
Walking and biking investments result in increased use by those modes, which has benefits to community sustainability. In the ITRE study cited earlier of the bridge connection project, the link resulted in a 4% increase in active travel to the trail, a 27% increase in trip distance and a 2% increase in through travel on the trail. These individual travel behavior changes can have larger benefits to a community in terms of reduced vehicle miles traveled, reduced congestion and improved air quality. Studies have shown a reduction in Average Annual Daily Traffic (AADT – the total volume of vehicle traffic for a year divided by 365 days) during major Bike to Work Day events.[20] These reductions in AADT, and subsequent Vehicle Miles Traveled, can have significant impacts to mobility and sustainability in a community.

[20] *Nordback, K. (2014). Bike to Work Day: Increasing Cycling and Reducing Driving.*

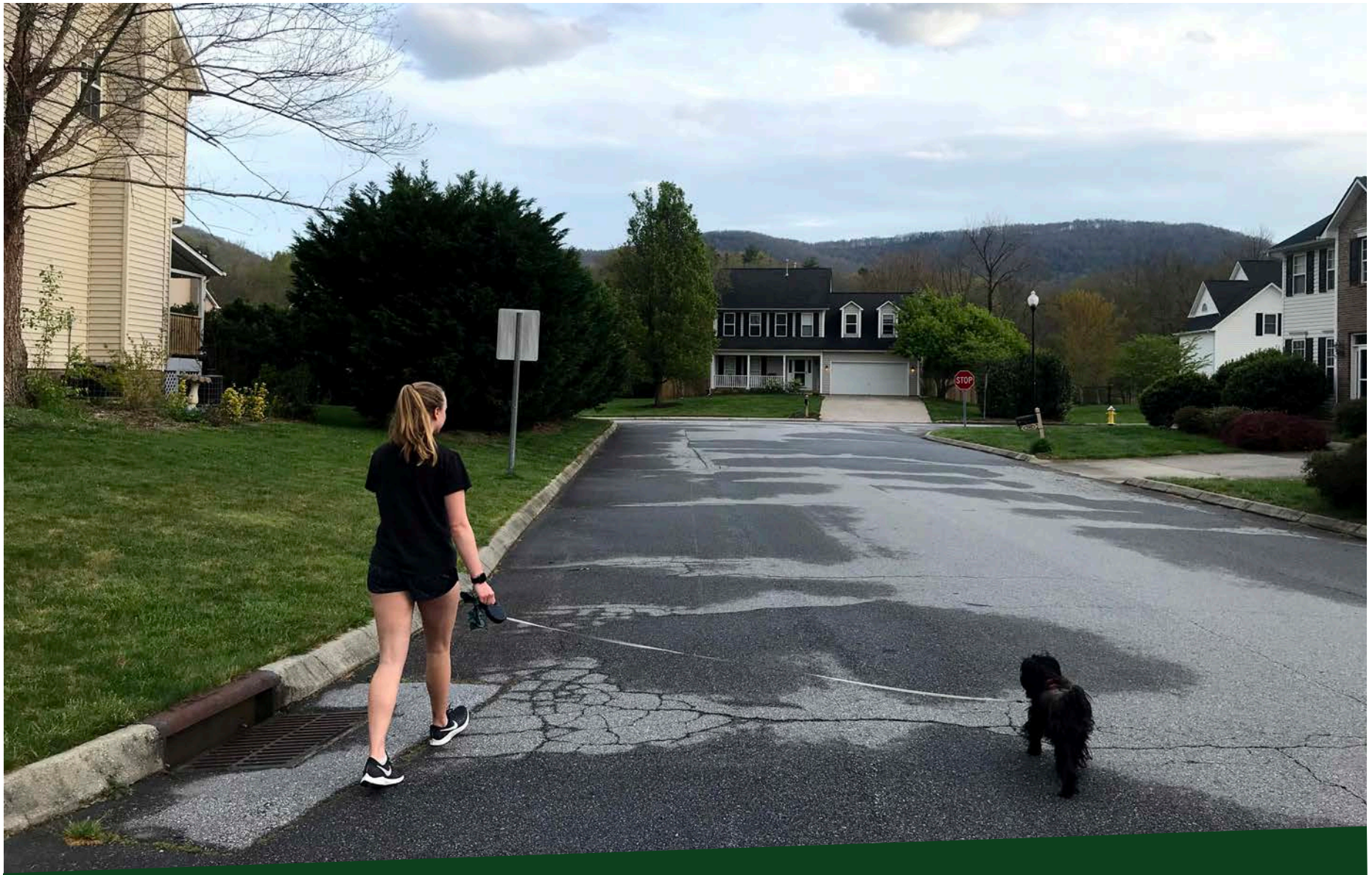
According to the Environmental Protection Agency, the transportation sector contributes to the largest share of greenhouse gas emissions in the United States, at 28%; shifting some of these trips away from driving will provide important benefits to the community in terms of improved air quality and reduced congestion.[21]

[21] *U.S. Environmental Protection Agency. (2019, July). Fast Facts on Transportation Greenhouse Gas Emissions. https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions*

Figure 10. Infographics from 2018 ITRE Study on Economic Impacts of Four Shared Use Paths in NC



Source: Institute for Transportation Research and Education (ITRE)



FLETCHER'S LOW STRESS NEIGHBORHOOD STREETS

02. CURRENT CONDITIONS

COMMUNITY OVERVIEW

Demographics

The following is a summary of Fletcher's demographics as revealed in the U.S. Census American Community Survey (2014-2018).[1] All findings are reported for the 2014-2018 timeframe, the most recently available data at the time of this report.

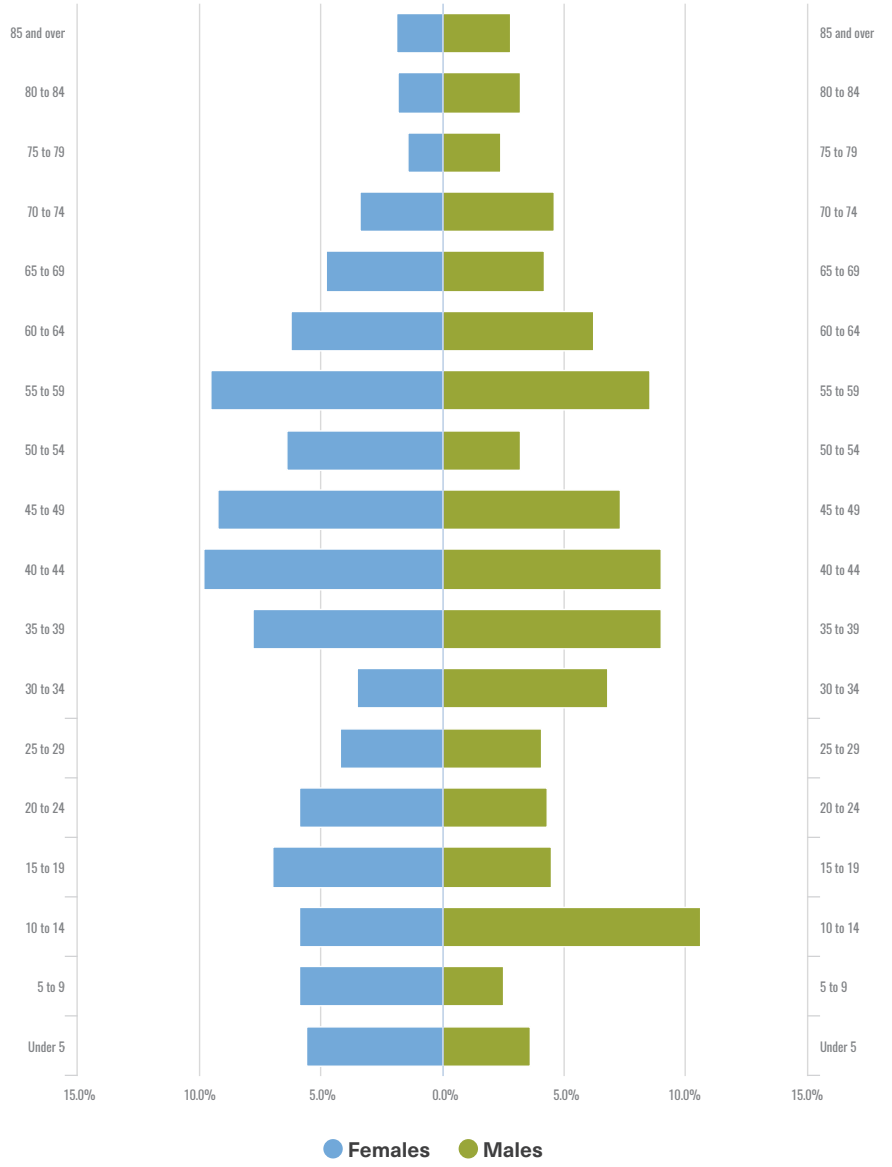
Population

The population of Fletcher was 7,952. The median age was 41 years. The percent of people over the age of 65 and under the age of 18 has steadily increased. An estimated 21.6% of the population was under 18 years and 15.3% was 65 years and older. See Chart 1 for more detail on Fletcher by age and sex.

Households

There were 3,312 households, with the average household size being

Chart 1. Fletcher Population by Age and Sex (2014-2018)



Source: U.S. Census Bureau

[1] *U.S. Census Bureau (2018). 2014-2018 American Community Survey 5-year estimates. [Data set]. https://data.census.gov*

2.37 people. Families made up 61.6% of households in the Town. These households are relatively stable; 95.2% of people were living in the same residence as one year earlier.

Education

Ninety-five percent (95%) of people 25 years and over had at least graduated from high school and 36% had a bachelor's degree or higher. An estimated 5% did not complete high school.

Employment

Sixty-four percent (64%) of the Fletcher population over 16 years of age were currently employed; of these, an estimated 84.6% were employed in the private sector, 11.8% were federal, state or local government workers, and the remaining (3.6%) were self-employed.

Transportation

Nearly all households in Fletcher own at least one car. An estimated 83.9% of Town workers drove alone to work, and 10.3% carpooled. Among those who did commute to work, it took them an average of 19 minutes to travel. 1.2% of people walked to work, and 0 % biked to work.

Income

Fletcher's median household income was $63,673. 8.5% of people in Fletcher were in poverty. Compared to the County, the median household income in Henderson County was $52,815 with 9.7% of people living in poverty.

Race & Ethnicity

Racially, Fletcher is predominantly white: for people reporting one race, 89.5% were white and 5.1% were Black or African American. An estimated 4.6% of the people in Fletcher were Hispanic.

Housing Costs

For owner-occupied houses in Fletcher, the median property value was $201,800. The median monthly housing cost for owners with a mortgage was $1,348 and for renters was $1,106. Households that pay 30% or more of their income on housing costs are considered cost-burdened. Cost burdened households in Fletcher accounted for 25.8% of owners with a mortgage and 42.6% of renters. The cost of car ownership is a factor in understanding cost-burdened households, as transportation costs provide a more accurate assessment of housing choice and thereby housing cost.

Computer & Internet Access

An estimated 90.5 % of households in Fletcher had a computer and 86.1% had a broadband internet subscription.

Putting It Together

Currently, Fletcher sees very low walking and biking rates, as reported for transportation to work. However, with the increase in the population of people under the age of 18 and over the age of 65, there may a growing population of individuals who are candidates to choose to walk and bike more, whether for transportation or recreation. Additionally, many households in the Town are cost-burdened in terms of their mortgage or rent costs, so alleviating some transportation costs by offering walking and biking alternatives may help address these challenges.

Physical Characteristics

The Town of Fletcher, incorporated in 1989, is located at the northern edge of Henderson County, between the cities of Asheville and Hendersonville. It is bordered to the north by the City of Asheville and Buncombe County. On the west, Fletcher shares a border with the Town of Mills River. It is adjacent to Asheville Regional Airport. Fletcher occupies 6.5 square miles of land, much of which is contiguous except for some parcels of land mostly located to the south of the town limits. See Map 1 for Fletcher's location relative to adjacent municipalities.

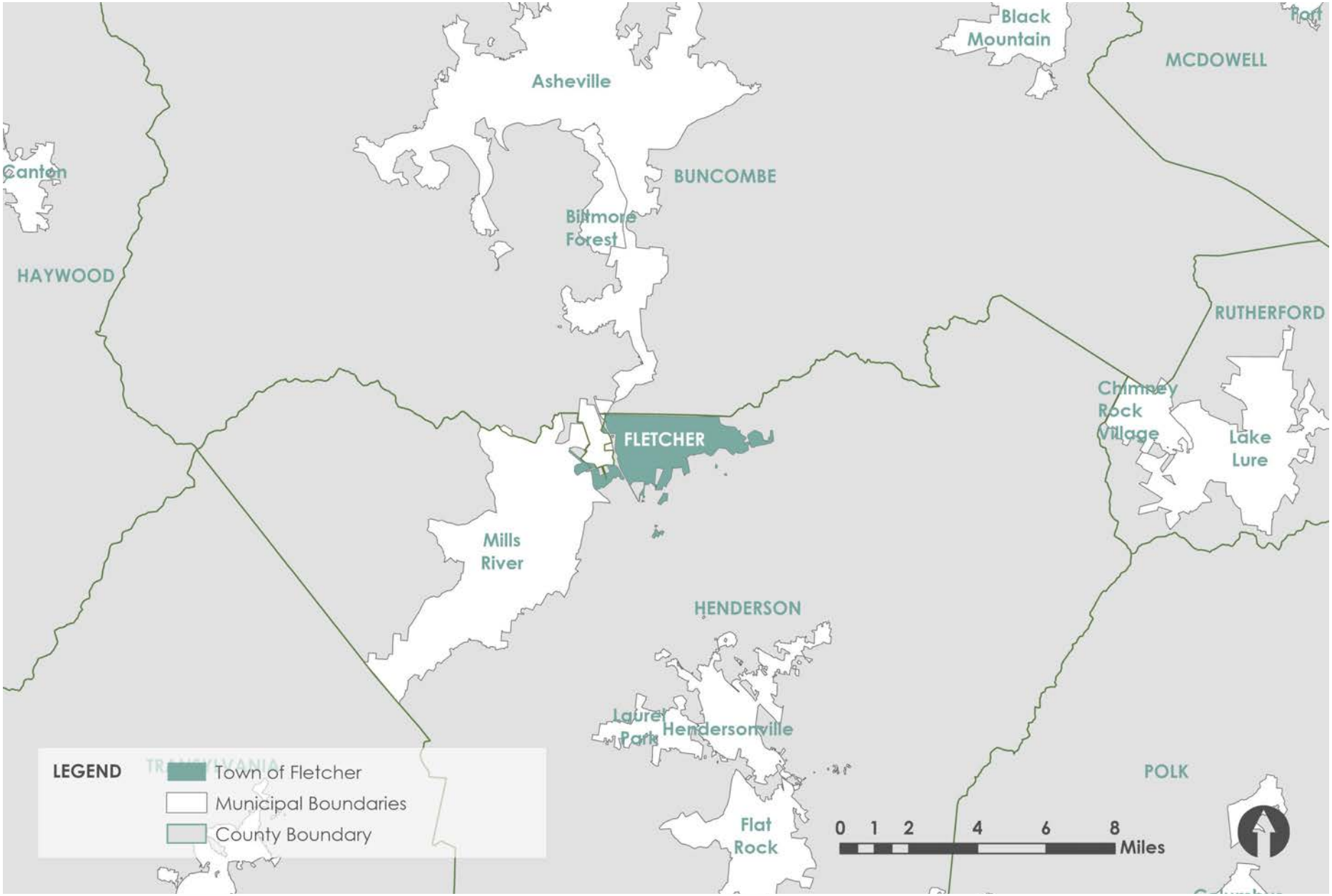
Being in the Blue Ridge Mountains of Western North Carolina, Fletcher's geography is characterized by rolling hills, mountains, creeks, streams, rivers and small bodies of water.

Fletcher is a rapidly growing community. The Town is the second- fastest growing municipality in Henderson County and the third-fastest growing jurisdiction in the region.[2]

Map 2 shows the key generators of trips, major origins/destinations and neighborhoods in Fletcher. Most destinations are along Hendersonville Road (US 25) and Airport Road (NC 280), with fewer destinations in between as these are largely occupied by neighborhoods. These destinations include

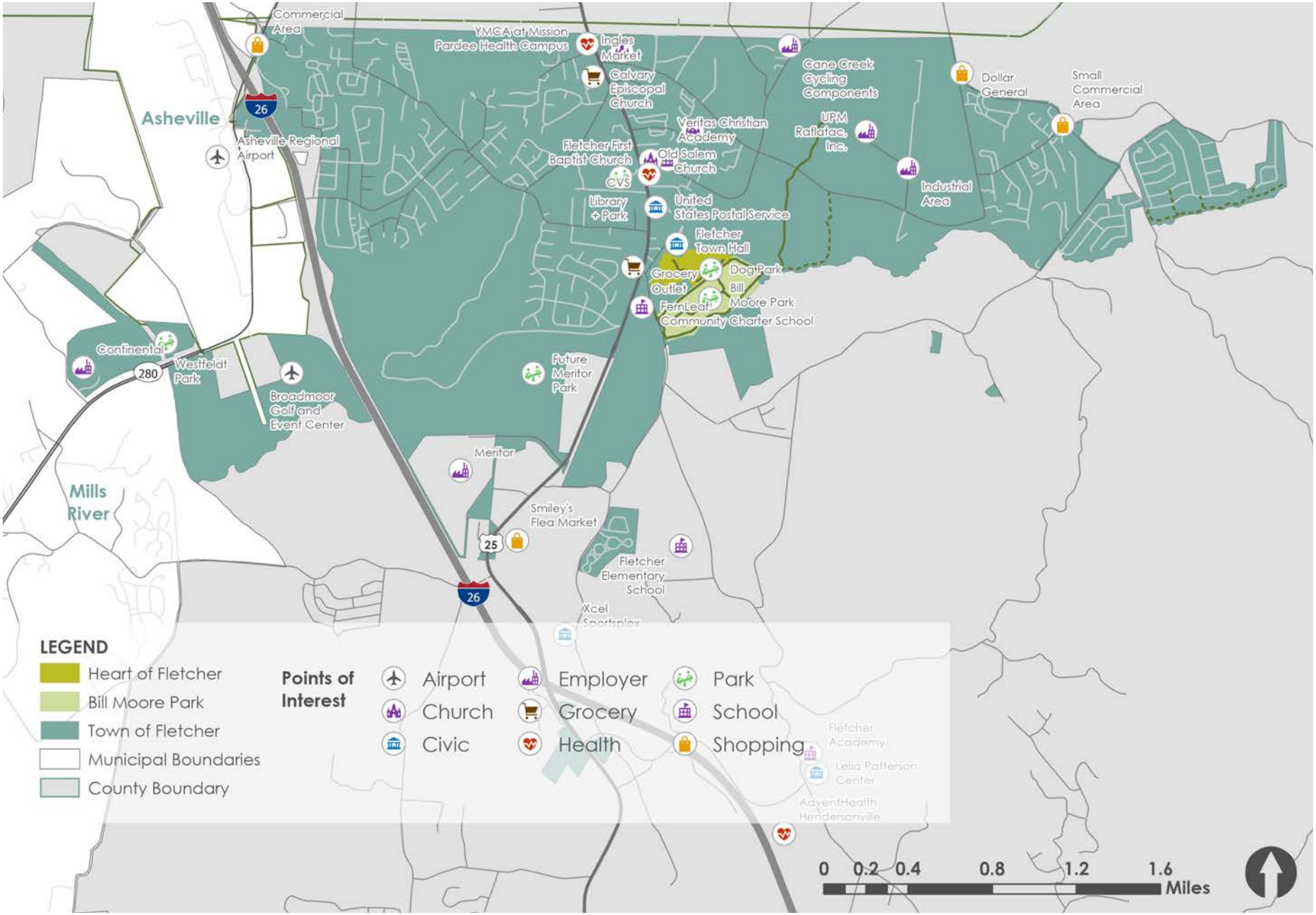
[2] *French Broad River MPO. (2020). Metropolitan Transportation Plan: 2045 Our Path to the Future. http://frenchbroadrivermpo.org/wp-content/uploads/2020/07/MTP_2045_Web.pdf*

Map 1. Fletcher Location



Fletcher is in the northern part of Henderson County, in Western North Carolina.

Map 2. Key Destinations



There are key destinations in Fletcher that create a sense of community and are desirable for people to visit on foot or bicycle.

schools, parks, grocery stores, etc. Map 3 shows Fletcher's key commercial, industrial, recreation and residential areas.

Transportation Network

Interstate 26 passes through the western-most side of Fletcher, with access to two exits. Hendersonville Road (US 25) is the primary arterial road that traverses the Town. There are other arterial and connector type roads that connect neighborhoods with destinations in the Town, most notably: Fanning Bridge Road (SR 1358), Cane Creek Road (SR 1545), Mills Gap Road (SR 1551), and Jackson Road (SR 1539). Map 4 depicts streets that connect to other areas in the Town as compared to streets that do not connect and mostly serve as access to homes. Since Fletcher does not have a complete network of greenways, sidewalks or dedicated bicycle facilities, travel by bicycle or on foot requires users to share the primary roadway network. These primary network roads are narrow, many with no shoulder, and have posted speed limits of 35-45 mph.

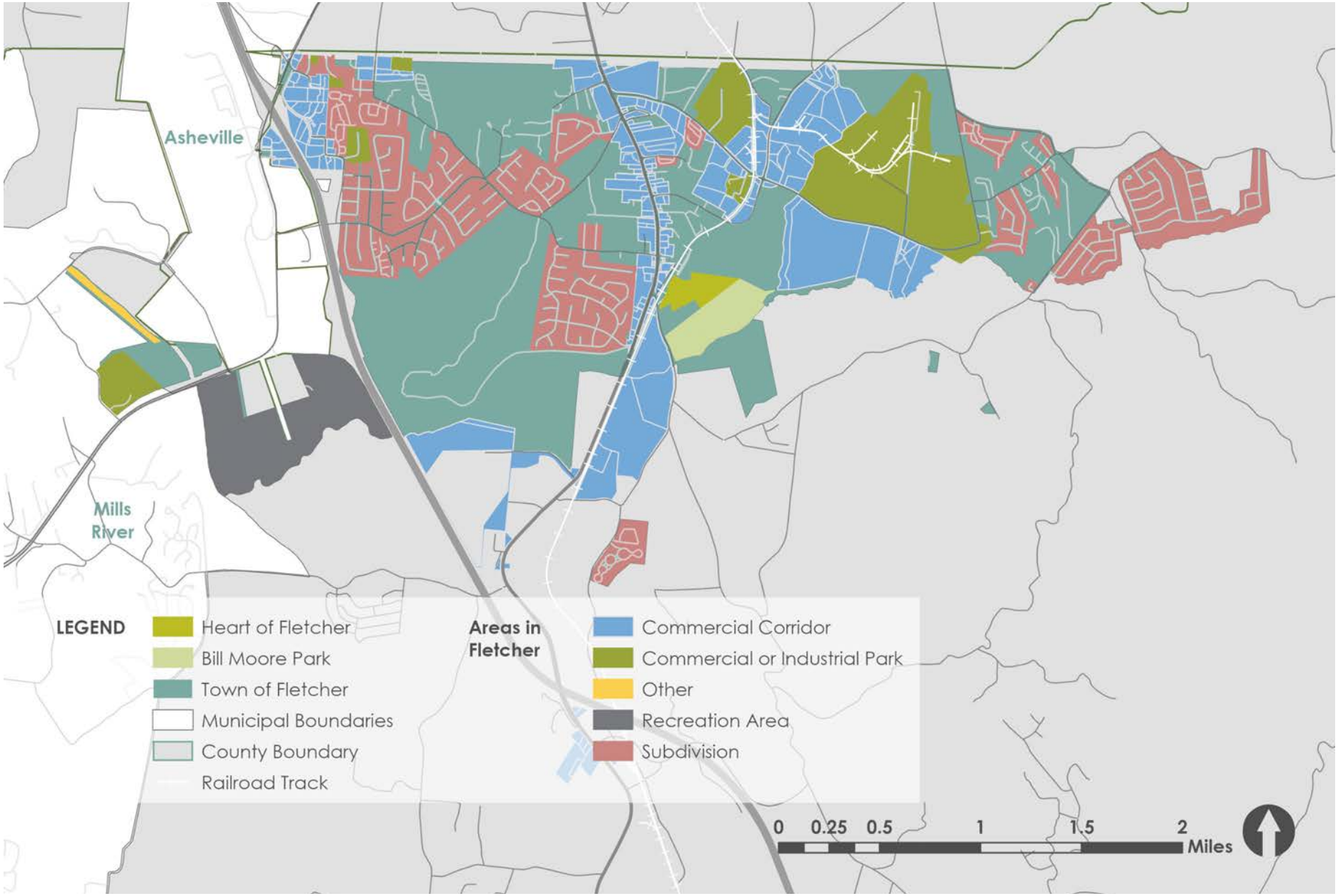
Table 1 describes primary characteristics of Fletcher's major roadways, also illustrated in Map 5. This includes the typical, paved width of the street (not including curb and gutter), the number of lanes, AADT (NCDOT), posted speed limit and the presence of curb and gutter. Even though Fletcher has developed significantly over the last few decades, many of its roads have not; these roads are more rural in character with 2 travel lanes with no curb and gutter.

Table 1. Primary Characteristics of Fletcher's Major Roadways

Road Name	Typical Width (Feet)	Number of Lanes	AADT*	Speed Limit (mph)	Presence of Curb & Gutter
PRINCIPAL ARTERIAL					
Airport Road (NC 280)	77-88	2	35,000	35-55	yes
Hendersonville Road (US 25)	60	5	21,000-33,000	35-45	yes
MAJOR COLLECTOR					
Old Airport Road (SR 1547)	33-48	2	11,500	35	varies
Mills Gap Road (SR 1551)	20-36	2	8,600	45	no
Cane Creek Road (SR 1545)	20-32	2-3	5,700-8,300	35-45	no
Burney Mountain Road (SR 1696)	22	2	N/A	35	no
Howard Gap Road (SR 1006)	33-44	2	8,100	35	no
MINOR COLLECTOR					
Hoopers Creek Road (SR 1553)	20	2	2,500-4,500	35	no
LOCAL					
Fanning Bridge Road (SR 1358)	20-33	2	5,900-9,100	35	no
Old Hendersonville Road (SR 1536)	20	2	2,300	35	no
Jackson Road (SR 1539)	19	2	2,900	45	no
Rutledge Road (SR 1359)	20	2	N/A	35	varies
Souther Road (SR 1552)	18-20	2	N/A	35	no
St. John Road (SR 1361)	20-30	2	3,600	35	varies
Underwood Road (SR 3540)	18-23	2	2,300	35-55	no

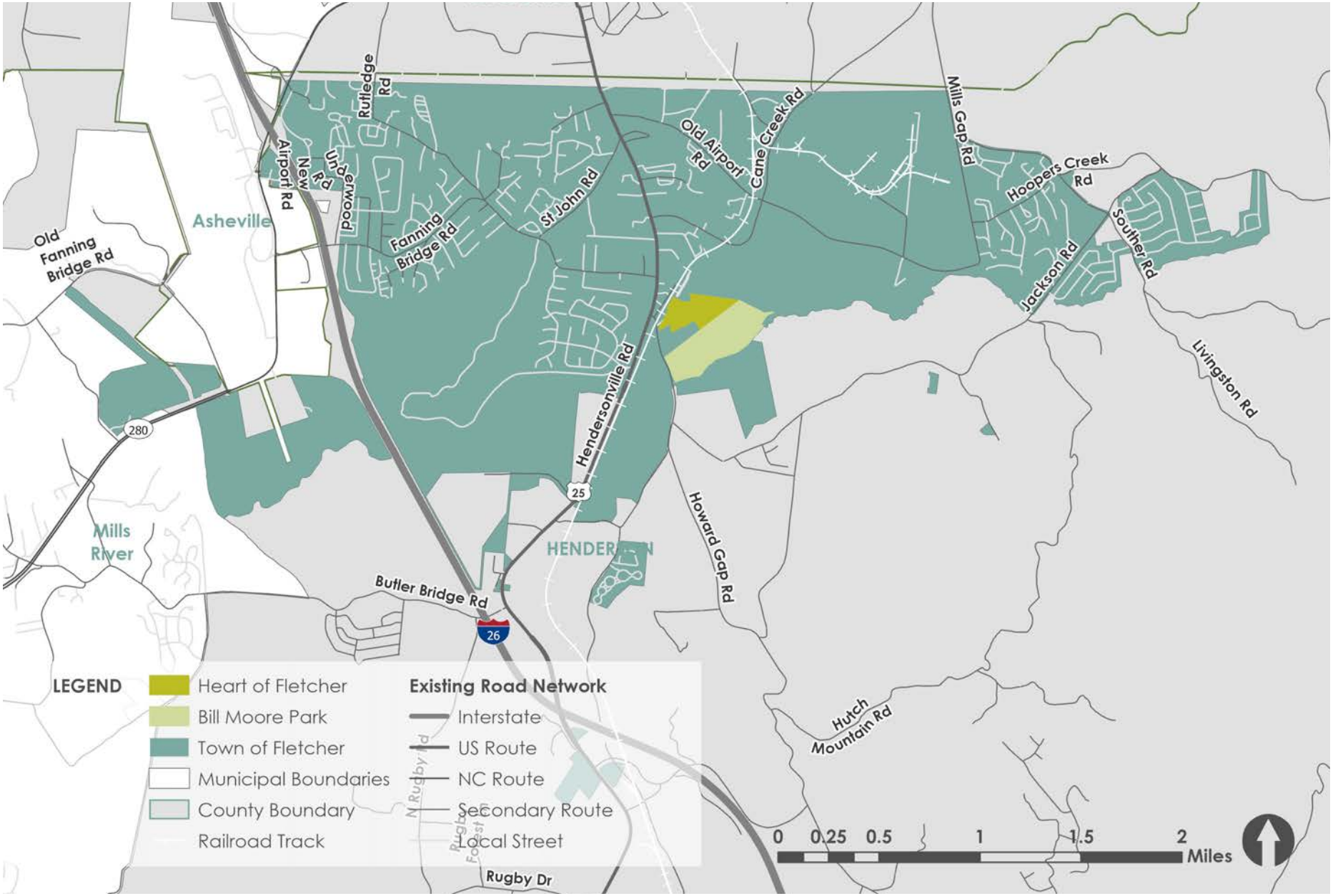
Source: NCDOT AADT Web Map, NCDOT NCRouteCharacteristics Field, Google Map Imagery
**AADT: Average Annual Daily Traffic, the total volume of vehicle traffic for a year divided by 365 days*

Map 3. Key Areas in the Town of Fletcher



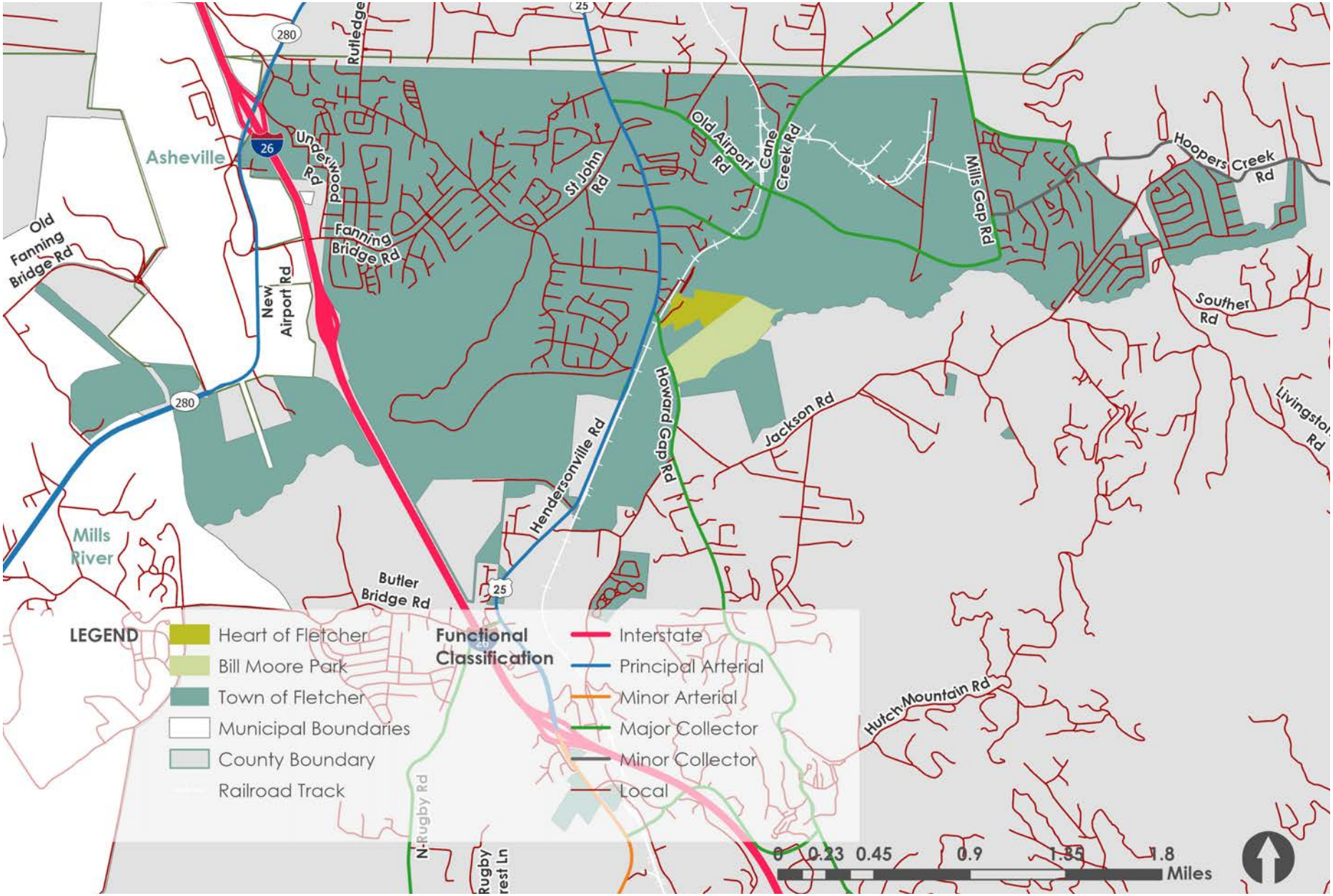
Fletcher is largely comprised of commercial corridors and business parks, recreation areas, subdivisions.

Map 4. Fletcher Road Network



The roads in Fletcher that offer connectivity are also those that carry the highest traffic volumes.

Map 5. Functional Classification



Roads in Fletcher are categorized by Functional Classification, a description of roadway type and function.

Map 6 illustrates many of these key roads according to Average Annual Daily Traffic (AADT), where provided by NCDOT.

EXISTING BICYCLE AND PEDESTRIAN NETWORK

Currently, there are 5.4 miles of sidewalks in the Town of Fletcher. The longest segments are along Hendersonville Road (US 25) and St. John Road (SR 1361), with shorter sections on Underwood Road (SR 3540) and the Fletcher section of Airport Road (NC 280).

Map 7 shows these sidewalk locations as well as the locations of crosswalks. Most of the sidewalks follow arterial or collector roads, and are not located on local, neighborhood streets.

Today, Fletcher has 2.7 miles of greenways in Fletcher which comprises the Cane Creek Greenway. This includes the portion of the trail that crosses private land. Map 8 shows the location of the Cane Creek Greenway in its central location in Fletcher.

The Blue Ridge Bicycle Club has 29 designated club rides that use Fletcher roads, allowing for 1,000+ miles of road cycling. Fletcher roads provide access to/from Apple Valley, Brevard and to/from Henderson and Buncombe County communities. Map 9 shows several key routes from the Bike Club.

Although the Town is a popular place for cycling, Fletcher has no dedicated facilities for people biking other than the Cane Creek Greenway. Some popular biking routes that require travel on key Fletcher Roads include the following.

To Edneyville via Terry's Gap Road and Bearwallow Mountain:

- Mills Gap (SR 1551) and Hoopers Creek Roads (SR 1553)
- Mills Gap (SR 1551) and Burney Mountain Roads (SR 1696)
- Jackson Road (SR 1539)
- Souther Road (SR 1552)

To Mills River and Brevard:

- Howard Gap (SR 1006) and Old Hendersonville Roads (SR 1536)

Cycling occurs on the following routes; however, based on community input, these roads present a more substantial barrier to cycling given their geometric characteristics, combined with the volume and speed of traffic:

- Hendersonville Road (US 25)
- Fanning Bridge Road (SR 1358)
- Cane Creek Road (SR 1545)
- Mills Gap Road (SR 1551) – North of Burney Mountain Road

This critical bicycling network for the region consists largely of winding, narrow roads with no shoulders and with posted speed limits greater than 35 mph. As traffic volumes increase in the region, these routes will become more challenging for people riding bikes.

BICYCLE AND PEDESTRIAN CRASH ANALYSIS

Map 10 shows the locations of crashes in Fletcher that involved a person driving and a person walking, or a person driving and a person biking. These crashes were reported to NCDOT and do not include any unreported crashes. Most of the crashes occurred on arterial streets in Fletcher, roads that also experience the highest number of cars traveling on them.

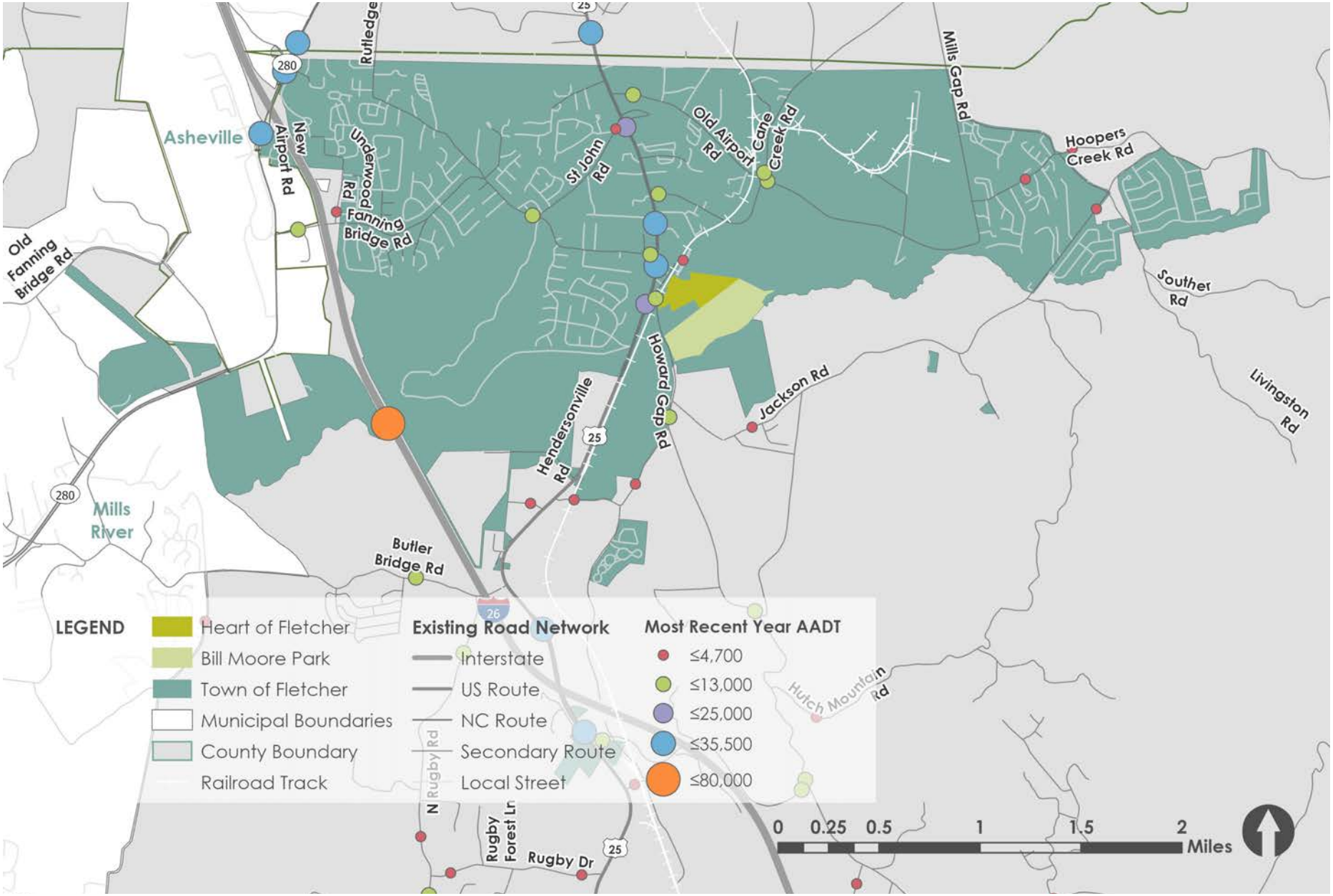
Most crashes involving a person walking took place on or along Hendersonville Road / US 25. In addition, pedestrian crashes occurred on:

- Jackson Road (SR 1539)
- Old Hendersonville Road
- Cane Creek Road (SR 1545)
- Mills Gap Road (SR 1551)
- Hoopers Creek Road (SR 1553)
- Souther Road (SR 1552)

Bicycle Crashes occurred on the following popular cycling routes:

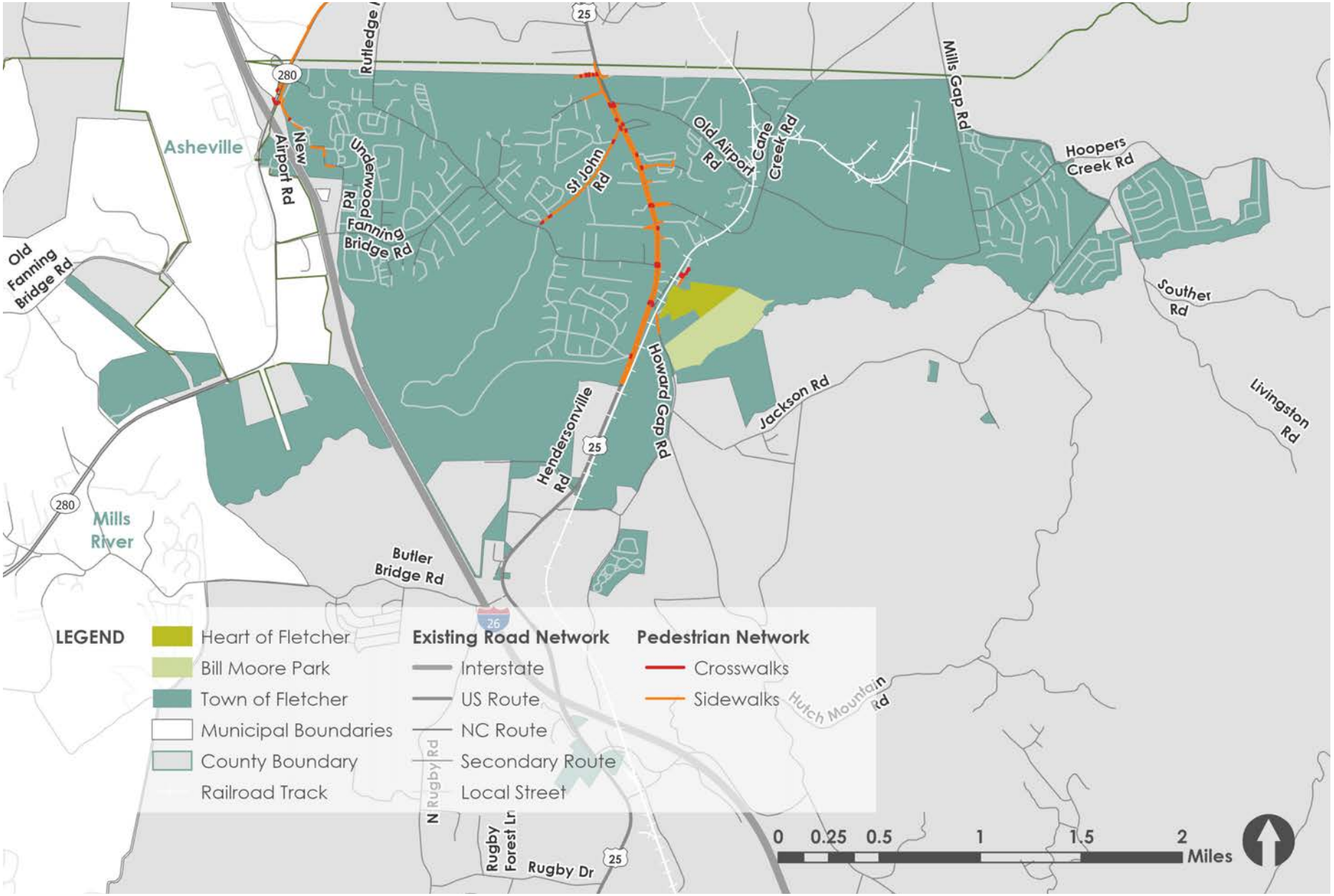
- Hendersonville Road (US 25)
- Howard Gap Road (SR 1006)
- Jackson Road (SR 1539)
- Hoopers Creek (SR 1553)
- Mills Gap Road (SR 1551)

Map 6. Average Annual Daily Traffic (AADT)



NCDOT collects Average Annual Daily Traffic (AADT) on key roads in Fletcher.

Map 7. Existing Sidewalks

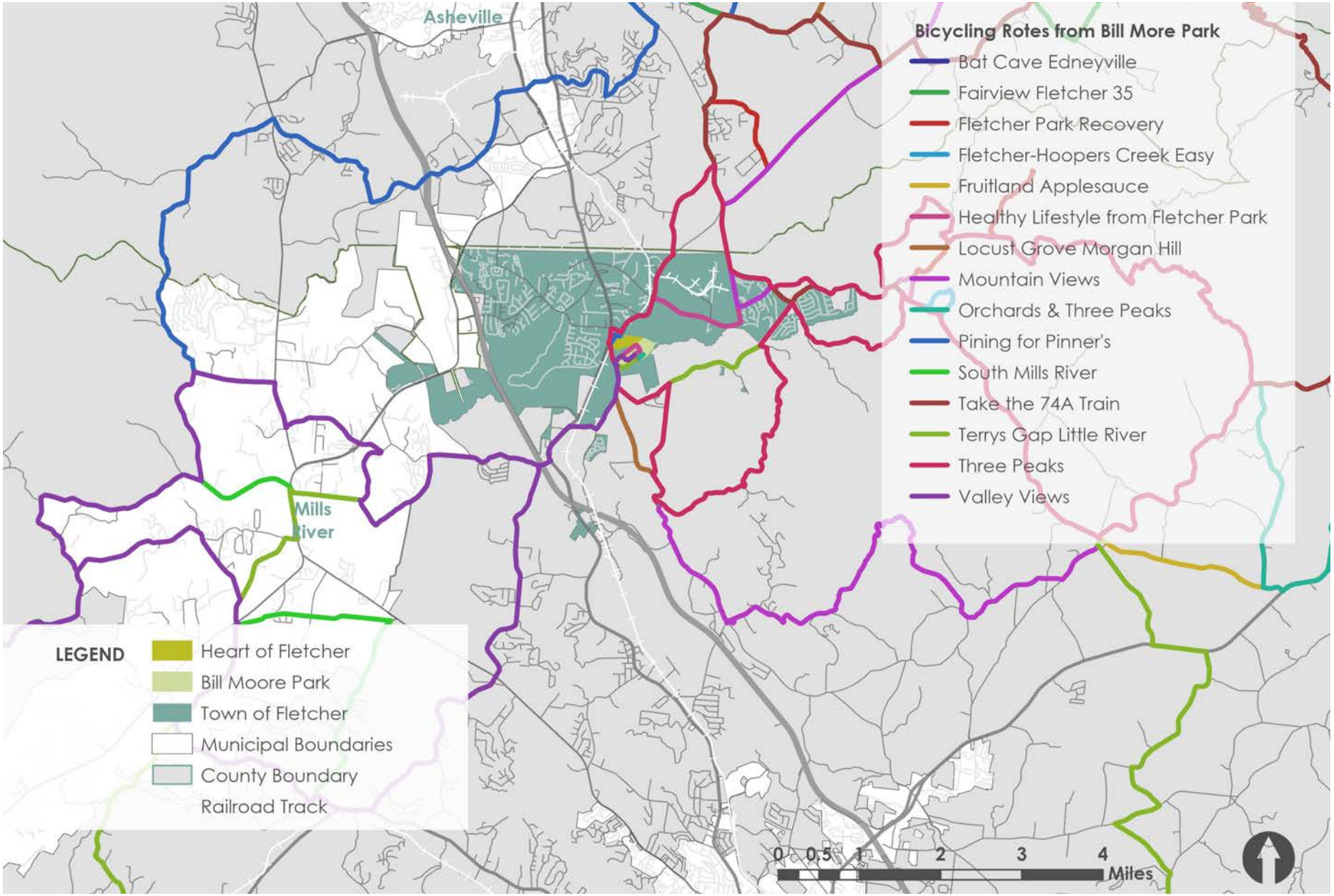


Most sidewalks in Fletcher are along major roadways.

Map 8. Existing Greenways

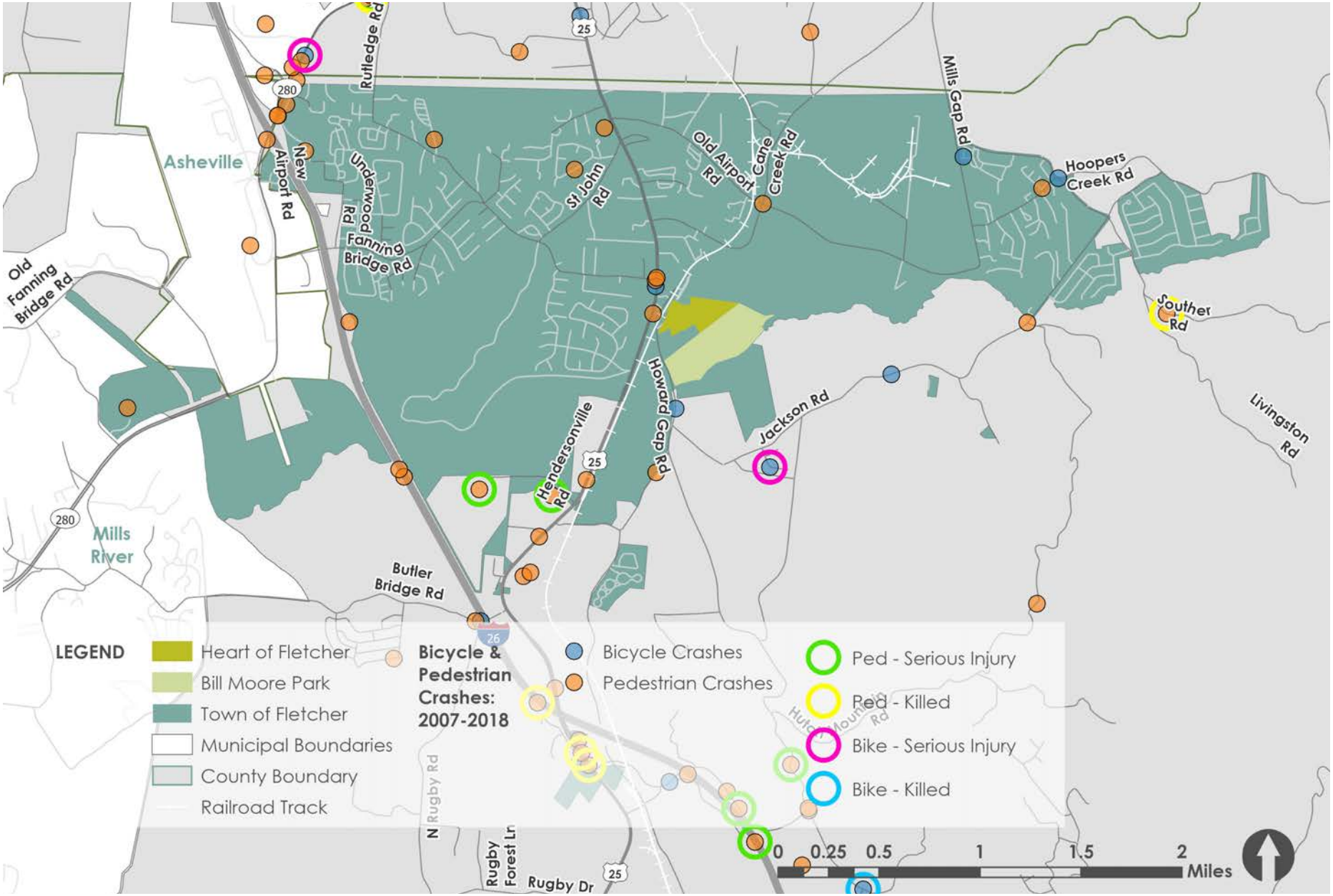
The Cane Creek Greenway is currently Fletcher's only greenway, but this Plan will build on this spine.

Map 9. Existing Road Cycling Routes



Key recreational road cycling routes, originating at Bill Moore Park in Fletcher.

Map 10. Bicycle and Pedestrian Crashes



This map depicts reported crashes involving people walking or bicycling with severity also indicated with the circles.

Note: Crash clusters occur just beyond Fletcher's limits on Hendersonville Road / US 25 (to the south) and Old Airport Road (SR 1547). In some instances, where it's not feasible to widen a roadway to provide a multi-use sidepath, an off road and parallel trail connection can help provide a protected route for bicycles and pedestrians to improve safety. In the recommendations section this idea is explored further.

As shown in Map 11, illustrating the vehicle crashes not involving people biking and walking, intersection crash frequency is highest along Fletcher's key network, as highlighted in previous sections. Research shows that as roads are improved for people biking become safer for all road users.[3] Following this logic, an outcome of this plan will be improved safety for all and a reduction in these fatal and severe crashes across the board.

SPECIAL POPULATIONS

Map 12 is an equity composite and analysis of Fletcher. The equity analysis shows an overall, composite map and individual maps indicating Fletcher by the following data factors: youth population, aged population, non-English spoken at home, vehicle access at home, disabled population, non-white population and poverty. These variables are common indicators of equity and individual need. Areas of southern Fletcher experience the greatest share of equity-based need, thereby suggesting that these areas have populations of the greatest disadvantage.

COMMUNITY CONCERNS, NEEDS AND PRIORITIES

As shown in the Appendix (starting on page 152), members of the community shared their thoughts on current biking/walking routes, biking/walking routes they'd like to use, and barriers to biking/walking. Participants shared desired destinations to access on foot and bike in the Town, and ideas for improvement. Themes from this feedback are further described in the Community Engagement section of this Plan.

[3] *Wesley E. Marshall, Nicholas N. Ferenchak. Why cities with high bicycling rates are safer for all road users. Journal of Transport & Health, 2019; DOI: 10.1016/j.jth.2019.03.004*

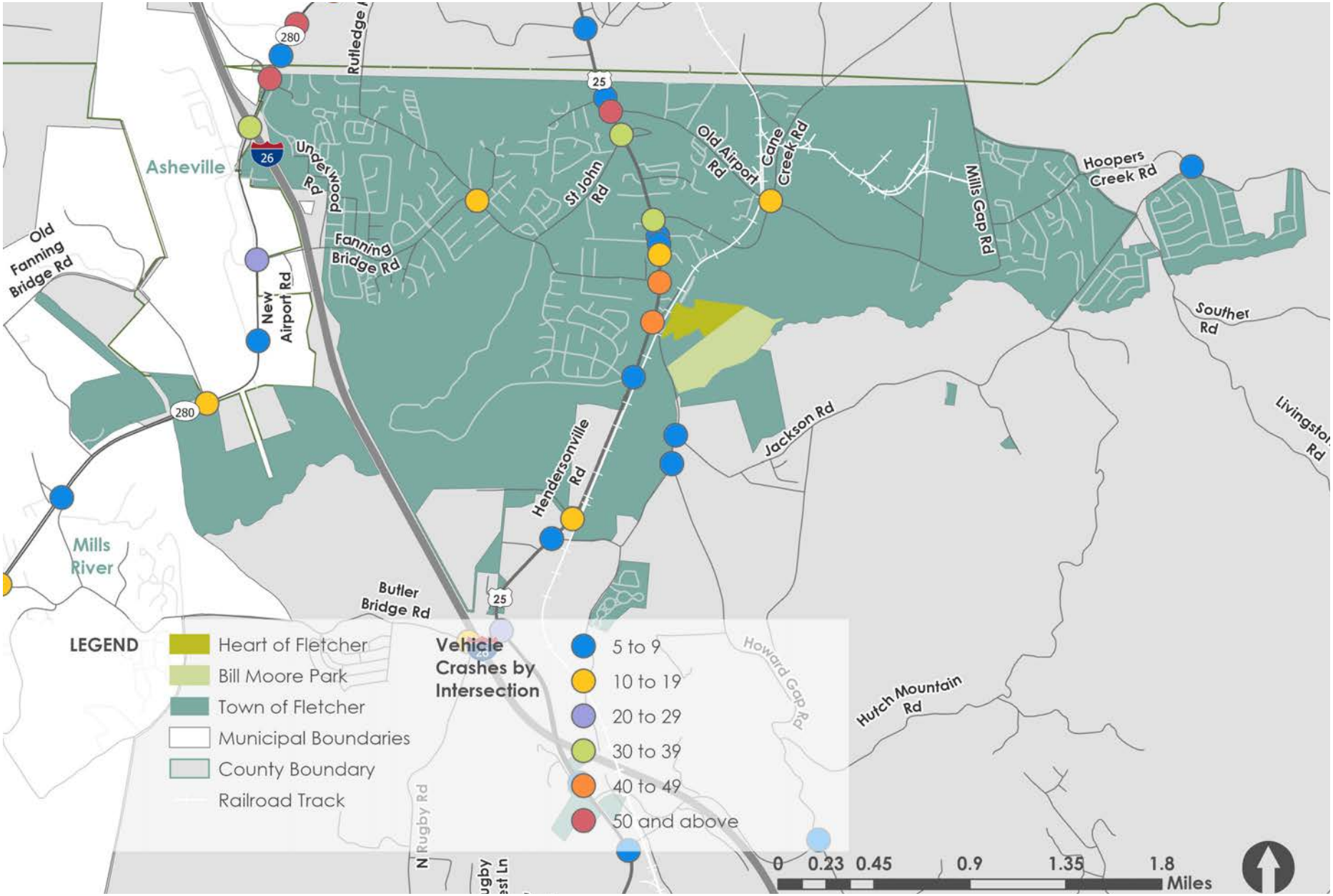
NOTABLE OPPORTUNITIES & CHALLENGES

Based on feedback received from members of the community and the project team assessment, key opportunities and challenges were identified as it relates to creating a more walk and bike friendly Fletcher.

Connectivity

As shown in Map 4, there are many roads in Fletcher but only a few offer connectivity to destinations locally and regionally. Fanning Bridge Road (SR 1358) is a key east-west connector road in the community, crossing Interstate 26; Butler Bridge Road does offer an east-west connection over the Interstate, but it is not within the Town's limits. To the east of Hendersonville Road, key roads provide improved connectivity, but these roads are also limited in their scope and jurisdiction: Old Airport Road (SR 1547)/Mills Gap (SR 1551)/Hoopers Creek Roads (SR 1553) and Jackson Road (SR 1539). This limited connectivity results in traffic funneling from neighborhoods and other destinations to just a few corridors, which translates into less than favorable experiences for people walking and biking on these roads. In contrast to these connecting roads, there are many miles of low volume, low-speed neighborhood streets throughout the Town. These streets are naturally conducive to people walking and biking. However, these neighborhood streets are bound by the high traffic corridors, which creates "islands" in which more cautious people on foot and bike are limited to travel. Many of the local neighborhood streets are dead-end streets which places more pressure access intersections and roadways that do not have parallel routes to carry overflow traffic.

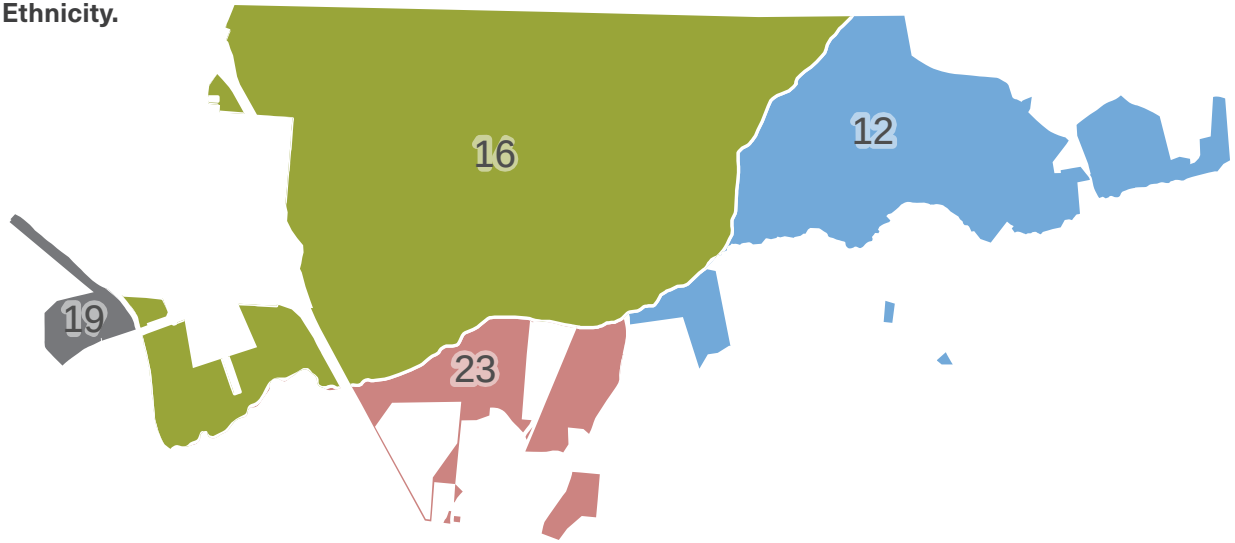
Map 11. Vehicle Crashes by Intersection



Vehicle crashes at intersections are greater along Fletcher's key corridors.

Map 12. Town of Fletcher Shown By Various Socio-Economic Variables

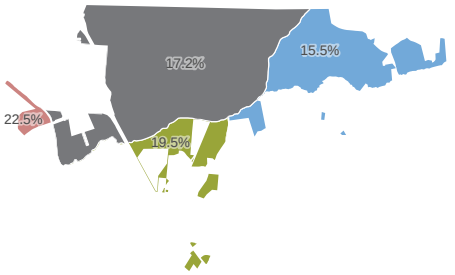
Composite of Socio-Economic Factors in Fletcher: Age, Language Spoken at Home, Access to Vehicles, Percent Disabled, Income and Ethnicity.



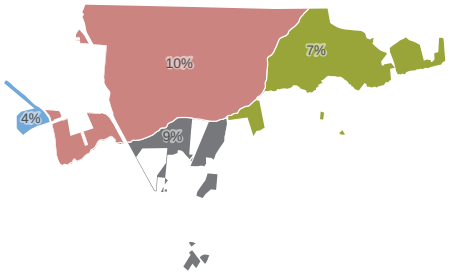
Level of Equity Need by Census Tract

- Highest Level of Equity Need
- Lowest Level of Equity Need

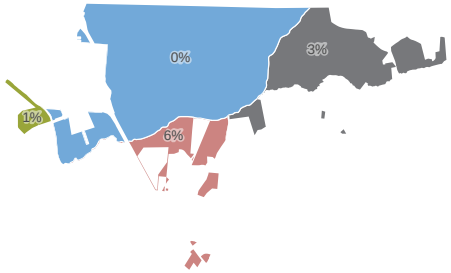
Percent of Population that is 18 Years or Younger



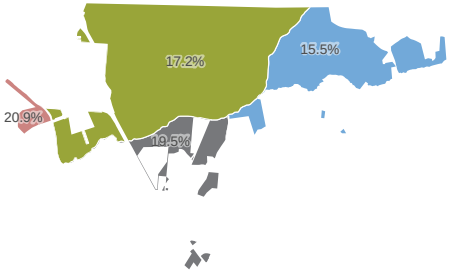
Percent of Population whose Primary Language is Not English



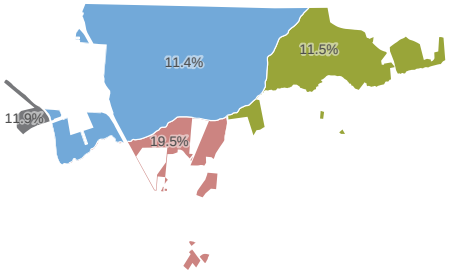
Percent of Households with No Vehicle Access



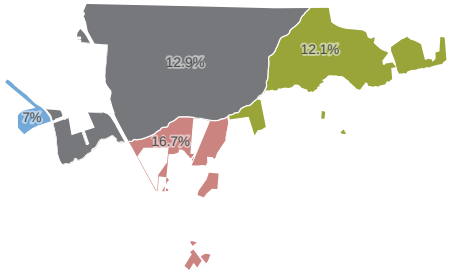
Percent of Population that is 65 Years or Older



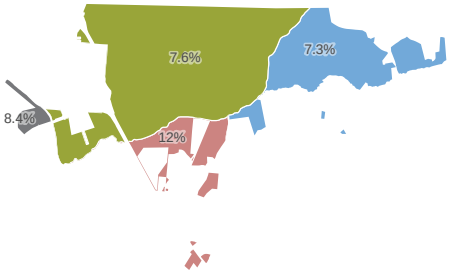
Percent of Population with a Disability



Percent of Population that is Non-White



Percent of Population With an Income Below Poverty Level



U.S. Census Bureau (2018). 2014-2018 American Community Survey 5-year estimates. [Data set]. https://data.census.gov

Problematic Street Crossings

When a street network is largely defined by higher volume connecting roads and lower volume and disconnected neighborhood streets, it becomes inevitable that people walking and biking will encounter problematic street crossings. There are several problematic street crossings that community members expressed concerns about, many of which are streets that intersect with Hendersonville Road and Fanning Bridge Road (SR 1358). Other problematic crossings include Mills Gap Road (SR 1551), Jackson Road (SR 1539)/ Souther Road (SR 1552), Hoopers Creek Road (SR 1553) / Burney Mountain Road (SR 1696), and St. John Road (SR 1361). These overlap with many of the intersections in Map 11 that have higher total crashes.

Existing Bicycle & Pedestrian Infrastructure

In terms of existing greenways and sidewalks, Fletcher is limited. There are no existing bike lanes or on-street bike facilities in the Town. Fletcher's 5.2 miles of sidewalks and 2.7 miles of greenways are a strong foundation on which additional connections can be planned and built. This network can be expanded to meet the needs of varying user types, from recreation to transportation seekers.

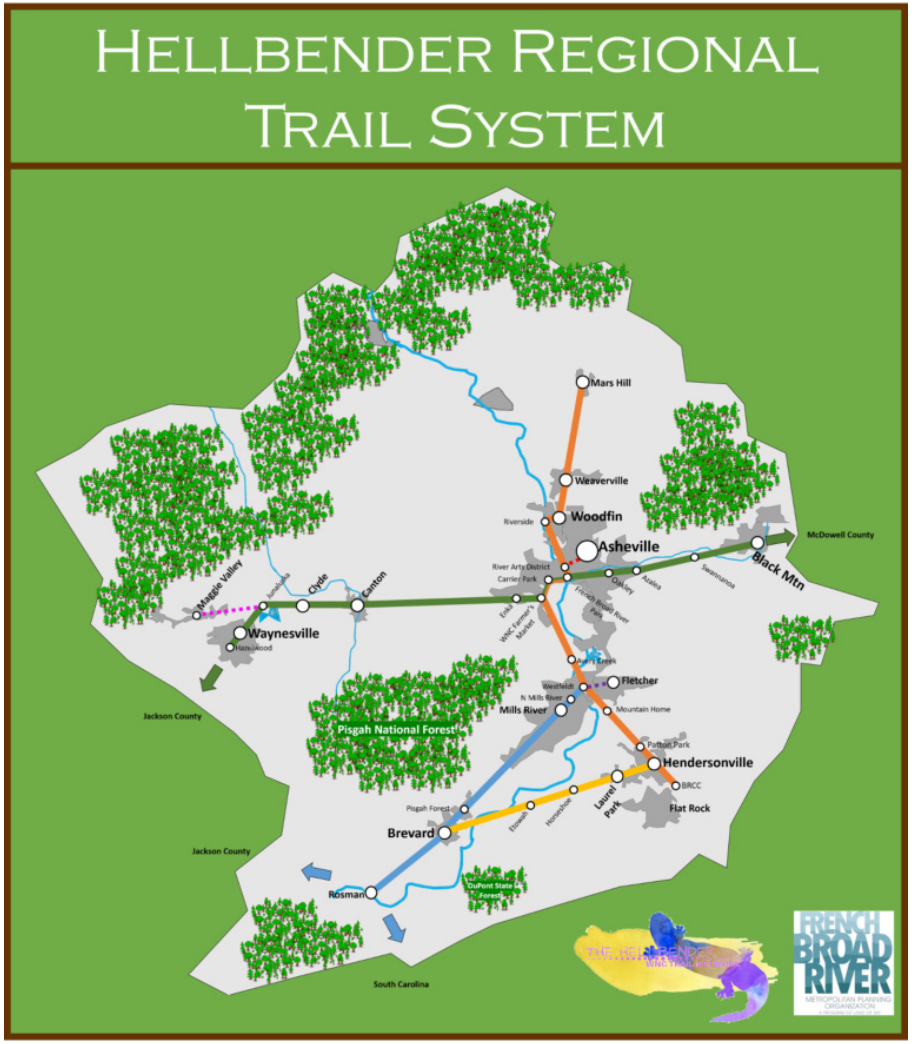
Regional Connections

One of the reasons this Plan is called 'Fletcher Connects' is that Fletcher is geographically positioned at crossroads that make it a "connecting" landscape. Three of the regions most traveled throughways connect around Fletcher: I-26, US 25 and NC 280. The region's main airport lies on the western border and also services as a transfer station between Apple Valley Transit (Henderson County) and Asheville Regional Transit (ART). Fletcher is geographically the transition between Buncombe County and Henderson County. Many residents in our region cross county lines daily for work and play.

As reviewed, Fletcher is a major hub for regional cycling. Many recreational bicyclists either start their rides in Fletcher or use the Town's roads to access their biking destinations. As this Plan is developed, Fletcher is positioned regionally as a key transportation and recreation connection for all modes.

Image 4. A Neighborhood Street in Fletcher

Figure 11. The Hellbender: the French Broad River MPO Regional Trail Vision

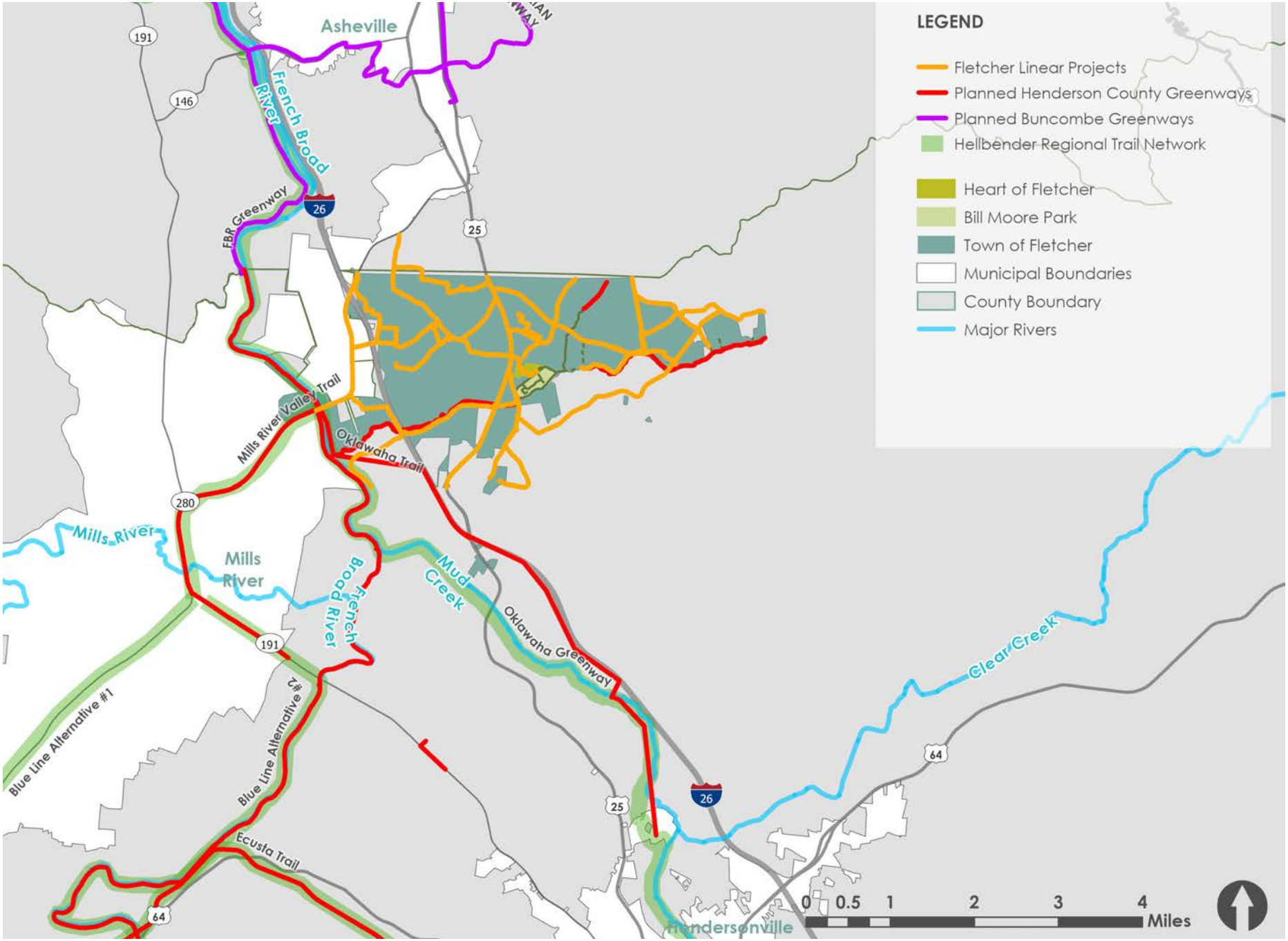


There are greenway connections that are in progress and being planned, which will further contribute to this regional connectivity. See Map 13 for a map of the regional trails connecting to the Town. Many of these trails are captured in the FBRMPO's Hellbender Trail Plan. The Hellbender Trail, which is discussed in more detail in the Appendix, is a concept developed to document a vision for a region connected by trails for people to bike and walk. The Hellbender Trail will connect Fletcher's Cane Creek Greenway to the planned segments nearby:

- Oklawaha Greenway (Hendersonville and Flat Rock to Future Ecusta Trail)
- French Broad Greenway
- Future 280 Trail to Brevard

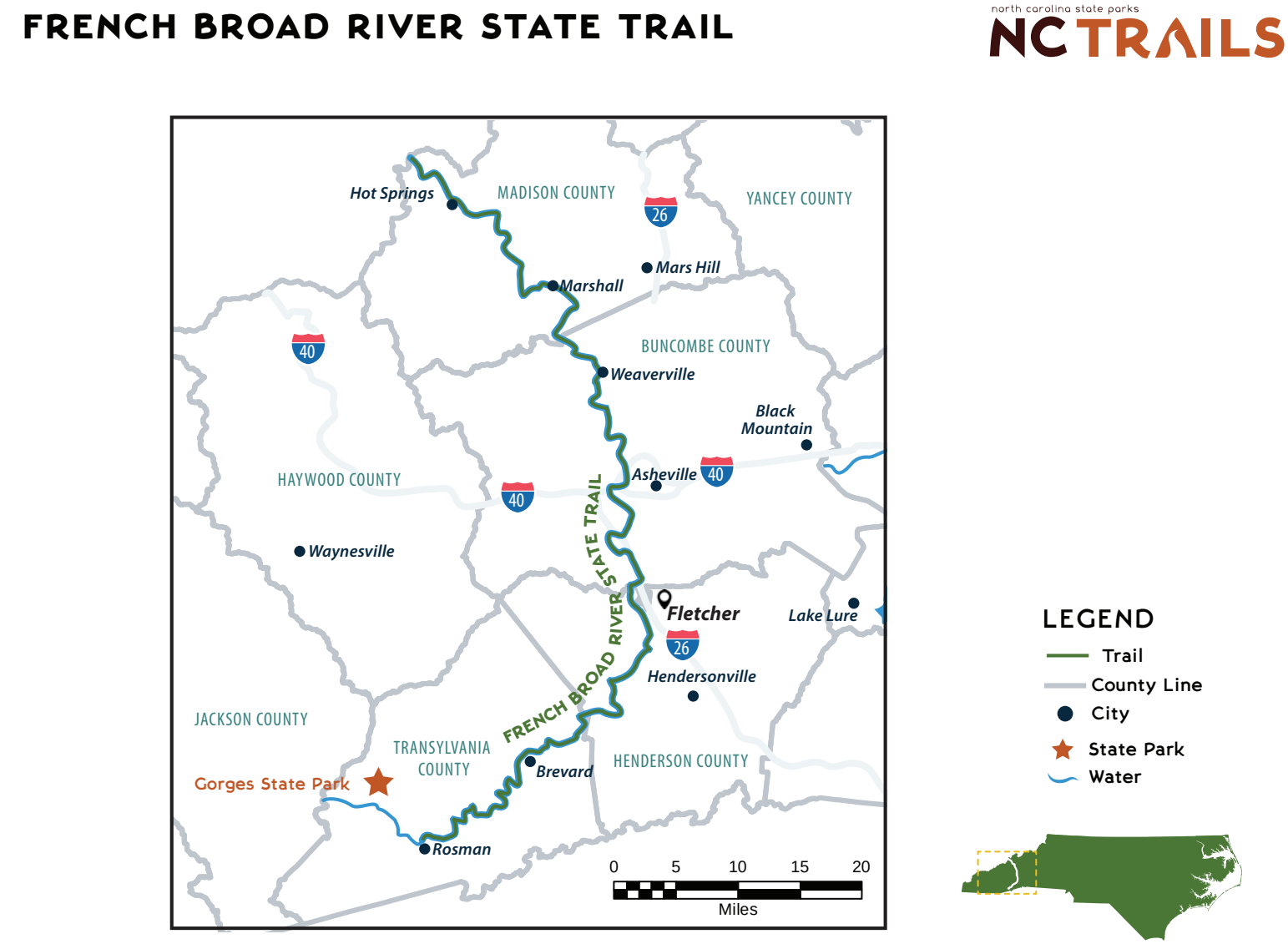
Fletcher also sits near the confluence of Cane Creek, Mills River and the French Broad River. Westfelt Park provides water access to the French Broad River State Trail. This trail was established in 1978 on the third oldest river in the world. The 117-mile blueway flows north from Rosman, N.C. to the Tennessee border, through Buncombe, Henderson, Madison and Transylvania counties. As shown in Figure 122 Fletcher lies near the middle of this trail as a prime river launch location for access to Buncombe County water trail sections.

Map 13. Area Greenway Plans



Area greenway plans from Henderson and Buncombe Counties and the Hellbender Trail Plan all connect into the Town of Fletcher.

Figure 12. The French Broad State Trail, a 117-mile Blueway in Western North Carolina



NC State Parks. (2020). French Broad River State Trail. https://trails.nc.gov/state-trails/french-broad-river-state-trail

Road Ownership

The Town of Fletcher maintains some roads in the Town, while some are maintained by NCDOT, and others are owned by private entities. Understanding the maintenance responsibility of roads is important as it identifies the partners that are involved in designing, constructing and maintaining a project. Maintenance responsibility also has implications related to funding opportunities. The major roadways in Fletcher are under NCDOT's purview and thus would involve close coordination with this agency moving forward.

Geography, Scale & Climate

The size and climate of Fletcher are conducive to bicycling and walking. The Town occupies 6.1 square miles of land and measures approximately six miles in an east-west direction and less than four miles from north to south. These are somewhat modest distances to ride a bicycle. While these are long distances to walk, even a one-mile walk traverses a good portion of the Town. The layout of Fletcher is conducive for walking and biking trips to local schools and parks as well as retail and community centers, such as the library. In addition, most Fletcher residents live within a 1-2-mile radius from the planned future town center/Heart of Fletcher.

The weather year-round is supportive of walking and biking; summers generally stay mild and winters do not get too cold. The Western North Carolina culture embraces the outdoors and the accessibility of nature cannot be beaten. The Town consists of hilly terrain, which may be a challenge for some on a bicycle but may be more acceptable on foot.

Major Physical Barriers

It is important to understand physical barriers to transportation networks as these often have the biggest impact to people walking and biking and can increase the cost and permitting process for new connections. In Fletcher, the interstate poses a significant barrier, as there are only two roads within Town limits that cross it: Fanning Bridge Road (SR 1358) and Airport Road (NC 280). As a result, these roads carry high traffic volumes as people seek connectivity. Other barriers in the Town include large parcels of private land that are not traversable, such as the quarry. In addition, Cane Creek and the French Broad River (and their associated tributaries) present a significant challenge for any new construction. The floodway is wide at the confluence of these two bodies of water which presents a challenge for future greenway connectivity.

Image 5. Cane Creek in Bill Moore Park

> **"As the largest healthcare provider and second largest employer in Henderson County, we support initiatives that lead to healthier communities. We believe that providing safe walking and bike paths will encourage residents to get out and enjoy the natural beauty of our area while improving health. We have strong relationships with many industries that are located in Fletcher and are very interested in supporting initiatives that encourage people to take control of their own health."**
>
> Johnna Reed
> Chief Administrative Officer
> Pardee UNC Health Care

Latent Demand & Future Growth

There is much potential for more biking and walking in Fletcher, whether in the growing population of children and older adults, or among workforce aged and parents. As shown in the letters of support for the grant that contributed to this project, organizations varying from Henderson County Public Schools, the Active Routes to Schools program, Smart Start Partnership for Children, Blue Ridge Community College, Pardee UNC Health Care all support an increase of biking and walking in the Town to help achieve their organizations' goals and outcomes. Additionally, Fletcher has already experienced significant growth, which is projected to continue. With growth and development come opportunities to improve the transportation system.

COMMUTING CHARACTERISTICS

For workers over the age of 16, 38.6% worked in Henderson County and 59.75% worked outside of the county. 22.8% worked from their home. Thirty-six percent (36.3%) of workers left their home for work between 7:00 am to 7:59 am, and 14.1% left their home between 8:00 am and 8:29 am. It took just over half of the workers (50.7%) between 15 and 24 minutes to travel to their workplace. Nearly all households (99.8%) have at least one vehicle available to them.[4]

INTERACTION WITH TRANSIT

Henderson County manages Apple Country Public Transit which provides both fixed-route transit (three routes) and paratransit services. Apple Country connects to the City of Asheville's bus system at the Asheville Airport. One of the three routes run through Fletcher, on Hendersonville, St. John and Fanning Bridge Roads (US 25, SR 1361 and SR 1358). According to the 2018 Census, 0.4% of people used transit when commuting to work; nearby Hendersonville sees a 1.6% transit commuting mode share. Ridership from Apple Country indicates relatively low ridership currently:

- Fanning Bridge Road and Rutledge Road: total of 96 riders/month, July – December 2019
- Hendersonville Road and Howard Gap Road: total of 98 riders/month, July – December 2019

[4] U.S. Census Bureau (2018). Commuting Characteristics by Age, 2014-2018 American Community Survey 5-year estimates. [Data set]. https://data.census.gov

While relatively few people currently use Apple Country for transportation to work, transit could serve work trips very well in the county as many people work in Henderson County and their trip lengths are achievable by transit. Responses to the project surveys indicated some interest in better connections to Asheville's ART System, such as the existing connection at the Airport. The bicycle and pedestrian recommendations in this Plan could serve first and last-mile transit connections to Apple Country very well. However, the current challenge to this is that transit operates from 6:30 am – 6:30 pm Monday through Friday (except holidays and severe weather), which will not work for certain work schedules.

The text on the right describes Apple Country's policies related to bicycles.

Apple Country Public Transit's Bike Policy is to support and promote the use of bicycles. Bicycles shall have access to all transit vehicles whenever feasible in order to support more sustainable transportation options. Apple Country Public Transit allows bicycles to travel on buses at no extra charge (buses may be equipped with bicycle racks), providing the greatest flexibility possible within the constraints of capacity and safety.

Apple Country Transit Website

CURRENT BICYCLING AND WALKING RATES

The Town does not have current data on bicycling and walking rates in Fletcher. To offer an approximation of the trips taken on foot and bike in the Town, the online fitness website and app, Strava,[5] can provide a broad overview of the networks on which people bicycle, walk, and run. Strava has developed "heat maps" showing aggregated public activities taken by its users over the last two years. In this case, people who walk/run or bike use the app or website to record their trip or exercise information. Strava's shared activity is derived from users who publicly share their routes. Some users may opt out of updating their journeys, and areas with very little activity may not show up on the heat map. It is important to note that these are trips are typically taken for recreation purposes and not transportation, so they are less likely to indicate biking and walking for commuting to work or other activities. Communities that have actual count data on biking and walking can develop factors, or ways to reference the Strava data to actual counts, which enable them to use the Strava heat maps to indicate broader bicycling and walking rates. In the absence of this data, Fletcher can use the Strava heat map as a relative approximation of biking and walking recreational use.

Figure 133 and Figure 144 show a portion of streets and trails in Fletcher with blue and red colored lines that indicate relative use; blue indicates relatively lower use and the redder, thicker lines indicate more use. Thicker red lines on Figure 144 reside mostly on neighborhood streets and the Cane Creek Greenway, suggesting that people walking/running stay on these routes. Roads with sidewalks, like Hendersonville Road and St. John Road (SR 1361) also have red lines. In contrast, on the bicycle heat map shown in

[5] *Strava Global Heatmap. Retrieved from https://www.strava.com/heatmap*

Figure 13. Heat Map from Strava Indicating Relative Bicycle Use in Fletcher (Note: thicker, red lines generally indicate higher usage whereas thinner blue lines indicate less usage).

Figure 14. Heat Map from Strava Indicating Relative Walking/Running Use in Fletcher (Note: thicker, red lines generally indicate higher usage whereas thinner blue lines indicate less usage).

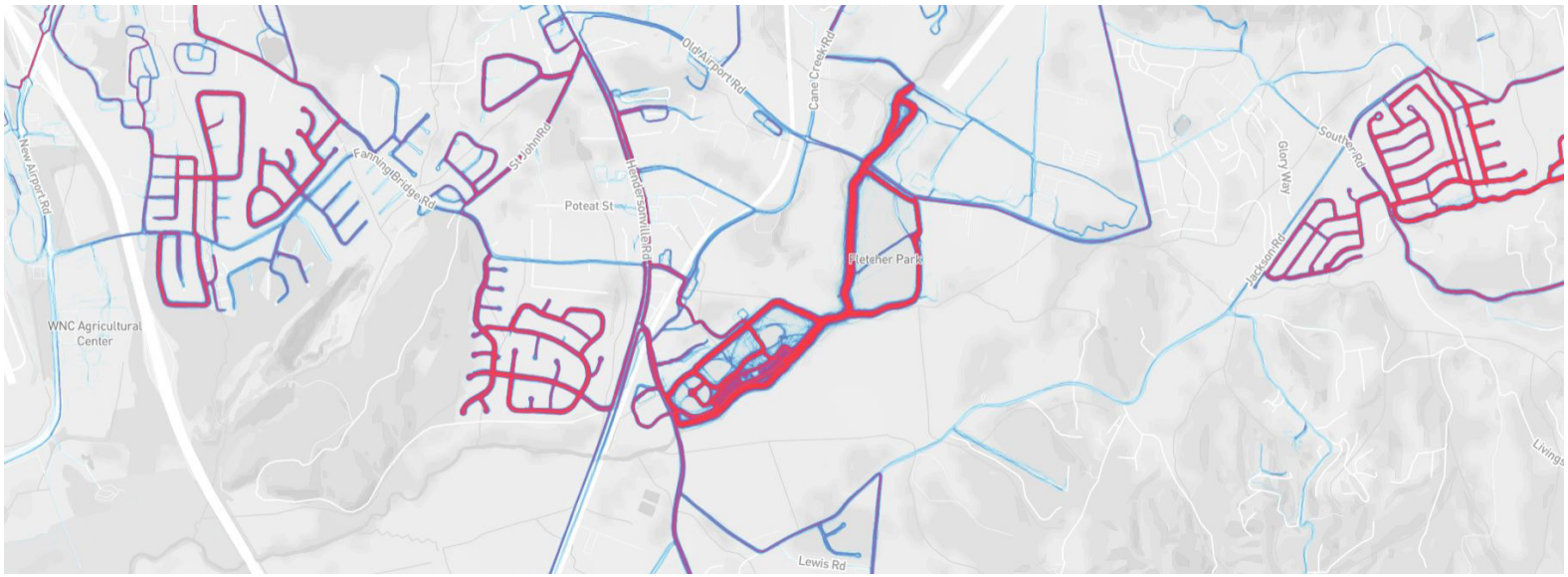


Figure 133, the thicker red lines are on major roads like Fanning Bridge Road (SR 1358), Jackson Road (SR 1539), Souther Road (SR 1552), Old Airport Road (SR 1547) and on the Cane Creek Greenway. These are commonly used bike routes for recreational and longer-distance cycling.

BICYCLE AND PEDESTRIAN POLICIES AND INSTITUTIONAL FRAMEWORK

Several articles within the Fletcher Land Development Code call out specific accommodations for people walking and biking. The following is a brief overview with specific language from the Code shown in italics.

Article 7.3: Open Space Dedication.

This section calls for public access to greenway systems.

Public access to greenway dedications or recreation areas that connect to the greenway system (only) shall be required and shall be at least 20 feet wide.

Article 9: Parking.

The code specifies recommended bicycle parking spaces per 100 auto spaces for off-street parking at certain land uses. This article also provides bicycle parking specifications as well as the acceptable reduction in vehicle parking spaces when bicycle parking is provided.

- *Parking Reduction: Required motor vehicle parking spaces may be reduced at the ratio of one (1) automobile parking space for each six (6) bicycle parking spaces provided, except that under no circumstances may the required number of motor vehicle spaces be reduced by more than five (5) percent.*

Article 10.12: Public Street Lighting.

This section references specific lighting intended for the pedestrian scale.

Lighting directed to paths and sidewalks and on poles no taller than 18 feet – should be prioritized over automobile lighting.

Article 12.6.C: Specific Development Standards

The following sections describe how sidewalks, greenways and bike facilities should be accommodated and designed with private development.

- *The Town views streets as the most important public space and therefore, in an effort to protect this investment, has developed a set of principles which permit this space to be used by both motorized vehicles, non-motorized vehicles (bicycles), and pedestrians.*
- *The developer of any new construction with new or existing street frontage shall provide a network of sidewalk or greenway trails to serve all lots associated with the development. The total length of these facilities shall be equal or greater to the linear roadway frontage for all such lots abutting a roadway (new or existing).*
- *In cases where required sidewalk is potentially unsafe or impractical, the developer may request consideration from the Town for approval of payment of the financial equivalent (or "fee-in-lieu-of") for the required sidewalks.*
- *Sidewalks shall be installed with a maximum cross slope of 2% toward the center of the right-of-way*
- *Where a driveway crosses a sidewalk, appropriate ramps and flares shall be installed to avoid changes in cross slope on the sidewalk.*
- *Greenway Trails shall be designed within the design specifications of the relevant plan phase and in consistency with the Greenway Master Plan.*
- *Bike lanes or separate off-street multi-use paths shall be installed by all development with frontage along streets as designated in any approved bicycle master plan. Paths shall be a minimum of ten (10) feet wide.*
- *Bike lanes and bike paths shall be designed according to the North Carolina Bicycle Planning and Design Guidelines published by the NCDOT and shall include all appropriate signage and pavement markings.*
- *Curb radii shall be designed to reduce pedestrian crossing times along all streets requiring sidewalks. In general, curb radii should not exceed 20 feet except along NCDOT-maintained roads.*
- *All drainage grates must be safe for bicyclists, with slots running perpendicular or diagonal to the direction of travel. Bicycle-safe drainage grates are Types E, F, and G as approved by the NCDOT.*

RELEVANT LOCAL, REGIONAL AND STATE PLANS

In Appendix C, the full review of relevant local, regional and state plans is provided. The plans that have been reviewed include the following:

Plan Name	Year
Town of Fletcher Transportation Plan	2002
Town of Fletcher Strategic Plan Update	2004
Greenway Master Plan	2008
FBRMPO Comprehensive Transportation Plan	2008
Heart of Fletcher Master Plan Update	2012-13
Blue Ridge Bike Plan	2013
Future Fletcher Park Master Plan	2017
Cane Creek Greenway Study	2018
Town Land Use Plan	Updated 2018
Henderson County Greenway Master Plan	2019
Apple Country Transportation	2019
Market Analysis and Economic Development Strategic Plan	2020
The Hellbender Trail	2020 (Draft)
FBRMPO 2045 MTP	2020 (Draft)

Recurring themes in these planning documents include:

- Implementing elements in the Town's Heart of Fletcher Plan
- Working with developers to expand walking and biking opportunities
- Continue greenway system expansion, particularly along Cane Creek
- Construct sidewalks and on-street bike facilities along high priority corridors
- Coordinate with NCDOT and the MPO on project and funding coordination opportunities

Map 14 indicates the projects identified in the FBRMPO 2045 MTP, which was in a draft form at the time of this Plan. This reveals some opportunitites on project coordination and implementation as this Plan is implemented.

LOCAL PROGRAMS AND INITIATIVES

Fletcher does not have significant education, enforcement or encouragement campaigns for walking and biking. While the Blue Ridge Bicycle Club leads rides and encourages non-member participation, their efforts appeal only to the recreational type of bicyclists. To increase the number of citizens that would consider using a bicycle as a means of transportation, Fletcher endeavors to develop programming efforts to support infrastructure.

As Fletcher seeks to expand walking and biking infrastructure in a manner that is accessible for all ability levels, an encouragement effort will be a key part of the plan. In addition, there is potential to build a safety and education campaign to educate residents who are not accustomed to walking and biking in our community.

Map 14. FBRMPO 2045 MTP

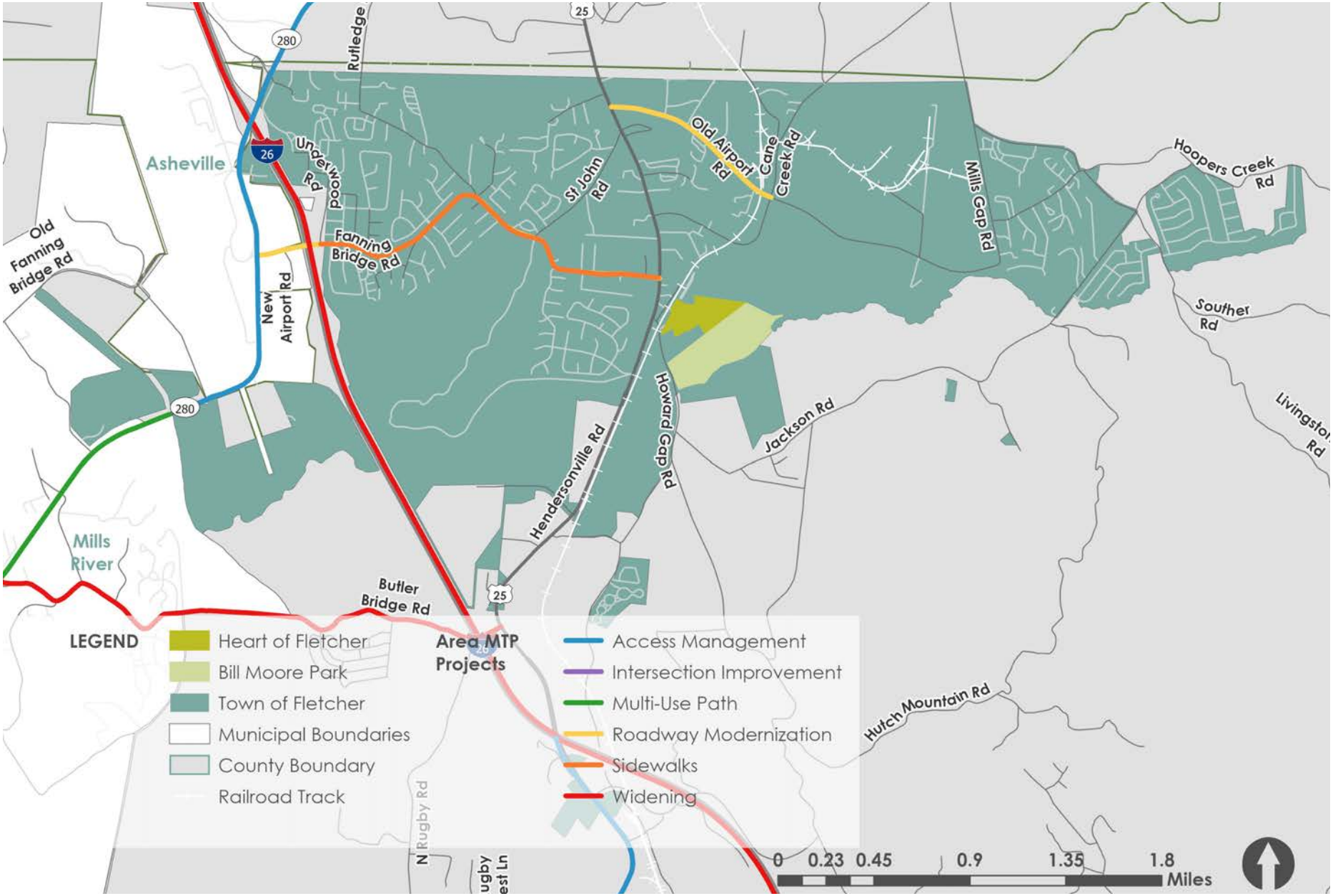


Figure 15. Community Engagement Process That Guided the Plan

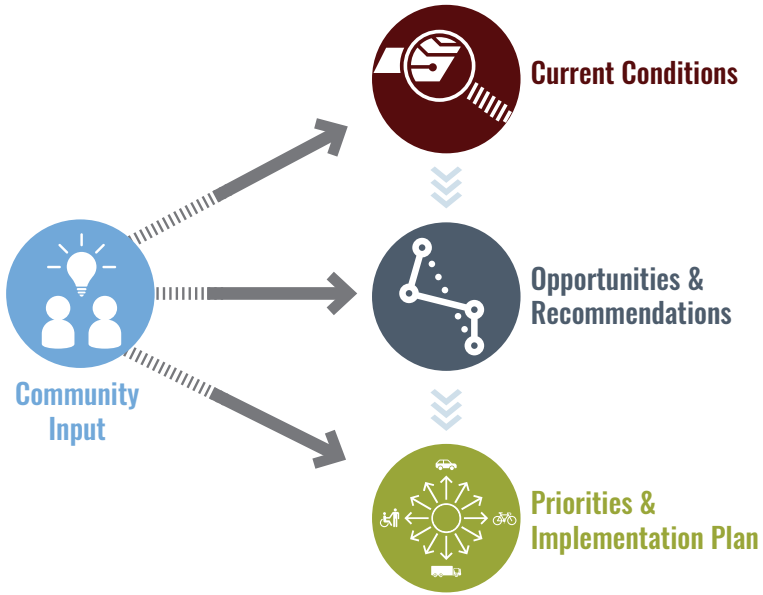


Image 6. First Meeting of the Fletcher Connects Steering Committee

COMMUNITY ENGAGEMENT

This section describes the public engagement process and highlights key findings. Complete notes and other details from community engagement activities are captured in the Appendix.

Community engagement was an integral component of Fletcher Connects Plan development. Preferences, recommendations, and specific project ideas were incorporated into the planning process, as shown in Figure 1515. Town residents, community members, visitors and local advocacy organizations provided their input. The Plan's public engagement included four meetings with the steering committee, a presentation at a local event, a booth at a Town event, and two online surveys. Mid-way through community engagement activities, the COVID-19 Pandemic dramatically changed the function of our society. Consequently, the community engagement activities for Fletcher Connects shifted to a virtual format. In addition, two public workshops were hosted, and a presentation update was provided to Town Council. All these activities emphasized issues identification and project prioritization.

Steering Committee

The intent of the Project Steering Committee was to provide a voice of the community, as an interim step between the full community engagement events. The Steering Committee was comprised of members of Town staff, Fletcher Area Business Association, Fletcher YMCA, FernLeaf Charter School, Henderson County, AARP, Blue Ridge Bicycle Club, iDaph (Race Event Planning), Town Planning Board, FBRMPO, NCDOT, Town Council, and Town Planning Board. A full list of members can be found in the Acknowledgments.

The Steering Committee first met on October 15, 2019. The purpose of this meeting was to introduce the project and to gather initial information. The Steering Committee was then expanded to include more community members, and the second meeting was held on January 22, 2020. During this meeting, participants identified important problem areas for bicyclists and pedestrians, along with potential plan recommendations. The consultant team also received input on outreach activities, as well as key contacts for community leaders who could assist in survey deployment and increase public meeting attendance.

The third Steering Committee meeting was held virtually on April 23, 2020 and included a presentation on the 14 projects that were identified as most important. The consultant team gathered input on each of the projects. The Steering Committee was asked to rank the projects following the meeting.

The fourth Steering Committee meeting was held virtually on October 19, 2020 as an opportunity to provide feedback on the draft Plan.

Community Events

Members of the consultant team attended the Town of Fletcher's annual Chili Cook-Off Even on January 18, 2020 at Veritas Christian Academy. The team set up a booth and promoted the project and upcoming public meeting and distributed surveys. The team also had participants complete a mapping exercise. Nearly 300 residents from Fletcher and Henderson County attended the event, and the team spoke to several dozen people.

The consultant team also promoted the project at a YMCA Health Aging event on March 12, 2020. About 7 people attended the presentation and Q&A session.

Community Survey

As a part of the community engagement efforts, an online survey was distributed to members of the community asking their thoughts about walking and biking in the Town. The survey was hosted on the platform Survey Monkey, along with an additional map-based survey hosted on WikiMaps. The goal of this survey was to explore walkability and bikeability in Fletcher by understanding what makes people feel safe and encourages them to walk or bike, as well as where and for what reasons they would participate in these activities. The survey was open from January 19 – March 1, 2020 in which time a total of 347 people responded.

The team promoted the survey and the first community meeting through several outlets: yard signs, flyers, social media, the Town newsletter, Town robocalls, Homeowners Associations, Blue Ridge Bicycle Club, and the local newspaper, Blue Ridge Now. The flyers were distributed at the following locations:

- Blue Ghost Brewery
- Fletcher YMCA
- Fletcher Bakery

Image 7. A Screen Capture at the Third Steering Committee Meeting, Held Virtually

- Post Office
- Charlie's on the Creek
- Fletcher Library
- Planet Fitness
- FernLeaf Charter School
- Veritas
- Frostbite 8k and fun run (1/4-page flyers were placed in race packets)

The Appendix includes a full summary of the survey findings, but key highlights include:

- Most people walk and bike for recreation and socialization
- Most (96%) of people walk around their neighborhood
- 88% of people bike to destinations that are outside of Fletcher

Figure 16. Flyer for the Community Survey

- For daily trips, most people walk three or more times a week

Of significant note in the survey findings is the difference in responses between why people currently walk or bicycle, and for what purposes they would walk or bike if it was more convenient or safer. Chart 2 and Chart 3 show this difference. Many more people would walk or bike for commuting, attendance of social events, shopping or socialization if it felt safer.

During the project development phase of the project, a second online survey was developed to collect community feedback in lieu of hosting an online meeting (due to COVID-19 restrictions). The purpose of this survey was to have participants rank the top 14 projects identified based on community input. A total of 153 responses were received during this period. The most important project to respondents was the Fanning Bridge Road Multiuse Sidepath. The second most important project was Town Hall to Bill Moore Park Trail. See Figure 1717 for the full project ranking. The value 'Rank' refers to the average ranking of that project, and the percentage refers to the percentage of people that listed that project in their ranking. The number with the checkmark adjacent to it refers to the number of people who ranked that project.

Image 8. A Screenshot of the Landing Page for the Project Development Survey

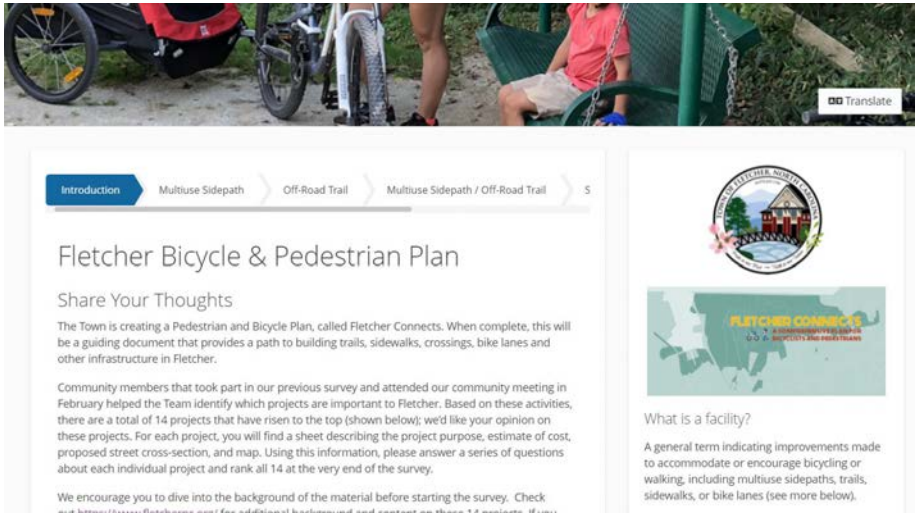


Chart 2. For What Purposes Do You Currently Walk and/or Bicycle?

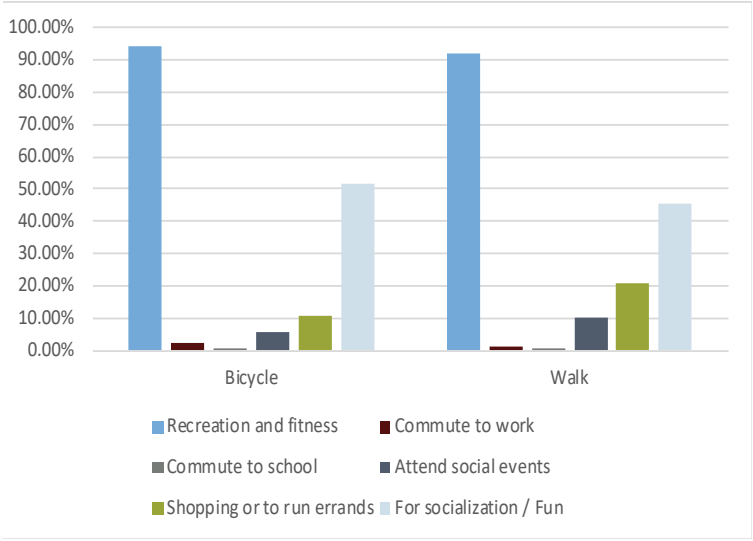


Chart 3. For What Purposes Would You Walk or Bicycle More Often if it Was More Convenient or Felt Safer?

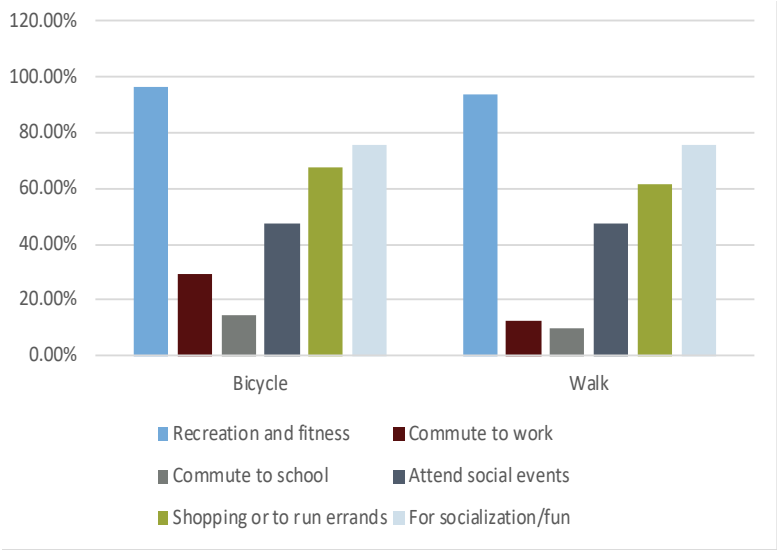


Figure 17. Results of the Project Ranking from the Second Community Survey

Image 9. Images From the First Public Meeting for Fletcher Connects

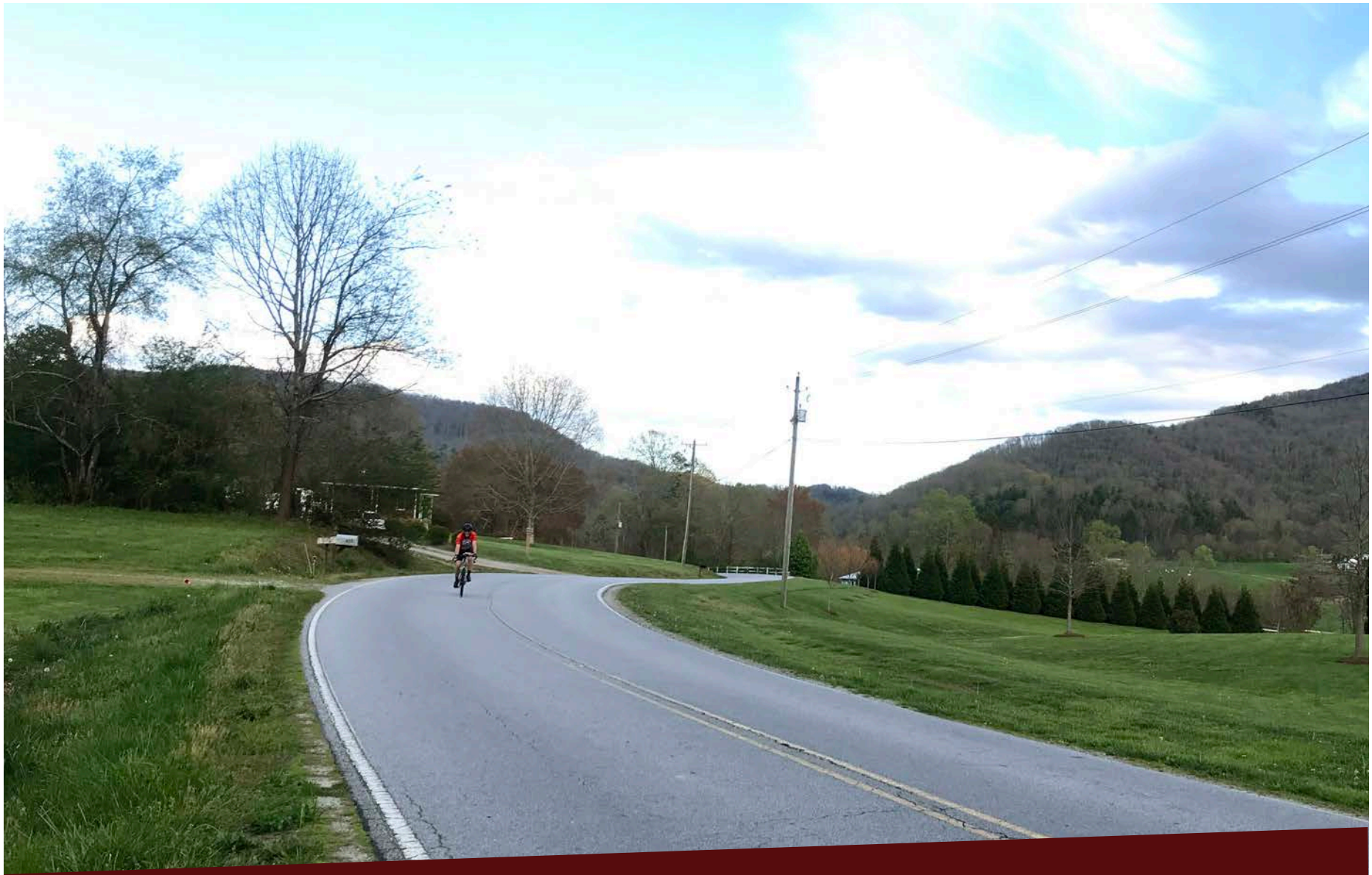
Community Meeting #1

The first community meeting was held on February 12, 2020 at Fletcher Town Hall. Over 40 residents and visitors of the Town attended the meeting. The meeting was a drop-in style and had no formal presentation. A series of stations were set up throughout the Community Room, and included general information about the project, a survey station, and maps for participants to provide their feedback about destinations, needed connections, and problem areas for both bicycling and walking.

Community Meeting #2

Due to the COVID-19 restrictions by the state, the second public meeting was hosted online. There were two meeting times available, at 10:00 AM and 6:00 PM. This was a virtual Q&A session. About ten people from the general public attended. The consultant team promoted this meeting through a variety of methods including robocalls to town residents (July 16 and July 22), the Town Newsletter, website, Facebook pages, and project contact list. For those that were unable to join this meeting, the Team pre-recorded a presentation of this meeting that is available on YouTube (at the time of this Plan development, this had 144 views).

The Team provided a final presentation of the Plan to Council on November 9, 2020.



RIDING FLETCHER'S SCENIC ROADWAYS

03. BICYCLE AND PEDESTRIAN NETWORK PLAN

HOW WE GOT HERE

As previously described, this project is rooted in community engagement with recommendations, analyses and the final study all originating from that foundation. The process was iterative, involving multiple touch points with stakeholders. Vision and goal identification are established with the community and any recommendations are measured against their ability to stand true to the collectively agreed-upon vision.

The project process is described in Figure 18. The project began with a review of current conditions, including demographics, the transportation network, key destinations and crash history. Working with the Steering Committee and members of the community through meetings, an online survey and a WikiMap, the consulting team captured community concerns and ideas. The team then collected the ideas into a master list of potential projects that were explored in varying levels of detail to understand feasibility, opportunities and constraints, thus arriving at an initial project list to again be vetted by the community via meetings and an online survey. Following this feedback, the team developed a final list of recommendations and formed the Project Plan.

Figure 18. The Project Development Process

DESIRED CONNECTIONS & INITIAL PROJECT IDEAS

Based on the community feedback that was obtained during this project, there is a strong desire for multimodal connectivity on most of Fletcher's key corridors. Several key connection ideas, destinations and potential projects were compiled through public comment process.

Overall themes that the community shared are as follows:

- Desire to "unlock" neighborhoods along Fanning Bridge Road (SR 1358) to have improved access by foot and bike
- Improved greenway connectivity, including expansion of the Cane Creek Greenway and connections to Hooper's Creek neighborhoods
- Connecting Bill Moore Park to surrounding neighborhoods
- Access to key destinations including Ingles, Fletcher Library, Blue Ghost Brewing, WNC Agricultural Center, Sierra Nevada, Westfeldt Park, The Riveter and Town Hall
- Improved crossing opportunities of Hendersonville Road (US 25)

The full list of community ideas and connections were compiled and refined through a process of network development. Some projects were eliminated for the following reasons:

- Primarily outside of Fletcher
- Physically infeasible or highly unlikely
- Excessive cost with low value

These projects include US 25 Multiuse Side Path and St. John Road Multiuse Side Path. US 25 is a highly constrained corridor and would require a larger NCDOT corridor improvement project, which is a highly competitive process for funding. In addition, there has been recent streetscape work to improve sidewalk connections. There would be a high cost to modifying this new facility. As such, the focus of recommendations in this Plan are on parallel corridors and crossings. However, this improvement is included in the long term NCDOT roadway "other projects" list.

Similarly, on St. John Road, there has been recent sidewalk construction on this corridor, and there would be a high cost to modify while there is great connectivity need elsewhere in the Town. However, this improvement is included in the long term NCDOT roadway "other projects" list.

There was also a desire to see sidewalk connections / multiuse side paths in the Southchase and Livingston Farms neighborhoods. These were not advanced to further stages of planning due to high cost, high impact and private property needed. The Team felt that the streets operate well now as low-speed, low volume shared streets.

Image 10. Density of Housing and Limited Open Space in Many Fletcher Neighborhoods

The remaining projects were sorted into categories for development:

- Primary bicycle and pedestrian network connections
- Other NCDOT road facility recommendations
- Other system wide recommendations (e.g. ADA accessibility and road crossing treatments)
- Policy

Of the initial projects identified, this process resulted in 14 primary network connection projects that were further reviewed for feasibility and facility selection (e.g. greenway, sidewalk, bicycle lanes), and were taken to the steering committee and public for prioritization input.

PROJECT FEASIBILITY CONSIDERATIONS

The project feasibility review considered physical constraints that are common with transportation projects.

Private Property Required

Oftentimes, the jurisdiction that maintains a roadway only possesses maintenance authority just beyond the edge of pavement, curb/gutter or sidewalk. In this case, to add a bicycle or pedestrian facility on the road would require either repurposing a travel lane and/or curb lane uses, or a widening of the roadway. Widening often requires the acquisition of private property. Not only is this costly, but certain private landowners may not be interested in selling their property.

Utilities

We often do not notice the infrastructure that surrounds us to provide power, communications, water, wastewater, and other services to our homes and businesses. Some infrastructure is buried underground and other utilities, including electric transmission or telecommunication lines, can be located overhead on poles and power lines. Utilities often run parallel to roadways. When building transportation projects, the challenge with utilities such as these often arises when a road is widened, or a sidewalk is added. Many times, these utility corridors are located where a sidewalk would logically be built, and the relocation of the utility is very costly and complex. For instance, when it may seem simple to relocate one power pole, the powerline system is engineered such that the relocation of one power pole requires modification to a system of poles.

Steep Grades

In Western North Carolina, mountains and hills are a reality (and beauty) of our region. From a construction standpoint, having to build around slopes, hills and steep grades is problematic because it requires the excavation of land and can sometimes require the construction of retaining walls or other structures to ensure that the hillsides or grades are not compromised. This can become very costly and can trigger additional property impacts to ensure the land is stable and the roadway beneath is safe.

Stream Crossings & Environmental Impacts

Crossing streams, creeks, rivers and wetlands can be problematic from an environmental and cost standpoint. Existing bridge structures that cross these waterways may not have accommodations for people walking or biking. Bridges typically have a long lifespan so the opportunity to coordinate sidewalk construction, for instance, in a bridge reconstruction project may only arise every 30 years. Building a standalone structure for people walking

Image 11. Example of Private Property Impacts that Would Need to be Considered on Fanning Bridge Rd (SR 1358)

Image 12. Utility Poles Adjacent to the Roadway on Underwood Rd (SR 3540)

Image 13. Steep Grades on Rutledge Rd (SR 1359)

and biking is not only costly, but it triggers thorough environmental review to ensure the protection of natural resources and that the flood levels do not rise when placing new infrastructure in the floodway.

Drainage

On rural roads, particularly like those found in Fletcher, there is commonly not a curb and gutter pan to convey water to underground storm drain systems. Oftentimes, these roads will have drainage swales or roadside ditches to collect water and move it to the underground drain system. It is important that the water move off the roadway as it can puddle and cause safety issues, which in Fletcher's climate can freeze. Additionally, standing/freezing water leads to maintenance issues. Like the challenges with underground utilities, if a roadway is widened, these drainage ditches and swales will need to be converted to underground conveyance systems or right of way is needed to move them to make room for additional widening, sidewalks etc.

Curves and Sight Lines

A final reality in a geography like that of Fletcher are curves in the road. These curves can be vertical, i.e. at the crest of a hill, or horizontal, such as a turn in the road. At times, roads have been designed with curves to help navigate the terrain, however, these can compromise sight line visibility. A driver's line of sight is the visible path from the vehicle to the focus area. Sometimes this line can be blocked by such a curve or crest of a hill. These areas will need to be closely studied as bicycle and pedestrian accommodations are considered; people walking and biking both move more slowly than a person driving, and their visibility can be further diminished at curves.

FACILITY SELECTION AND PROJECT RANKING

Guiding Principles

Deciding on the type of pedestrian and/or bicycle facility that should be on a street, given the current context, constraints and opportunities, is not a simple task. At the heart of this process is a concept known as 8 to 80 cities (or 8 80 cities): building cities that are great for an 8-year-old and an 80-year-old.[1] If streets are comfortable for these baseline age groups, then they should be accessible, low stress and comfortable for all user types. This is especially relevant in a community like Fletcher with a higher population of youth and aged adults.

Another guiding principle to this selection process is found within the FHWA Bikeway Selection Guide (more information in the section of the report 'Design Guideline Resources'). This resource helps transportation planners and engineers to make informed decisions about the trade-offs related

[1] *8 80 Cities. (2020). https://www.880cities.org/*

Image 14. Stream Crossing and Bridge on Jackson Rd (SR 1539)

Image 15. Drainage Ditch Along Poteat St

Image 16. Curves Along Rutledge Rd (SR 1359)

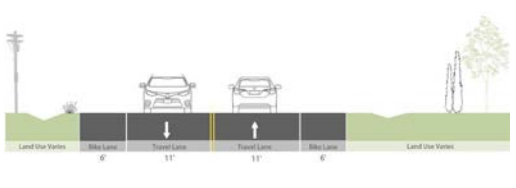
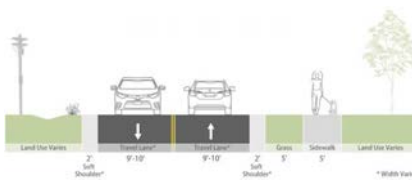
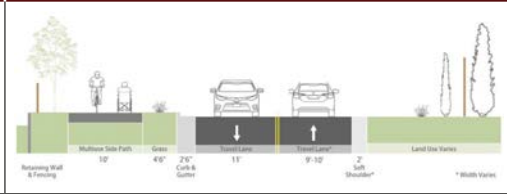
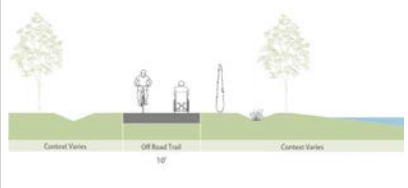
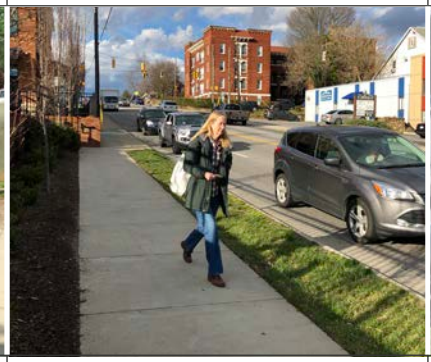
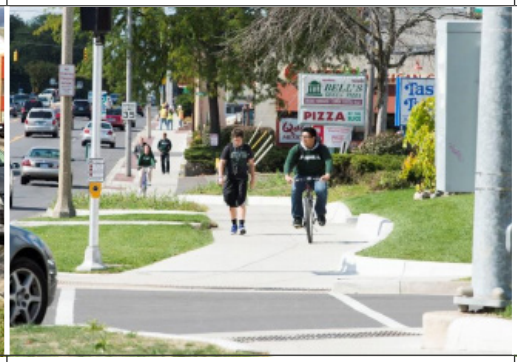
to bikeway selection types, based largely on street volume and speed. It should be noted that this Plan's recommendations applies these best practices and resources along with consideration of local mobility needs, target facility users and corridor constraints in order to develop facility type recommendations.

In general, when both bicycle and pedestrian facilities are high priority for a corridor, this recommendations lean more towards multiuse side path type recommendations, combining the pedestrian and bicycle users in one facility, rather than recommending a separate facility for both users (i.e. a sidewalk adjacent to a buffered bike lane). The reason for this is that it is generally more cost-effective for a jurisdiction to construct a multiuse side path rather than two separate facilities, due largely to the additional right-of-way cost needed to construct two facilities. Not only is the multiuse side path more cost-effective, but when designed well, it offers the same 8 80 benefits in terms of user comfort and access.

Facility Types

Table 2 describes general facility types that were considered for the Fletcher network connection projects: bicycle lane, sidewalk, multiuse side path and off-road trail. For more information about designing these facilities, see the list of design resources in Appendix A.

Table 2. Primary Facility Types for Fletcher

Bicycle Lane	Sidewalk	Multiuse Side Path	Off-Road Trail
			
			
A travel lane that is striped a minimum of 5 feet and designated for bicycle use only.	A designated space along the side of a road for use by pedestrians. Traditional sidewalk design includes a 5 foot concrete sidewalk with a 5 foot minimum grass buffer strip between the sidewalk and nearest travel lane.	A two-way shared use path (minimum 10 feet wide with a 5ft grass buffer strip between the path and nearest travel lane) located immediately adjacent and parallel to a roadway	A corridor of land, usually following features such as rivers, old railroad lines, which is used for recreation or alternative transportation purposes (i.e. Cane Creek Greenway).

Fletcher Specific Considerations

Based on feasibly review and roadway characterizes, ideal long-term recommendations were made for the 14 primary network connection projects. However, since many of the primary network projects for Fletcher are along NCDOT maintained roadways, some flexibility in facility type is built into this plan. If the opportunity arises on an NCDOT maintenance project to achieve shorter term improvements, such as a wide shoulder or sidewalk instead of a side path, an incremental improvement can serve as a short term option, while funding and right of way are in process for the longer term preferred option. In addition, all projects will require a detailed preliminary engineering review (15-30% design level) to refine facility type, transitions and alignments.

The long-term facility selections, considered the following general principles:

- Maximum separation from traffic was preferred for trails that serve all ages and abilities in a community on higher volume, higher speed roads.
- For roads that need bicycle and pedestrian facilities, an evaluation compared widening for bicycle lanes (both sides) and sidewalk (one side) vs. a multiuse side path. For bicycle lanes and sidewalk, a minimum of 15 feet of roadway widening is required. This goes up to 20 feet of widening if the a 5-foot grass buffer strip is included between the roadway and sidewalk (one side). A 10-foot side path with a 5-foot buffer requires a minimum of 15 feet of widening and provides more separation from traffic. As such, the side path became the preferred long-term option on most roads that were identified for both bicycle and pedestrian use. This facility selection may be revised during preliminary engineering based on design constraints.
- Rural roads like Jackson Road (SR 1539) and Old Hendersonville Road (SR 1536) would ideally have sidewalks as well as bike lanes; however, there is a high cost to widen these roads where there is minimal land use density and a proposed parallel greenway. As such, several of these roads were recommended for only sidewalks or only bicycle lanes as the preferred “roadway adjacent” facility in conjunction with future greenway connections. These facilities were determined based on the primary uses along the roadway (e.g. long-distance cycling community or local pedestrian traffic).
- Several projects were identified as Catalyst Projects. These are projects that are foundational to the Fletcher bicycle and pedestrian network. They will help establish a spine to the network and connect major destinations. As funding opportunities present themselves, these projects should be prioritized

Initial Facility Selection

The facilities initially identified as primary network connections are listed below. The top 10 projects listed below were ranked in order by the project steering committee, prior to additional project facility investigations and the July public meetings.

1) Cane Creek West Off-Road Trail
2) FernLeaf Off-Road Trail/Multiuse Side Path
3) Old Airport, Mills Gap & Hooper’s Creek Roads Multiuse Side Path
4) Rutledge Road Multiuse Side Path
5) Hooper’s Creek Off-Road Trail
6) Old Salem Church Off-Road Trail/Multiuse Side Path
7) Fanning Bridge Road Multiuse Side Path
8) Underwood Road Multiuse Side Path
9) Rutledge Connector Off-Road Trail/Multiuse Side Path
10) Town Hall to Bill Moore Park Off-Road Trail
11) Jackson Road Bike Lanes
12) Old Hendersonville Road Sidewalk
13) Souther Road Sidewalk
14) Fletcher Hills Sidewalk

Project Ranking Round 1: Steering Committee

For each of the 14 initial projects, the Steering Committee members were asked to assign a value to each goal. The ranking values included the following:

0	Project does not meet the criteria
5	Somewhat agree that the project meets the criteria
10	Agree that the project meets the criteria
15	Strongly agree that the project meets the criteria
20	Each member had 20 bonus points to assign to one project

Related to each project goal, the members were asked to assign these values for each statement:

- Goal one: This project will encourage me and others to walk/bike because it will improve the perception of safety and comfort.
- Goal two: This project will help create a network for bicycling and walking.
- Goal three: If people use this facility, it will likely result in healthier people and a healthy environment.
- Goal four:
  - *This project will encourage others and me to walk/bike because it connects us to parks and recreation facilities.*
  - *This project will encourage others and me to walk/bike because it connects me to employment opportunities.*
  - *This project will encourage others and me to walk/bike because it connects me to schools.*
  - *This project will encourage others and me to walk/bike because it connects me to basic needs.*
  - *This project will better connect vulnerable residents (lower-income areas, seniors, children, etc.) to important destinations.*

Other factors that the Steering Committee considered included the likelihood that project can be easily implemented based on available right of way and other constraints, and the cost of this project relative to the benefits.

The results of the Steering Committee prioritization allowed the team to identify the top 10 projects, for which an additional field views, cross sections and costs were developed. Costs were not developed for the Old Salem Church Off-Road Trail/Multiuse Side Path since additional study will be required to determine if the project is feasible and to evaluate potential alignments and project constraints.

Project Ranking Round 2: Public Meeting and Council Input

In order to verify priorities with the public, all 14 projects were presented in a series of online meetings and surveys in July of 2020. These materials are included in Appendix A. These projects were also presented to Town Council on September 8, 2020. Figure 1717 shows the final project rankings based on the public survey.

Final Priority Project Details & Cost Estimates

The results of final project rankings are as follows:
*Catalyst Project (indicated with *)*

These are projects that are foundational to the Fletcher bicycle and pedestrian network. They will help establish a spine to the network and connect major destinations. As funding opportunities present themselves, these projects should be prioritized.

1) Fanning Bridge Road Multiuse Side Path*
2) Town Hall to Bill Moore Park Off-Road Trail
3) Cane Creek West Off-Road Trail*
4) Underwood Road Multiuse Side Path
5) Old Airport, Mills Gap & Hooper's Creek Roads Multiuse Side Path
6) Rutledge Road Multiuse Side Path
7) Hooper's Creek Off-Road Trail*
8) Rutledge Connector Off-Road Trail/Multiuse Side Path
9) FernLeaf Off-Road Trail/Multiuse Side Path
10) Jackson Road Bike Lanes
11) Old Hendersonville Road Sidewalk
12) Old Salem Church Off-Road Trail/Multiuse Side Path
13) Souther Road Sidewalk
14) Fletcher Hills Sidewalk

Two additional projects were also prioritized based on community and Town Council feedback. The Quarry Trail Feasibility Study was added per Council feedback (after it had initially been removed due to project constraints that indicated it may not be feasible). The potential Quarry Road Trail (parallel to Fanning Bridge Road - SR 1358) was identified as a project that should be further investigated with a feasibility study to determine if there are any opportunities that are not readily apparent. This trail was of particular interest to the community; and, given potential funding and right of way constraints associated with Fanning Bridge Road Side Path, this potential Quarry Trail provides an off-road alternative for further review.

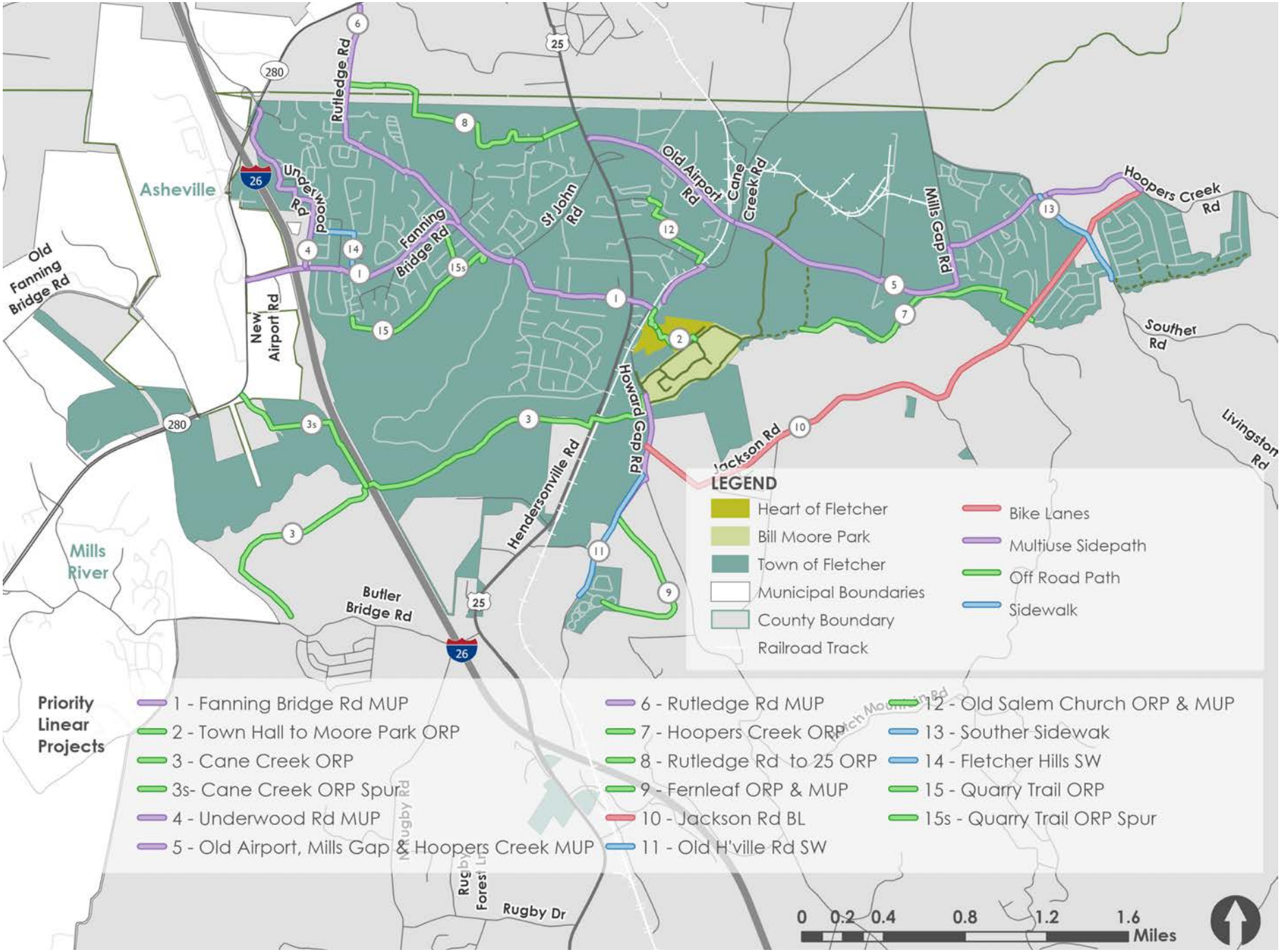
Image 17. The "Informal" Trail Loop Through the Farm Adjacent to Bill Moore Park

Additionally, the Cane Creek Greenway Farm Loop was added to the project list since an official easement is needed to preserve its use for the future. This informal loop is just east of Bill Moore Park and is located on the Blue Ridge Metals site that is currently leased for farming. This popular loop also provides an informal but frequently used walking and biking connection between Mills Gap Road (SR 1551) and Bill Moore Park. Formalizing this connection improves walkable access to the Cane Creek Greenway and Bill Moore Park.

Map 15 illustrates the final projects and alignments.

Additional project details, including cross sections, renderings and cost estimates are shown in Projects 1 -14 (pages 66 - 93).

Map 15. Priority Linear Projects for the Fletcher Bicycle and Pedestrian Network



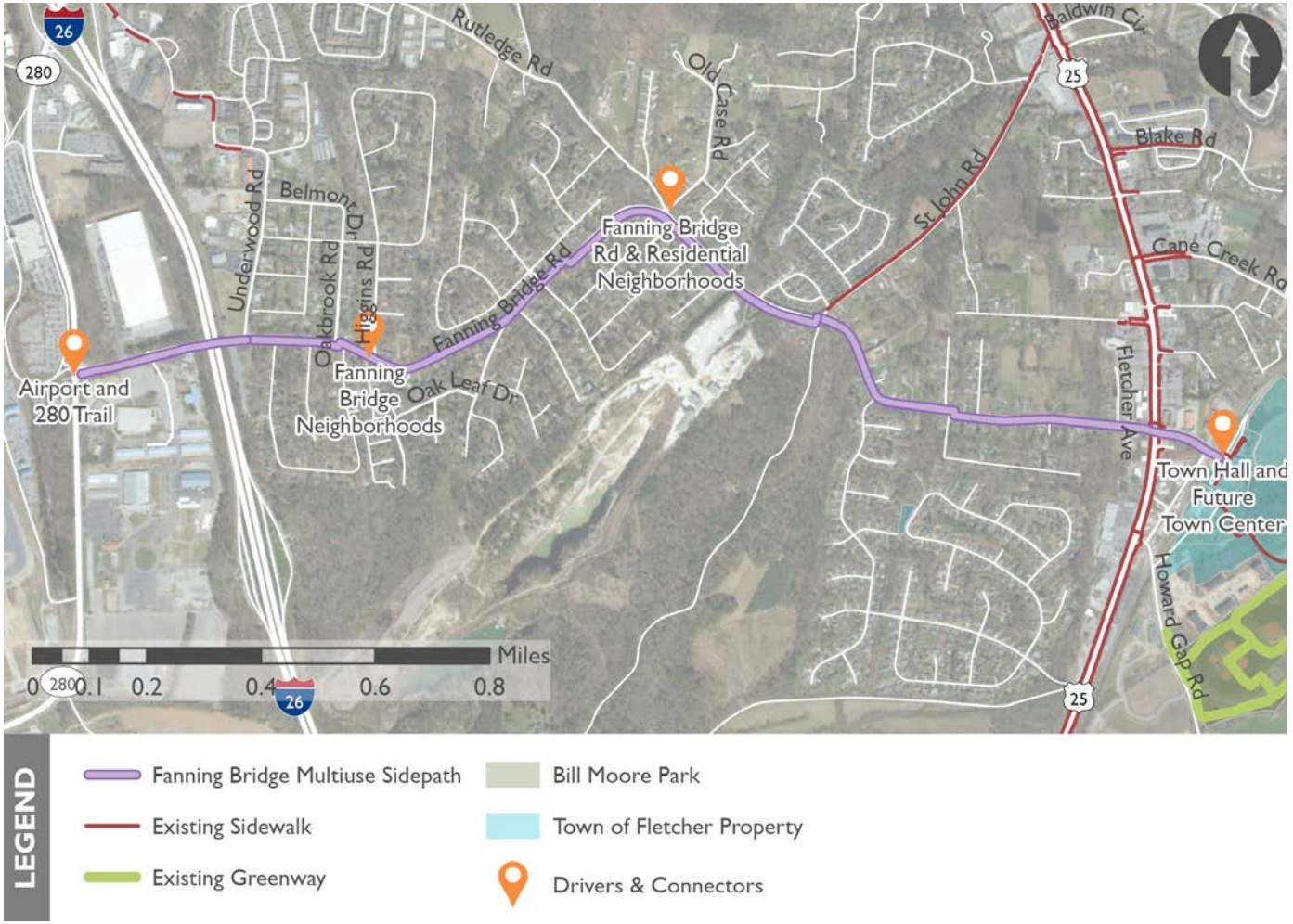
FANNING BRIDGE ROAD MULTIUSE SIDE PATH
Hendersonville Rd (US-25) to Airport Road (NC-280)

KEY PROJECT ELEMENTS

- 10' Multiuse Side Path Separated from Road by 5' Grass Buffer

PROJECT CHALLENGES/ CONSTRAINTS

- Property Required
- Utilities
- Steep Grades/Retaining Walls
- Stream Crossings
- Drainage



OTHER COORDINATION & DESIGN NOTES

- I-26 Bride: Coordinate with NCDOT on Bridge Widening Project
- Investigate Rutledge Road Intersection Improvements
- Investigate Integration at Airport Road (Route 280 Signal

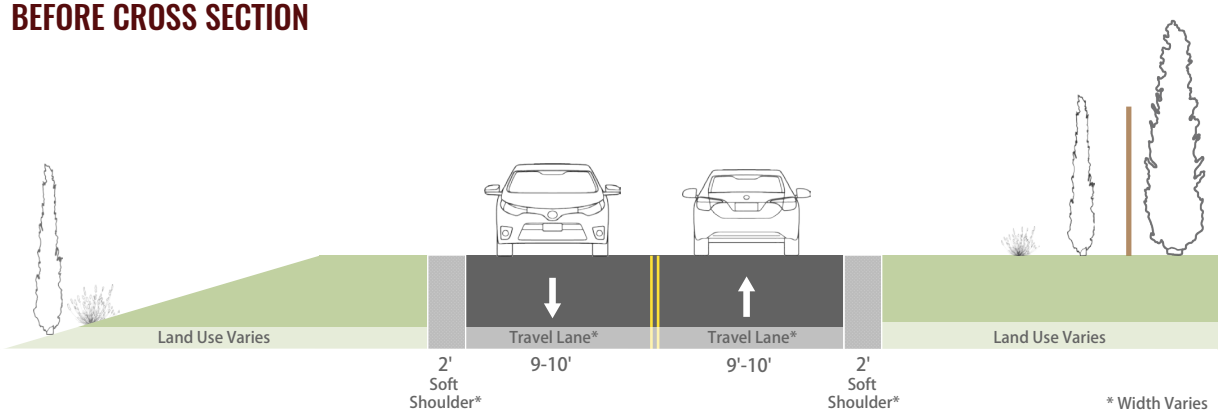
CROSSINGS

- Railroad Crossing (near Town Hall)
- US 25 Signal
- Five (5) Unsignalized Crossings

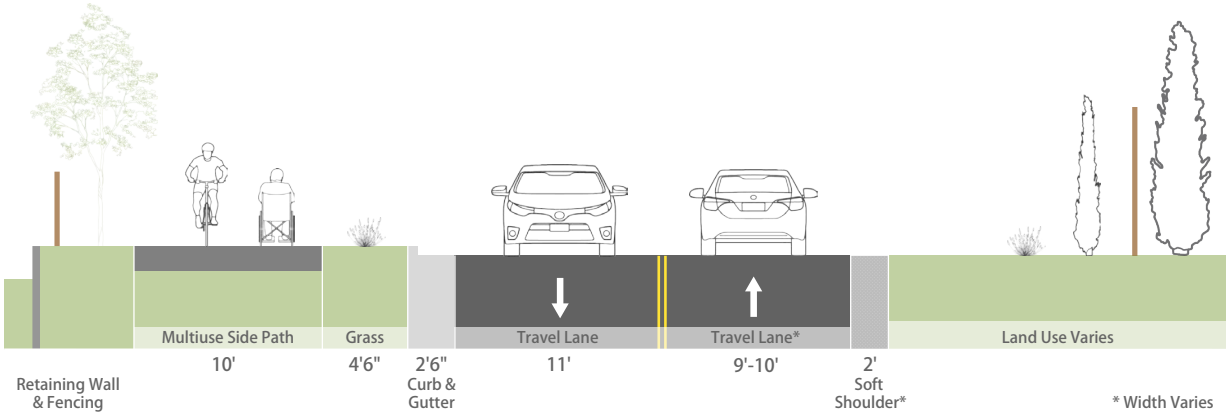
Project Cost: $9,507,500

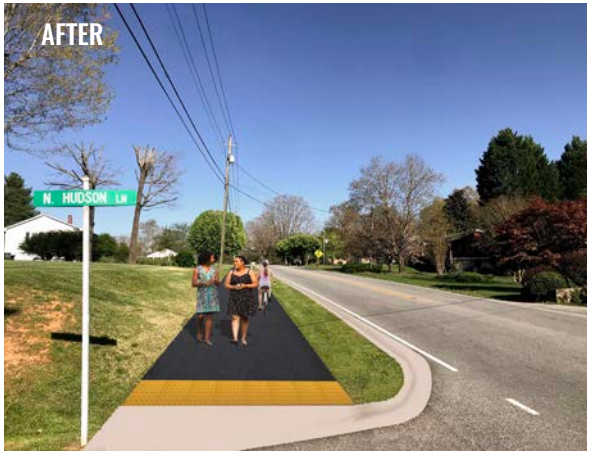
- Includes Design, Right-of-Way, Utility Work and Construction

BEFORE CROSS SECTION



AFTER CROSS SECTION





TOWN HALL TO BILL MOORE PARK OFF-ROAD TRAIL

Fletcher Town Hall / Old Cane Creek Road to Bill Moore Park & Cane Creek Greenway

EXISTING CONNECTION TO THE DOG PARK

TOWN HALL SHOWN ON THE RIGHT OF PHOTO

KEY PROJECT ELEMENTS

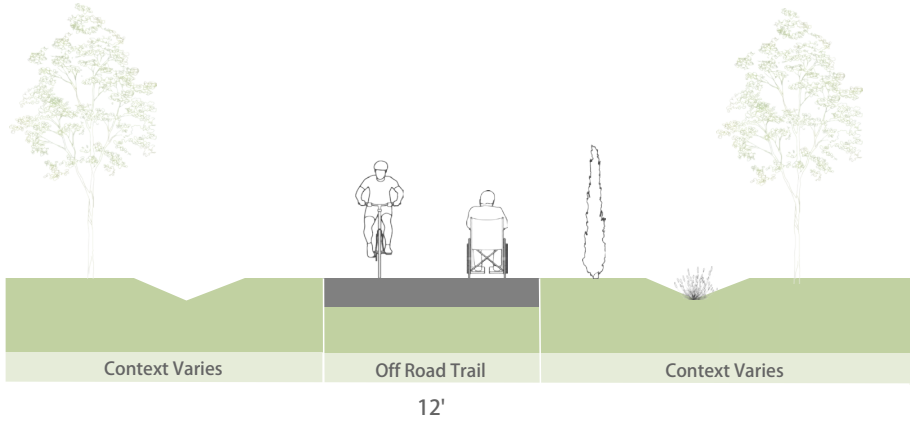
- 12' Wide Trail

PROJECT CHALLENGES/ CONSTRAINTS

- Gate Replacements
- Connection to Apartment Complex
- Investigate Alignments to Reduce Grades to 5% or Less

Project Cost: $465,000

- Includes Design, Utility Work and Construction. Right-of-Way Not Included (On Town Property)



CANE CREEK WEST OFF-ROAD TRAIL
Future Oklawaha Greenway to Bill Moore Park

CANE CREEK WEST OF US-25

CANE CREEK GREENWAY AT THE ENTRANCE TO BILL MOORE PARK

KEY PROJECT ELEMENTS

- 12' Wide Trail

PROJECT CHALLENGES/ CONSTRAINTS

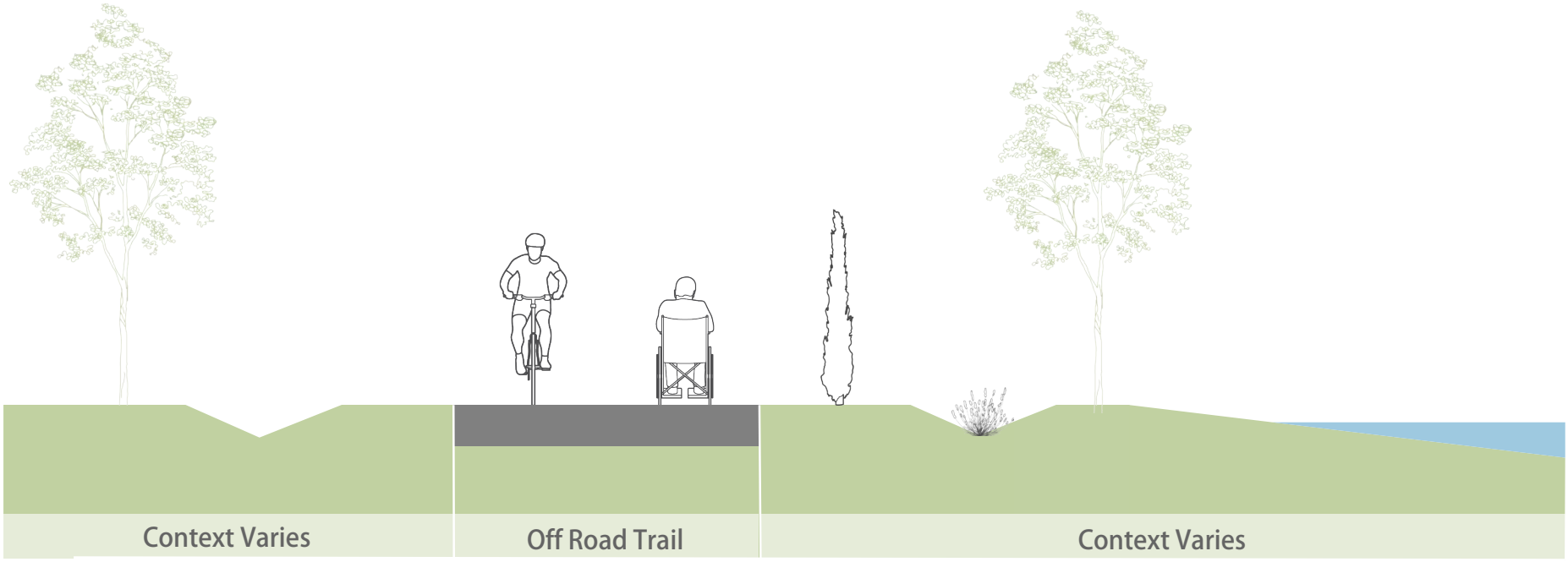
- Property Required
- Floodway
- Road Crossings / Underpass
- Stream Crossings

CROSSINGS

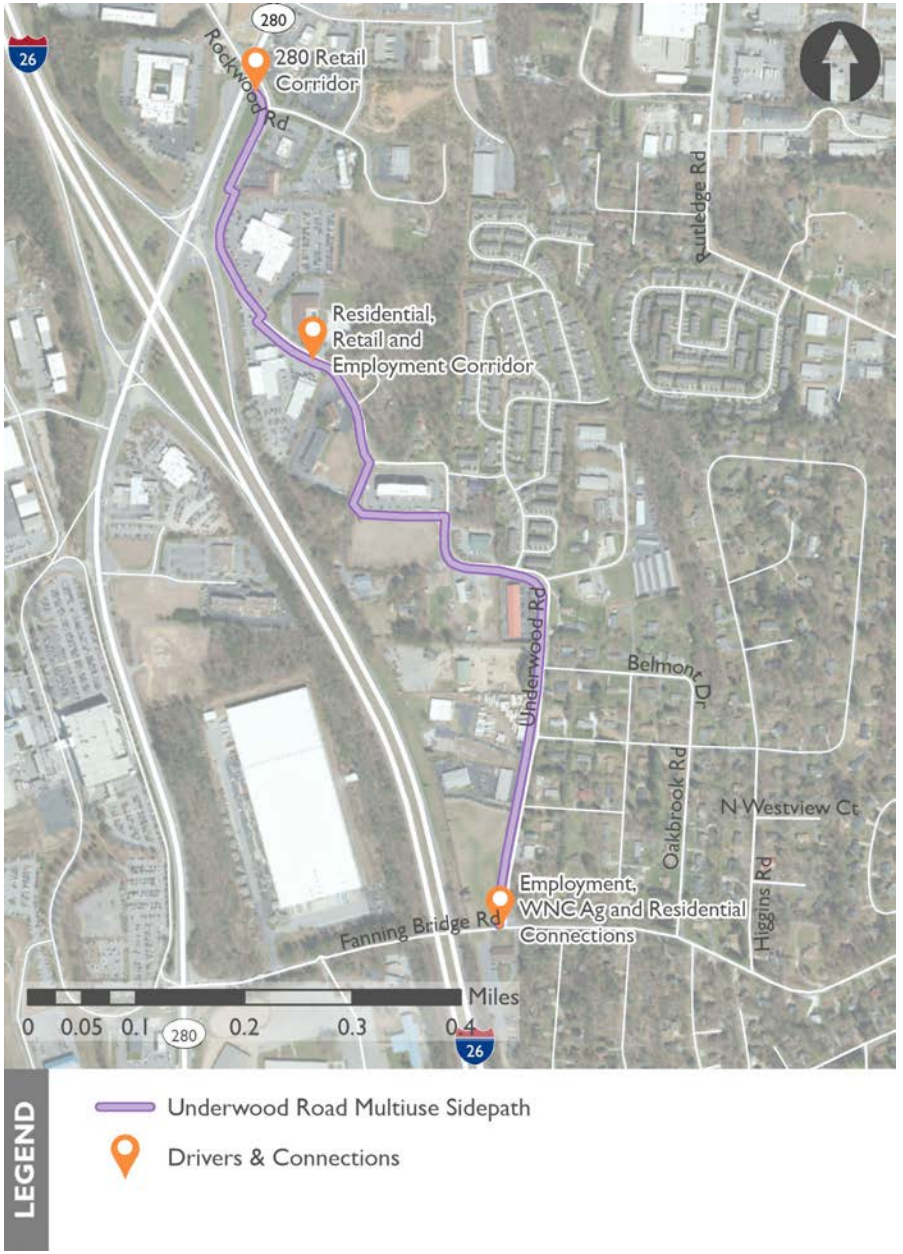
- Howard Gap Road
- Hendersonville Road (US 25) and RR Underpass
- I-26 Underpass

Project Cost: $7,579,052

- Includes Design, Utility Work and Construction. Right-of-Way Not Included (Assumed Land Donations)



UNDERWOOD ROAD MULTIUSE SIDE PATH
NC-280 to Fanning Bridge Road



KEY PROJECT ELEMENTS

- 10’ Multiuse Side path Separated from Road by 5’ Grass Buffer

PROJECT CHALLENGES/ CONSTRAINTS

- Property Required
- Utilities
- Property Impacts
- Drainage
- Steep Grades/ Retaining Walls
- Sharp Curves and Sight Lines

OTHER COORDINATION & DESIGN NOTES

- Investigate Alternate Off Road Segment Behind Fairfield Inn
- Investigate Fanning Bridge Road Intersection Improvements
- Tight Segment at Apple Tree Honda along I-26 Off Ramp

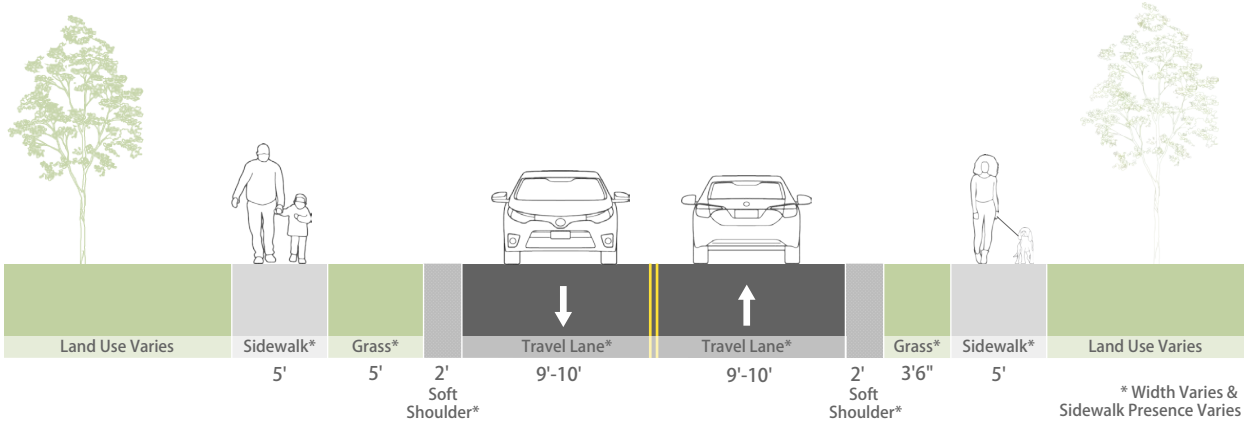
CROSSINGS

- Fanning Bridge Road
- One (1) Unsignalized Crossing

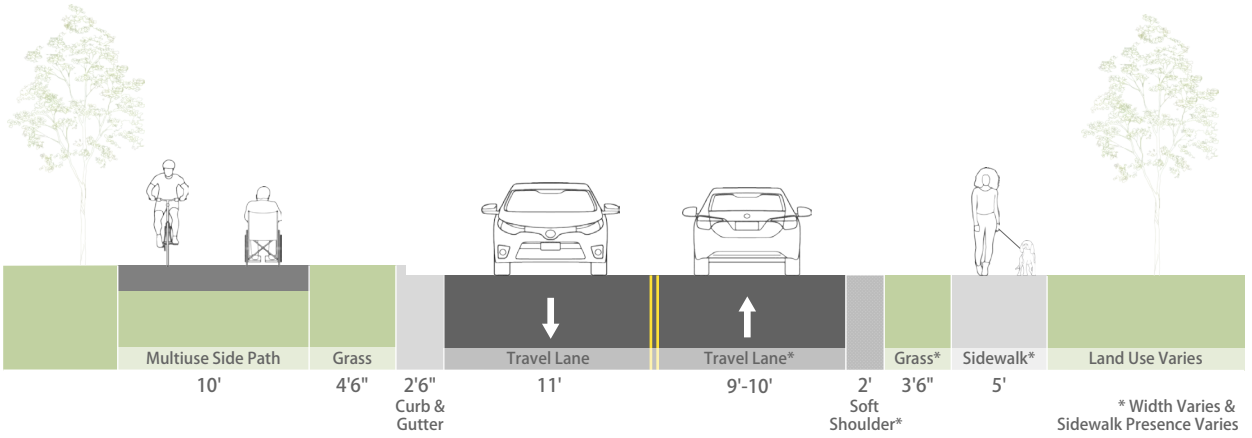
Project Cost: $3,001,500

- Includes Design, Right-of-way, Utility Work and Construction

BEFORE CROSS SECTION



AFTER CROSS SECTION



OLD AIRPORT, MILLS GAP & HOOPER'S CREEK ROADS MULTIUSE SIDE PATH
Hendersonville Rd (US-25) to Jackson Road

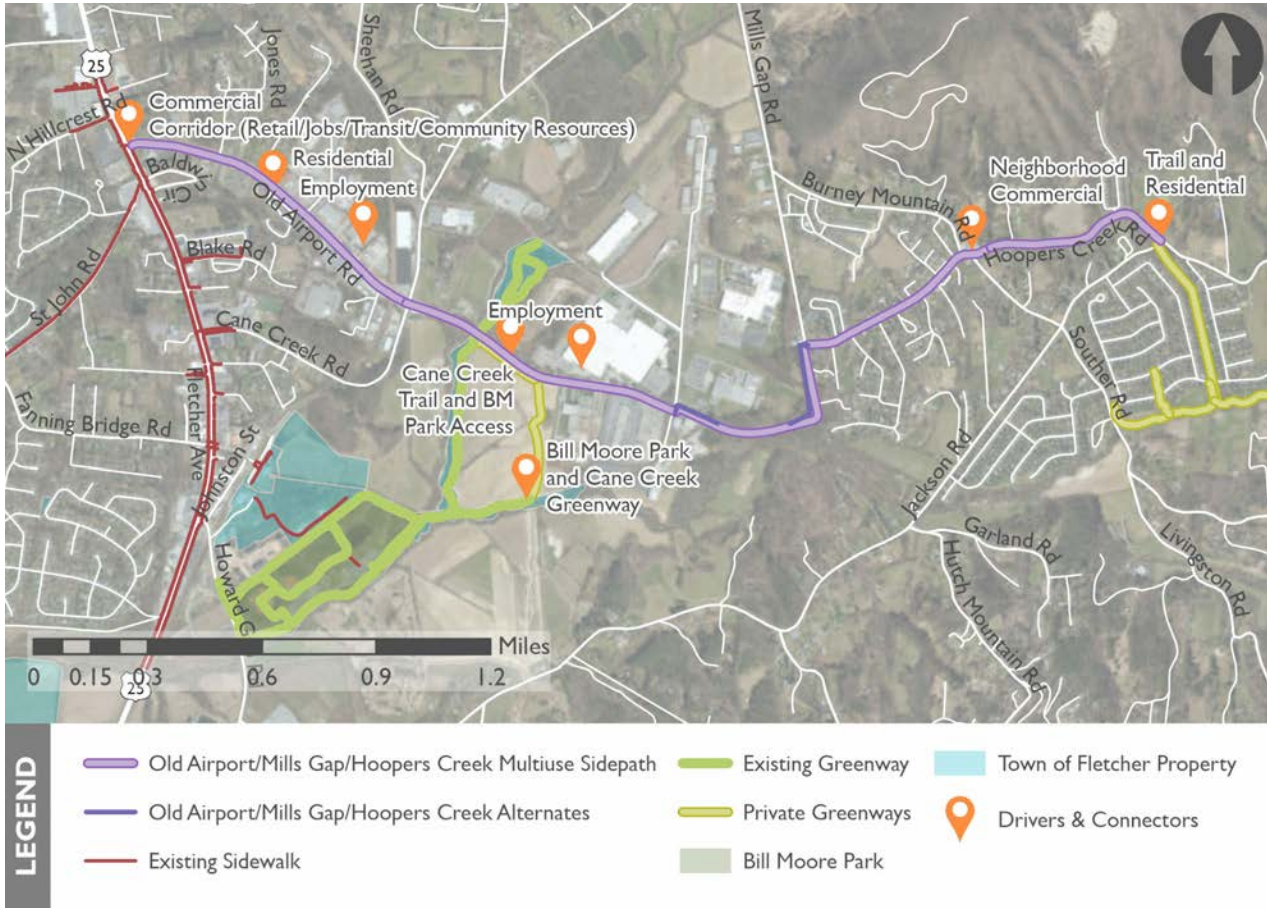
KEY PROJECT ELEMENTS

- 10' Multiuse Side path Separated from Road by 5' Grass Buffer

PROJECT CHALLENGES/ CONSTRAINTS

- Property Required
- Utilities
- Steep Grades/ Retaining Walls
- Stream Crossings/ Wetlands
- Drainage

MILLS GAP RD AT BORG WARNER ENTRANCE



OTHER COORDINATION & DESIGN NOTES

- Connection to Cane Creek Greenway – Investigation Needed
- Borg Warner Off Road Trail – Possible Integration
- Intersection Improvements Included at Souther Road

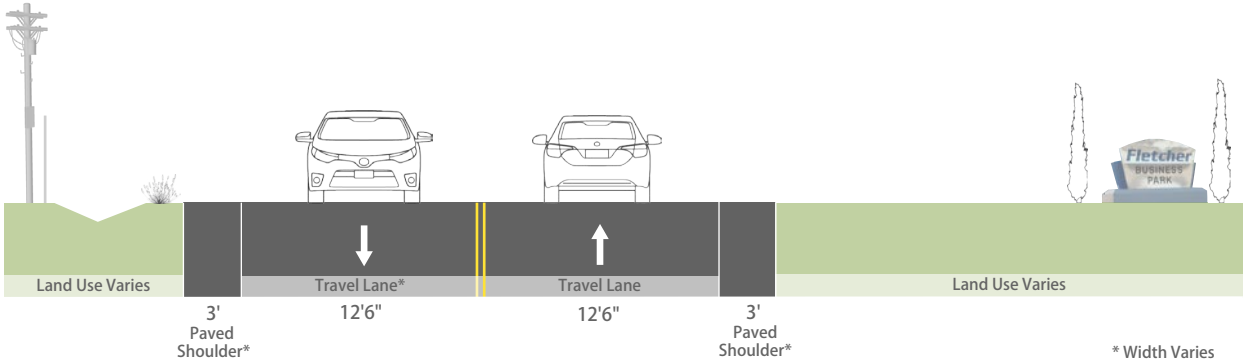
CROSSINGS

- Old Cane Creek Road Signal
- Two (2) Unsignalized Crossings

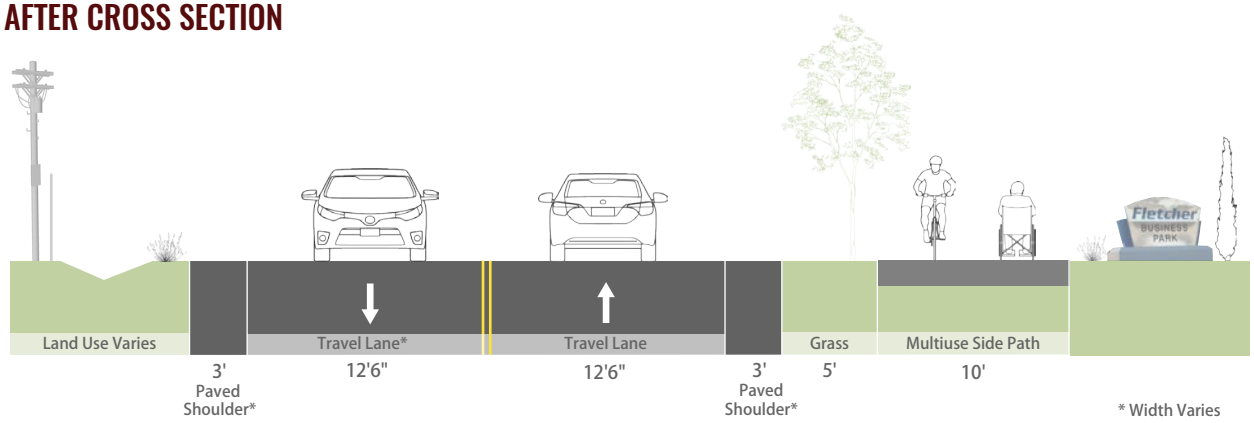
Project Cost: $11,855,000

- Includes Design, Right-of-way, Utility Work and Construction

BEFORE CROSS SECTION



AFTER CROSS SECTION



RUTLEDGE ROAD MULTIUSE SIDE PATH
NC-280 to Fanning Bridge Road

KEY PROJECT ELEMENTS

- 10’ Multiuse Side path Separated from Road by 5’ Grass Buffer

PROJECT CHALLENGES/ CONSTRAINTS

- Property Required
- Utilities
- Property Impacts
- Drainage
- Steep Grades/ Retaining Walls
- Sharp Curves and Sight Lines

OTHER COORDINATION & DESIGN NOTES

- Connection to Airport Road (Route 280) Signal – Feasibility Study Needed
- Investigate Fanning Bridge Road Intersection Improvements

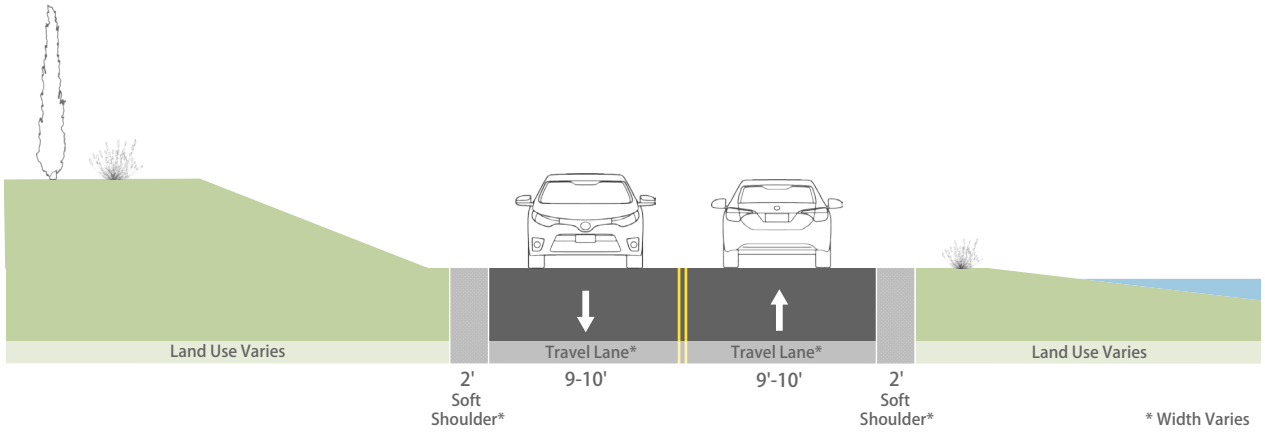
CROSSINGS

- Fanning Bridge Road
- Underwood Road

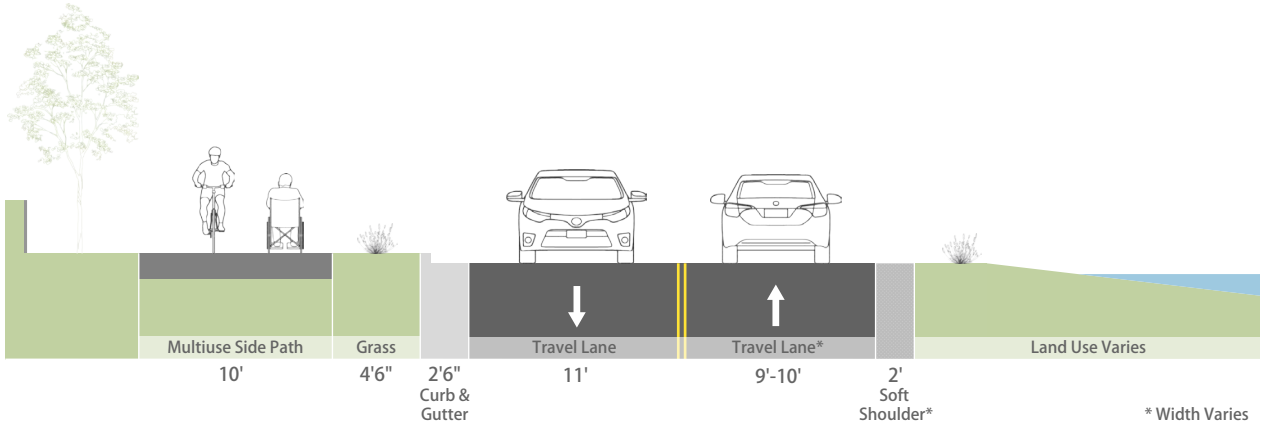
Project Cost: $3,815,500

- Includes Design, Right-of-way, Utility Work and Construction

BEFORE CROSS SECTION



AFTER CROSS SECTION



HOOPER'S CREEK OFF-ROAD TRAIL
Bill Moore Park to Jackson Road

HOOPERS CREEK CROSSING

FLOODWAY ALONG CREEK

KEY PROJECT ELEMENTS

- 12’ Wide Trail

PROJECT CHALLENGES/ CONSTRAINTS

- Property Required
- Floodway
- Road Crossings/Underpass
- Stream Crossings
- Private to Public Trail Conversion

OTHER COORDINATION & DESIGN NOTES

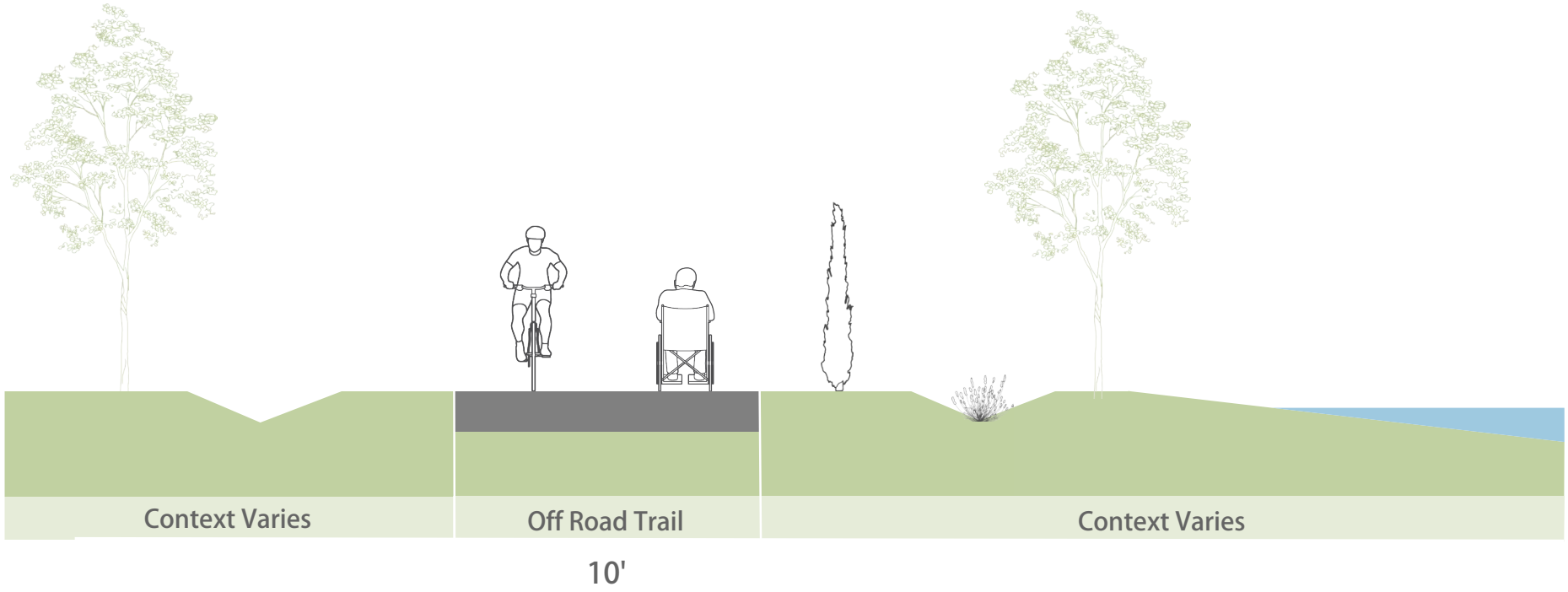
- Full Feasibility Study and Property Owner Outreach Recommended
- Tight Section between Hoopers Creek and Mills Gap Road
- Livingston Farms Connection – Feasibility Study Needed

CROSSINGS

- Jackson Road

Project Cost: $4,506,500

- Includes Design, Right-of-way, Utility Work and Construction



RUTLEDGE CONNECTOR OFF-ROAD TRAIL/MULTIUSE SIDE PATH
Rutledge Road to Hendersonville Road (US 25)

CONNECTION TO THE YMCA AND OTHER DESTINATIONS ON US 25

POSSIBLE ALIGNMENT OF THE TRAIL/MULTIUSE SIDE PATH

KEY PROJECT ELEMENTS

- 12’ Wide Trail
- YMCA Segment: 10’ Multiuse Side Path Separated from Road by 5’ Grass Buffer

PROJECT CHALLENGES/ CONSTRAINTS

- Property Required
- Stream Crossings
- Steep Grades/Retaining Walls
- Drainage
- Future Development Coordination

OTHER COORDINATION & DESIGN NOTES

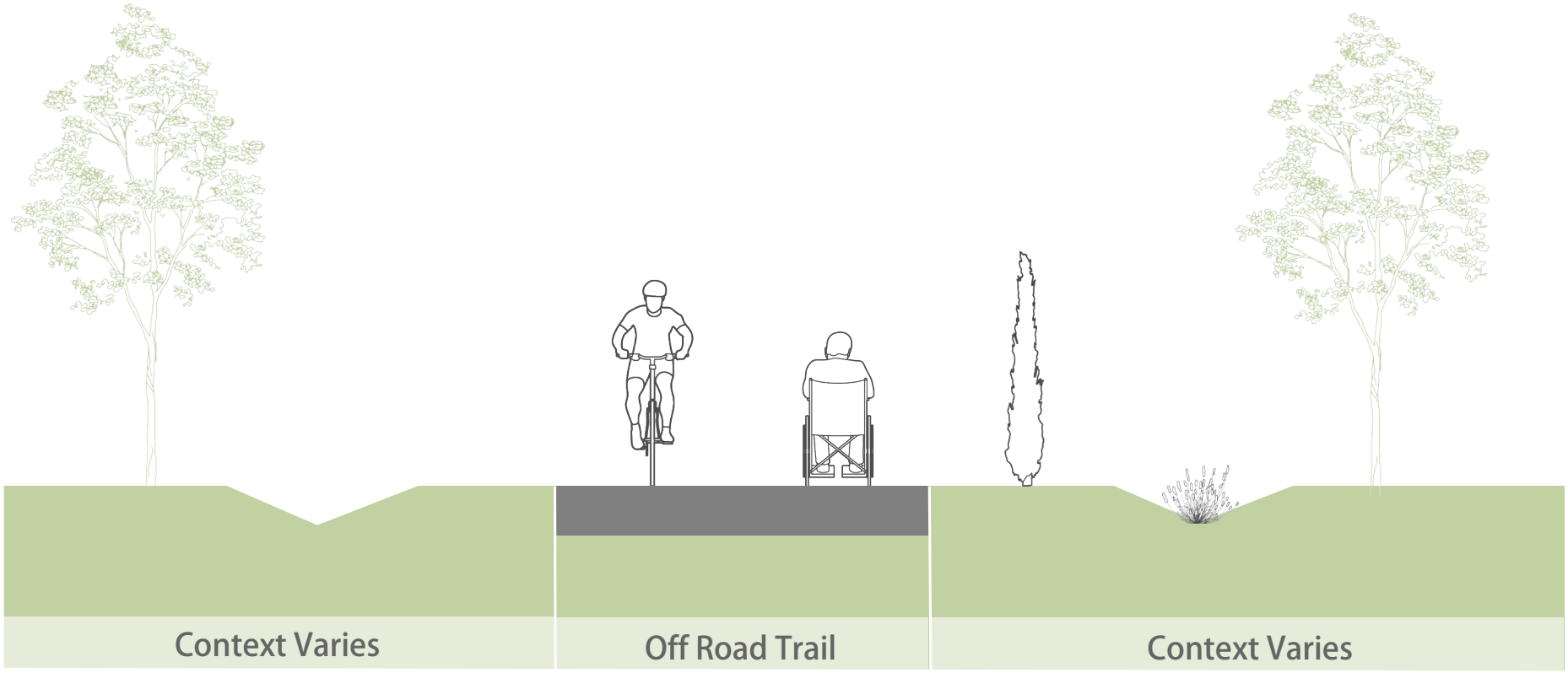
- Full Feasibility Study and Property Owner Outreach Recommended

CROSSINGS

- Rutledge Road

Project Cost: $4,741,500

- Includes Design, Right-of-way, Utility Work and Construction



FERNLEAF OFF-ROAD TRAIL/MULTIUSE SIDE PATH
Bill Moore Park to Sycamore Cottages, Future FernLeaf School and Fletcher Elementary School

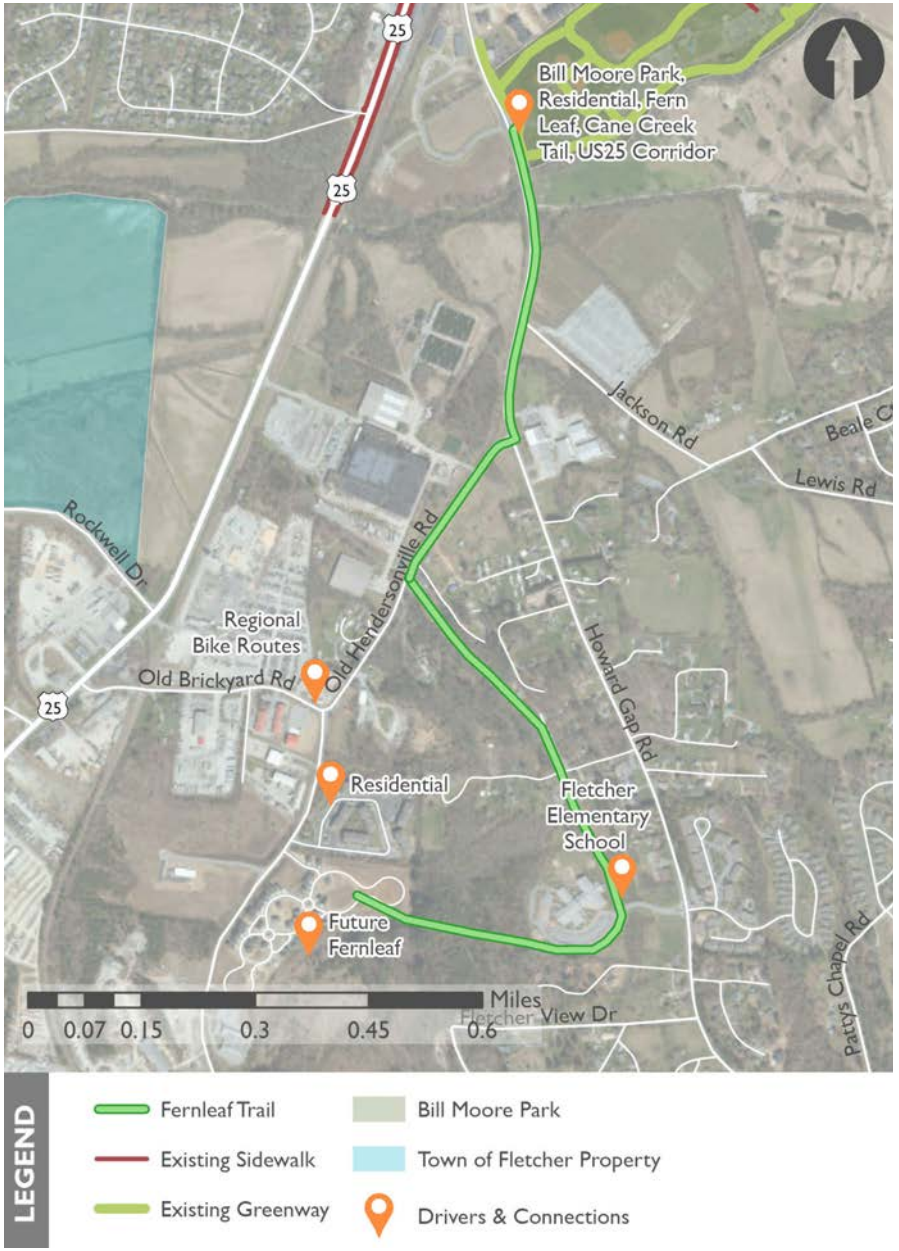
KEY PROJECT ELEMENTS

- 12' Wide Trail
- Howard Gap and Old Hendersonville Road Segments: 10'
  Multiuse Side Path Separated from Road by 5' Grass Buffer

PROJECT CHALLENGES/ CONSTRAINTS

- Property Required
- Stream Crossings/ Wetlands
- Steep Grades/Retaining Walls
- Drainage
- Guard Rail Adjustments
- Utility Conflicts

UTILITY EASEMENT OFF OF OLD HENDERSONILLE ROAD THAT THIS CONNECTION MAY FOLLOW



OTHER COORDINATION & DESIGN NOTES

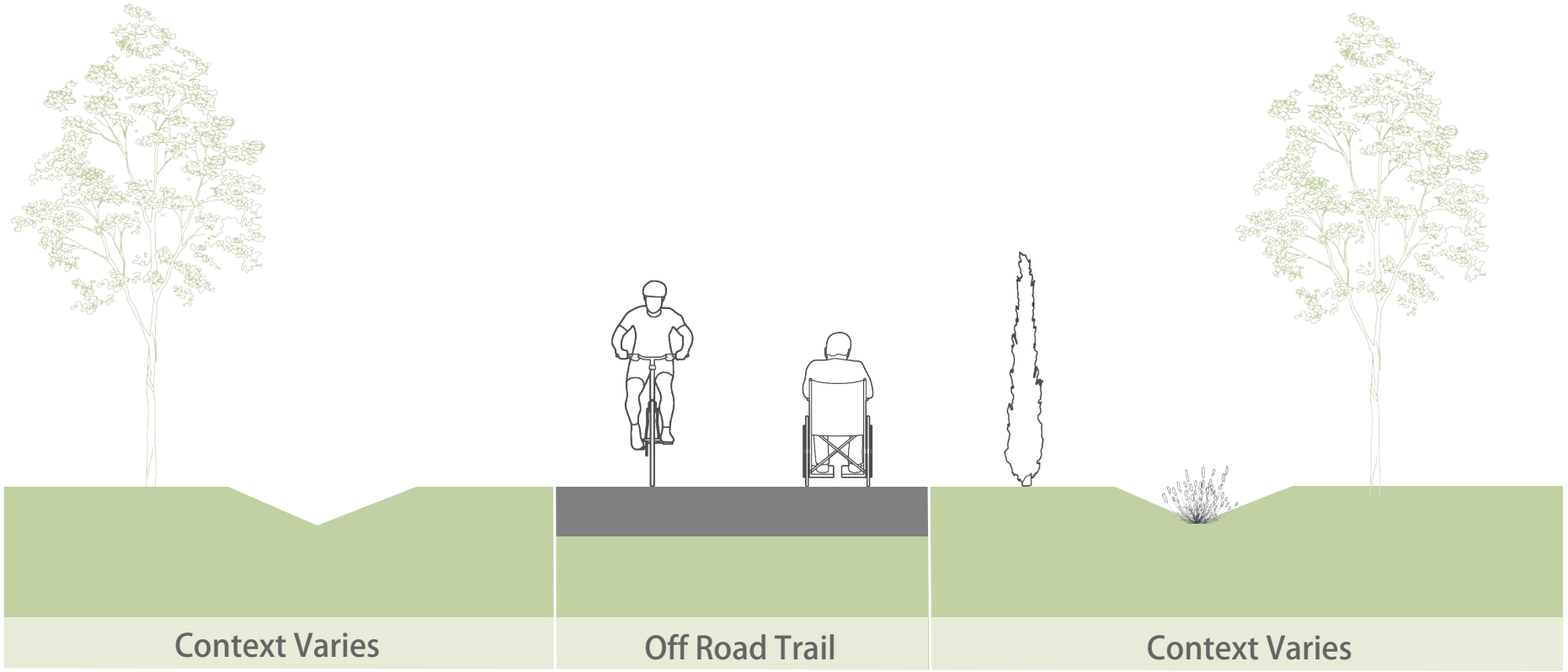
- Full Feasibility Study and Property Owner Outreach Recommended
- Investigate Utility Easement from Old Hendersonville Road to Fletcher Elementary
- Hydraulic Studies Needed to Determine if a Cane Creek Stream Crossing or Widening of Howard Gap Road Bridge Is Preferred

CROSSINGS

- Howard Gap Road

Project Cost: $5,606,500

- Includes Design, Right-of-way, Utility Work and Construction



This is for the Off-Road Trail section

JACKSON ROAD BIKE LANES
Howard Gap Road to Hoopers Creek Road

KEY PROJECT ELEMENTS

- 5' (Minimum) Wide Bicycle Lanes (Both Sides)

PROJECT CHALLENGES/ CONSTRAINTS

- Property Required
- Utilities
- Steep Grades/Retaining Walls
- Bridges
- Drainage

OTHER COORDINATION & DESIGN NOTES

- Wider or Buffered Bicycle Lanes are Preferred Based on Roadway Speeds

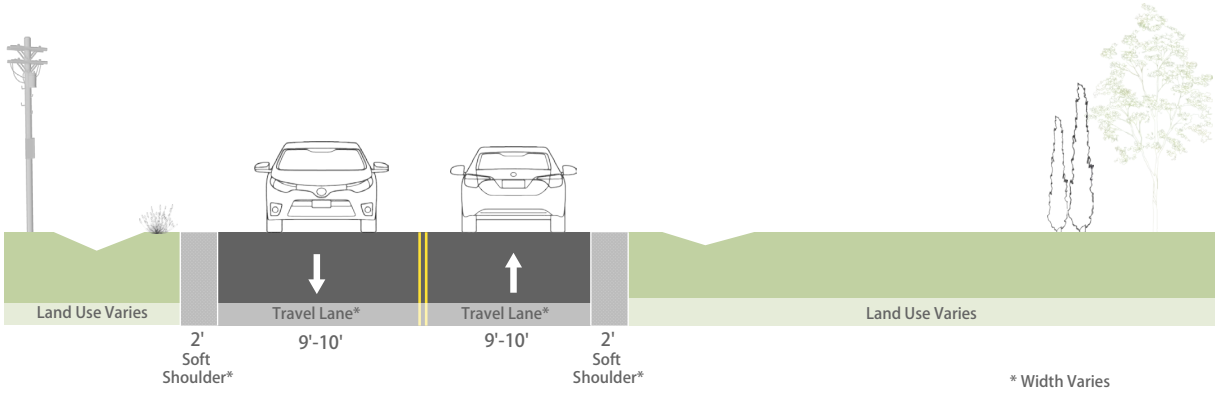
CROSSINGS

- Not Applicable

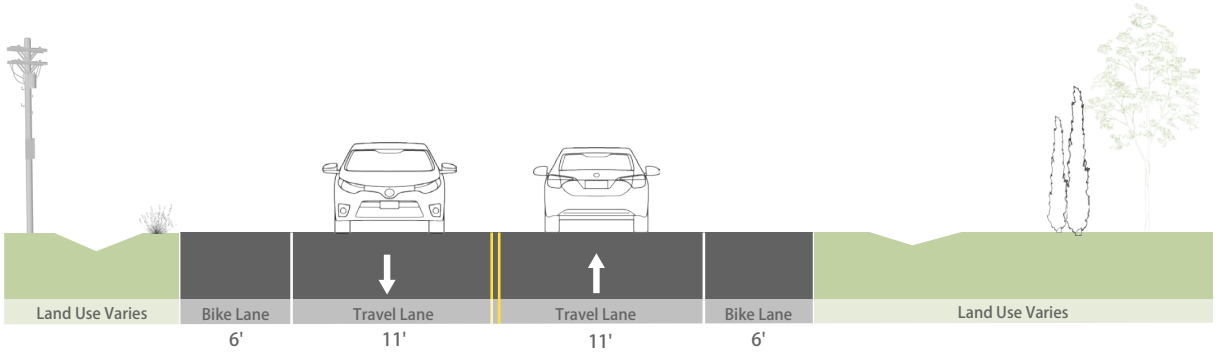
Project Cost: Not Completed

- Not Completed

BEFORE CROSS SECTION



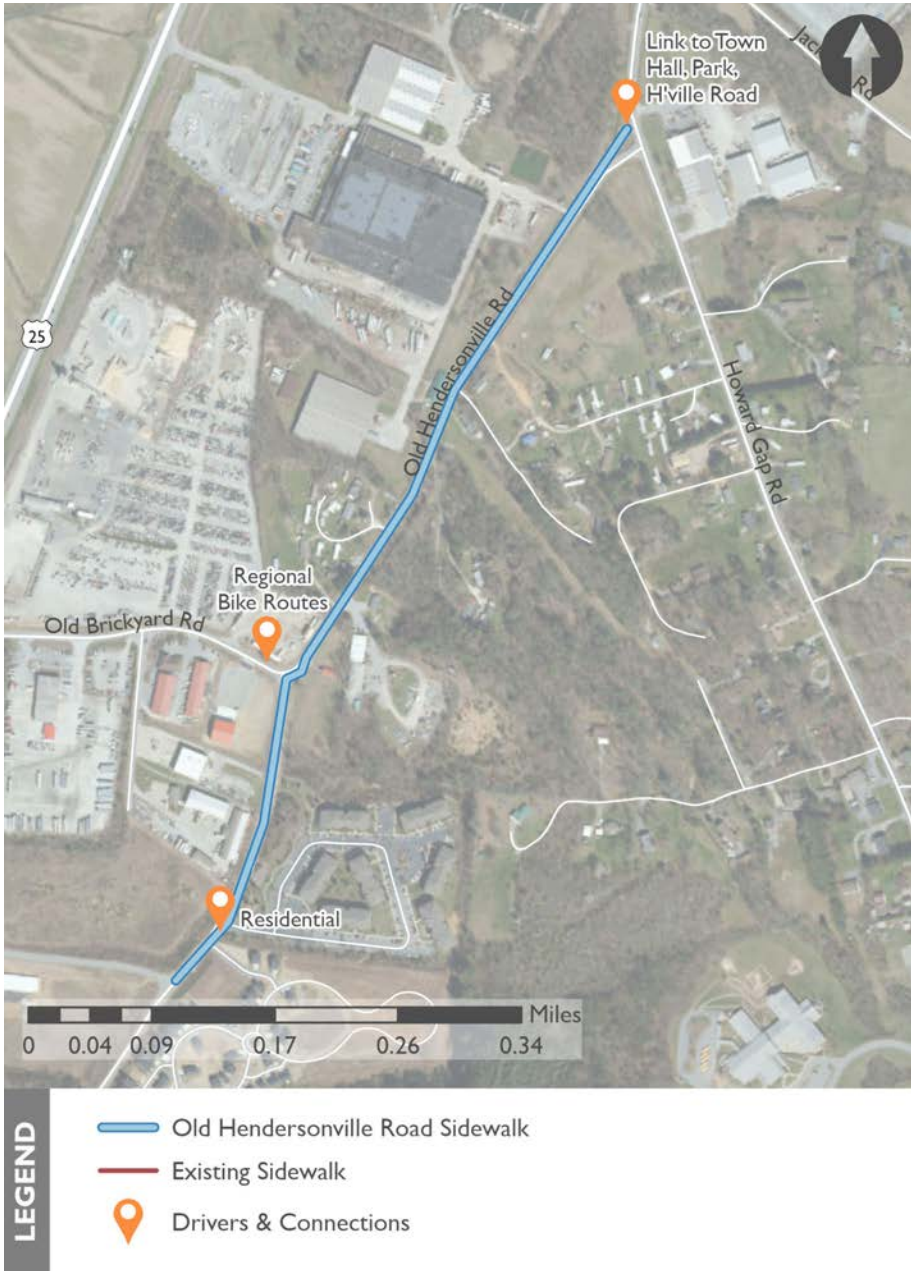
AFTER CROSS SECTION



OLD HENDERSONVILLE ROAD SIDEWALK
Bill Moore Park to Old Brickyard Road & Residential Neighborhoods

KEY PROJECT ELEMENTS

- 5' Wide Sidewalk Separated from Road by 5' Grass Buffer
- At Sycamore Cottages Frontage: 5' Wide Sidewalk with No Buffer



PROJECT CHALLENGES/ CONSTRAINTS

- Property Required
- Utilities
- Property Impacts
- Steep Grades/Retaining Walls
- Drainage
- Wetlands

OTHER COORDINATION & DESIGN NOTES

- Project Duplicates Fernleaf Trail along the Howard Gap Road and Old Hendersonville Road Segments (No Sidewalk Needed for Overlap Section if Multiuse Side Path if Fernleaf Trail is Implemented)

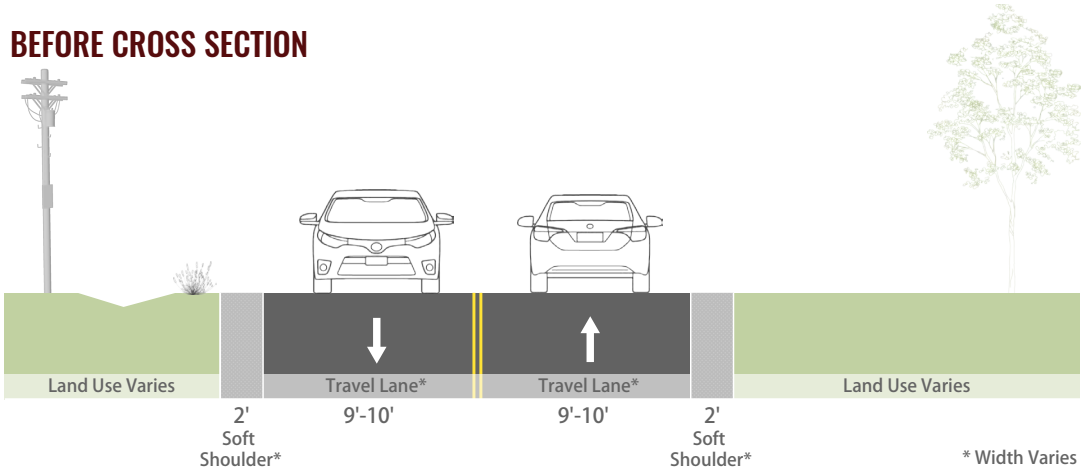
CROSSINGS

- Howard Gap Road

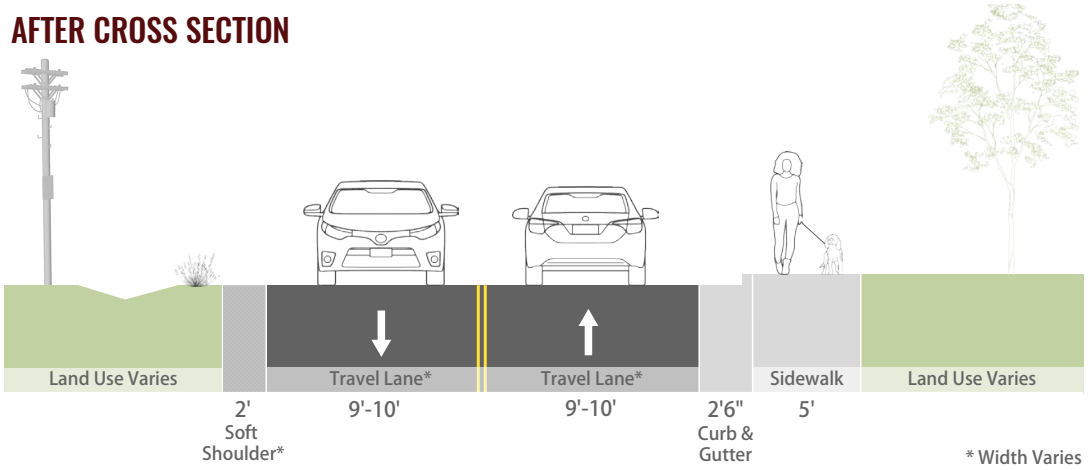
Project Cost: Not Completed

- Not Completed

BEFORE CROSS SECTION



AFTER CROSS SECTION

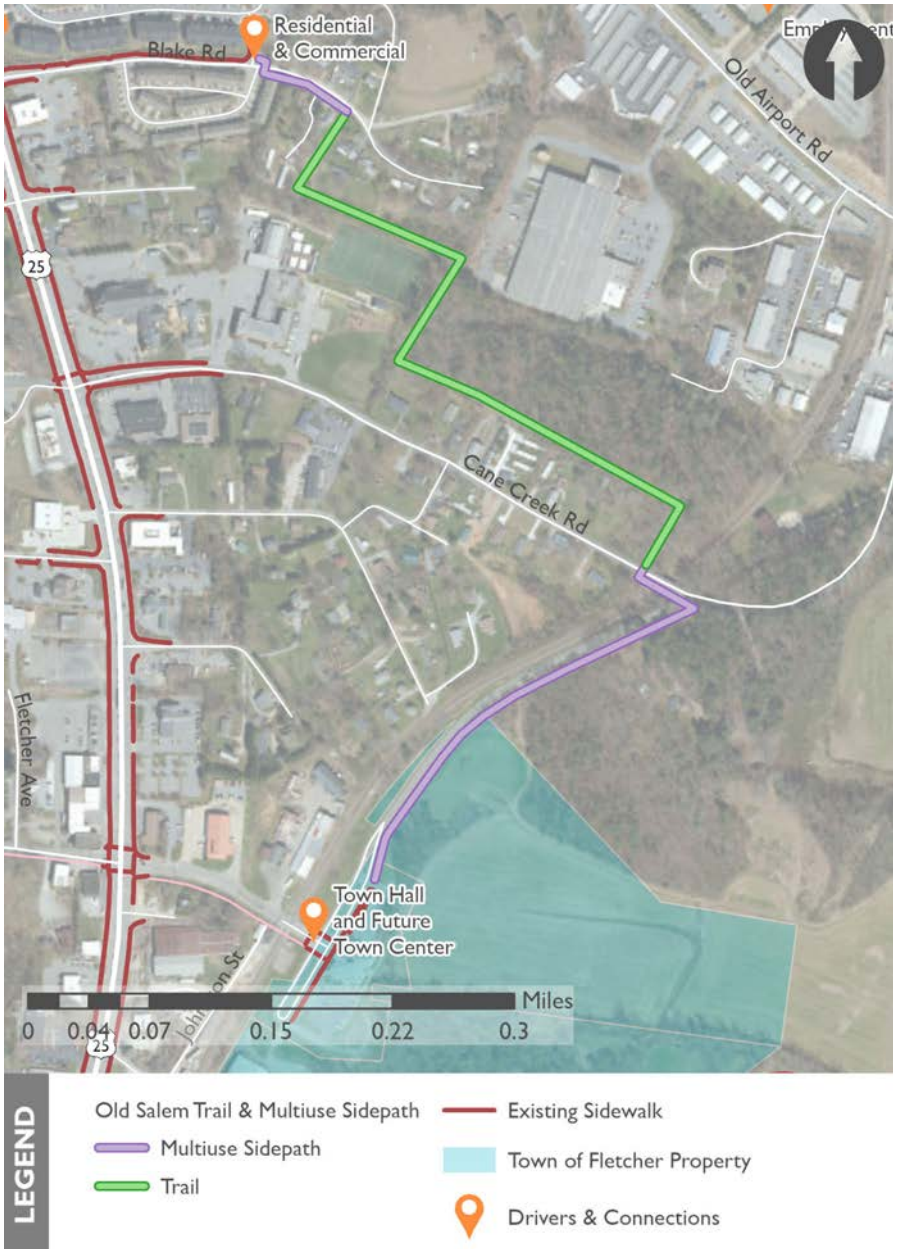


OLD SALEM CHURCH OFF-ROAD TRAIL/MULTIUSE SIDE PATH

Blake Rd / Seasons at Cane Creek to Town Hall

CONNECTION TO NEW MULTI-FAMILY HOUSING JUST OFF US 25

THE ALIGNMENT THAT THIS TRAIL/ MULTIUSE SIDE PATH MAY FOLLOW



KEY PROJECT ELEMENTS

- 12’ Wide Trail
- Old Cane Creek Road Segment: 10’ Multi-use Side Path Separated from Road by 5’ Grass Buffer

PROJECT CHALLENGES/ CONSTRAINTS

- Railroad Crossing
- Property Required
- Stream Crossings
- Steep Grades/ Retaining Walls
- Drainage
- Future Development Coordination

OTHER COORDINATION & DESIGN NOTES

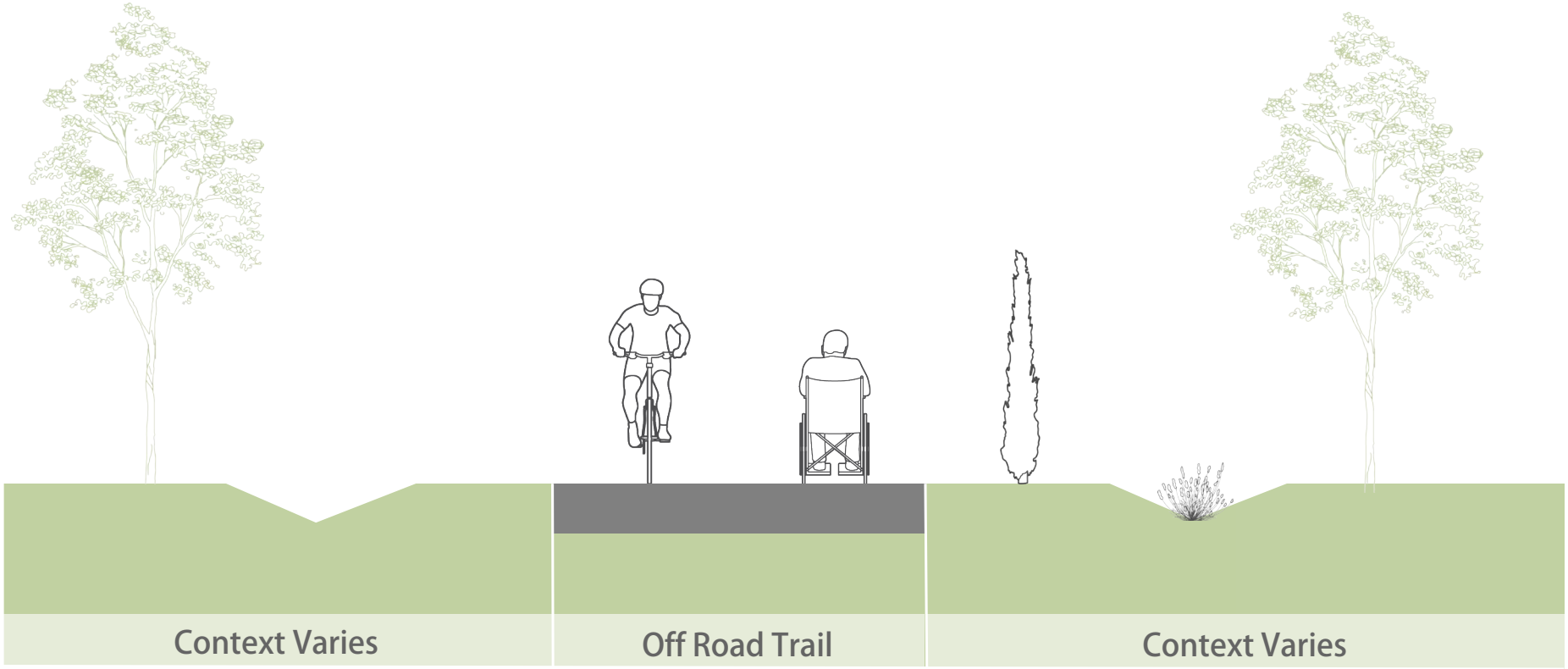
- Full Feasibility Study and Property Owner Outreach Recommended
- Requires Coordination with Future Bridge Replacement for Old Cane Creek Road over the Railroad

CROSSINGS

- Old Cane Creek Road

Project Cost: Not Completed

- Not Completed



This is for the Off-Road Trail section

12'

SOUTHER ROAD SIDEWALK
Hoopers Creek Rd to Town Limits

KEY PROJECT ELEMENTS

- 5' Wide Sidewalk Separated from Road by 5' Grass Buffer

PROJECT CHALLENGES/ CONSTRAINTS

- Property Required
- Utilities
- Property Impacts
- Steep Grades/Retaining Walls
- Drainage

OTHER COORDINATION & DESIGN NOTES

- Potential to Combine with Intersection Safety Projects at Hoopers Creek Road and Jackson Road
- Incorporate with Future Structure Replacement over Hoopers Creek

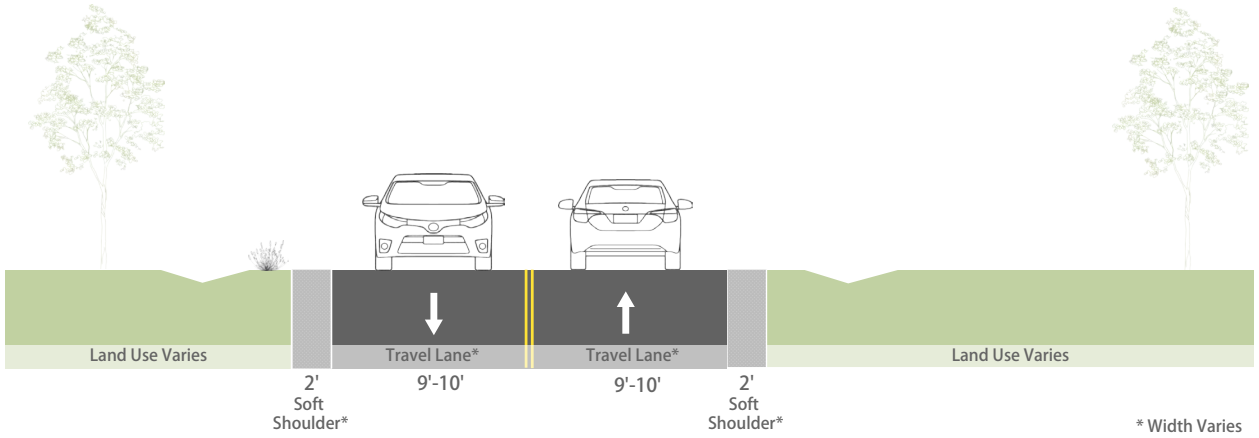
CROSSINGS

- Jackson Road

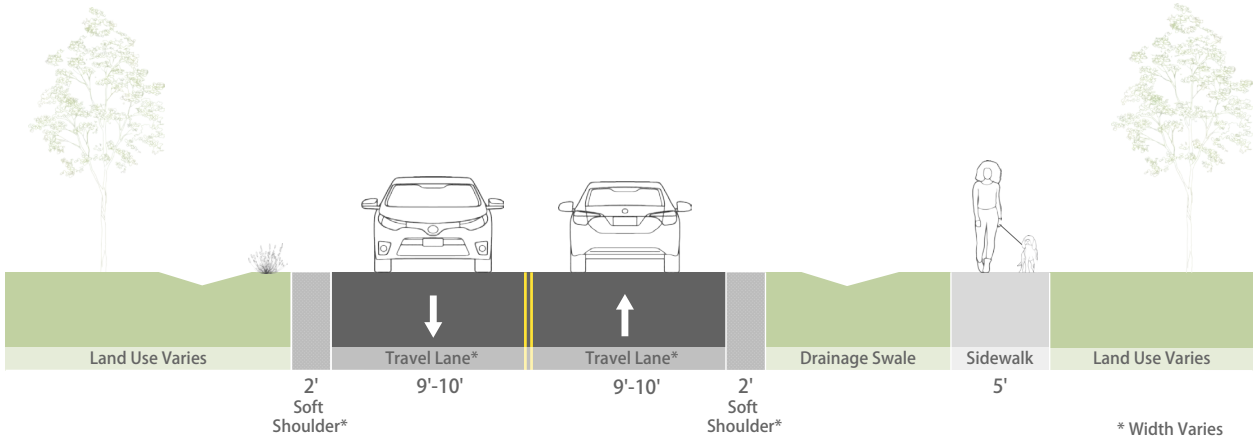
Project Cost: Not Completed

- Not Completed

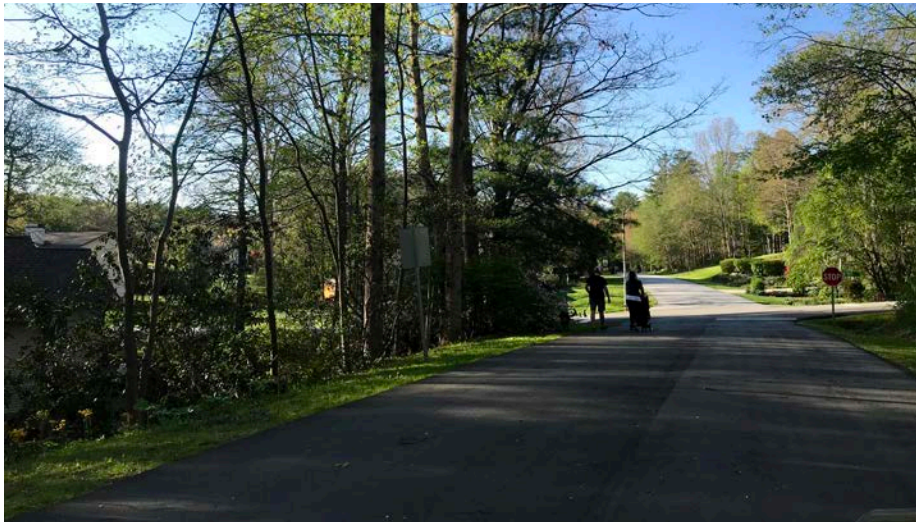
BEFORE CROSS SECTION

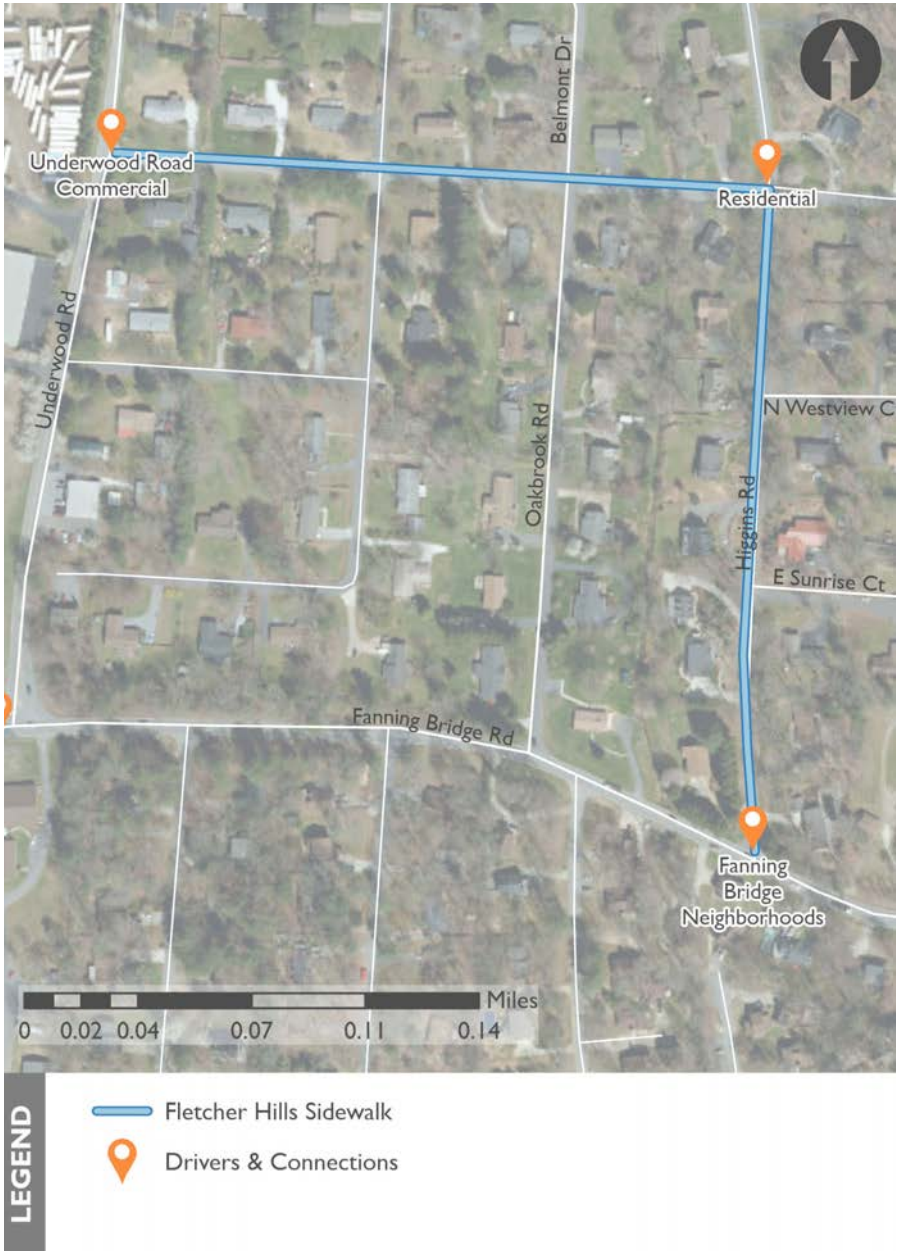


AFTER CROSS SECTION



FLETCHER HILLS SIDEWALK
Underwood Road to Fanning Bridge Road





KEY PROJECT ELEMENTS

- 5’ Wide Sidewalk Separated from Road by 5’ Grass Buffer

PROJECT CHALLENGES/ CONSTRAINTS

- Property Required
- Utilities
- Property Impacts
- Steep Grades/Retaining Walls
- Drainage

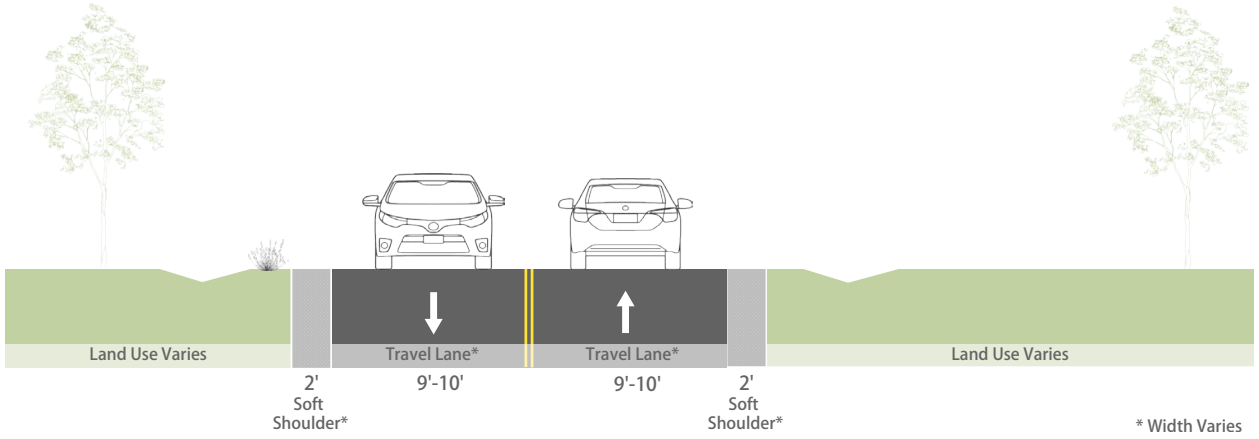
CROSSINGS

- Fanning Bridge Road
- Underwood Road

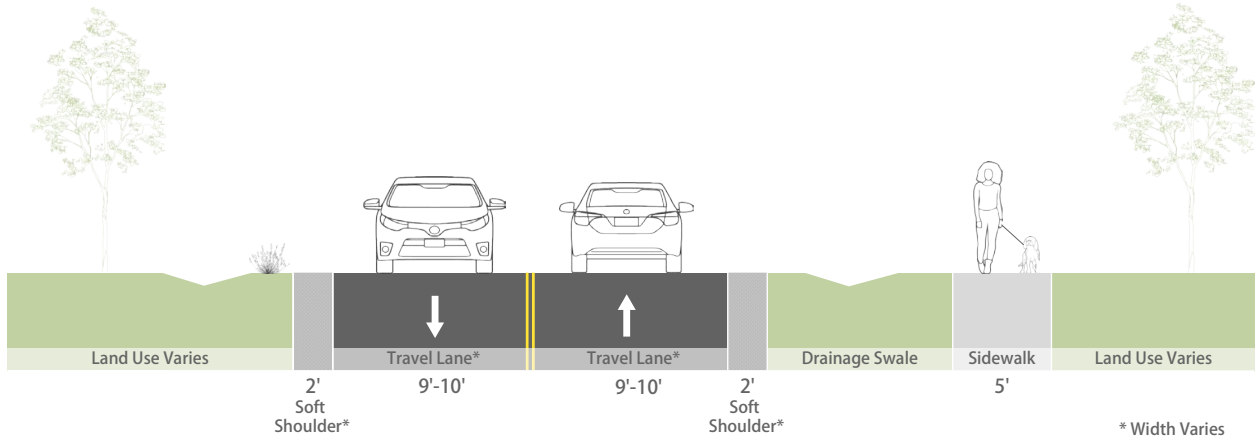
Project Cost: Not Completed

- Not Completed

BEFORE CROSS SECTION



AFTER CROSS SECTION



Cost Estimate Methodology

The top 10* selected projects were advanced to cost estimate development. The Cost Estimate details are included in Appendix B and the summary of costs for each project is included in Projects 1 -14 (pages 66 - 93). The methodology for cost estimates is summarized in three parts:

Part 1: Initial project costs were developed utilizing the NCDOT Bicycle and Pedestrian Cost Estimation (BPCE) Tool, 2019 Version.

Part 2: An initial corridor screening was completed to account for the following cost factors that would potentially increase design and construction beyond those that are included in the BPCE Tool. Costs for the following items were screened and, where present, adjustments were made to the BPCE tool results:

- Long stretches of roadside elevation changes that would necessitate extensive retaining wall structures or long sections of guiderail or trail fencing.
- Additional roadway crossings, including signal improvements beyond the standard BPCE tool assumptions.
- Larger utility conflicts e.g. sewer line modifications, heavily loaded overhead utility lines, substations etc.
- Complex drainage modifications that would increase design, permitting and construction fees.
- Environmental features such as wetlands, endangered species, hazardous waste sites or historic resources.
- Floodplain and floodway constraints that would impact structure lengths and permitting costs (hydraulic studies).

Part 3: All costs are preliminary planning level estimates and should be verified through feasibility studies and preliminary engineering in order to determine accurate funding levels for full project implementation. The Bicycle and Pedestrian Cost Estimating (BPCE) Tool assumptions are as follows:

- All costs are based on 2019 prices and cost components are rounded to the nearest $5,000, with a minimum of $5,000 per component. This tool assumes that 10% of the utilities located within the project area would need to be relocated.

Figure 19. NCDOT Bicycle and Pedestrian Cost Estimation (BPCE) Tool, 2019 Version

- The BPCE tool assumes established ecoregion typologies, construction market regions, and average land values specific to North Carolina. They are determined within the tool based on user inputs for project location. This location-based information is used in ROW, construction, and environmental mitigation calculations.
- The BPCE tool assumes a project impact area for ROW and environmental mitigation calculations based on chosen the specific improvement type (SIT), project length, and project facility width.
- The BPCE tool is limited in accuracy by user inputs and the complexity of questions presented for each project. If the inputs are incorrect, the tool's accuracy will be diminished.
- The BPCE tool does not estimate costs associated with the purchase or taking of buildings within its ROW estimate calculations. It is assumed that projects would require land acquisition only.
- Estimates for the construction of new and/or the modification of existing structures (bridges or tunnels) have been simplified to estimate an assumed width of each structure based on the type of

feature crossed and other factors. The construction of new and/or modification of existing structures can be exponentially complex based on project specifications. A separate feasibility study is highly recommended to address the high variability associated with structure costs.

- Given the planning level of detail in these estimates, the BPCE adds contingencies for unforeseen items. For design, utilities, ROW estimate and construction estimates, each item has an added 15% contingency. In addition, a 25% mobilization and miscellaneous line item is added for the construction estimate.
- The cost estimates do not include estimates specific to the following elements which may be relevant to the projects:
- Streetlights and street lighting design
- Construction inspection and management
- Landscaping or green infrastructure
- Operating and maintenance costs

OTHER PROJECTS

In order to build a truly accessible community for all transportation modes, the bicycle and pedestrian facilities "spine" network is one of the first foundations needed. This "spine" concept is often compared to the interstate or major arterial roadway system for vehicles. The key network connection projects above are designed to create this core spine; however, the use of the key network remains limited for daily transportation if users reach a dead end which prohibits them from completing their journey. Furthermore, in the case of an unconnected greenway, cyclists and pedestrians drive to a facility to use it, which puts a heavier demand on parking at trailheads. For these investments to be worthwhile and to maximize community benefits, the smaller connections from home to destinations are needed as well.

This also requires fine details such safe roadway crossings, access to transit stops and ADA accessibility, such as compliant pedestrian ramps and signal push buttons that can be reached. This section focuses on the finer, yet necessary, details that ensure that the bicycle and pedestrian network is functional for all.

NCDOT Roadways

The Fletcher roadway network has limited "through" roads that connect Fletcher to the region. Most of these roadways have been captured in the primary network connection recommendations; however, there are several roadways that were not captured and that remain important to the full bicycle and pedestrian network build out. In addition, as noted in the project title "Fletcher Connects", the Town is not an island and many of our roads serve as key connections between regional destinations. For the connections to be realized beyond travel internal to Fletcher, several roads would require improvement beyond the Town boundary (e.g. Mills Gap Road, SR 1551 and Hendersonville Road, US 25).

Having a plan to complete these connections will prepare the Town to take advantage of partnerships to get the full system in place. For example, by having a plan in place, when a road or bridge is modified by NCDOT or a local developer, there is potential to have that section of the bicycle and pedestrian network completed. These partnership opportunities also eliminate the need to modify a roadway or development parcel twice, which reduces costs, environmental and community disruption by consolidating two construction projects into one.

Table 3 and Map 16 summarize bicycle and pedestrian needs on the remaining roadways in and around Fletcher. These projects have been identified as a reference for future roadway widening work to ensure that opportunities are not missed to build out the network during future development road widening and/or NCDOT roadway maintenance, safety and modernization projects. Many of these recommendations are listed as two alternatives, option 1 and 2. At a minimum, striping improvements such as bike lanes may be more feasible with a maintenance type repaving project. However, following the FHWA Bikeway Facility Selection Guide, a lower-stress facility such as a multiuse side path is recommended. As these concepts are taken to further stages of implementation, the Selection Guide should be consulted, as a downgrade in facility type may be appropriate given certain conditions such as a parallel route of higher comfort. Of final note is that these recommendations apply to conditions within the Town limits; in many cases the facility type may need to transition when it enters or exits the town (i.e. Hoopers Creek Rd may transition from a multiuse side path to a bike lane when it exits the Town limits).

Map 16. Long Term Linear Projects for the Fletcher Bicycle and Pedestrian Network on NCDOT Roads

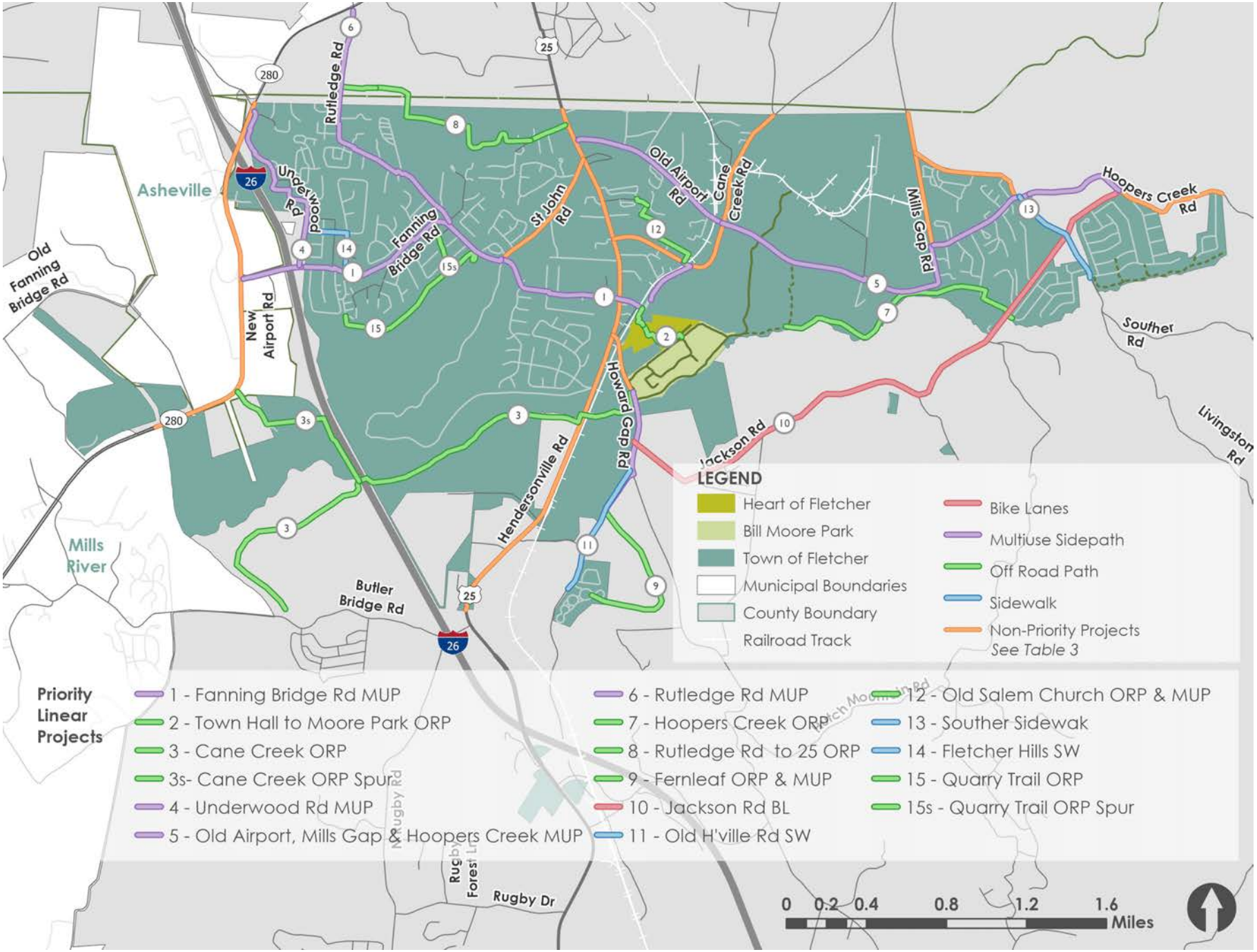


Table 3. Long Term Preferred Bicycle and Pedestrian Facilities for NCDOT Roads

Road Name	Typical Width (Feet)	Lanes (#)	AADT*	Speed Limit (mph)	Preferred Longterm* Facility & Options for Further Assessment
PRINCIPAL ARTERIAL					
Airport Road (NC 280)	77-88	2	35,000	35-55	Multiuse Side path (North Side)
Hendersonville Road (US 25)*	60	5	21,000 - 33,000	35-45	Multiuse Side path (West Side) & Sidewalk (East Side)
MAJOR COLLECTOR					
Old Airport Road (SR 1547)	33-48	2	11,500	35	Option 1: Sidewalk and Bicycle Lanes (Both Sides) Option 2: Multiuse Side path (South Side) & Sidewalk (North Side)
Mills Gap Road (SR 1551)	20-36	2	8,600	45	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes
Cane Creek Road (SR 1545)	20-32	2-3	5,700 - 8,300	35-45	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes
Burney Mountain Road (SR 1696)	22	2	N/A	35	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes
Howard Gap Road (SR 1006)	33-44	2	8,100	35	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes
MINOR COLLECTOR					
Hoopers Creek Road (SR 1553)	20	2	2,500 - 4,500	35	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes
LOCAL					
Fanning Bridge Road (SR 1358)	20-33	2	5,900 - 9,100	35	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes
Old Hendersonville Road (SR 1536)	20	2	2,300	35	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes
Jackson Road (SR 1539)	19	2	2,900	45	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes **Short Term: Bicycle Lanes or Wide Paved Shoulders**
Rutledge Road (SR 1359)	20	2	N/A	35	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes

Road Name	Typical Width (Feet)	Lanes (#)	AADT*	Speed Limit (mph)	Preferred Longterm* Facility & Options for Further Assessment
Souther Road (SR 1552)	18-20	2	N/A	35	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes **Short Term: Sidewalks**
St. John Road (SR 1361)	20-30	2	3,600	35	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes
Underwood Road (SR 3540)	18-23	2	2,300	35-55	Option 1: Multiuse Side path Option 2: Sidewalk (One Side) & Bicycle Lanes

Source: NCDOT AADT Web Map, NCDOT NCRouteCharacteristics Field, Google Map Imagery

**AADT: Average Annual Daily Traffic, the total volume of vehicle traffic for a year divided by 365 days*

While there are long term bicycle and pedestrian needs along Hendersonville Road (US 25), Howard Gap Road (SR 1006), and St. John Road (SR 1361), they were not included in the key network connection project list since these roadways were recently improved and it is unlikely that another construction project will be initiated for that same stretch of roadway in the near future. For example, sidewalks along a portion of Hendersonville Road (US 25) were recently reconstructed. This same issue applies to St. John Road (SR 1361) and Howard Gap Road (SR 1006).

Access to Transit

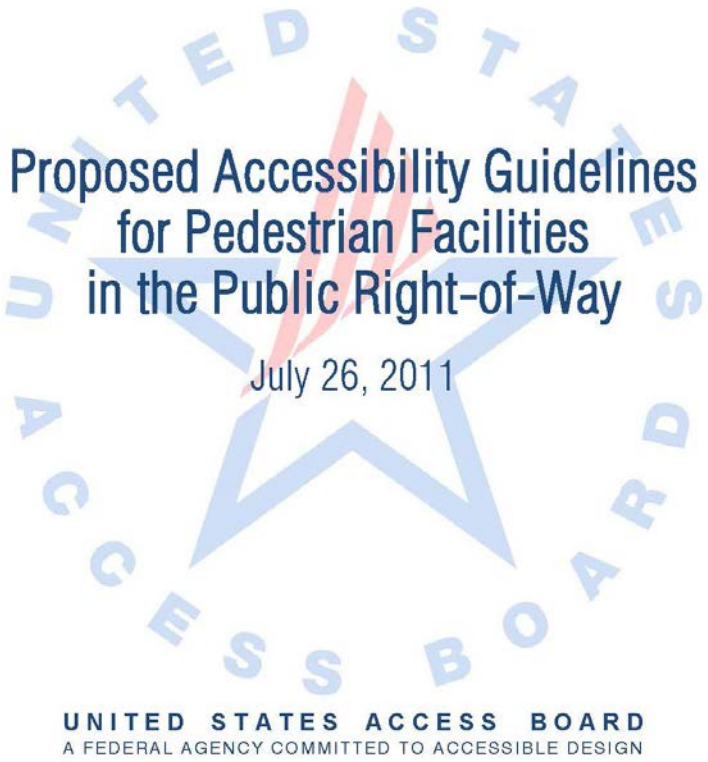
Apple Country Transit provides transit service along Hendersonville Road (US 25) and Fanning Bridge Road (SR 1358) in Fletcher. Fletcher has access to the Asheville Regional Transit (ART) bus system along Airport Road (SR 280) along the northwestern town boundary; however, there is limited pedestrian or bicycle access to that location for Fletcher residents. The closest ART stop along Hendersonville Road (US 25) is approximately 1 mile beyond the Fletcher limit.

- Travel from Fletcher Town Hall to Hendersonville City hall is typically a 15 minute off peak car ride. This same trip via Apple Valley Transit takes about 30 minutes and runs on hourly headways.
- Travel to the Asheville (ART) downtown bus station is typically about a 20 minute off peak drive from Fletcher Town Hall. This trip via transit, requires a transfer between Apple Valley Transit and the Asheville Regional Transit (ART) system at the Asheville Regional Airport and takes over an hour, running on about 1.5-hour headways.
- From the intersection of Airport Road (SR 280) and Hendersonville Road (US 25), a bus ride is less than 30 minutes into downtown Asheville.

Fletcher is well situated to take advantage of a direct ART transit service to downtown along US 25; however the current transfer required at the airport and long headways indicates that Fletcher's current transit service is not conducive to increasing ridership to our region's most dense employment centers in Asheville and Buncombe County. This is reflected in the transit mode share; as discussed, according to the 2018 Census, 0.4% of people used transit when commuting to work.

Transit enhancements are a primary opportunity for Fletcher given the "connecting" transportation location of the Town. This is more important now than ever, given the limited peak hour capacity on the local roadway network and the eminent long-term construction plans along the parallel Interstate 26. The planned I-26 construction detour will divert traffic backups to US 25 and provide priority signal progression during incidents on I-26. Enhanced Fletcher access to the ART system has the potential to provide more efficient and affordable commute options for residents, especially combined with adequate bicycle and pedestrian access to transit. With a potential for a 30-minute bus ride to downtown Asheville on more frequent

Figure 20. Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way



These Guidelines Propose Accessibility Guidance for the Design, Construction and Alteration of Pedestrian Facilities in the Public Right-of-Way

headways, Fletcher can sustain more density in it's long term future and the planned future Town Center. This combined with the build out of the regional greenway network makes transit a more attractive alternative for more Fletcher residents and visitors.

Transit specific recommendations will require transit agency partners to implement; however, the Town can be a partner in advocating for Fletcher residents and promoting transit. These high-level recommendations are as follows:

- Prioritize projects that provide high quality (direct and safe) bicycle and pedestrian access to bus stops
- Enhanced pedestrian crossings and signal timings for pedestrians near transit stops
- Enhanced Apple Valley Transit and ART transfer opportunities and system overlap, allowing Fletcher residents to more efficiently travel to Hendersonville and Asheville.
- Bus shelters, benches and trash receptacles
- Accessible bus stop landings
- Education and encouragement campaigns to promote service

Accessibility for All

The Americans with Disabilities Act (ADA) of 1990 is a civil rights law that prohibits discrimination based on someone's disability. Title II of the Act, requires cities and towns to have a plan to make accommodations for everyone.

Sidewalks, street crossings, and other elements in the public right-of-way can pose challenges to accessibility and many people with disabilities rely on the multimodal network as their primary, or only, way to get from place to place. According to the American Community Survey, in 2018 11.5% of Fletcher's (and 9.7 % of Henderson County's) population has some type of disability. Creating an equitable transportation system requires that people with disabilities can move about without barriers.

The most US Access Board has developed a set of design standards for transportation: the "Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way", or PROWAG.

The PROWAG addresses pedestrian access to sidewalks and streets, including crosswalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way. The goal of the access board in developing these guidelines "is to ensure that access for persons with disabilities is provided wherever a pedestrian way is newly built or altered, and that the same degree of convenience, connection, and safety afforded the public generally is available to pedestrians with disabilities". Once these guidelines are adopted by the Department of Justice, they will become enforceable standards under title II of the ADA.

Although these guidelines are currently in development, many jurisdictions have adopted these as their local standard. These standards represent industry best practices and should be followed for all future transportation infrastructure projects in Fletcher.

ADA Transition Plan Requirements

Title II of ADA pertains to the programs, activities and services public entities provide, including public transportation services and programs, such as walkways and trails. Title II necessitates that public agencies with 50 or more employees develop a Transition Plan pursuant to 28 CFR §35.150(d).

A transition plan must include a schedule for providing accessible features, including curb ramps for walkways. The schedule should provide for pedestrian access upgrades to government offices and facilities, transportation, places of public accommodation, and employers, followed by walkways serving other areas. The transition plan should accomplish the following four tasks:

1) Identify physical obstacles in the public agency's facilities that limit the accessibility of its programs or activities to individuals with disabilities;
2) Describe in detail the methods that will be used to make the facilities accessible;
3) Specify the schedule for taking the steps necessary to upgrade pedestrian access to meet ADA and Section 504 requirements in each year following the transition plan; and
4) Indicate the official responsible for implementation of the plan.

Developing an ADA Transition Plan should be on Fletcher's radar as the Town grows in population and Town staffing resources.

Roadway Crossing Treatments

In order to create a truly accessible community for all transportation modes, facilities must be designed to maximize comfort, convenient and safety. As discussed in the Introduction of this Plan, people walking and biking are disproportionally impacted by traffic crashes. Fletcher specific crash history for pedestrian and bicycle crashes is shown in Map 10.

Potential exposure to people walking and biking is introduced at intersections and crossings where pedestrian and bicycle facilities cross the path of motor vehicles. This is historically evident across the state of North Carolina. Over the last 10 years, crossing related crashes account for 41% of on roadway pedestrian crashes and 52% of on roadway bicycle crashes.[1]

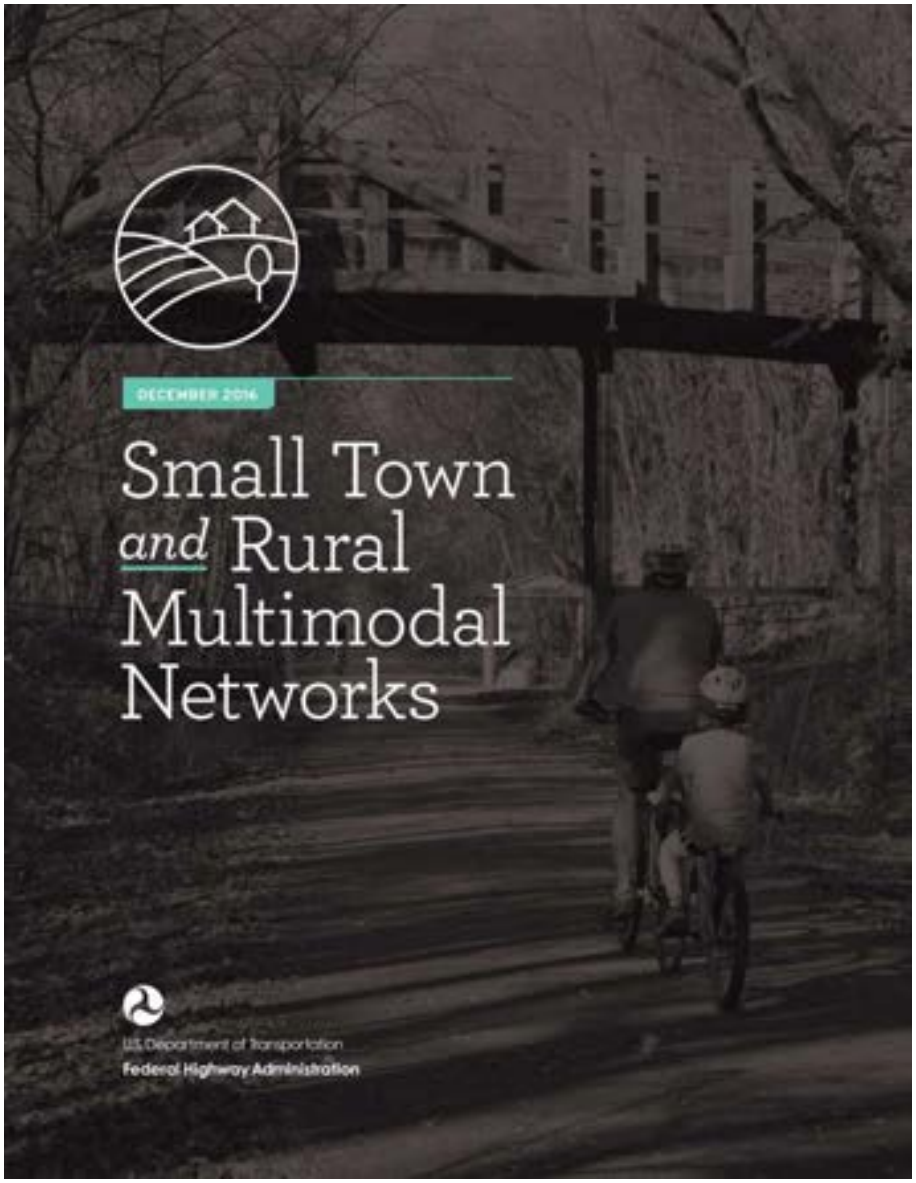
There are several design related guides and standards that address crossing design for bicycle and pedestrian facilities at traffic signals, unsignalized intersections and mid-block (non-intersection) locations. These resources are detailed in the Implementation Plan Section: Designing for People Walking.

It should be noted that locations where there is no traffic control (traffic signal or stop sign) correspond to higher crash rates. The Federal Highway Administration (FHWA) has created a Safe Transportation for Every Pedestrian (STEP) guide that provides crossing guidance for uncontrolled crossings in order to help local and State agencies "address a significant national safety problem and improve quality of life for pedestrians of all ages and abilities".[2]

The STEP guide includes a process for evaluating crossings and determining appropriate countermeasures for specific crossing conditions based on engineering which includes data collection and site conditions and crash history review. These countermeasures range in cost and applicability based on roadway type and conditions, including treatments such as:

[1] NCDOT Bicycle and Pedestrian Crash Database: 2007-2018
[2] EDC-5: Safe Transportation for Every Pedestrian. (2020, May 26). Accessed September 2020 https://www.fhwa.dot.gov/innovation/everydaycounts/edc_5/step2.cfm

Image 18. Safe Transportation for Every Pedestrian (STEP) guide

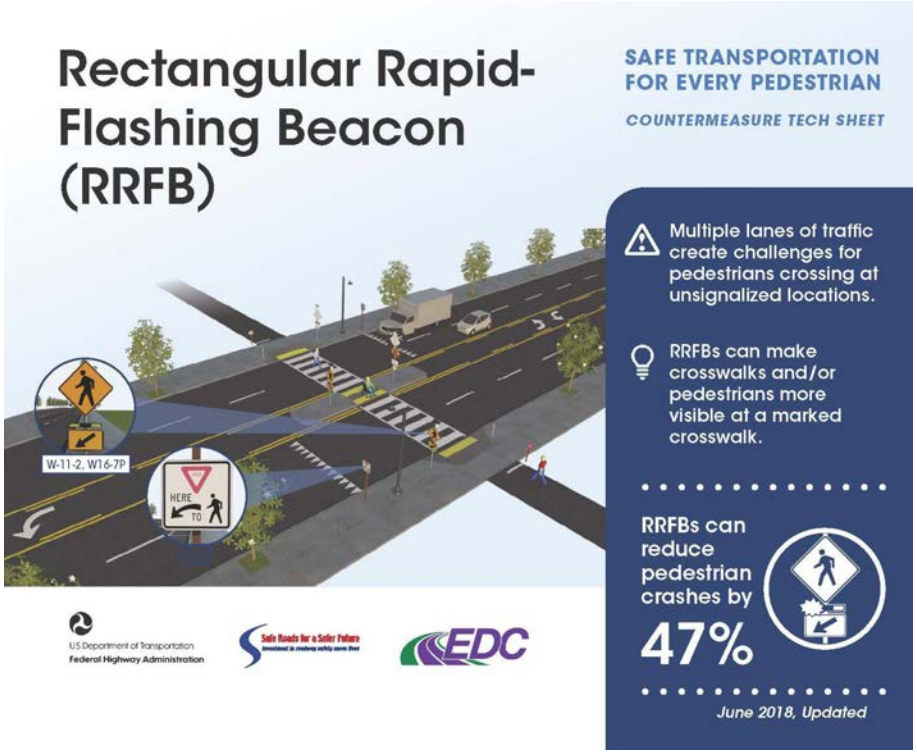


Source: FHWA

- Crosswalk visibility enhancements (i.e., high-visibility crosswalk markings, parking restriction on crosswalk approach, improved lighting, advance "Yield Here To Pedestrians" sign and yield lines, "In-Street Pedestrian Crossing" sign, and curb extension).
- Raised crosswalk
- Pedestrian refuge island
- Pedestrian Hybrid Beacon (PHB)
- Road Diet
- Rectangular Rapid-Flashing Beacon (RRFB)

More details on these treatments and their effectiveness can be found in the guide.

Figure 21. Example of Crash Reduction Treatments



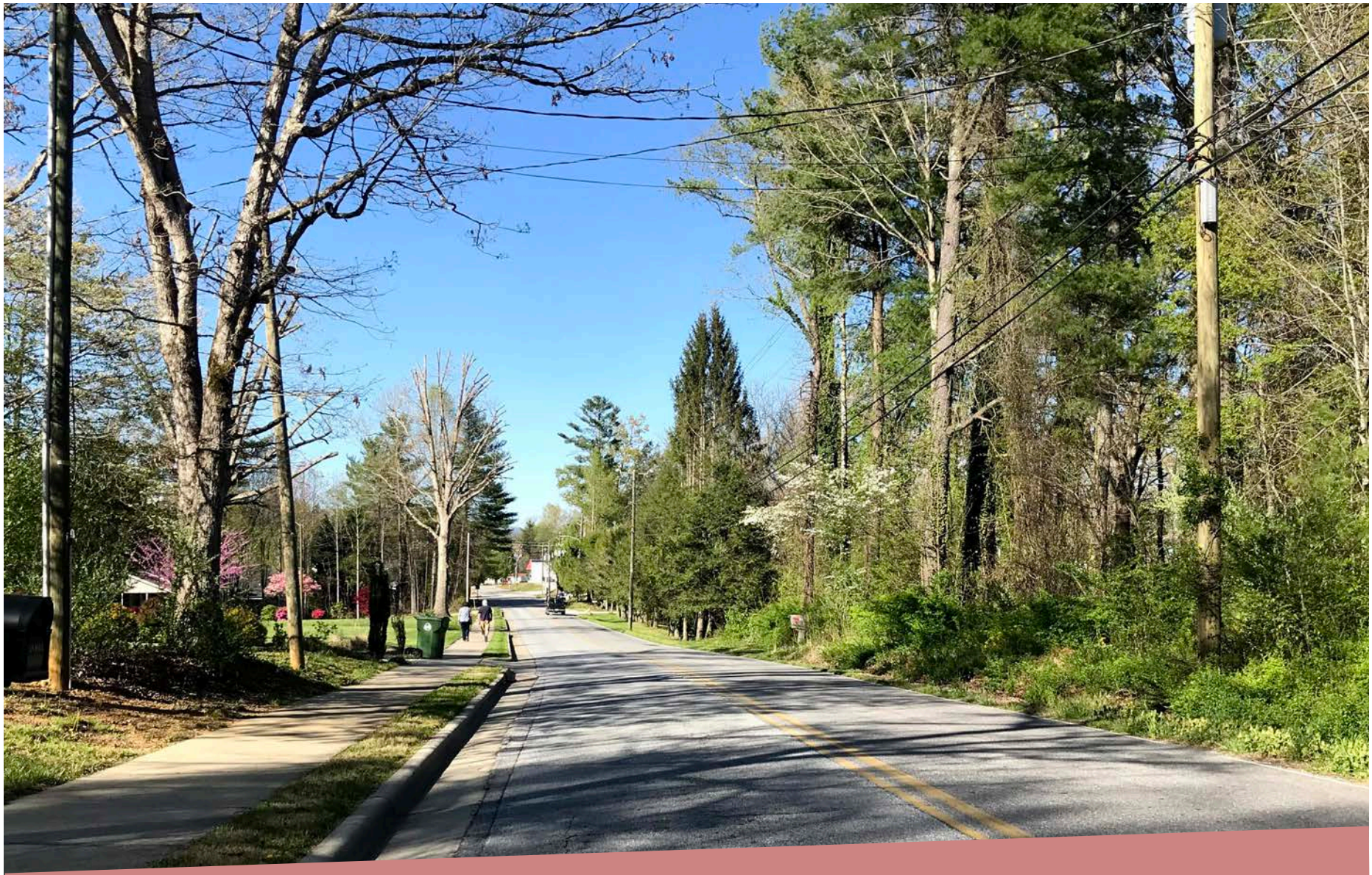
Source: FHWA. Rectangular Rapid Flashing Beacon (RRFB), Pedestrian Refuge Median, High Visibility Crosswalk Markings, Advanced Yield Signs and Markings

Wayfinding

Signage for people walking and biking is a critical aspect to complement any pedestrian and bicycle system. This signage offers the user information about destinations of interest, their distance away (in miles and/or minutes) and the direction. Such wayfinding sign systems would be a great benefit to Fletcher's multimodal network and are recommended as a part of this Plan. A wayfinding system can guide people walking and biking to key destinations such as the Library, YMCA, Bill Moore Park, and to the Heart of Fletcher (when it is constructed). To initiate this effort, the Town would need to develop a system plan that: identifies types of destinations to sign to (i.e. parks and libraries), develops a sign type that is usable at the pedestrian-scale, develops a concept plan for locations, curates the content for the sign (destination, distance and direction), and creates a system plan that can be constructed by a sign manufacturer and contractor.

Image 19. Examples of Wayfinding from Cary and Chapel Hill, NC

Source: Downtown Chapel Hill and Signstar



WALKING ALONG ST. JOHN RD

04.

RECOMMENDED PROGRAMS & POLICIES

GETTING PEOPLE OUT

Building a more bicycle and pedestrian friendly community requires an integrated approach and diverse partners – there is no one task, person or agency to arrive at this outcome. While infrastructure and facilities are critical to the foundation of these systems, programming efforts, such as education, encouragement and enforcement are also integral. These tasks can be implemented alongside the planning and implementation of bicycle and pedestrian infrastructure. Incorporating these efforts builds a more wholistic bicycle and pedestrian program and engages key partners to share in the challenges and opportunities of this work, thus building a stronger base from which these community programs can flourish.

Currently, Fletcher does not have education, enforcement or encouragement campaigns for walking and bicycling. Several efforts are managed regionally by the Blue Ridge Bicycle Club, which funds education programs and coordinates volunteers for bicycle rodeos and other events. Beyond this, opportunities abound for Fletcher to build these campaigns into their bicycle and pedestrian program.

The following are various programs and efforts that can be considered. While Fletcher has limited resources to coordinate many of these activities on their own, they can partner with neighboring communities and local/regional organizations (such as the Blue Ridge Bicycle Club) to begin to develop these programs. Education efforts should focus on encouraging all to walk and bicycle, and the community should prioritize efforts to engage youth and senior populations.

Education & Encouragement Programs

Education and encouragement efforts often go hand in hand. Education is critical to offering those who choose to walk and bike – and those who interact with these users – the knowledge, skills and confidence they need. Encouragement is marketing and promotional efforts that create and celebrate the culture of walking and biking. The following are key education and encouragement programs that may work to build a stronger bicycle and pedestrian program in Fletcher.

For education and encouragement programs to be successful, the messages they convey should be carefully crafted to Fletcher's residents' voice and demographic. Any messages created for a campaign should be inspirational, creative and relevant. "Scared straight" campaigns designed to encourage a certain type of behavior have been proven to be less effective and polarizing, where the outcome becomes an issue of managing fear and not the actual behavior.[1] Messages such as "share the road" have also become diminished in their effectiveness and comprehension based on evidence from 'Share the Road' signage studies.[2]

Watch for Me NC

Watch for Me NC is a comprehensive program, run by NCDOT in partnership with local communities, aimed at reducing the number of people walking or biking that are hit and injured in crashes with vehicles. The Watch for Me NC program involves two key elements: 1) safety and educational messages directed toward people walking, biking and driving, and 2) high visibility enforcement efforts by area police to reduce violations of traffic

[1] Carey RN, McDermott DT, Sarma KM (2013) The Impact of Threat Appeals on Fear Arousal and Driver Behavior: A Meta-Analysis of Experimental Research 1990–2011.
[2] Hess G, Peterson MN (2015) "Bicycles May Use Full Lane" Signage Communicates U.S. Roadway Rules and Increases Perception of Safety. PLOS ONE 10(8): e0136973.

safety laws. Local programs are typically led by municipal, county, or regional government staff with the involvement of many others, including pedestrian and bicycle advocates, city planners, law enforcement agencies, engineers, public health professionals, elected officials, school administrators, and others. Annually, NCDOT issues a call for applicants and accepted communities receive the following: print collateral and advertising, law enforcement training, progress check-ins, earned media and technical support. To date, neither Fletcher nor Henderson County has participated in this program.

https://www.watchformenc.org/

Safe Routes to School

This statewide, national and international program involves facilitating the planning, development and implementation of projects and activities to improve safety and reduce traffic, fuel consumption and air pollution near schools. In North Carolina, this program is managed by NCDOT. Several programs have developed from Safe Routes to School, including: Active Routes to School and Let's Go NC. In addition, the NC Alliance of YMCA's has an effort to create healthier communities and children across the state through increased pedestrian and bicycle infrastructure.

https://www.ncdot.gov/initiatives-policies/safety/safe-routes-school/Pages/default.aspx

Active Routes to School

This program began in 2014 as a partnership between the NCDOT Bicycle and Pedestrian Division and the NC Division of Public Health Community and Clinical Connections for Prevention and Health Branch.

Through this project, ten Active Routes to School project coordinators worked across North Carolina to make it easier for elementary and middle school students to safely walk and bike to school. While the project concluded in 2019, there are resources available online that continue to support these efforts in NC.

https://www.communityclinicalconnections.com/active-routes-to-school/

Let's Go NC

Let's Go NC is designed to aid instructors in teaching and encouraging safe behaviors for people walking and biking. Through this curriculum, children develop skills that will promote healthy transportation choices. Let's Go NC! gives instructors throughout NC elementary grade schools, community centers such as YMCA and 4-H Clubs, health programs, law enforcement agencies, and more the tools needed to help inform decision making in the

ACTIVE ROUTES TO SCHOOL

A North Carolina Safe Routes to School Project

battle against obesity, child traffic injuries and death, and the urgent need to create healthy active lifestyles in our youth. All curriculum materials are available for free download including lesson plans, lesson videos, and guidance materials for instructors.

https://www.ncdot.gov/initiatives-policies/safety/lets-go-nc/Pages/default.aspx

Safe Routes to Parks

Safe Routes to Parks are ten-minute walks or bike rides to parks that are accessible by all modes of transportation and for people of all ages and abilities. They are intended to end at well-maintained parks, thus doubling the physical activity benefit – both en route and at the destination. Such programming may be a great option for Fletcher where parks offer a way to connect the community.

https://www.saferoutespartnership.org/healthy-communities/saferoutestoparks

20 Is Plenty

Fletcher is a largely residential community. As such, a common concern in neighborhoods is the issue of speeding. A campaign that is growing in its popularity is known as 20 is Plenty, which aims to educate people about the issues of speeding in neighborhoods and other pedestrian centric areas. This encourages drivers to reduce their speed to 20 mph where the posted speed is 25. Some communities have been so successful with these campaigns that they have convinced lawmakers to reduce the posted speed limit to 20 mph. Fletcher can explore a campaign like this on Town-managed roads that are currently posted 25 mph and above.

https://www.portlandoregon.gov/transportation/article/669625

Themed and Fundraising Bike Rides

Themed bike rides are a way to celebrate an occasion, encourage comradery and foster community. These rides can be centered around a holiday, such as Halloween or St. Patrick's Day, and can encourage people to dress up and/or decorate their bicycles. They can showcase a local event or occasion, such as Fletcher Christmas in the Park, and can be a part of existing parks and recreation programming. The bike rides are typically short in length and are fun for all, thus reducing barriers to bicycling.

Bike to Work Day

Annually, bike month is in May and bike to work day is the third Friday of May. These events celebrate bicycling and are an easy place for a community like Fletcher to begin with programming encouragement activities. The FBRMPO supports Transportation Demand Management (TDM) type activities like bike to work day through their programming efforts, such as Strive Beyond.

http://frenchbroadrivermpo.org/multimodal/

http://strivebeyond.org/

Additionally, the League of American Bicyclists has developed a resource on hosting these events, which can include everything from bike education classes to bike-in movies. Bike to work day often involves local business partners and others hosting breakfast tables at key locations throughout a town to encourage bicycle riders with snacks and giveaways. Increasingly, Bike to Work Day events also support the bike ride home with events, food, music and other programming.

https://bikeleague.org/content/bike-month-dates-events-0

Ciclovia or Open Streets

Ciclovia or Open Streets events were first practiced in Colombia and today they are popular in the US. They involve closing a portion of a street to vehicle traffic and engaging the community to walk, bicycle and celebrate the corridor. Organizers of these events often program the corridor with various

performers, interactive booths, and more. Open streets events are also a great way to showcase a demonstration of how a bicycling or walking facility might operate by installing a temporary application of a permanent project.

https://openstreetsproject.org/

Kidical Mass

Another bicycle event, Kidical Mass bike rides are family friendly bike rides to celebrate biking and community. A play on words from Critical Mass bike rides, these are intended to showcase that "kids are traffic, too!". These events have taken place throughout NC, most notably in Carrboro and Charlotte. This may be a great event to host in Fletcher to engage youth and families.

Walk and Bike to School Day

Thousands of schools across America – from all 50 states, the District of Columbia, and Puerto Rico – participate in this event to walk and bike to school. Bike to School Day takes place in May and Walk to School Day in October. The goal of this program is to encourage more walking and biking to school, reduce childhood inactivity, and connect children with their environment. These events can also be coupled with a walk audit to encourage better infrastructure around schools.

http://www.walkbiketoschool.org/

Walking School Bus

A walking school bus is just as it sounds – it is a gathering of children with an adult chaperone for pick up and drop off to and from school. Instead of an actual school bus, the children travel by foot with an adult. These can be as informal as a couple of neighbors taking turns walking their kids to and from school, or much more organized with pick up spots, timetables and a schedule of volunteers. The National Center for Safe Routes to School offers online resources for these events. A program such as this would be a great option for a school such as FernLeaf, where parents could schedule pick up locations at Bill Moore Community Park and walk with children to the school across Howard Gap Road (SR 1006).

http://guide.saferoutesinfo.org/walking_school_bus/

Image 20. Hendersonville and the FBRMPO Recently Hosted an Open Streets Event in Downtown.

Source: FBRMPO

Image 21. Walk and Bike to School Day Event at Blue Ridge School in Cashiers, NC

Source: Jackson County SRTS

Image 22. Walking School Bus at Fairview Elementary School in Jackson County, NC

Source: Jackson County SRTS

Image 23. Bike Rodeo Course in Shiloh Park, Asheville, NC

Source: Mike Sule, Asheville on Bikes

Image 24. Ft. Collins Bicycle Friendly Driver Program

Source: City of Ft. Collins, Colorado

Bike Rodeos

Bike rodeos encourage kids to get out and ride their bikes in a closed course environment. These events are intended to refine kids' bicycle handling skills in a fun, non-competitive environment. There are two key components to a successful bicycle rodeo: education and practice. Children are taught how to properly fit and wear their safety equipment, how to fit their bicycle, and safe riding skills. They then negotiate an obstacle course to test their skills. Generally, refreshments are available to all who attend.

An active coordinator/ facilitator is vital to develop the program and coordinate with all involved parties. Also, a location with ample space is needed for parking and to set up a riding course. This type of program can be implemented by a variety of parties ranging from local municipalities to bike shops. Partnerships generally make for the most successful events. They can be a part of a larger community event, or they can be smaller scale.

Other Targeted Education Programs

People biking and walking are not the only ones who need education – people driving cars, trucks, buses and transit vehicles also benefit from education on the best and safest way to share the road with others. The City of Fort Collins, CO originally developed the Bicycle Friendly Drivers program which is implemented by communities throughout the US. The course covers topics of why sharing the road is the safest alternative for both people driving and biking, including:

- What's legal and what's not legal, for both people driving and biking
- Common crashes and how to avoid them
- Why people biking "take the lane" and what people driving should do in response
- How to navigate bicycle related infrastructure such as bike lanes and sharrows

These courses can be provided to the community at-large or can be catered to a specific population of people driving, such as transit operators.

In addition to this curriculum, various other campaigns promote similar messages and can offer resources to Fletcher, such as Driving Change.

http://grdrivingchange.org/

In 2019, Project Empathy in Brevard, NC hosted a forum on bicycling intended to improve education and communication efforts between people who ride bikes and those who do not. The discussion was moderated by Brevard College President, a representative from Transylvania County Sheriff's Office, a retired law enforcement officer, a local bike commuter who transports her young children on bike, director of NCDOT's Bicycle and Pedestrian Division, and the founder of a local bike shop. The panel discussed the following topics:

- Impeding traffic
- Economic development
- Road rules
- Infrastructure
- Planning and funding
- Riding curves
- Respecting others
- Bike patrols
- The future

This program may be a great opportunity for Fletcher, as the recreational community extensively uses roads in the Town and a program like this can help build partnerships, awareness and stewardship.

Enforcement Programs

Currently, there is some debate in the bicycle and pedestrian community about the relevance of enforcement to bicycle and pedestrian programs. Most recently, the Safe Routes Partnership, a national organization promoting Safe Routes to Schools, removed enforcement from their resources and added engagement as a core strategy. This leading organization felt that this aligned with their work to advance social justice and racial equity. Other organizations and municipalities are working to understand what enforcement activities do, or do not, provide for their bicycle and pedestrian programs.

Acknowledging this shift in the practice and understanding that change will be gradual and is still being understood by many, for Fletcher enforcement can be a community-based tool to ensure that our spaces are indeed safe

Image 25. Law Enforcement Can Support Fletcher's Community Events and Programs (Source: Jackson County SRTS)

Source: Jackson County SRTS

for people of all ages, abilities and backgrounds. Law enforcement officers often know the nuances of traffic, trends and behavior on our streets better than anyone. They play varying roles to ensure the safety on our streets and that of people walking and bicycling, such as providing education and encouragement to the community at events such as bike rodeos. These community approaches to traffic safety are a great option for Fletcher.

Additionally, streets that are constructed with strong traffic calming elements offer enforcement of traffic speeds without having to burden already-taxed enforcement officers.

Positive Reinforcement

Some in the bicycling and walking community feel that targeted enforcement of bicycle and pedestrian non-compliant behavior is not a fair practice. People walking and biking are the most vulnerable users of a roadway

system and some feel that enforcement only causes more harm to these modes of transportation. Some evidence shows that non-compliant behavior stems from a desire for personal safety, a common occurrence is people riding their bikes on the sidewalk where it is not allowed.[3] One consideration to address this issue is positive reinforcement. Positive reinforcement programs for good behavior can create positive peer pressure among people biking and walking and create good public relations and media coverage. Delivery of these programs is best done by people bicycles or on foot, so that they are viewed as peers. Stickers and sports cards, ice cream and discounts for meals can be rewards for good behavior for children. Coupons for free bicycle inspections can reinforce positive behavior and educate children and parents on reflector and light requirements and regular maintenance routines.

POLICY RECOMMENDATIONS

Cul-de-Sac Connectivity

One recurring concern that was voiced during the community engagement activities, especially for the neighborhoods on the northside of Fanning Bridge Road (SR 1358), was lack of connectivity despite proximity to other neighborhood's streets. "As the crow flies", many of these neighborhoods are just within a block of one another or to key destinations, but access is not provided. One policy recommendation that could address this with future development opportunities is a cul-de-sac connection. This would require a developer to construct a pedestrian connection, easement or open space. An example of such language is in the Town of Apex's Uniform Development Code, Section 7.5.4(C) Sidewalks:

> *Where street interconnectivity is not provided (such as but not limited to cul-de-sacs) within the development plan, pedestrian connections shall be constructed. The pedestrian connection requirement does not apply when a connection between two (2) cul-de-sacs would not improve connectivity with the subdivision or to surrounding areas as determined by the Planning Director.*

[3] *Marshall, W. E., Piatkowski, D., & Johnson, A. (2017). Scofflaw bicycling: Illegal but rational. Journal of Transport and Land Use, 10(1). https://doi.org/10.5198/jtlu.2017.871*

Design Guidelines

There are a number of North Carolina specific design guidelines for people walking and biking (see section 'Design Guideline Resources'). Town leadership and staff may consider a specific reference of these resources, in the Development Code, as future facilities are constructed.

Fletcher Connects Plan Reference

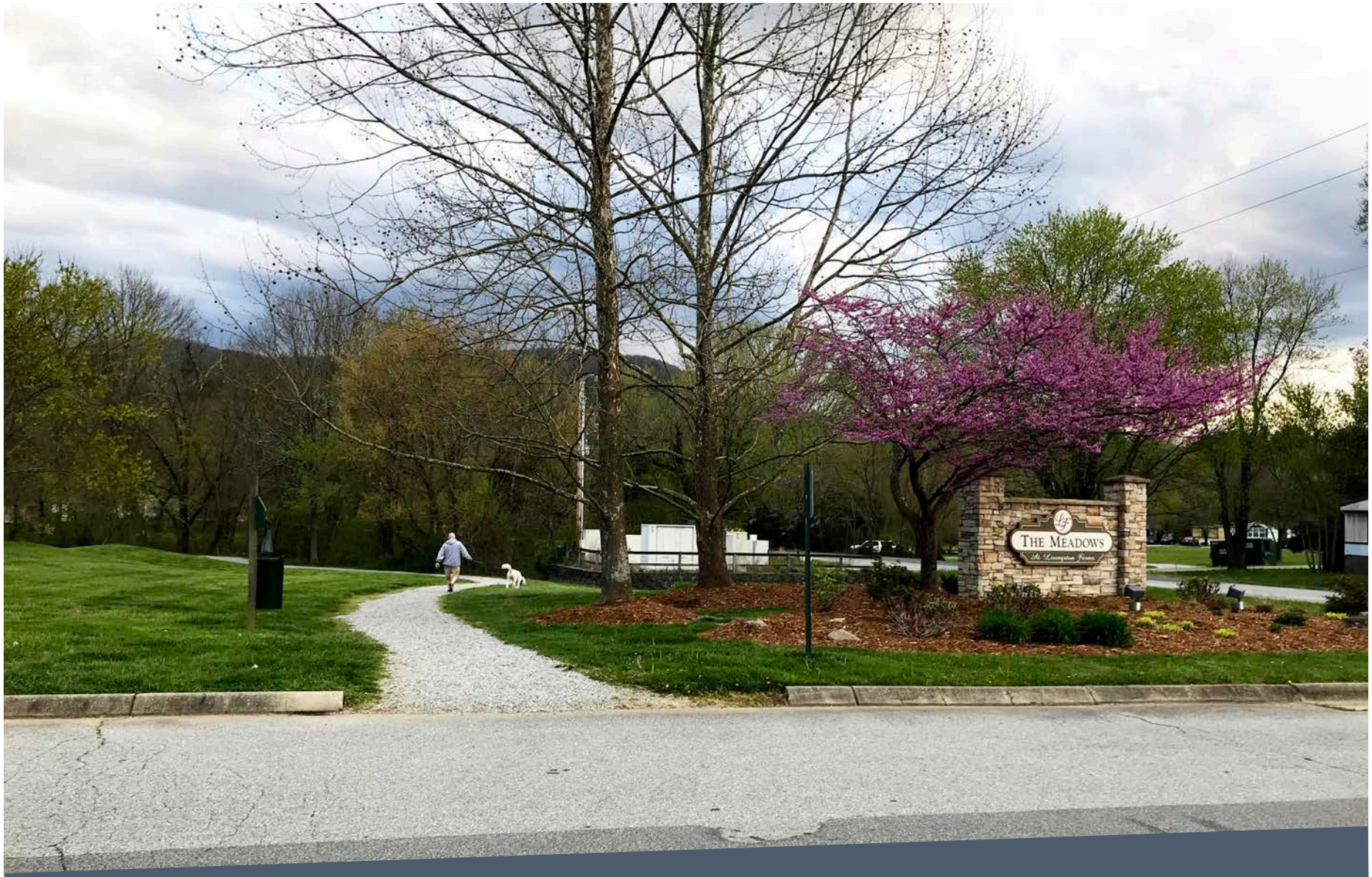
Town leadership and staff may consider an update to Fletcher's Development Code to reference the final version of this Plan to ensure that the network vision is seen through future planning and development opportunities.

Complete Streets Policy

The Town may consider adoption of a Complete Streets Resolution or Ordinance. Typically, a Resolution is a statement of support for the concept of designing and building streets for people of all ages, modes and abilities, and it encourages municipalities to consider accommodations for people walking and biking as streets are resurfaced or rebuilt. An Ordinance often has stronger language and holds a municipality to certain goals and outcomes. As a first step, a Resolution may be an option for the Town of Fletcher to pursue. This statement will affirm the Town's support of complete streets, and it is helpful on grant applications and partnership efforts. It should be noted that many municipalities do not have such policies, yet they are successful in the implementation of Complete Streets concepts and projects.

Dedicated Funding in the CIP

The Town is in its fifth year of implementation of the five-year Capital Improvement Plan (CIP). The Town funds an annual capital budget with $.085 of the tax levy. From this total, $.065 is applied to debt service on projects supported by loans. The remaining $.02 of the tax levy is applied to new projects not supported by debt. Funding strategies are specifically addressed in the Appendix, but the Town may want to set aside specific funding from the CIP to support the projects recommended in this Plan.



TRAILS ALONG HOOPERS CREEK

05. IMPLEMENTATION PLAN

IMPLEMENTATION OVERVIEW

Fletcher Connects is an action-oriented plan that is derived from community feedback. For the Plan to be effective, it needs a clear implementation plan that identifies the next steps to achieving its vision. This Implementation Plan indicates a timeframe to implementation, lead agency, key partners, and performance measures to evaluate success. This approach will allow the Town to be strategic yet flexible as opportunities arise. To be successful in project implementation, the Town may include funds for multimodal transportation projects in the CIP.

ORGANIZATIONAL FRAMEWORK & PARTNER NETWORK

It is important to note that this Plan will not be led exclusively by the Town; success will involve collaboration with regional and state agencies, local partners, the private sector and non-profit organizations. Figure 22 indicates the key partners whose roles include the following:

- Fletcher Town Council: adopting and implementing the Plan, affirming their support of walking and biking in the Town, coordinating with FBRMPO TAC
- Fletcher Town Staff:
  - Coordinating with FBRMPO and NCDOT on funding and project implementation
  - Seeking development regulations and opportunities to expand the bicycling and walking network
  - Seeking other project development opportunities
  - Developing programmatic activities and events in the community to support the network
- French Broad River MPO (FBRMPO)
  - Coordinating on funding opportunities
  - Incorporating Fletcher Connects into the long-range transportation planning, including the CTP and the Hellbender Trail Plan
- NCDOT Integrated Mobility Division
  - Guidance on bicycle and pedestrian policy / Complete Streets
  - Coordinating with local division offices
  - Funding and grant opportunities
- NCDOT Division 14
  - Coordinating on funding opportunities
  - Coordinating on resurfacing or roadway/bridge reconstruction projects
  - Incorporating Fletcher Connects into the CTP
- Community Members (residents, visitors, business owners, Planning Board and Parks and Recreation Advisory Board members)
  - Generating public support for bicycling and walking
  - Advocating to elected officials or others for better funding of walking and biking projects
  - Volunteering at events or other programs
- Regional Partners (Henderson County, neighboring towns and municipalities)
  - Coordinating and seeking partnerships on regional connectivity and vision

Figure 22. Key Partners in Project Development

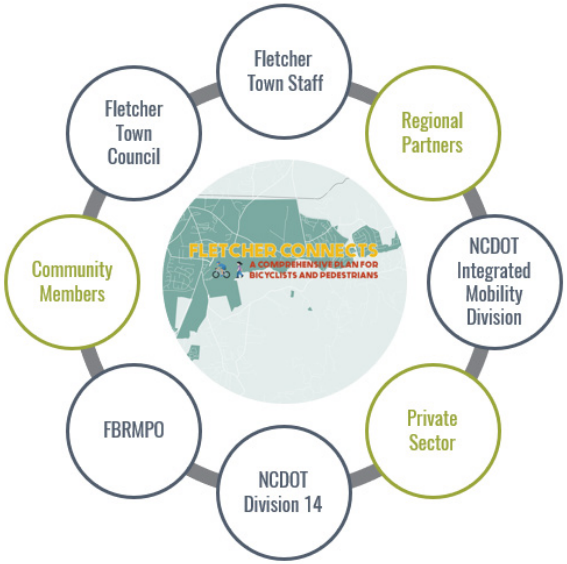
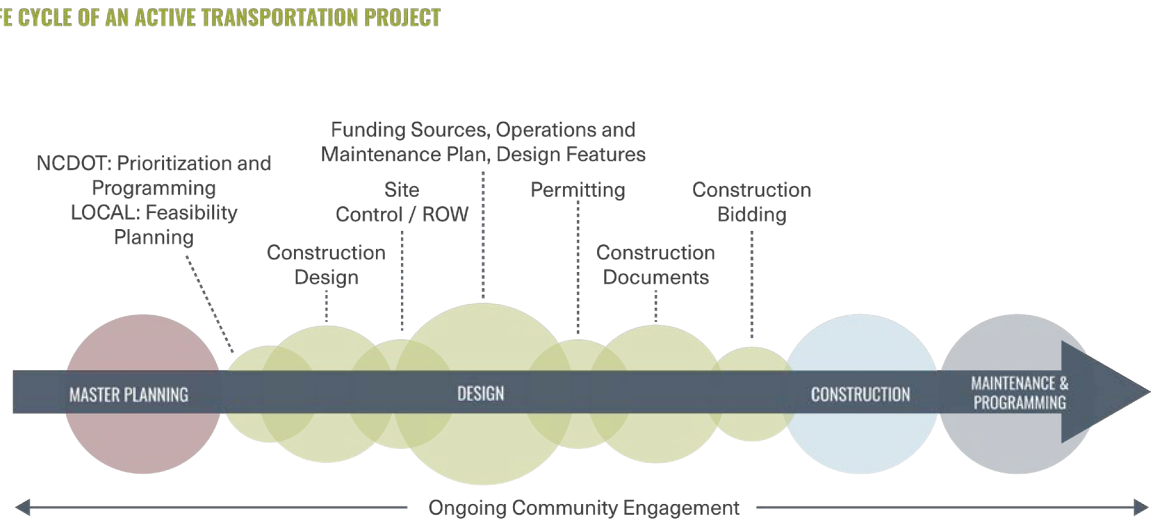


Figure 23. Typical Lifecycle of a Multimodal Project from Planning, to Design and then Construction/Maintenance.



- Seeking funding opportunities
- Private Sector (developers, other funders such as non-profit)
  - Supporting development of facilities
  - Funding opportunities

LIFECYCLE OF A MULTIMODAL PROJECT

Figure 23 describes the typical lifecycle of a multimodal project. The Fletcher Connects Plan represents the 'Master Planning' phase of this process; from there, a project identified in this Plan will move into the many stages of design, then construction, and then maintenance and programming. It is important to acknowledge this process as it helps set the stage for project success.

The time it takes to implement a project can depend on how uncomplicated or complex the project may be, who "manages" the project (i.e. the Town or NCDOT), the type of funding involved, how much land is needed, and the scale (size) of the project. An example of an uncomplicated project is a new crosswalk. An example of a complex project is a greenway that requires the purchase of private property and crosses streams and busy roadways.

The following Action Plan offers a rough estimate of the timeframe in which projects should be completed; however, it should be noted that this depends on Town resources and budget. COVID-19 has strained both local and state budgets, and project timeframes are variable based on funding, resources and other unforeseen project elements.

THE ACTION PLAN

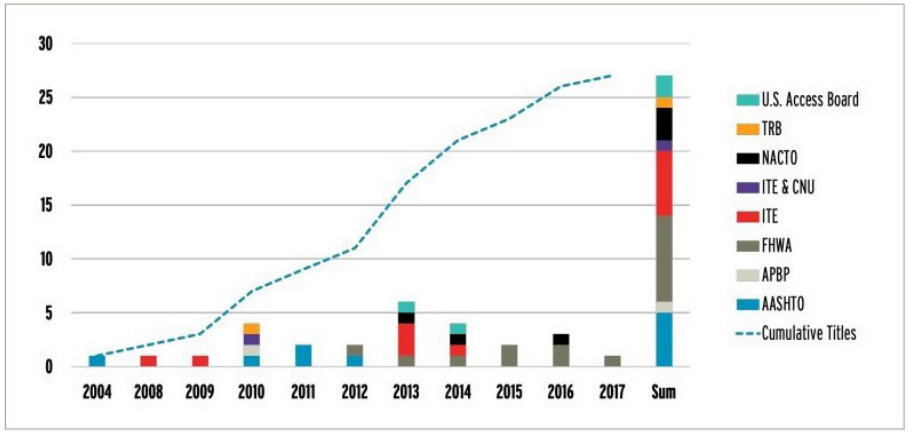
The Action Plan describes the administrative, infrastructure, policy, and program steps needed to see Fletcher Connects forward. It should be noted that evolving project partner and funding opportunities may shift priorities and require changes action items, specifically to the Catalyst project list (i.e. new development trail completion that may be used as a match for state or federal grants).

Task #	Description	Lead	Partner	Timeframe	How WIII Success be Measured
ADMINISTRATIVE ACTION ITEMS					
1	Adopt Fletcher Connects as the Town's Bicycle and Pedestrian Plan. This allows the Plan to become the official planning document for the Town and shows intention to support implementation over time. The Plan should be shared with regional and state partners for inclusion in the CTP and other planning documents.	Town Council	Town Staff, Steering Committee, NCDOT, FBRMPO, Henderson County	2020	Adopted Plan
2	Plan Adoption Roadshow: present the Plan to current and potential project partners, such as Conserving Carolina, Blue Ridge Bicycle Club, neighboring jurisdictions and others. The purpose of these meetings is to communicate this Plan's priority, to maintain momentum and to build support.	Town Staff	Steering Committee	2021	Meeting agenda and minutes
3	Bi-annual presentation on Fletcher Connects to the community at large, the Planning Board and/or the Parks and Recreation Advisory Board.	Town Staff	Planning Board, Parks and Recreation Advisory Board, NCDOT, FBRMPO, Henderson County	2021	Meeting agenda and minutes
4	Task the Parks and Recreation Advisory Board with a planning advisory role on bicycle and pedestrian issues. Consider a sub-committee to the Advisory Board. Rather than proposing the formation of a standalone Committee, this approach would be mindful of limited staff resources yet continue to engage partners on progress and collaboration opportunities.	Parks and Recreation Advisory Board	Town Staff	-	-
5	Address bicycle and pedestrian improvements during the Town's CIP process and Town road repaving process	Town Staff	Town Council	Annually	Project coordination opportunities
6	Ensure that recommendations from Fletcher Connects are incorporated into regional plans, such as the Henderson County Greenway Plan, Hellbender Trail Plan, and the CTP.	NCDOT, FBRMPO, Henderson County	Town Staff	2021	Amendments to Plan documents
7	Send staff to NCDOT Complete Streets Trainings and other roadway design opportunities as they are offered.	Town Staff	Town Council, NCDOT	2022	Attendance at training events
8	Update Fletcher connects in 5 years. If any projects or programs have been completed, a new set of priorities should be proposed.	Town Staff	Town Council, NCDOT, FBRMPO, Henderson County	2025	Initiated planning process
9	Seek future funding opportunities for facility construction.	Town Staff, NCDOT, FBRMPO	Town Council	Ongoing	Secured funding

Task #	Description	Lead	Partner	Timeframe	How WIll Success be Measured
10	Actively participate in regional (county and MPO) trail planning efforts to ensure a regional trail network and connectivity	Town Staff	FBRMPO, Henderson County	Ongoing	Attendance at coordination meetings
INFRASTRUCTURE ACTION ITEMS					
11	Begin setting the groundwork for Catalyst Projects*: Fanning Bridge Road Multiuse Side Path, Cane Creek West Off-Road Trail and Hooper's Creek Off-Road Trail. Develop feasibility study for one catalyst project/year.	Town Staff	Town Council	2021-23	Feasibility study for one catalyst project/ year
12	Collect counts of people using the Cane Creek Greenway using automated counting systems.	FBRMPO	Town Staff	2021	Data from two count periods/year (April and September)
13	Work with NCDOT Division 14 to review their 3-year resurfacing program to identify possible opportunities on the horizon for bicycle or pedestrian striping project implementation.	Town Staff, NCDOT	Town Council	2021	Annual coordination meeting agenda and minutes
14	Low hanging fruit project: formalize the farm loop at Bill Moore Park.	Town Staff	Town Council	2023	Implement farm loop
15	Seek opportunities on other project feasibility studies.	Town Staff	Town Council, NCDOT	2024	Two additional feasibility studies
16	Design a pedestrian- and bicycle-scale wayfinding system.	Town Staff, NCDOT	Town Council	2025	Draft wayfinding system
17	Ensure that Fletcher Connects recommendations are implemented as a part of new development in the Town.	Town Staff	Town Council	Ongoing	New multimodal connections included in development process
18	Ensure that signalized and uncontrolled bicycle and pedestrian crossings meet current standards through an inventory and engineering review.	Town Staff	Town Council and NCDOT	-	Countermeasure application at existing and new crossings.
POLICY & PROGRAM ACTION ITEMS					
19	Implement an ADA Transition Plan for Public Right of Way	Town Staff	Town Council and NCDOT	Estimated* 2025 *Timeline is estimated based on growth of Town staffing levels	Completion of Transition Plan Document
20	Include funds for multimodal transportation projects in the CIP and/or small amount of funding in the annual budget	Town Council, Town Staff	-	Annually	Dedicated funding for multimodal projects

Task #	Description	Lead	Partner	Timeframe	How WIII Success be Measured
21	Apply to be a Watch for Me NC Partner	Community members, Town Staff	Town Council	2021	Apply in the 2021 round (advertisement expected in December)
22	Considering updating Development Code to include Cul-de-Sac Connectivity opportunities, reference NCDOT Design Guidelines, and reference Fletcher Connects Plan	Town Staff	Town Council	2022	Amendment to the Ordinance
23	Cultivate a Safe Routes to School program at FernLeaf Charter School. Use Active Routes to School and Let's Go NC resources to build the groundwork for a SRTS program, connecting students from Bill Moore Park to the campus on Howard Gap Road	FernLeaf staff	Town Staff	2022	One SRTS event completed
24	Launch a new bicycle and pedestrian program, such as 20 is Plenty, Open Streets, or Bike Rodeos	Community members	Town Staff	2022	Launch one new program
25	If appropriate, consider the adoption of a Complete Streets Policy	Town Staff	Town Council	TBD	Adopted policy statement
26	Consider applying as a bike or walk friendly community in order to receive a baseline assessment of projects, programs and policies.	Town Staff	Community members, Steering Committee	2023	Submitted application
27	Encourage local Fletcher businesses that serve the bike industry (Cane Creek, Fox Components) to become bicycle friendly businesses.	Steering Committee	Community members, Town Staff	2023	Submitted application

Figure 24. Recent Design Guidance for Biking & Walking by Publisher Over Time



Source: 2018 League of American Bicyclists Benchmarking Report

DESIGN GUIDELINE RESOURCES

Planners, engineers and project designers need standards and guidance as they implement pedestrian and bicycle facilities to ensure safety, consistency and predictability. Historically, the resources to design these multimodal facilities have been limited; while some guidance has existed, it has been limited in its scope to street or geographic contexts and has not offered the nuanced detail needed for certain conditions or applications. As shown in Figure 24 from the League of American Bicyclists Benchmarking Report, over the last 15 years design guidance has improved, equipping practitioners with the resources to develop ideas and try out innovations seen in other communities and internationally. The result has been multimodal design that is more inclusive to people of all ages and abilities and that can be well-customized to the local context and urban or rural environment.

Good pedestrian and bicycle facility design is the function of many factors, including connectivity, comfort, continuity, and convenience. The following are state and national design guideline resources that collectively work to achieve these multimodal design goals. These resources provide the guidance that planners and designers in Fletcher need to ensure that the transportation system serves these multimodal users and thereby increases mode shift of these users.

Bicycle and pedestrian design are constantly evolving and innovating, so updates of the following resources should be sought out following the publication of this Plan. As designs are complex, it should be noted that treatments must be tailored to individual situations and contexts. Good engineering judgement should always be practiced, and decisions documented.

Complete Streets in North Carolina

NCDOT adopted a Complete Streets policy in 2009. The policy directs transportation engineers and planners to consider and incorporate different types of transportation into road projects, where feasible. In 2018, the DOT embarked on an evaluation of this policy, and in 2019 the Transportation Board approved an update to the policy that focuses on evaluating every mode of travel for projects. The policy update requires NCDOT planners and designers consider and incorporate multimodal facilities in the design and improvement of all appropriate transportation projects in North Carolina. Routine maintenance projects may be excluded from this requirement if an appropriate source of funding is not available. Consideration of multimodal elements will begin at the inception of the transportation planning process and the decisions made will be documented.

This policy sets forth the protocol for the development of multimodal transportation networks. The purpose of the policy is to guide existing decision making and design processes to ensure that all users are included during the planning, design, construction, funding, operation and maintenance of North Carolina's transportation network, and will not create barriers or hazards to the movements of those users.

The process for project advancement under the new policy is through Strategic Prioritization and the local Comprehensive Transportation Plan (CTP). The importance of this new policy to municipalities like Fletcher cannot be underscored; it eliminates cost-sharing burdens that many Towns do not have the budget for, if a project is in a Plan (like Fletcher Connects) or the CTP. Municipalities like Fletcher may coordinate with their local NCDOT Division Planning Engineer or Corridor Development Engineer to understand how a complete street project is moving through the project development process.

Designing for People Walking

While some facilities are shared between people walking and biking, many are not, and each user has unique needs and abilities. The following are state and national resources related to designing for people on foot or traveling with a disability.

North Carolina Guidance

North Carolina Department of Transportation (NCDOT)

Complete Streets Policy A.09.0106 (2019)

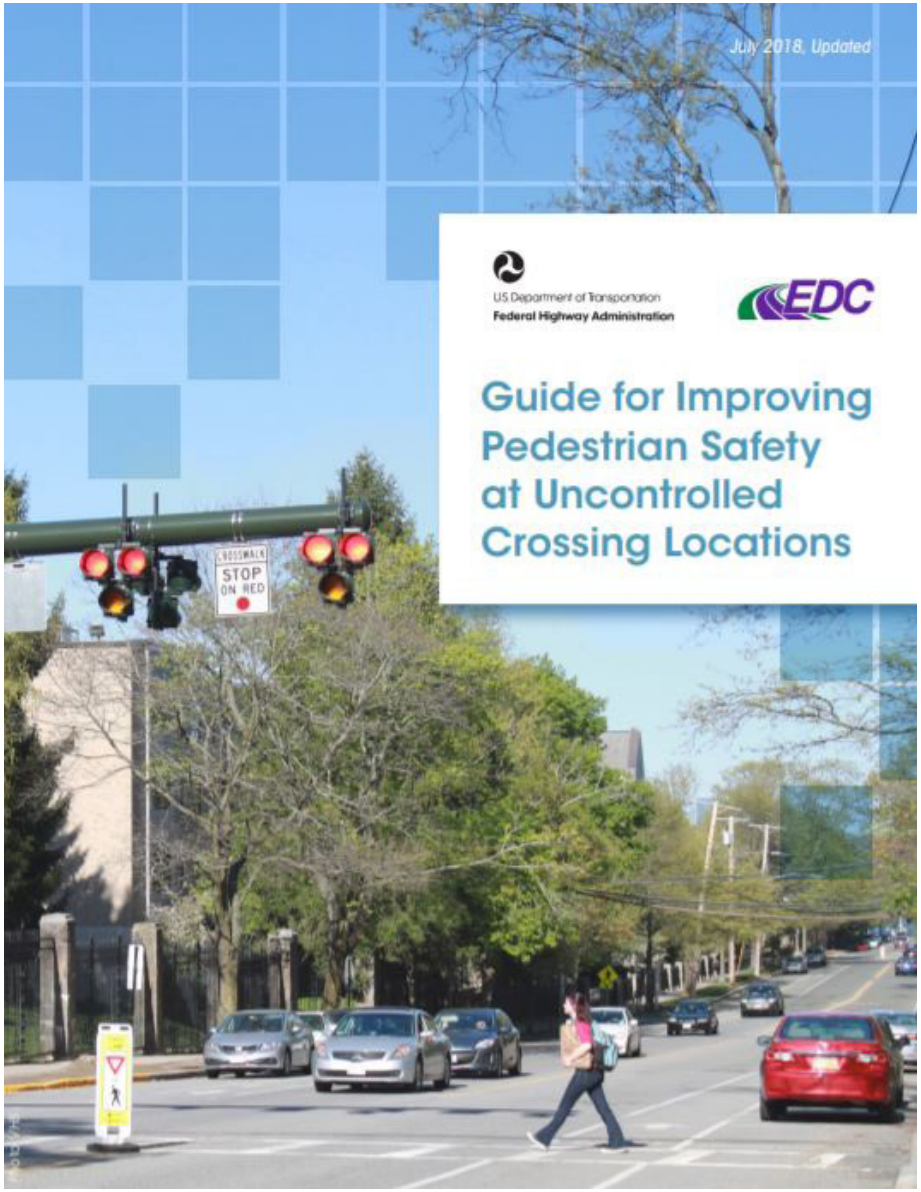
Evaluating Temporary Accommodations for Pedestrians (2018)

Pedestrian Crossing Guidelines (2018)

National Guidance

American Association of State Highway and Transportation Officials (AASHTO)

Guide for the Planning, Design and Operation of Pedestrian Facilities (2004)



Federal Highway Administration (FHWA)

Guide for Improving Pedestrian Safety at Uncontrolled Crossing Intersections (2018)

Manual on Uniform Traffic Control Devices (MUTCD)

2009 MUTCD Guidance and Supplemental Information (including NC Supplement)

US Access Board

Guide to the Standards (2010)

Proposed Public Rights-of-Way Accessibility Guidelines (PROWAG) (2011)

USDOT/DOJ

USDOT ADA Standards for Transportation Facilities (2006)

DOT/DOJ Joint Technical Assistance Memos

ADA Standards (2010)

Designing for People Bicycling

Bicycle design is constantly evolving and innovating. The following are statewide and national resources on designing for people who choose to travel by bicycles.

North Carolina Guidance

North Carolina Department of Transportation (NCDOT)

Complete Streets Policy A.09.0106 (2019)

National Guidance

American Association of State Highway and Transportation Officials (AASHTO)

Guide for the Development of Bicycle Facilities (2012)

Federal Highway Administration (FHWA)

Bikeway Selection Guide (2019)

Separated Bike Lane and Planning Design Guide (2015)

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

Manual on Uniform Traffic Control Devices (MUTCD)

2009 MUTCD Guidance and Supplemental Information (including NC Supplement)

National Association of City Transportation Officials (NACTO)

Urban Bikeway Design Guide (2012)

Other Multimodal Design Guidance

The following includes various other valuable resources that can be applied to both bicycle and pedestrian design, on-street and off-street.

Federal Highway Administration (FHWA)

Achieving Multimodal Networks (2016)

Small Town and Rural Multimodal Networks Design Guide (2017)

Strategies for Accelerating Multimodal Project Delivery (2019)

Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts (2016)

Guidebook for Developing Pedestrian and Bicycle Performance Measures (2016)

National Association of City Transportation Officials (NACTO)

Urban Street Design Guide (2013)

Transit Street Design Guide (2016)

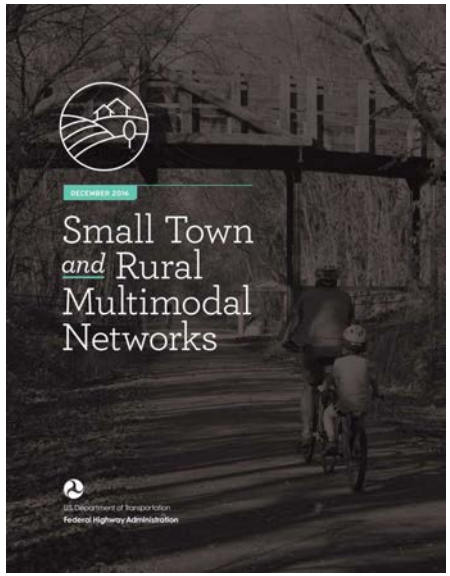
North Carolina Department of Transportation (NCDOT)

Roadway Design Manual (2018)

Complete Streets Policy A.09.0106 (2019)

WalkBike NC: The Statewide Pedestrian and Bicycle Plan (2013)

Greenway Accommodations Guidelines (2015)



HENDERSONVILLE RD STREETSCAPE UPGRADES

06. CLOSING THOUGHTS

Fletcher is a relatively young Town that has grown, and is projected to continue to grow, rapidly. It is anchored by several housing developments that were built in the last few decades, and its transportation network largely revolves around two street types: busy roads that provide access to neighborhoods and connects them to local and regional destinations; and local, neighborhood streets that are naturally conducive to walking and biking. Fletcher's residents are diverse in terms of age, and while housing is relatively affordable compared to elsewhere in the region, many households still experience considerable financial burden. Currently, Fletcher has a small network of sidewalks and greenways that the residents appreciate, and there is an overwhelming desire for more opportunities to walk and bike – especially on multiuse side paths and off-road trails. These collective factors combine for a community that is ripe for more bicycle and pedestrian program development.

The Fletcher Connects Plan offers a framework for the Town and its partners to create these places and programs for more walking and biking. The identified key network catalyst projects will set the groundwork for the core multimodal system, and from there the other connections can be established and linked. Programs and policy recommendations will help support the community to be more bicycle and pedestrian friendly.

However, given that Fletcher largely grew out of a rural area, many of its roads are narrow, 2-lane corridors. Retrofitting these corridors for people walking and biking will be costly, and there are relatively few projects captured in this Plan that do not come at a significant cost. To ensure implementation of this Plan, strong partnerships between local, regional and state agencies will need to be continued, and the community will need to continue to voice their support for multimodal connections to their elected officials.

Fletcher's past bicycling and walking successes are commendable and with the path towards a bicycle and pedestrian friendly Fletcher more defined, the Fletcher Connects vision can be realized: *walking and bicycling are part of Fletcher's culture, making the town a vibrant place to live.*